心块上设有挂钩，该挂钩在承载座降下收拢时挂接安全销，安全销设置在升降架或固定座上。

[0010] 上述方案进一步的，所述升降架由两支杆交叉铰接构成，其中，第一支杆的上端与承载座铰接连接，而该第一支杆的下端则按可滑动式组装在固定座上；第二支杆的上端连接滑动板按可滑动式组装在承载座上，而该第二支杆的下端与固定座铰接连接；所述第一支杆的下端由弹性体拉持而朝第二支杆的下端方向靠拢，固定座上设有助力器，该助力器驱动第二支杆相对其下端的铰接点转动。

[0011] 上述方案进一步的，所述升降架由两平行的摆杆及上拉杆、下拉杆构成，两平行摆杆的上端与承载座铰接，而两平行摆杆的下端与固定座铰接，由此实现两平行摆杆与承载座、固定座形成活动四边形；上拉杆一端铰接其一摆杆，上拉杆的另一端则斜上铰接滑动板，滑动板按可滑动式组装在承载座上；下拉杆一端铰接另一摆杆，下拉杆的下端则斜下按可滑动式组装在固定座上，下拉杆的下端由弹性体拉持而朝摆杆与固定座铰接的方向靠拢，固定座上设有助力器，该助力器驱动其一摆杆相对其与固定座铰接的铰接点转动。

[0012] 升降桌子，该桌子具有桌板，在桌板下侧面组装有承载座，承载座通过升降架连接固定座，升降架带动承载座相对固定座升起或降下，实现桌板升降；承载座相对固定座升起或降下时引入定位机构配合升降架实现两级以上升降高度定位；藉此，承载座升起或降下均可通过定位机构实现定位在相应高度上，达成高度调节使用；该定位机构具有滑动板、定位块，在滑动板上设有间隔布置的定位孔，滑动板连接升降架并按可滑动式组装在承载座上；定位块铰接设置在与承载座固连的导座上，定位块上设有定位插销，定位块通过手操杆驱动，以此实现定位插销插入或退出滑动板上的定位孔；导座设有导孔，定位插销通过导孔导向插入滑动板上的定位孔；藉此，承载座升起或降下均可通过定位机构实现定位在相应高度上，达成桌板高度调节使用。

[0013] 上述方案进一步的，所述桌板下侧面组装有左右对称的升降架，左右升降架之间有支撑横梁连接；升降架由两支杆交叉铰接构成，其中，第一支杆的上端与承载座铰接连接，而该第一支杆的下端则按可滑动式组装在固定座上；第二支杆的上端连接滑动板按可滑动式组装在承载座上，而该第二支杆的下端与固定座铰接连接；所述第一支杆的下端由弹性体拉持而朝第二支杆的下端方向靠拢，固定座上设有助力器，该助力器驱动第二支杆相对其下端的铰接点转动。

[0014] 上述方案进一步的，所述桌板下侧面组装有左右对称的升降架，左右升降架之间有支撑横梁连接；升降架由两平行的摆杆及上拉杆、下拉杆构成，两平行摆杆的上端与承载座铰接，而两平行摆杆的下端与固定座铰接，由此实现两平行摆杆与承载座、固定座形成活动四边形；上拉杆一端铰接其一摆杆，上拉杆的另一端则斜上铰接滑动板，滑动板按可滑动式组装在承载座上；下拉杆一端铰接另一摆杆，下拉杆的下端则斜下按可滑动式组装在固定座上，下拉杆的下端由弹性体拉持而朝摆杆与固定座铰接的方向靠拢，固定座上设有助力器，该助力器驱动其一摆杆相对其与固定座铰接的铰接点转动。

[0015] 与现有技术对比，本实用新型具有如下的优点：

[0016] 1、升降定位牢靠，实现正反方向的多级升降定位，满足不同身高的使用者自适调整。

[0017] 2、纯机械结构就可以实现承载面的高度调节，结构设计简单合理，操作方便且生

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产成本相对较低，使用寿命长，易维护。

[0018] 附图说明：

[0019] 附图1为本实用新型其一实施例的定位机构示意图；

[0020] 附图2为本实用新型的升降桌子其一实施例结构示意图；

[0021] 附图3为本实用新型另一形态的升降定位装置结构示意图；

[0022] 附图4为图3实施例的单边升降架的降下结构示意图；

[0023] 附图5为本实用新型再一形态的升降定位装置结构示意图；

[0024] 附图6为图5实施例的单边升降架的降下结构示意图。

[0025] 具体实施方式：

[0026] 以下将结合附图对本实用新型的构思、具体结构及产生的技术效果作进一步说明，以充分地了解本实用新型的目的、特征和效果。

[0027] 参阅图1所示，本实用新型提供的定位机构5具有滑动板51、定位块52，在滑动板51上设有间隔布置的定位孔511；定位块52铰接设置在相应载体上，定位块52上设有定位插销521，定位块52通过手操杆53驱动，以此实现定位插销521插入或退出滑动板51上的定位孔511。图1所示，本实施例中，定位块52按可往复运动的铰接设置在导座57上，导座57设有导孔571，定位插销521通过导孔571导向插入滑动板51上的定位孔511。图中，导座57为卧式布置的U形体，定位块52位于导座57上侧，而滑动板51在导座57的U槽中移动，定位插销521通过导孔571导向插入滑动板51上的定位孔511，实现准确插接定位。所述定位块52与手操杆53之间通过连杆54连接，手操杆53上设有偏心块55，该偏心块55偏心铰接连杆54的一端头，连杆54的另一端头则铰接连接定位块52。定位块52在连杆54带动下作翘翘板式运动，其中定位块52的一翘动端为定位插销521，而定位块52的另一翘动端由压缩弹簧56支顶，压缩弹簧56支顶定位块52而实现定位块52的定位插销521插入滑动板51上的定位孔511。结构简单，操作简便，定位插销521插入定位孔511，定位稳定，不易跑位。

[0028] 图1、2、3、4所示，本实用新型提供的升降定位装置，该装置具有承载座1，承载座1通过升降架2连接固定座3，升降架2带动承载座1相对固定座3升起或降下。承载座1相对固定座3升起或降下时引入定位机构5配合升降架2实现两级以上升降高度定位，藉此，承载座1升起或降下均可通过定位机构5实现定位在相应高度上，达成高度调节使用。该定位机构5具有滑动板51、定位块52，在滑动板51上设有间隔布置的定位孔511，滑动板51连接升降架2并按可滑动式组装在承载座1上；定位块52铰接设置在与承载座1固连的导座57上，定位块52上设有定位插销521，定位块52通过手操杆53驱动，以此实现定位插销521插入或退出滑动板51上的定位孔511。导座57设有导孔571，定位插销521通过导孔571导向插入滑动板51上的定位孔511。所述定位块52与手操杆53之间通过连杆54连接，手操杆53上设有偏心块55，该偏心块55偏心铰接连杆54的一端头，连杆54的另一端头则铰接连接定位块52。定位块52在连杆54带动下作翘翘板式运动，其中定位块52的一翘动端为定位插销521，而定位块52的另一翘动端由压缩弹簧56支顶，压缩弹簧56支顶定位块52而实现定位块52的定位插销521插入滑动板51上的定位孔511，配合升降架2实现两级以上升降高度定位。藉此，承载座1升起或降下均可通过定位机构5实现定位在相应高度上，达成高度调节使用。

[0029] 本实施例中，所述偏心块55上还设有挂钩551，该挂钩551在承载座1降下收拢时挂接安全销7，安全销7设置在升降架2或固定座3上。图2所示，安全销7设置在升降架2上，承载

座1下降时，偏心块55跟随下降，当承载座1完全下降时，偏心块55上的挂钩551即可挂接安全销7，达到防止承载座1自动弹起，进一步提升使用安全性；而要解开时，只需转动手操杆53即可，操作方便。

[0030] 图2所示，所述升降架2由两支杆交叉铰接构成，其中，第一支杆21的上端与承载座1铰接连接，而该第一支杆21的下端则按可滑动式组装在固定座3上；第二支杆22的上端连接滑动板51按可滑动式组装在承载座1上，而该第二支杆22的下端与固定座3铰接连接。所述第一支杆21的下端由弹性体4拉持而朝第二支杆22的下端方向靠拢，固定座3上设有助力器6，该助力器6驱动第二支杆22相对其下端的铰接点转动。图中，弹性体4是拉伸弹簧，助力器6是扭簧。具体使用时，弹性体4拉持第一支杆21的下端朝第二支杆22的下端方向靠拢，助力器6驱动第二支杆22相对其下端的铰接点转动，由此实现第一支杆21和第二支杆22的相应端滑动，支撑承载座1相对上升，这时再由定位块52的定位插销521插入滑动板51上的定位孔511，即可达到承载座1定位在相应高度上，实现高度调节使用。结构设计简单合理，操作方便。而需要再上升或下降承载座1时，解除定位插销521定位，弹性体4和助力器6作用使承载座1上升，或者是用力下压承载座1，克服弹性体4和助力器6的作用力，即可下降承载座1，升降定位牢靠，实现正反方向的多级升降定位。

[0031] 图3、4所示，所述升降架2也可以由两平行的摆杆23及上拉杆24、下拉杆25构成，两平行摆杆23的上端与承载座1铰接，而两平行摆杆23的下端与固定座3铰接，由此实现两平行摆杆23与承载座1、固定座3形成活动四边形。上拉杆24一端铰接其一摆杆23，上拉杆24的另一端则斜上铰接滑动板51，滑动板51按可滑动式组装在承载座1上。下拉杆25一端铰接另一摆杆23，下拉杆25的下端则斜下按可滑动式组装在固定座3上，下拉杆25的下端由弹性体4拉持而朝摆杆23与固定座3铰接的方向靠拢，固定座3上设有助力器6，该助力器6驱动其一摆杆23相对其与固定座3铰接的铰接点转动。上拉杆24与摆杆23、承载座1构成活动三角形；下拉杆25与摆杆23、固定座3构成活动三角形。上述结构同样达到：利用弹性体4拉持下拉杆25的下端朝摆杆23与固定座3铰接的方向靠拢，助力器6驱动相应摆杆23相对其下端的铰接点转动，由此实现两平行摆杆23摆动以及上拉杆24、下拉杆25的相应端滑动，实现支撑承载座1相对上升，这时再由定位块52的定位插销521插入滑动板51上的定位孔511，即可达到承载座1定位在相应高度上，实现高度调节使用。结构设计简单合理，操作方便。而需要再上升或下降承载座1时，解除定位插销521定位，弹性体4和助力器6作用使承载座1上升，或者是用力下压承载座1，克服弹性体4和助力器6的作用力，即可下降承载座1，升降定位牢靠，实现正反方向的多级升降定位。

[0032] 图2所示，本实用新型提供的升降桌子具有桌板100，在桌板100下侧面组装有承载座1，承载座1通过升降架2连接固定座3，升降架2带动承载座1相对固定座3升起或降下，实现桌板100升降；承载座1相对固定座3升起或降下时引入定位机构5配合升降架2实现两级以上升降高度定位。藉此，承载座1升起或降下均可通过定位机构5实现定位在相应高度上，达成桌板100高度调节使用。图1所示，该定位机构5具有滑动板51、定位块52，在滑动板51上设有间隔布置的定位孔511，滑动板51连接升降架2并按可滑动式组装在承载座1上；定位块52铰接设置在承载座1上，定位块52上设有定位插销521，定位块52通过手操杆53驱动，以此实现定位插销521插入或退出滑动板51上的定位孔511；藉此，承载座1升起或降下均可通过定位机构5实现定位在相应高度上，达成桌板100高度调节使用。图2所述示，所述桌板100下

侧面组装有左右对称的升降架2，左右升降架2之间有支撑横梁8连接；升降架2由两支杆交叉铰接构成，其中，第一支杆21的上端与承载座1铰接连接，而该第一支杆21的下端则按可滑动式组装在固定座3上。第二支杆22的上端连接滑动板51后按可滑动式组装在承载座1上，而该第二支杆22的下端与固定座3铰接连接；所述第一支杆21的下端由弹性体4拉持而朝第二支杆22的下端方向靠拢，固定座3上设有助力器6，该助力器6驱动第二支杆22相对其下端的铰接点转动。具体动作如上述的升降定位装置。

[0033] 如图3、4所示，本实用新型的桌板100下侧面可组装有左右对称的升降架2，左右升降架2之间有支撑横梁8连接。该升降架2由两平行的摆杆23及上拉杆24、下拉杆25构成，两平行摆杆23的上端与承载座1铰接，而两平行摆杆23的下端与固定座3铰接，由此实现两平行摆杆23与承载座1、固定座3形成活动四边形；上拉杆24一端铰接其一摆杆23，上拉杆24的另一端则斜上铰接滑动板51，滑动板51按可滑动式组装在承载座1上。下拉杆25一端铰接另一摆杆23，下拉杆25的下端则斜下按可滑动式组装在固定座3上，下拉杆25的下端由弹性体4拉持而朝摆杆23与固定座3铰接的方向靠拢，固定座3上设有助力器6，该助力器6驱动其一摆杆23相对其与固定座3铰接的铰接点转动。具体动作如上述的升降定位装置。

[0034] 图5、6所示，为本实用新型另一实施方式，在图3所示的实施例基础下，升降架2由两平行的摆杆23及上拉杆24、下拉杆25构成，两平行摆杆23的上端与承载座1铰接，而两平行摆杆23的下端与固定座3铰接，由此实现两平行摆杆23与承载座1、固定座3形成活动四边形；上拉杆24一端铰接其一摆杆23，上拉杆24的另一端则斜上铰接滑动板51，滑动板51按可滑动式组装在承载座1上。下拉杆25一端铰接另一摆杆23，下拉杆25的下端则斜下按可滑动式组装在固定座3上，下拉杆25的下端由弹性体4拉持而朝摆杆23与固定座3铰接的方向靠拢，固定座3上设有助力器6，该助力器6是一拉伸弹簧，助力器6一端连接在固定座3上，助力器6另一端连接在其一摆杆23，实现驱动该摆杆23相对其与固定座3铰接的铰接点转动，实现升降架2升起助力。

[0035] 本实用新型提供的升降定位装置还可用于电脑桌、餐桌、工作台面、物品承放面、键盘托等升降使用。

[0036] 当然，以上附图仅是描述了本实用新型的较佳具体实施例，对本技术领域的技术人员来说，在不超出本实用新型构思和范围的情况下通过逻辑分析、推理或者有限的实验还可对上述实施例作出许多改进和变化，这些改进和变化都应属于本实用新型要求保护的范围。

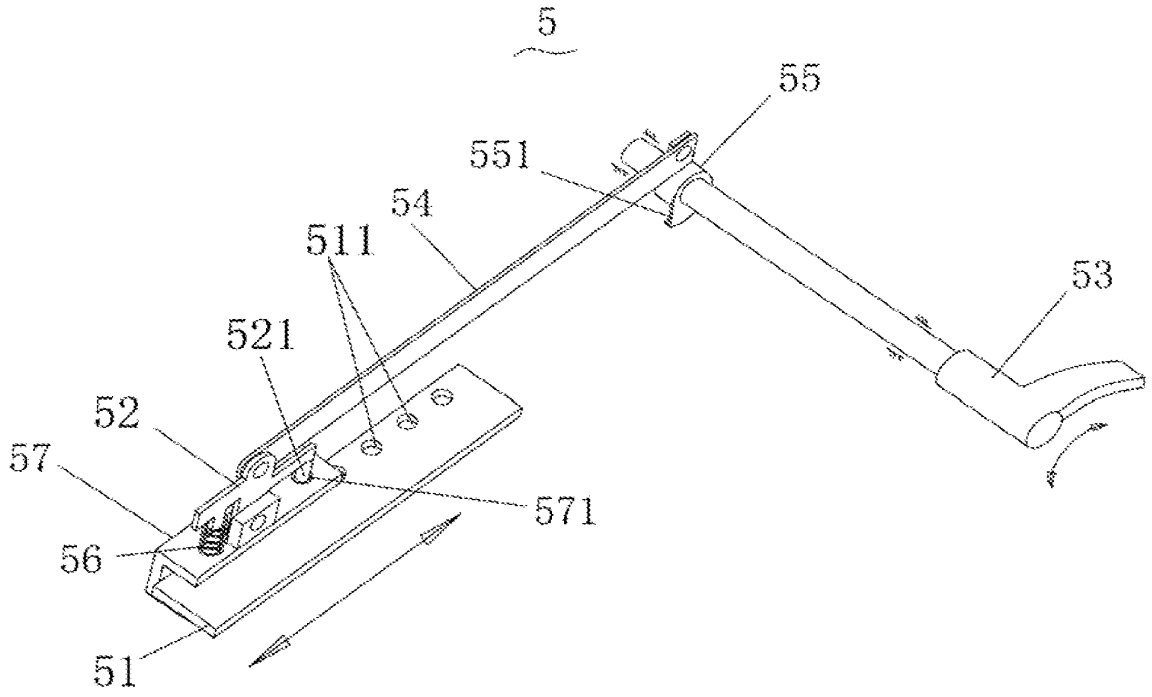


图1

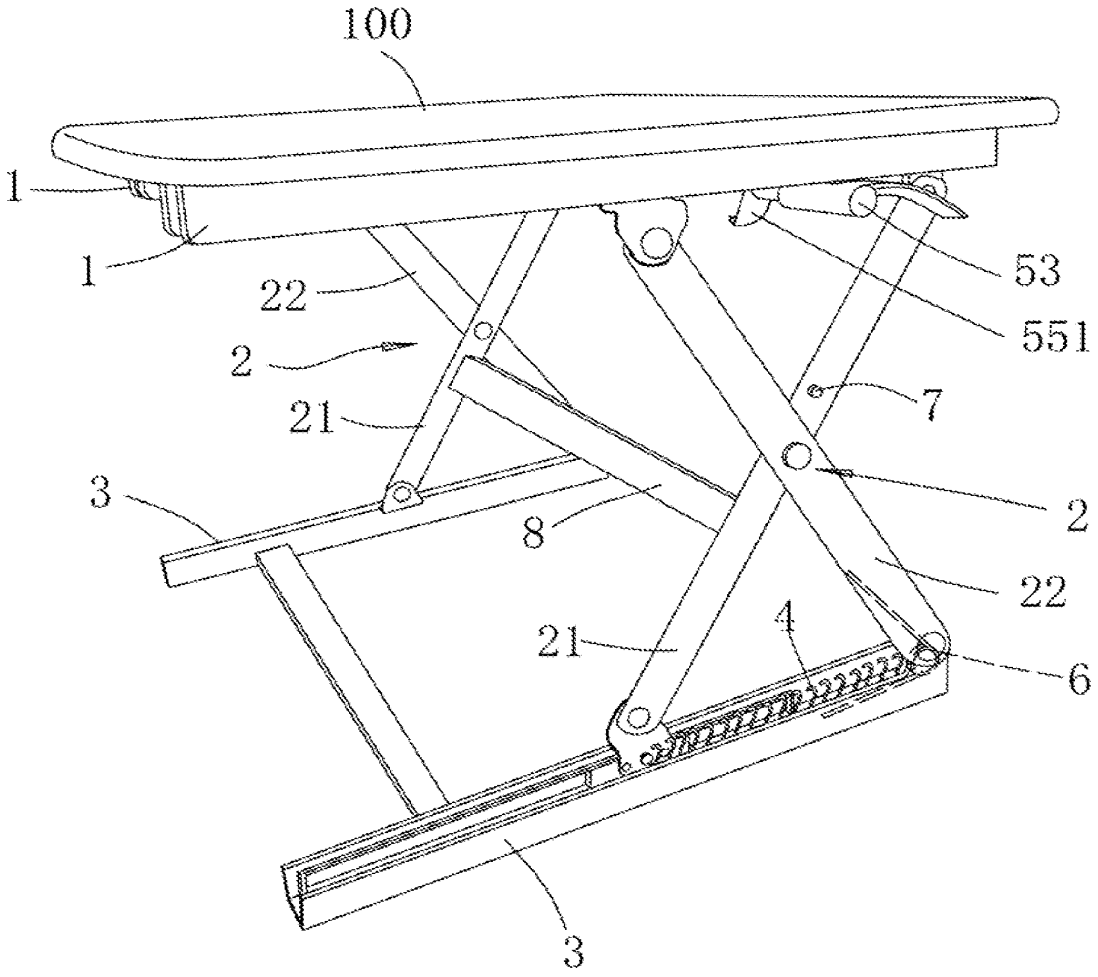


图2

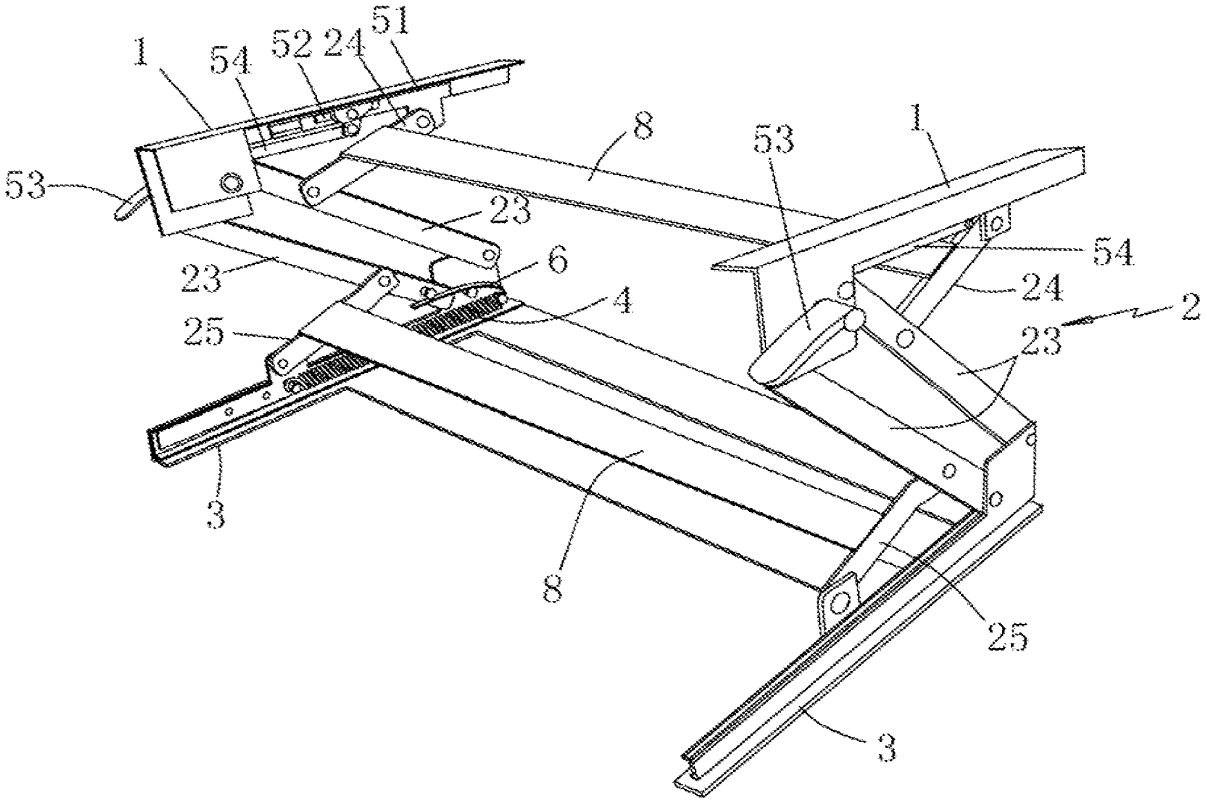

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图3

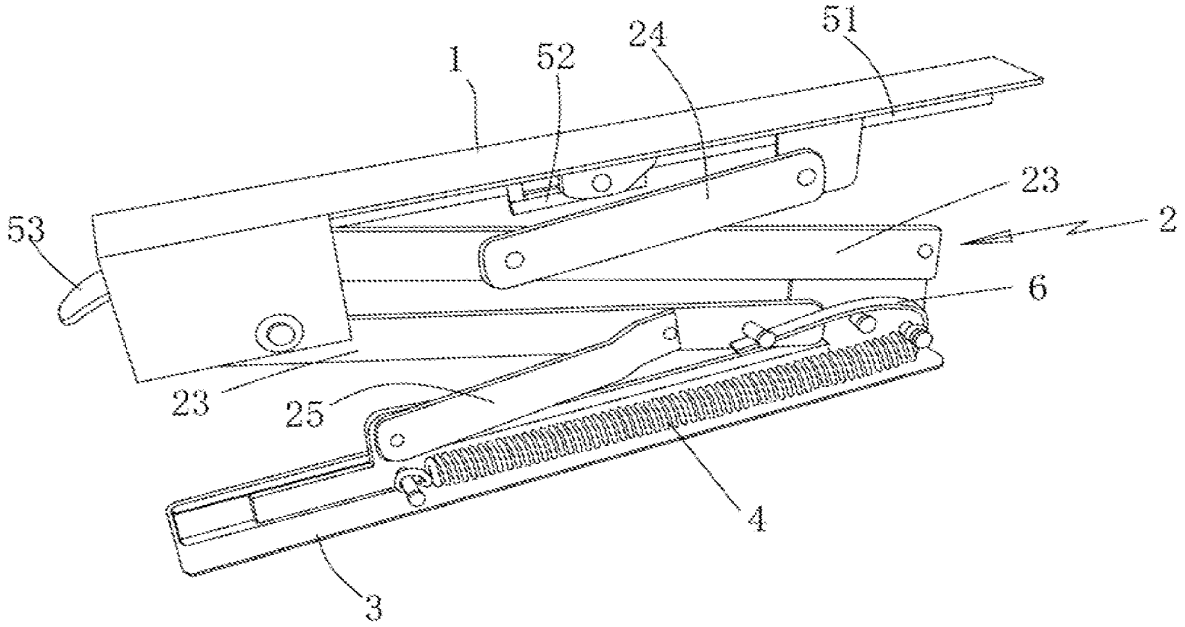

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图4

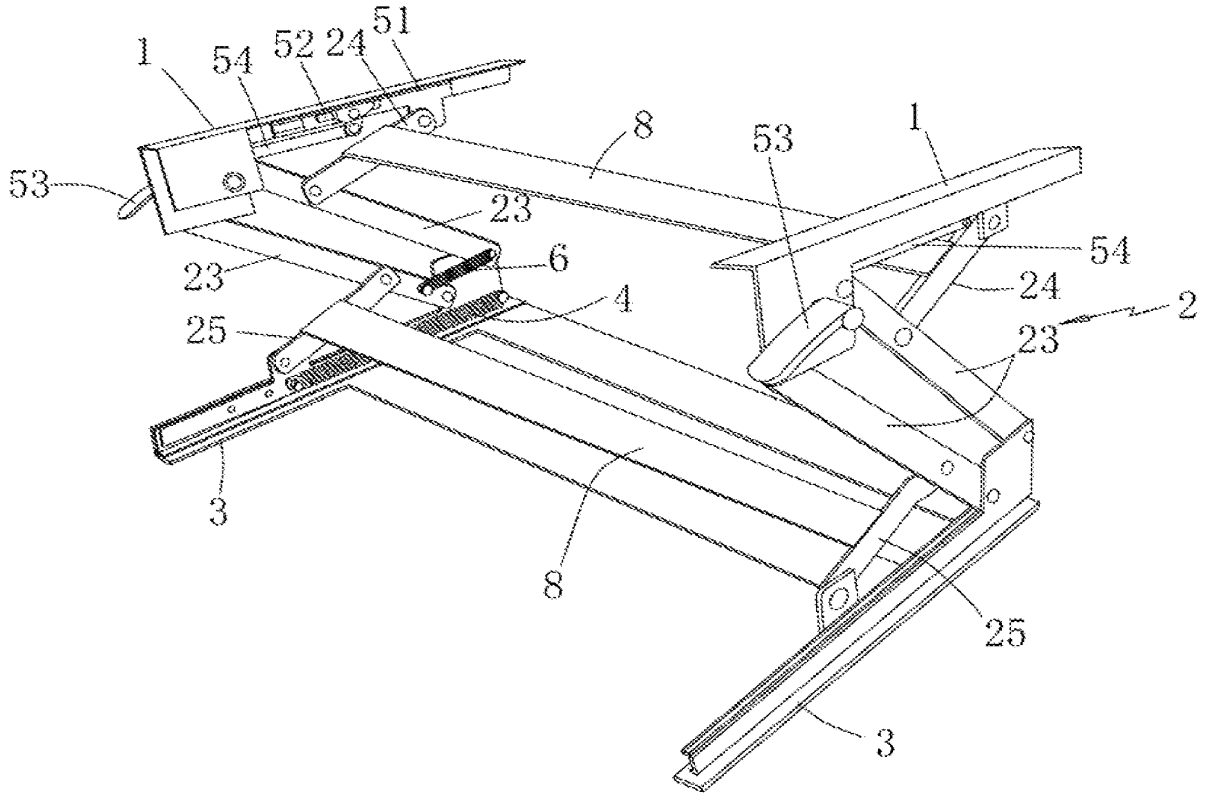

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图5

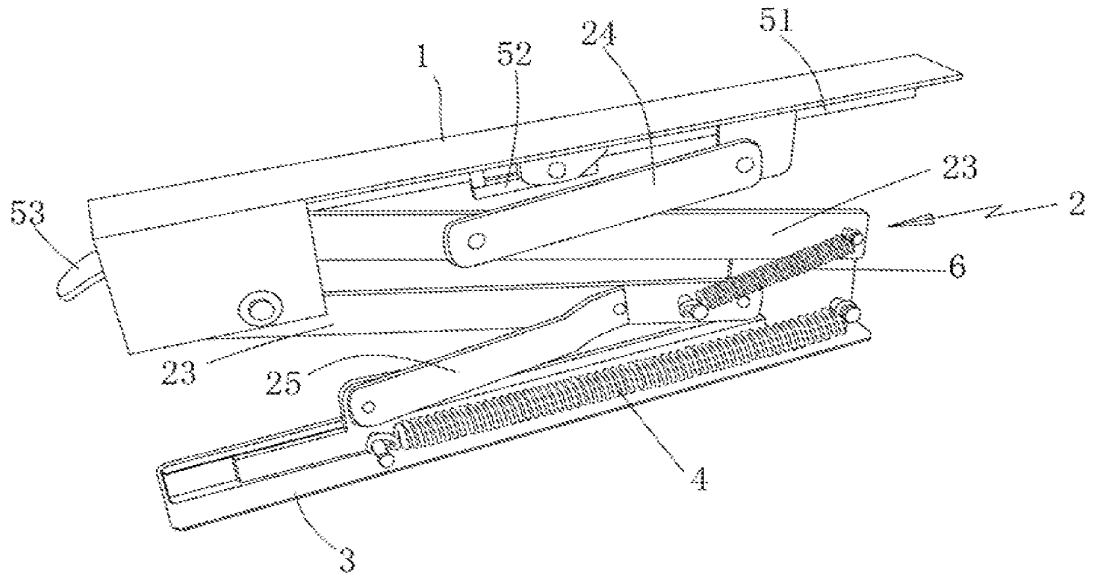

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图6

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- 包括国际检索报告（条约第21条 (3)）。

(54) Title: LIFTING TABLE AND SUPPORT STRUCTURE THEREOF

(54) 发明名称：升降桌及其支撑结构

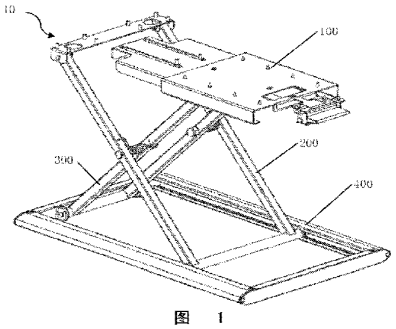


图 1

(57) Abstract: A support structure and a lifting table (10), the support structure comprising a first support assembly (200), a second support assembly (300), a top connecting assembly (100), an elastic part and an auxiliary power component (150); the first support assembly (200) and the second support assembly (300) form an X shape; the top connecting assembly (100) comprises a fixed assembly and a moving assembly (110) capable of moving along a first horizontal direction relative to the fixed assembly, an upper end of the first support assembly (200) being hinged to the fixed assembly, and an upper end of the second support assembly (300) being hinged to the moving assembly (110); the elastic part is disposed between the first support assembly (200) and the second support assembly (300) at a hinge point between the two, and is used to cause the upper end of the second support assembly (300) to apply a moving biasing force toward the top end of the first support assembly (200); the auxiliary power component (150) is connected between the fixed assembly and the moving assembly (110). A lifting table (10) using the described support structure extends and retracts more freely, takes up less surface area and saves material.

[见续页]

(57) 摘要：一种支撑结构和升降桌（10），支撑结构包括第一支撑组件（200）、第二支撑组件（300）、顶连接组件（100）、弹性部件和辅助动力件（150）；第一支撑组件（200）和第二支撑组件（300）形成X型；顶连接组件（100）包括固定组件和相对于固定组件沿第一水平方向可移动的移动组件（110），其中，第一支撑组件（200）的上端铰接于固定组件，第二支撑组件（300）的上端铰接于移动组件（110）；弹性部件在第一支撑组件（200）与第二支撑组件（300）的铰接处设置在两者之间，用于提供使第二支撑组件（300）的上端施加朝向第一支撑组件（200）的上端移动的偏置力；辅助动力件（150）连接在固定组件和移动组件（110）之间。升降桌（10）采用上述支撑结构后，收放更加自如，占地面积小，节省材料。

升降桌及其支撑结构

技术领域

本发明涉及升降桌设备领域，具体地，涉及一种用于升降桌的支撑结构，和具有该支撑结构的升降桌。

背景技术

由于现代生活和工作的需要，许多人必须維持长时间坐姿进行专注性劳动；根据医学研究，长时间的坐姿会增加心血管疾病、糖尿病以及肥脬等；对于单日維持长时间坐姿的人来说，将会增加其百分之五十死于心血管疾病的机率；由于維持坐姿会减緩人体中脂肪酶的循环，减少人体对脂肪的吸收，而站立时肌肉会促进脂肪酶作用，促使人体处理脂肪与胆固醇，这就应运而生了站立时使用的相对较高的工作台，但是高工作台的使用也产生了占用空间、成本增加的弊端，这就亟需既能用于坐姿又能用于站姿的升降桌来解决相应的技术问题。

发明内容

为了至少部分地解决现有工作桌或者工作台中存在的占用空间，成本增加的问题，本发明提供一种¾于升降桌的支撑结拘，包括：

第一支撑组件和第二支撑组件，所述第一支撑組件与所述第二支撑組件铰接形成X型；

顶连接組件，所述顶连接组件包括固定组件和相对于所述固定组件沿第一水平方向可移动的移动组件，其中，所述第一支撑組件的上端铰接于所述固定組件，所述第二支撑組件的上端铰接于所述移动组件；

弹性部件，所述弹性部件在所述第一支撑组件与所述第二支撑组件的铰接处设置在两者之间，用于提供使所述第二支撑组件的上端施加朝向所述第一支撑组件的上端移动的偏置力；以及

辅助动力件，所述辅助动力件的第一端连接至所述固定组件，且所述辅助动力件的与所述第一端相对的第二端连接至所述移动组件。

优选地，所述第一支撑组件与所述第二支撑组件通过销轴铰接，所述弹性部件包括扭簧，所述扭簧套设在所述销轴上且位于所述第一支撑组件与所述第二支撑组件之间，所述扭簧的两端分别抵靠所述第一支撑组件与所述第二支撑组件。

优选地，所述固定组件包括沿所述第一水平方向间隔开设置的第一固定組件和第二固定組件；所述移动组件可滑动地设置在所述第一固定组件上，所述第一支撑组件的上端铰接于所述第二固定组件。

优选地，所述第一固定组件包括相对设置的一对第一固定件、以及相对设置的一对第二固定件，所述第一固定件的相对的内侧设置有第一滑道，所述第二固定件的相对的内侧设置有第二滑道，所述移动组件呈Y形，Y形的所述移动组件沿着所述第一水平方向具有大尺寸端和小尺寸端，所述移动組件的大尺寸端的两侧设置有第一滑动件，所述移动组件的小尺寸端的两侧设置有第二滑动件，所述第一滑动件可滑动地连接至所述第一滑道，所述第二滑动件可滑动地连接至所述第二滑道。

优选地，所述第一支撑组件包括沿第二水平方向间隔开设置两个第一支撑柱以及第一连接柱，所述第一连接柱连接在所述第一支撑柱的底部之间，以形成U形结构，其中所述第二水平方向垂直于所述第一水平方向。

优选地，所述第二支撑组件包括沿所述第二水平方向间隔开设置两个第二支撑柱以及第二连接柱，所述第二连接柱连接在所述第二支撑柱的底部之间，以形成U形结构。

优选地，还包括底框组件，所述第一支撑組件的下端可移动地连接于所述底框组件，所述第二支撑组件的下端铰接于所述底框组件。

优选地，所述底框组件包括相对设置的一对底横梁以及相对设置的一对底端梁，所述一对底端梁分别连接至所述一对底横梁的两端，所述一对底横梁沿所述第一水平方向延伸，其中所述第一支撑组件的下端可滑动地连接于所述一对底横梁；所述第二支撑组件的下端可枢转地连接于所述一对底端梁中的一个。

优选地，所述第一支撑组件还包括第三滑动件，所述第三滑动件设置

在所述第一支撑组件的下端的两侧，所述一对底横梁的相对的内侧设置有第三滑道，所述第三滑动件连接至所述第三滑道。

优选地，所述固定组件还包括锁紧开关，所述锁紧开关包括：扳手固定座，所述扳手固定座沿着所述第一水平方向设置在所述固定组件的端部处，所述辅助动力件的第一端固定至所述扳手固定座；扳手，所述扳手在锁紧位置和解锁位置之间可枢转地设置在所述扳手固定座内；以及传动构件，所述传动构件连接至所述扳手，并由所述扳手带动沿所述第一水平方向移动，用于对所述辅助动力件的第一端施加推力而解锁所述辅助动力件。

优选地，所述扳手沿垂直于所述第一水平方向的第二水平方向延伸，所述扳手的截面呈L形，所述扳手具有水平段和竖直段，所述水平段用于抓握，所述竖直段连接至所述传动构件。

优选地，所述锁紧开关还包括枢转构件，所述枢转构件的一端可枢转地连接至所述扳手固定座，且另一端在所述传动构件的推动下可推顶所述辅助动力件的第一端，以解锁所述辅助动力件。

优选地，所述锁紧开关还包括卡钩，所述卡钩设置在所述传动构件上，所述卡钩在所述扳手处于所述镇紧位置时能够卡合至所述底框组件，且在所述扳手处于所述解锁位置时能够解除与所述底框組件的卡合。

优选地，所述辅助动力件为自锁型气弹簧。

根据本发明的另一个方面，还提供一种升降桌，包括桌板和支撑所述桌板的支撑结构，其特征在于，所述支撑结构为如上所述的任意一种支撑结构，所述桌板固定在所述顶连接组件的所述固定组件上。

本发明提供的支撑结构为X型支撑结构，其不仅能解决现有工作桌或者工作台中存在的占用空间，成本增加的问题；且由于第一支撑組件与第二支撑组件的铰接处的弹性部件的偏置作¾，同时，辅助动力件的作用，使得支撑结构的支撑緩冲效果极好，收放自如。由于垂直下降重力极大容易造成夹伤风险，升降桌采用本发明的支撑结构后，不但能防止夹伤风险，同时收起时不会产生噪音；此外升降桌基于弹性部件和辅助动力件的作用，还能够自动上升，减少人为干预，展开时方便快捷，给用户使用带来了方便。

在发明内容中引入了一系列简化形式的概念，这将在具体实施方式部

分中进一步详细说明。本发明内容部分并不意味着要试图限定出所要求保护的技术方案的关键特征和必要技术特征，更不意味着试图确定所要求保护的¾术方案的保护范围。

以下结合附图，详细说明本发明的优点和特征。

附图说明

本发明的下列附图在此作为本发明的一部分用于理解本发明。附图中示出了本发明的实施方式及其描述，用来解释本发明的原理。在附图中，

图 1 为根据本发明一个实施例的支撑结构处于展开状态的立体图；

图 2 为根据本发明一个实施例的升降桌的侧视图；

图 3 为图 2 中本发明的升降桌的 A 向示意图；

图 4 为根据本发明一个实施例的升降桌处于收纳状态的侧视图；

图 5 为图 1 中的升降桌处于展开状态的仰视图；

图 6 为根据本发明一个实施例的升降桌的上部爆炸图；

图 7 为根据本发明一个实施例的升降桌的下部爆炸图；

图 8 为根据本发明另一个实施例的支撑结构处于展开状态的立体图；

图 9 为根据本发明另一个实施例的升降桌的侧视图；

图 10 为图 9 中本发明的升降桌的 A 向示意图；

图 11 为根据本发明一个实施例的升降桌处于收纳状态的仰视图；

图 12 为图 11 中的升降桌的侧视图；

图 13 为根据本发明一个实施倒的升降桌的顶连接组件的爆炸图；以及

图 14 为根据本发明一个实施例的升降桌的局部图。

具体实施方式

在下文的描述中，提供了大量的细节以便能够彻底地理解本发明。然而，本领域技术人员可以了解，如下描述仅示倒性地示出了本发明的优选实施例，本发明可以无需一个或多个这样的细节而得以实施。此外，为了避免与本发明发生混淆，对于本领域公知的一些技术特征未进行详细描述。

根据本发明的一个方面，提供一种用于升降桌的支撑结构，本发明的支撑结构为X型支撑结拘。本发明的X型支撑结构相比于现有技术之处的优势在于：牧放自如，而且占用空间小。

图1—7从各个角度示出了根据本发明的一个实施例的支撑结构的整体以及该支撑结构所包含的各个部件或部分。为了了解这些部件或者部分在支撑结构中的位置和所起的作用，首先对支撑结构进行整体性描述，以便彻底地理解本发明。

如图1-5所示，本发明提供一种用于升降桌10的支撑结构，包括顶连接组件100、第一支撑组件200、第二支撑组件300、弹性部件以及辅助动力件150。

顶连接組件100包括固定组件和移动组件110。移动組件110相对于固定組件沿第一水平方向可移动。所述第一水平方向为图2中箭头A所示的方向及其相反方向，即升降桌的长度方向。在图中所示的实施倒中，固定組件是分体的，它包括沿第一水平方向间隔开设置的第一固定组件120和第二固定组件140。可选地，固定组件也可以是一体的。升降桌的桌板500固定于顶连接组件100上，示例性地，桌板500为木质或者不锈钢材质。

第一支撑组件200与第二支撑组件300铰接形成X型。弹性部件在第一支撑组件200与第二支撑组件3()()的铰接处设置在两者之间。弹性部件例如可采用图示实施例中的扭簧212和222，可选地，弹性部件还可以采用弹片。弹性部件用于提供使第二支撑组件300的上端施加朝向第一支撑组件200的上端移动的偏置力。在弹性部件的作用下，第二支撑组件300的上端具有朝向第一支撑组件200的上端移动的趋势。

示例性地，第一支撑组件2()()与第二支撑组件3()()可以通过销轴211和221铰接。弹性部件可以包括扭簧212和222。扭簧212和222分别套设在对应的销轴211和221上，并且位于第一支撑組件200和第二支撑组件300之间。扭簧212和222的两端分别抵靠第一支撑組件200和第二支撑组件300上。

示例性地，第一支撑组件200可以包括沿第二水平方向间隔开设置两个第一支撑柱210和220以及第一连接柱230。所述第二水平方向垂直于

所述第一水平方向。第一连接柱 230 连接在第一支撑柱 210 和 220 的底部之间，以形成 U 形结构。

示例性地，第二支撑组件 300 可以包括沿第二水平方向间隔开设置两个第二支撑柱 310 和 320 以及第二连接柱 330。第二连接柱 330 连接在第二支撑柱 310 和 320 的底部之间，以形成 U 形结构。

优选地，如图 3 所示，沿垂直于纸面的方向 (即第一水平方向)观看，第二支撑組件 300 位于第一支撑组件 200 的内侧。销轴 211 依次穿过第一支撑柱 210 中部、扭簧 212 和第二支撑柱 310 中部，销轴 211 通过螺母 311 锁紧。扭簧 212 的两端分别抵靠在第一支撑柱 210 和第二支撑柱 310 的外表面上。可选地，也可以在第一支撑柱 210 和第二支撑柱 310 的相对两个面上设置孔，扭簧 212 的两端分别抵靠在孔内。销轴 221 依次穿过第一支撑柱 220 中部、扭簧 222 和第二支撑柱 320 中部，销轴 221 通过螺母 321 锁紧。扭簧 222 的两端分别抵靠在第一支撑柱 220 和第二支撑柱 320 的外表面上。可选地，也在第一支撑柱 220 和第二支撑柱 320 的相对两个面上设置孔，扭簧 222 的两端分别抵靠在孔内。

优选地，移动组件 110 上设置有沿所述第一水平方向延伸的多个限位孔 115，如图 6 所示。限位孔 115 用于使限位螺钉 114 穿过并固定在升降桌的桌板 500 上。示例性地，限位礼 115 呈长条状，限位螺钉 114 依次穿过限位套 113 和限位孔 115 之后固定在桌板 500 上。

第一支撑组件 200 的上端铰接于固定组件，第二支撑組件 300 的上端铰接于移动组件 110。通过移动组件 110 的移动，带动第一支撑组件 200 和第二支撑组件 300 之间的顶部夹角 α (见图 2) 改变，从而调节支撑结构的高度，实现升降桌的升降。在固定组件为分体式构件的实施例中，移动组件 110 可滑动地设置在第一固定组件 120 上，第一支撑组件 200 的上端可以铰接于第二固定组件 140。

可选地，移动组件 110 的两侧设置有滑轮。如图 6-7 所示，在移动組件 110 的两侧设置滑轮 111。第一固定组件 120 相对的内侧设置有滑道 121。滑道 121 沿第一水平方向延伸。滑轮 111 分别连接至相应的滑道 121。通过滑轮在滑道内移动，来实现移动组件 110 和第一固定组件 120 的可移动连接。移动组件 110 上设置有连接座 116，其用于铰接第二支撑组件 300

的上端，如图 6 所示。第二固定组件 140 上设置有连接座 141，其用于铰接第一支撑组件 200 的上端。

辅助动力件 150 连接在固定组件和移动组件 110 之间。辅助动力件 150 具有相对设置的第一端和第二端。辅助动力件 150 的第一端连接至固定组件，且第二端连接至移动组件 110。辅助动力件 150 可采用气弹簧。优选地，气弹簧可采用自锁型气弹簧。自锁型气弹簧能在行程中的任意位置停止，并且停止以后有很大的锁紧力。

根据本发明提供的支撑结构，由于第二支撑组件 3()() 的上端连接至顶连接组件 100 的移动组件 110，当对桌板 500 施加向下的力时，第二支撑组件 300 的上端在移动组件的带动下朝远离第一支撑组件 200 的上端的方向移动，第一支撑组件 200 与第二支撑组件 300 之间的顶部夹角α（见图 2）增大，辅助动力件 150 压缩，支撑结构整体高度下降，以满足坐姿需要。图 4 为该升降桌处于收纳状态时的示意图，收纳之后占地空间小，在同行业中能够达到很轻薄的状态，最优为 5CM 左右。需要升高桌板时，在第一支撑组件 200 与第二支撑组件 300 的铰接处的弹性部件的偏置作用下，顶部夹角α减小，支撑结构整体高度上升，以满足站姿需要。

优选地，该支撑结构还包括底框组件 400。第一支撑组件 200 的下端可移动地连接于底框组件 400。第二支撑组件 300 的下端铰接于底框组件 400。通过设置该底框组件 400，支撑结构 10 更加稳定、牢固。

示例性地，底框组件 400 包括相对设置的一对底横梁 430 和 440 以及相对设置的一对底端梁 410 和 420。底端梁 410 和 420 分别连接至底横梁 430 和 440 的两端。底横梁 430 和 440 沿第一水平方向延伸。第一支撑组件 200 的下端可滑动地连接于底横梁 430 和 440。第二支撑组件 300 的下端可枢转地连接于底端梁 410 或 420。底端梁 410 和 420 分别在两端封堵底横梁 430 和 440 的端部。可选地，可以通过螺纹紧固件将底端梁 410 和 420 固定至底横梁 430 和 440。

示例性地，第一支撑组件 200 还包括滑动件 213 和 223，如图 7 所示。滑动件 213 和 223 分别安装在第一支撑组件 200 下端的两侧，例如安装在第一支撑组件 200 的第一连接柱 230 的两端。底横梁 430 和 440 的相对的内侧设置有滑道 431 和 441。滑动件 213 和 223 连接至滑道 431 和 441。

优选地，固定组件还包括锁紧开关。锁紧开关包括扳手固定座 131、扳手 130 和传动构件 132。

扳手固定座 131 沿第一水平方向设置在固定组件的端部处。扳手固定座 131 例如设置在第一固定组件 120 上，或者与第一固定组件 120 和第二固定组件 140 均分体设置。辅助动力件 150 的第一端固定至扳手固定座 131。扳手 130 在锁紧位置和解锁位置之间可枢转地设置在扳手固定座 131 内。示例性地，扳手 130 可以通过销轴 133 可枢转地连接至扳手固定座 131。为了抓握方便，扳手 130 可以露出到桌板 500 的边缘之外。对升降桌执行升高和降低操作时，可以借力于桌板 500，即手掌在上、手指在下同时握住桌板 500 的边缘和扳手 130，使扳手 130 旋转。

示例性地，扳手 130 沿垂直于第一水平方向的第二水平方向延伸。扳手 130 的截面呈 L 形，如图 6 所示，扳手 130 具有水平段和竖直段。其中，所述水平段用于抓握，所述竖直段连接至传动构件 132。

传动构件 132 连接至扳手 130。扳手 130 旋转时，可以带动传动构件 132 沿第一水平方向移动。传动构件 132 移动，可以对辅助动力件 150 的第一端施加推力，以解锁辅助动力件 150 的自锁功能。需要说明的是，传动构件 132 可以直接对辅助动力件 150 施加推力，来解锁辅助动力件 150；或者，可选地，传动构件 132 通过中间部件间接地对辅助动力件 150 施加推力。

示例性地，传动构件 132 包括 T 形主体 132a、扳手连接部 132b 和动力件连接部 132"。T 形主体 132a 沿第一水平方向延伸。T 形主体 132a 沿第一水平方向具有大尺寸端和小尺寸端。卡钩 134 设置在所述大尺寸端和所述小尺寸端的连接处。扳手连接部 132b 设置在所述大尺寸端，并连接至扳手 130。动力件连接部 132c 设置在所述小尺寸端，并连接至辅助动力件 150。

优选地，锁紧开关还包括卡钩 134。卡钩 134 设置在传动构件 132 上。卡钩 134 在扳手 130 处于锁紧位置时能够卡合在底框组件 4()() 上，以实现收納锁紧。底框组件 400 上与卡钩 134 相对应的位置处可以设置有与卡钩 134 相适配的卡扣 421。卡扣 421 可以设置在底框组件 400 的与卡钩 134 位置相对应的底端梁 420 上。卡钩 134 卡合至卡扣 421 时，实现收纳状态

的锁紧。扳手 130 处于解锁位置时，能够解除与底框组件 400 的卡合。

在上述优选实施例中，辅助动力件 150 为具有自锁功能的自锁型气弹簧。辅助动力件 150 连接在传动构件 132 和移动组件 110 之间。扳手 130 处于解锁位置时能够解除辅助动力件 150 的自锁功能。

示例性地，扳手 130 从图 6 中所示的锁紧位置向上枢转至解锁位置时，传动构件 132 朝向第二固定组件 140 的方向移动，传动构件 132 例如按压自锁型气弹簧上的顶针，达到解锁自锁型气弹簧的目的。自锁型气弹簧解锁后可以根据需要伸缩。

针对上述示例性实施例，需要降低升降桌的高度时，向上转动扳手 130，扳手 130 旋转至解锁位置，解除辅助动力件 150 的自镇功能，对桌板 5()() 施加向下的外力时，顶部夹角 α 增大，升降桌高度降低，直至进入图 4 所示的状态。松开扳手 130，扳手 130 返回至锁紧位置，卡扣 421 卡合至卡钩 134，实现收納状态的锁紧。需要升高升降桌的高度时，将扳手 130 向上转动至解锁位置，解除卡扣 421 与卡钩 134 之间的卡掣，同时解除辅助动力件 150 的自锁功能，在扭簧 212 和 222 的作用下，第一支撑组件 200 与第二支撑组件 300 之间的顶部角度 α 减小，升降桌整体高度上升，以满足站姿需要，松开扳手 130。

图 8-14 从各个角度示出了根据本发明的另一实施倒的支撑结构的整体以及该支撑结构所包含的各个部件或部分。该实施例与图 1-7 所描述的实施例的主要区别在于顶连接組件 100'，因此在描述该另一实施倒时与上述实施例相同或相似的部件将使用相同的附图标记，并且不再对这些相同或相似的部件进行详细赘述。

顶连接組件 100' 包括固定組件和移动组件 110'。移动组件 110' 相对于固定組件沿第一水平方向可移动。所述第一水平方向为图 9 中箭头 A 所示的升降桌的长度方向。在图中所示的实施例中，固定组件是分体的，它包括沿第一水平方向间隔开设置的第一固定组件 120' 和第二固定組件 140'。

优选地，第一固定组件 120' 包括相对设置的一对第一固定件 122'、以及相对设置的一对第二固定件 124'，如图 8 和 13 所示。第一固定件 122' 的相对的内侧设置有第一滑道 126'，第二固定件 124' 的相对的内侧设置有第二滑道 128'。移动组件 110' 呈 Y 形，Y 形的移动組件 110' 沿着第一水平

方向具有大尺寸端和小尺寸端。移动组件 110' 的大尺寸端的两侧设置有第一滑动件 112', 移动组件 110' 的小尺寸端的两侧设置有第二滑动件 114'。第一滑动件 112' 可滑动地连接至第一滑道 126,, 第二滑动件 114,可滑动地连接至第二滑道 128。第一滑动件 112' 和第二滑动件 114,可以为滑轮和凸起等等。优选地,第一滑动件 112 和第二滑动件 114' 为凸起,以简化结构,减小升降桌处于收纳状态的厚度。采用 Y 形的移动组件 110' 的上述方案能够减轻支撑结构的自重,且由于滑动件均设置在移动组件 110 的端部,第一滑动件 112' 与第二滑动件 114' 之间的间距较大,因此可以使移动組件 110' 的运动更加稳定。

另外优选地,如图 8-14 所示,锁紧开关具有如下优选结构,锁紧开关包括扳手固定座 131'、扳手 130'、传动构件 132' 和枢转构件 135'。

扳手固定座 131' 沿着第一水平方向设置在固定组件的端部处,辅助动力件 150 的第一端固定至扳手固定座 131',如图 14 所示。扳手 130' 在锁紧位置和解锁位置之间可枢转地设置在扳手固定座 131' 内。传动构件 132' 连接至扳手 130',并由扳手 130' 带动沿第一水平方向移动。枢转构件 135' 的一端可枢转地连接至扳手固定座 131',且另一端在传动构件 132' 的推动下可推顶辅助动力件 150 的第一端,以解锁辅助动力件 150。由于枢转构件 135 增大了推顶辅助动力件 150 的力臂,因此用户以较小的力就能够转动扳手,进而具有良好的手感,提高用户体验。

传动构件 132,可以夹在桌板与扳手固定座 131'之间,由扳手固定座 131'限制在一定范围内沿第一水平方向做定向移动。示例性地,传动构件 132 上用于推动枢转构件 135' 的突起 134a' 突出到扳手固定座 131'的下方,其余部分可以均保持在桌板与扳手固定座 131'之间。

卡钩 134' 设置在传动构件 132' 的下方。卡钩 134' 在扳手 130' 处于锁紧位置时能够卡合至底框组件,且在扳手 130' 处于解锁位置时能够解除与底框组件的卡合。卡钩 134'的这部分功能与前述实施例相同,因此不再赘述。

针对上述示倒性实施例,需要降低升降桌的高度时,手掌按住桌面、手指扳动扳手 130',使扳手 130' 向上转动旋转至解锁位置,参见图 14,传动构件 132' 向左侧移动,其上的突起 134a' 推动枢转构件 135',使得枢转构件 135' 推顶枢转构件 135' 的第一端 (例如推顶自锁型气弹簧上的顶

针），解除辅助动力件 150 的自锁功能。此时，对桌板施加向下的外力时，顶部夹角α增大，辅助动力件 150 压缩，升降桌高度降低，直至进入图 11-12 所示的状态。松开扳手 130，扳手 130 返回至锁紧位置，在返回过程中，卡扣 421 卡合至底框组件，实现收纳状态的锁紧。需要升高升降桌的高度时，将扳手 130 向上转动至解锁位置，解除卡扣 421 与卡钩 134 之间的卡掣，同时解除辅助动力件 150 的自锁功能，在扭簧 212 和 222 的作用下，第一支撑组件 200 与第二支撑组件 300 之间的顶部角度α减小，升降桌整体高度上升，以满足站姿需要，松开扳手 130。

根据本发明的另一方面，还提供一种升降桌，升降桌包括如上所述的支撑结构。

本发明的支撑结构的优点在于：支撑緩冲效果极好，收放自如。由于垂直下降重力极大容易造成夹伤风险，升降桌采用本发明的支撑结构后，不但能防止夹伤风险，同时收起时不会产生噪音；此外升降桌基于弹性部件和辅助动力件的作用，还能够自动上升，减少人为干预，展开时方便快捷，给用户使用带来了方便。

本实用新型提供的锁紧开关的锁紧效果极好，收纳之后不会发生任何形变，锁紧牢固；在起升过程中通过辅助动力件的作用，通过第一支撑组件与第二支撑组件的铰接处的弹性部件形成张力作用，同时，由于第二支撑组件的上端通过辅助动力件滑动连接于顶连接组件的另一端，使得支撑结构的支撑緩冲效果极好，牧放自如，此外升降桌基于弹性部件和辅助动力件的作用，还能够自动上升，无需人为干预；展开时方便快捷，给用户使用带来了方便。

本发明已经通过上述实施例进行了说明，但应当理解的是，上述实施例只是为了举例和说明的目的，而非意在将本发明限制于所描述的实施例范围内。此外本领域技术人员可以理解的是，本发明并不局限于上述实施例，根据本发明的教导还可以做出更多种的变型和修改，这些变型和修改均落在本发明所要求保护的范围以内。本发明的保护范围由附属的权利要求书及其等效范围所界定。

权 利 要 求 书

1、一种用于升降桌的支撑结构，其特征在于，包括：

第一支撑组件和第二支撑组件，所述第一支撑组件与所述第二支撑组件铰接形成X型；

顶连接组件，所述顶连接组件包括固定组件和相对于所述固定组件沿第一水平方向可移动的移动组件，其中，所述第一支撑组件的上端铰接于所述固定组件，所述第二支撑组件的上端铰接于所述移动组件；

弹性部件，所述弹性部件在所述第一支撑组件与所述第二支撑组件的铰接处设置在两者之间，用于提供使所述第二支撑组件的上端施加朝向所述第一支撑组件的上端移动的偏置力；以及

辅助动力件，所述辅助动力件的第一端连接至所述固定組件，且所述辅助动力件的与所述第一端相对的第二端连接至所述移动組件。

2、如权利要求1所述的支撑结构，其特征在于，所述第一支撑组件与所述第二支撑组件通过销轴铰接，所述弹性部件包括扭簧，所述扭簧套设在所述销轴上且位于所述第一支撑组件与所述第二支撑组件之间，所述扭簧的两端分别抵靠所述第一支撑组件与所述第二支撑组件。

3、如权利要求1所述的支撑结构，其特征在于，所述固定组件包括沿所述第一水平方向间隔开设置的第一固定组件和第二固定组件；

所述移动组件可滑动地设置在所述第一固定组件上，所述第一支撑组件的上端铰接于所述第二固定组件。

4、如权利要求3所述的支撑结构，其特征在于，所述第一固定组件包括相对设置的一对第一固定件、以及相对设置的一对第二固定件，所述第一固定件的相对的内侧设置有第一滑道，所述第二固定件的相对的内侧设置有第二滑道，

所述移动组件呈Y形，Y形的所述移动组件沿着所述第一水平方向具有大尺寸端和小尺寸端，所述移动组件的大尺寸端的两侧设置有第一滑动件，所述移动组件的小尺寸端的两铜设置有第二滑动件，所述第一滑动件可滑动地连接至所述第一滑道，所述第二滑动件可滑动地连接至所述第二滑道。

5、如权利要求 1 所述的支撑结构，其特征在于，所述第一支撑组件包括沿第二水平方向间隔开设置两个第一支撑柱以及第一连接柱，所述第一连接柱连接在所述第一支撑柱的底部之间，以形成 U 形结构，其中所述第二水平方向垂直于所述第一水平方向。

6、如权利要求 5 所述的支撑结构，其特征在于，所述第二支撑组件包括沿所述第二水平方向间隔开设置两个第二支撑柱以及第二连接柱，所述第二连接柱连接在所述第二支撑柱的底部之间，以形成 U 形结构。

7、如权利要求 1 所述的支撑结构，其特征在于，还包括底框组件，所述第一支撑组件的下端可移动地连接于所述底框组件，所述第二支撑组件的下端铰接于所述底框组件。

8、如权利要求 7 所述的支撑结构，其特征在于，所述底框组件包括相对设置的一对底横梁以及相对设置的一对底端梁，所述一对底端梁分别连接至所述一对底横梁的两端，所述一对底横梁沿所述第一水平方向延伸，其中

所述第一支撑组件的下端可滑动地连接于所述一对底横梁；

所述第二支撑组件的下端可枢转地连接于所述一对底端梁中的一个。

9、如权利要求 8 所述的支撑结构，其特征在于，所述第一支撑组件还包括第三滑动件，所述第三滑动件设置在所述第一支撑组件的下端的两侧，

所述一对底横梁的相对的内侧设置有第三滑道，所述第三滑动件连接至所述第三滑道。

10、如权利要求 7 所述的支撑结构，其特征在于，所述固定组件还包括锁紧开关，所述锁紧开关包括：

扳手固定座，所述扳手固定座沿着所述第一水平方向设置在所述固定组件的端部处，所述辅助动力件的第一端固定至所述扳手固定座；

扳手，所述扳手在锁紧位置和解锁位置之间可枢转地设置在所述扳手固定座内；以及

传动构件，所述传动构件连接至所述扳手，并由所述扳手带动沿所述第一水平方向移动，用于对所述辅助动力件的第一端施加推力而解锁所述

辅助动力件。

11、如权利要求 10 所述的支撑结构，其特征在于，所述扳手沿垂直于所述第一水平方向的第二水平方向延伸，所述扳手的截面呈 L 形，所述扳手具有水平段和竖直段，所述水平段用于抓握，所述竖直段连接至所述传动构件。

12、如权利要求 10 所述的支撑结构，其特征在于，所述锁紧开关还包括枢转构件，所述枢转构件的一端可枢转地连接至所述扳手固定座，且另一端在所述传动构件的推动下可推顶所述辅助动力件的第一端，以解锁所述辅助动力件。

13、如权利要求 10 所述的支撑结构，其特征在于，所述镇紧开关还包括卡钩，所述卡钩设置在所述传动构件上，所述卡钩在所述扳手处于所述锁紧位置时能够卡合至所述底框组件，且在所述扳手处于所述解锁位置时能够解除与所述底框組件的卡合。

14、如权利要求 1 所述的支撑结构，其特征在于，所述辅助动力件为自锁型气弹簧。

15、一种升降桌，包括桌板和支撑所述桌板的支撑结构，其特征在于，所述支撑结构为权利要求 1-14 中任意一项所述的支撑结构，所述桌板固定在所述顶连接组件的所述固定组件上。

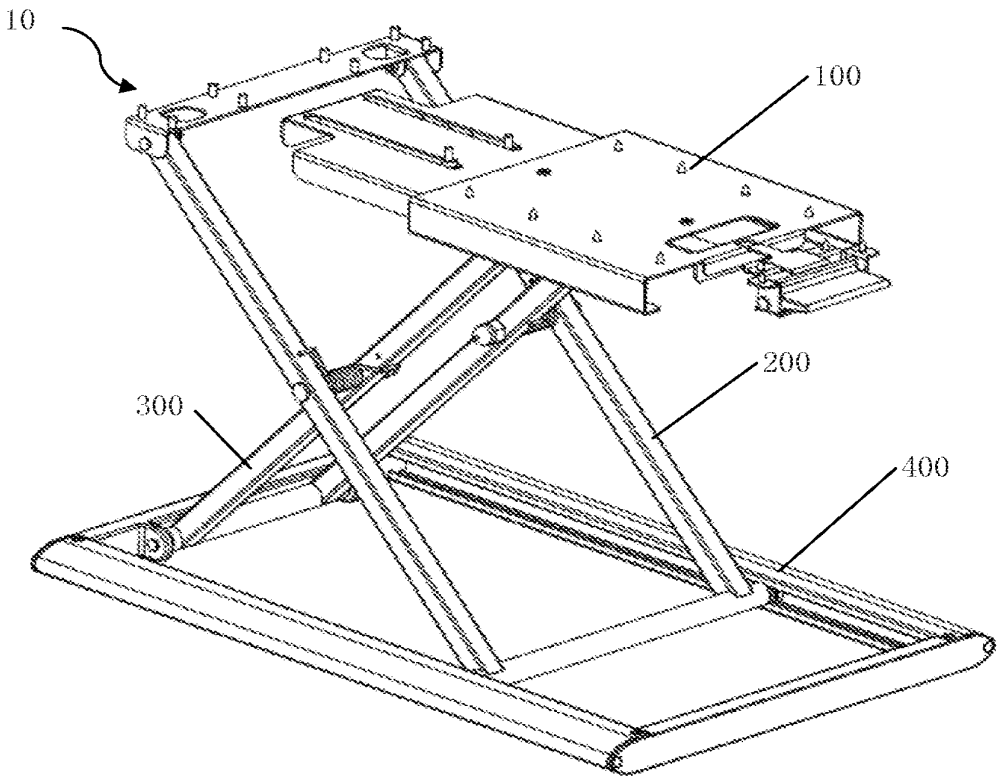


图 1

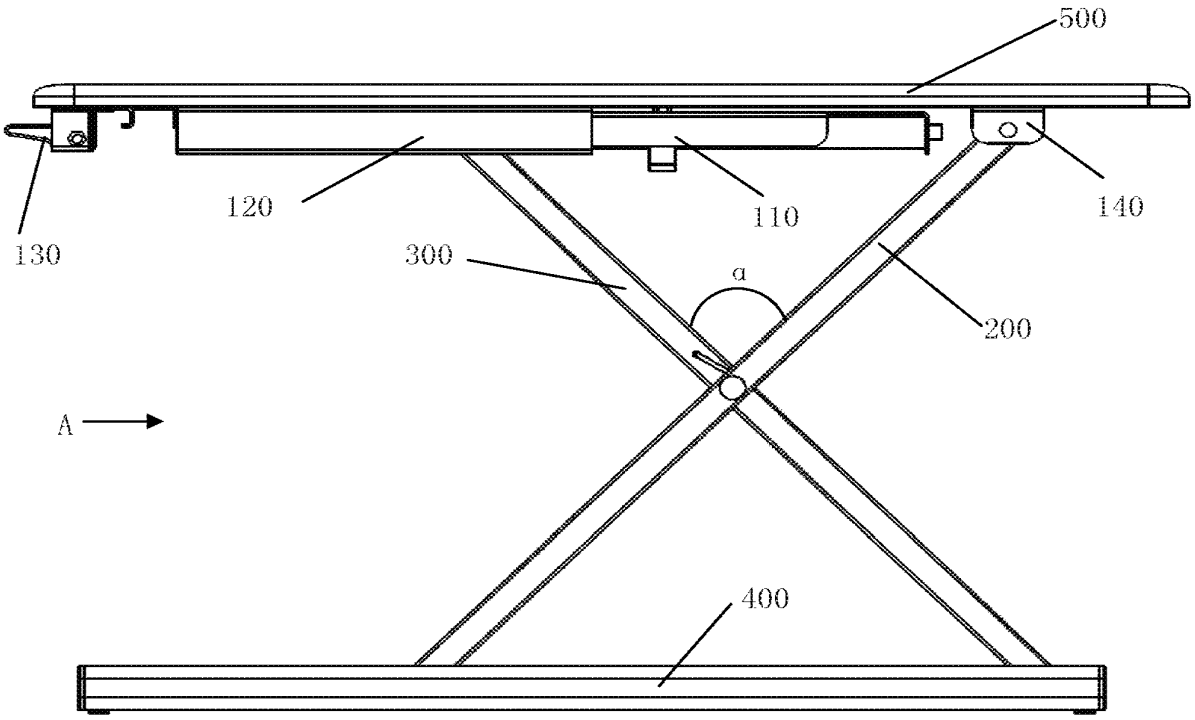


图 2

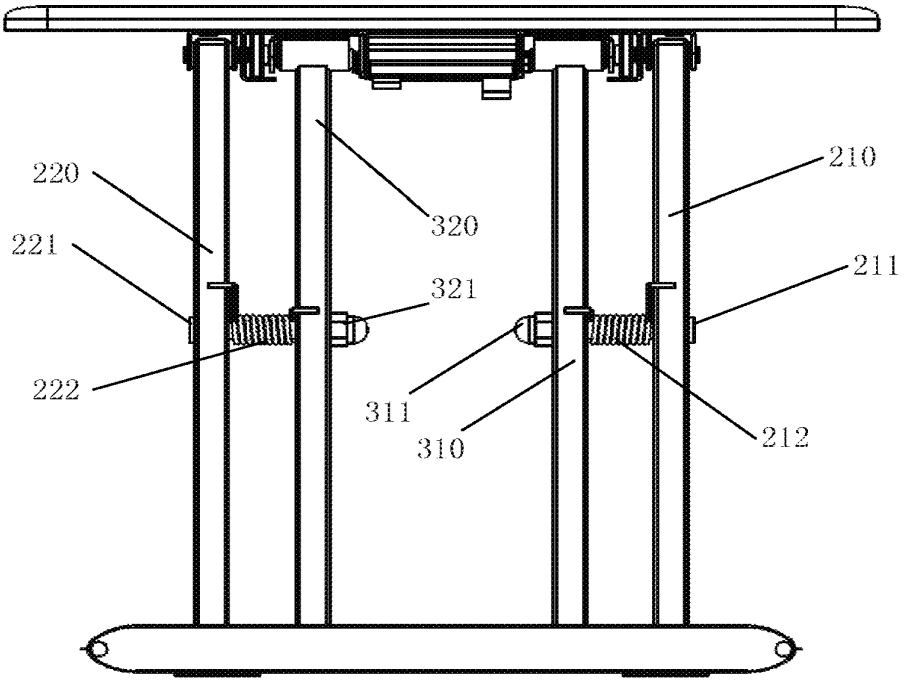


图 3

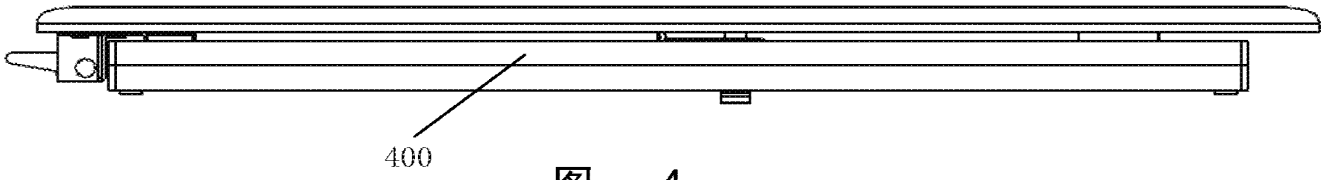


图 4

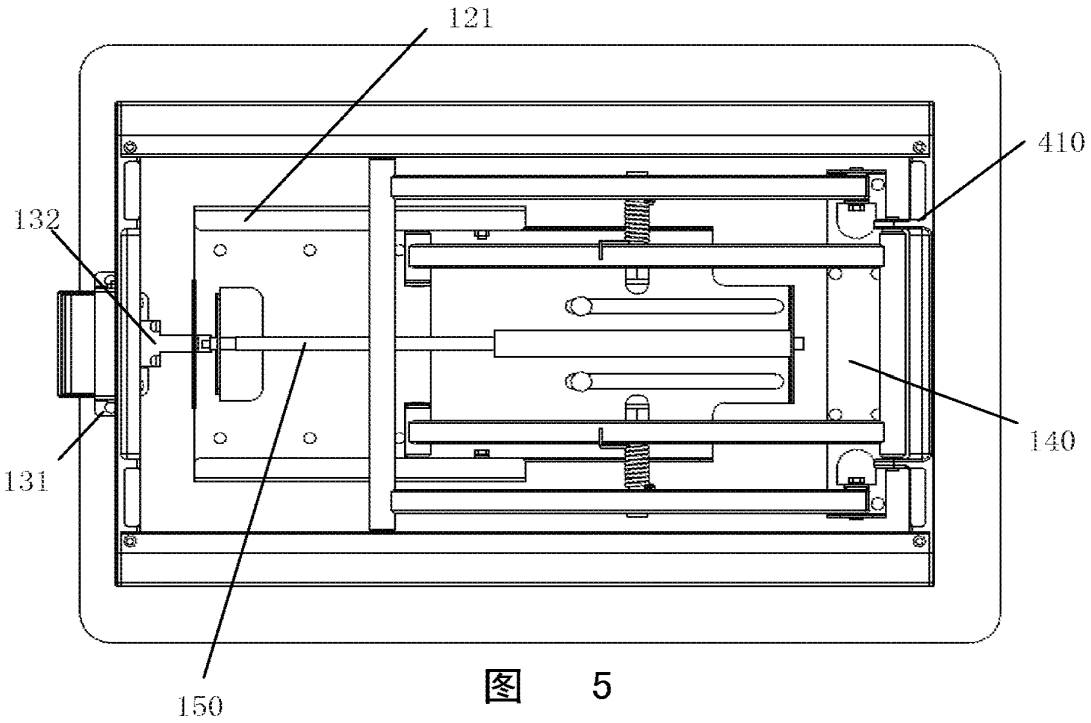

121
410
132
140
131
150

图 5

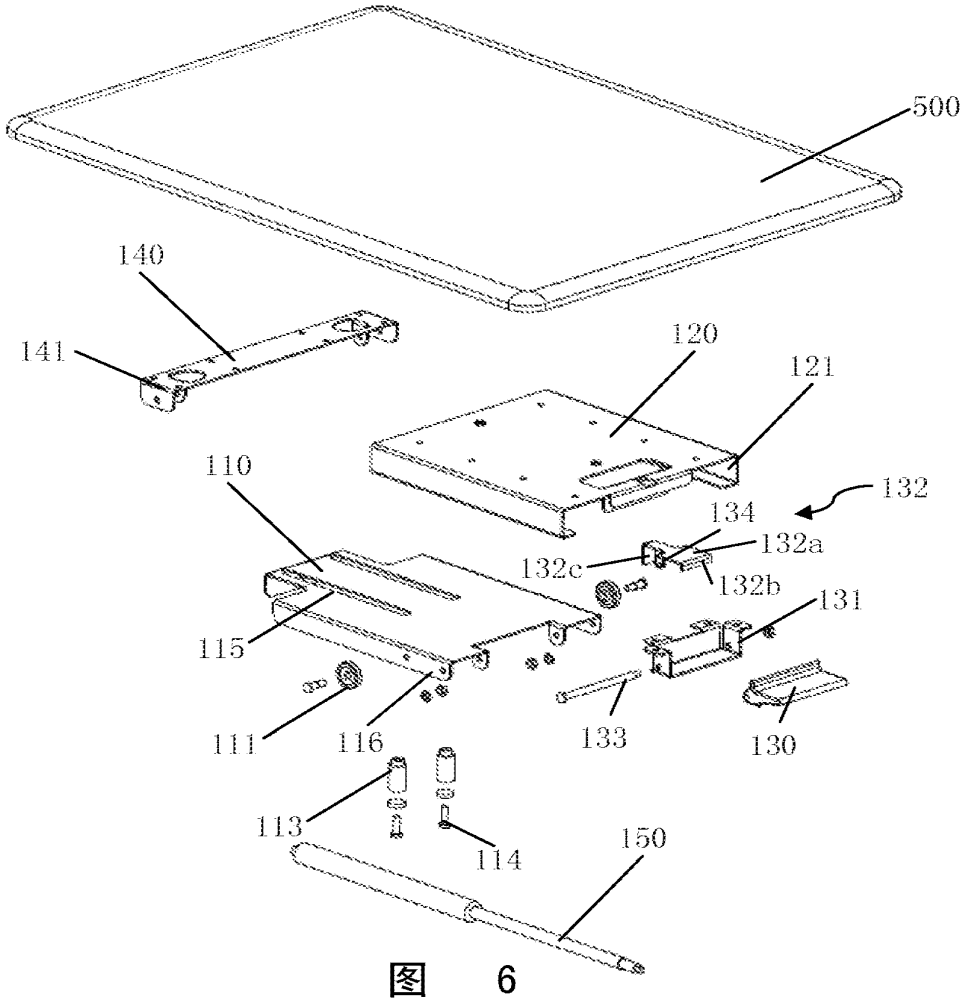

500
140
141
120
121
110
132
134
132a
132c
132b
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115
111
116
133
130
113
114
150

图 6

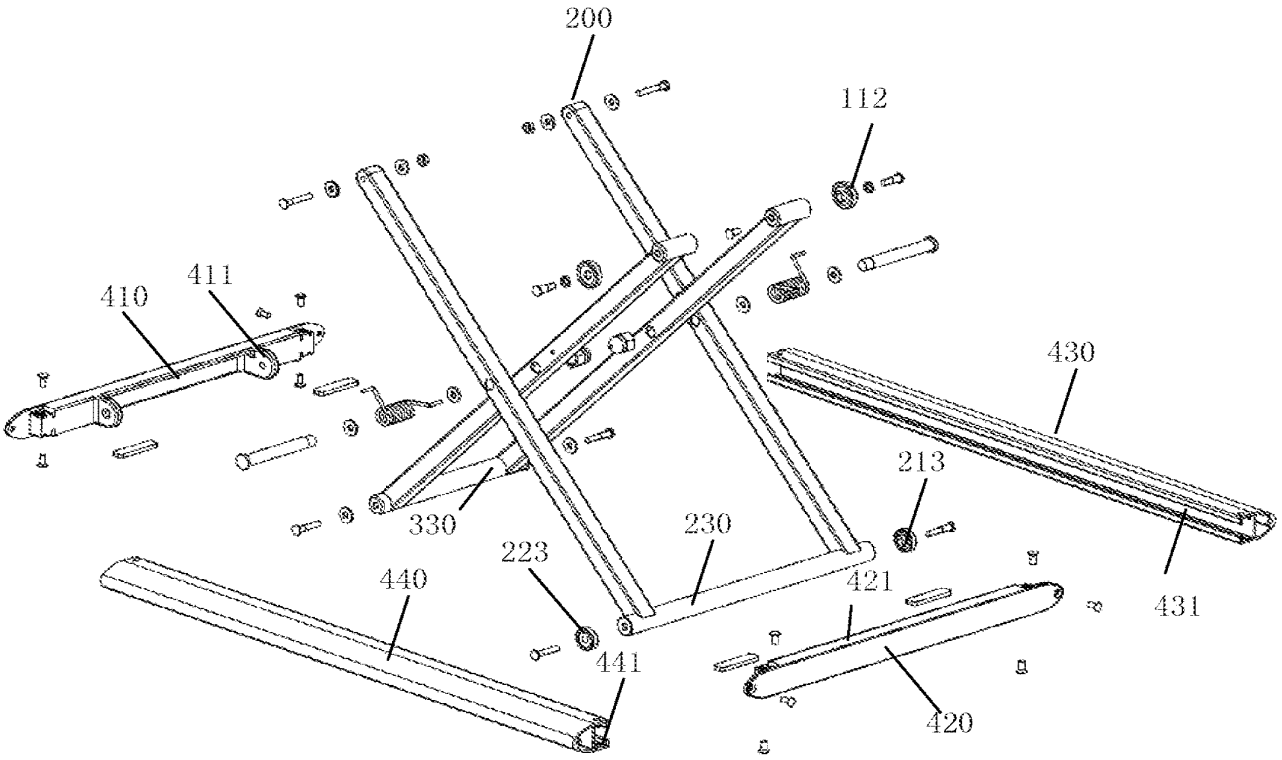


图 7

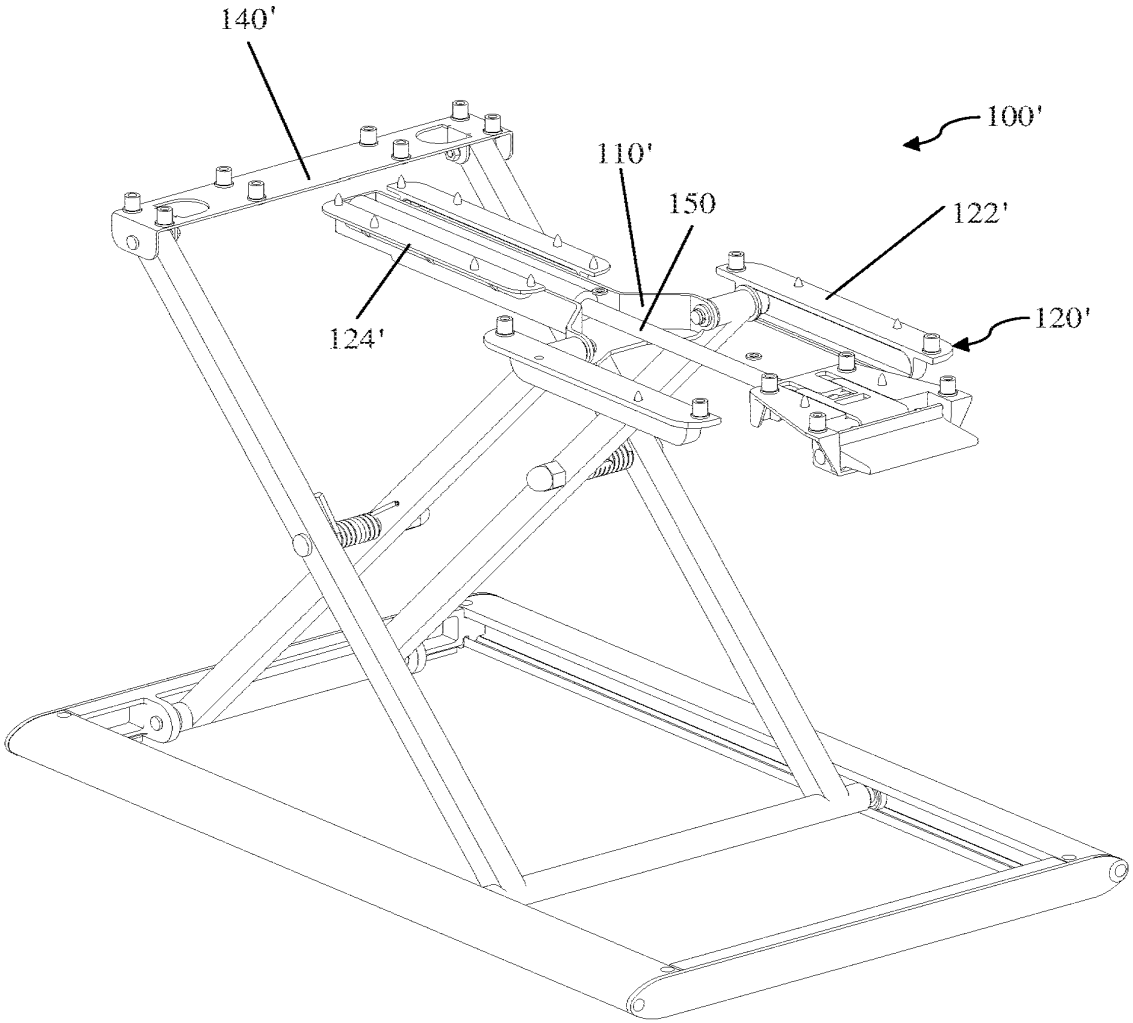


图 8

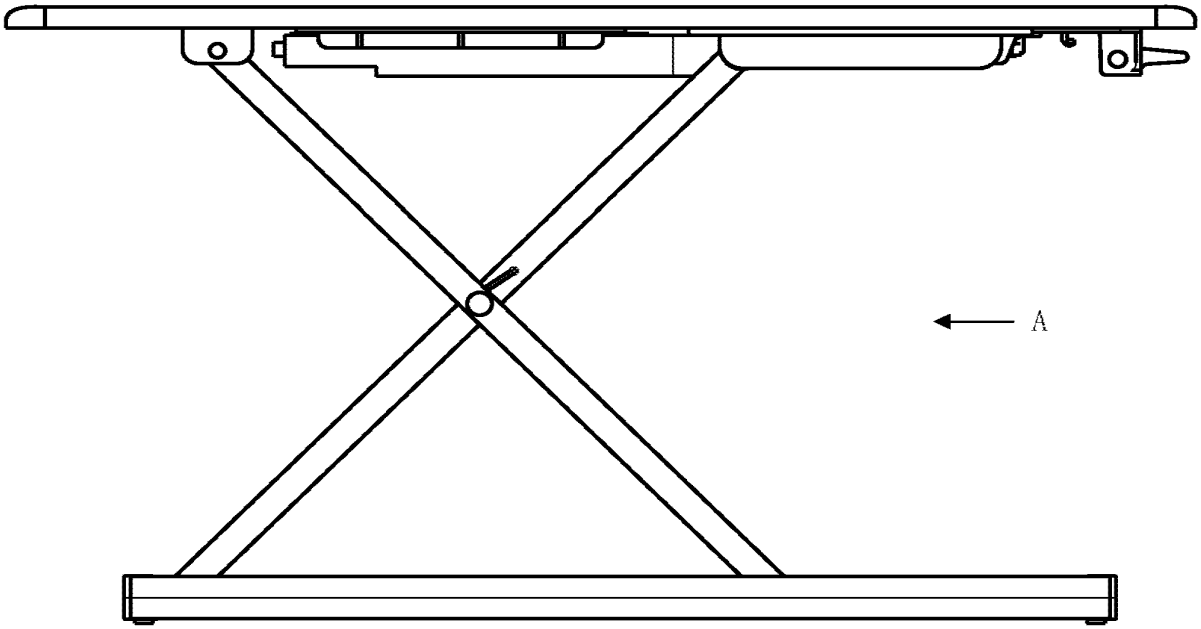


图 9

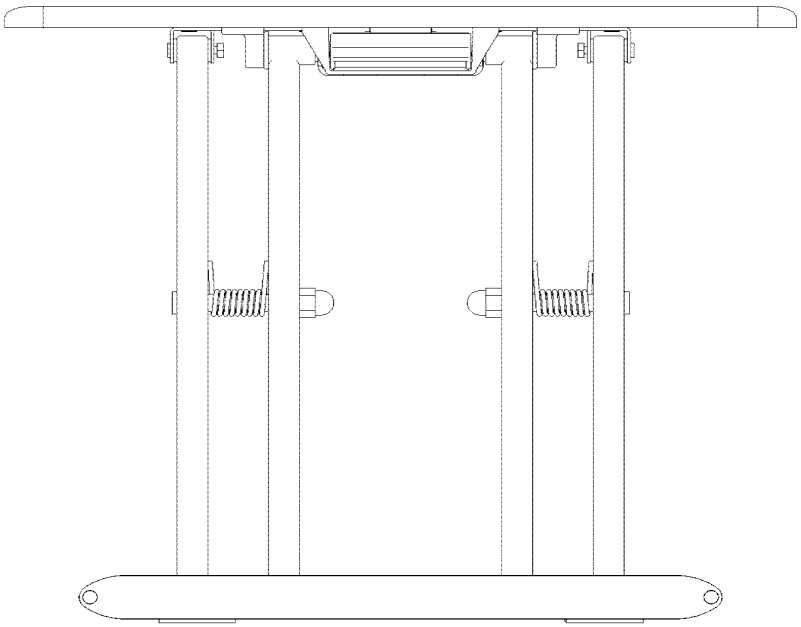


图 10

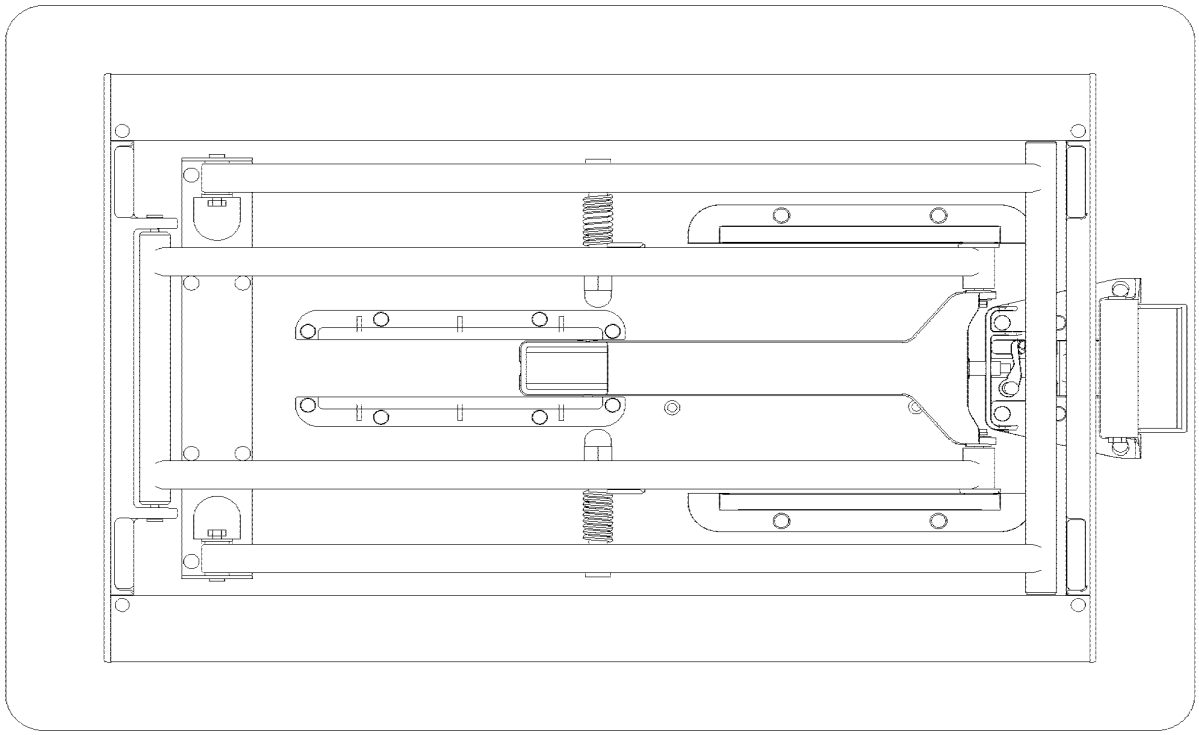


图 11



图 12

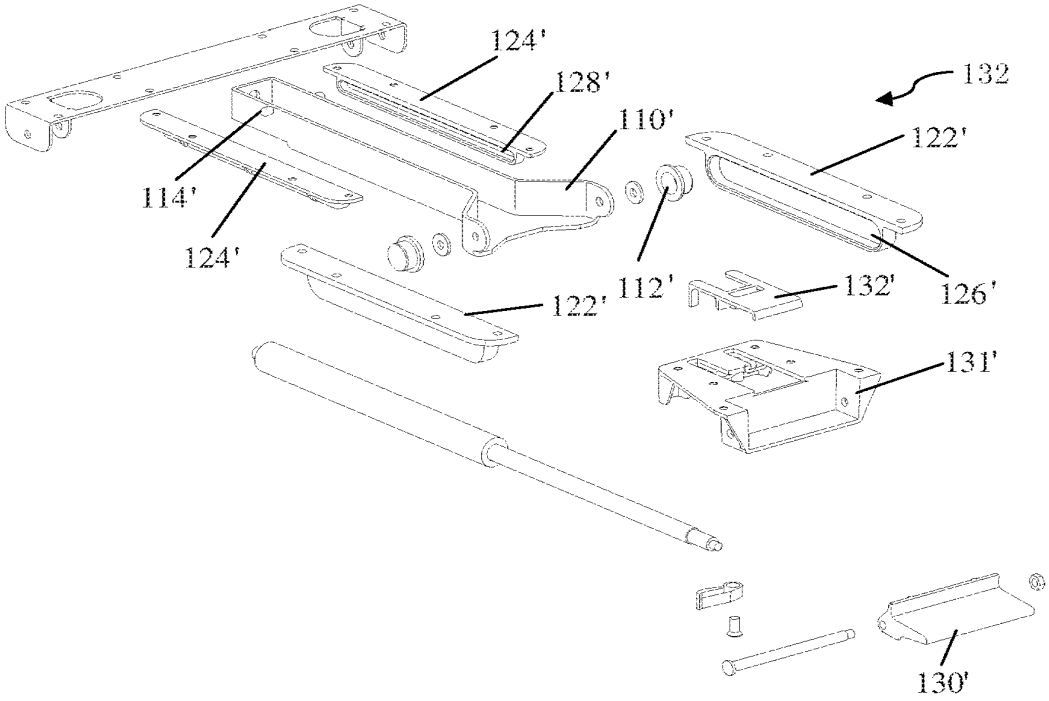


图 13

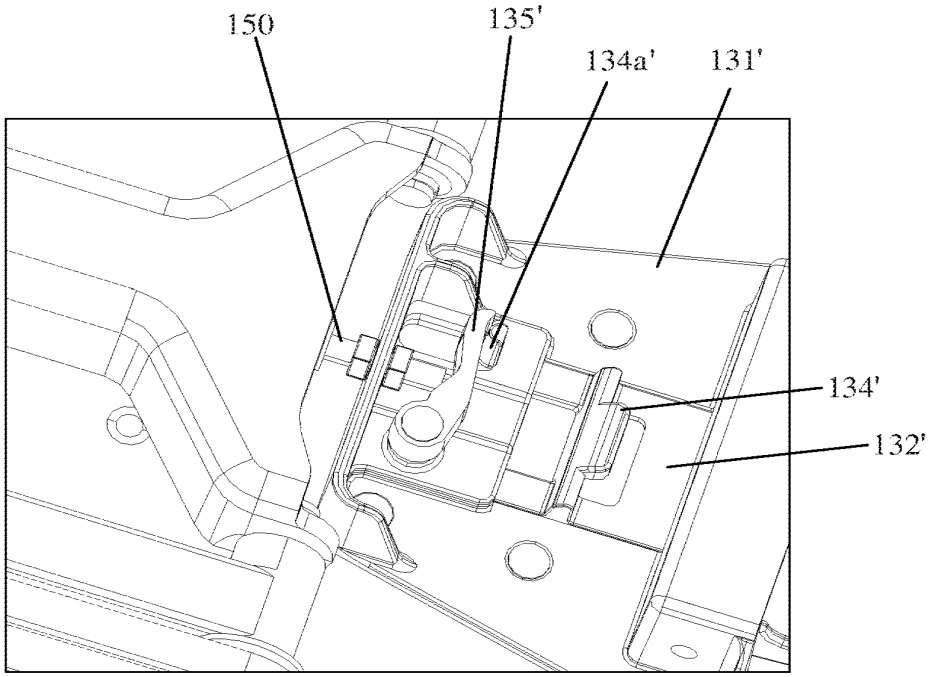


图 14

INTERNATIONAL SEARCH REPORT

International application No.
PCT/CN2018/093294

A. CLASSIFICATION OF SUBJECT MATTER

A47B 13/02(2006.01)i; A47B 9/16(2006.01)n

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

A47B

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic database consulted during the international search (name of data base and, where practicable, search terms used)

CNABS, CNTXT, CNKI, VEN: 桌, 升降, 张力, 偏置力, 扭簧, 气弹簧, 锁止, 锁定, 锁紧, 扳手, 卡钩, 枢转, table, desk, lifting, tension, gas spring, bias force, torsional spring

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	CN 106473451 A (I-LIFT EQUIPMENT LTD.) 08 March 2017 (2017-03-08) description, paragraphs 0004-001 1	1-3, 5-8, 14, 15
Y	CN 102715729 A (HANGZHOU LANDA CRAFTS CO., LTD.) 10 October 2012 (2012-10-10) figure 2	1-3, 5-8, 14, 15
PX	CN 107149286 A (CHEN, GONG) 12 September 2017 (2017-09-12) description, pages 1-2	1-3, 5-8, 14, 15
A	CN 105342138 A (SHENZHEN MINICUTE TECHNOLOGY CO., LTD.) 24 February 2016 (2016-02-24) entire document	1-15
A	CN 105901924 A (ZHEJIANG JIAYI INDUSTRIAL CO., LTD.) 31 August 2016 (2016-08-31) entire document	1-15
A	WO 20161371 19 A1 (SKE CO., LTD.) 01 September 2016 (2016-09-01) entire document	1-15

☐ Further documents are listed in the continuation of Box C. ☑ See patent family annex.

* Special categories of cited documents:

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier application or patent but published on or after the international filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art

"&" document member of the same patent family

Date of the actual completion of the international search	Date of mailing of the international search report
18 September 2018	30 September 2018

Name and mailing address of the ISA/CN	Authorized officer
State Ditellectual Property Office of the P. R. China No. 6, Xitucheng Road, Jimenqiao Haidian District, Beijing 100088 China	
Facsimile No. (86-10)62019451	Telephone No.

Form PCT/ISA/210 (second sheet) (January 2015)

INTERNATIONAL SEARCH REPORT
Liformation on patent family members

International application No.
PCT/CN2018/093294

Patent document cited in search report	Publication date (day/mo nth/year)	Patent family member(s)	Publication date (day/month/year)
CN 106473451 A	08 March 2017	None	
CN 102715729 A	10 October 2012	CN 102715729 B	21 May 2014
CN 107149286 A	12 September 2017	None	
CN 105342138 A	24 February 2016	None	
CN 105901924 A	31 August 2016	None	
WO 2016137119 A1	01 September 2016	JP 5950172 B1	13 July 2016
		US 9480332 B2	01 November 2016
		KR 101527121 B1	10 June 2015
		JP 2016159140 A	05 September 2016
		US 2016249737 A1	01 September 2016

Form PCT/ISA/210 (patent family annex) (January 2015)

国际检索报告

国际申请号

PCT/CN2018/093294

A. 主题的分类

A47B 13/02 (2006.01) i; A47B 9/16 (2006.01) n

按照国际专利分类 (IPC) 或者同时按照国家分类和 IPC 两种分类

B. 检索领域

检索的最低限度文献 (标明分类系统和分类号)

A47B

包含在检索领域中的除最低限度文献以外的检索文献

在国际检索时查阅的电子数据库 (数据库的名称，和使用的检索词 (如使用))

CNABS, CNTXT, CNKI, VEN: 桌，升降，张力，偏置力，扭簧，气弹簧，锁止，锁定，锁紧，扳手，卡钩，枢转，table, desk, lifting, tension, gas spring, bias force, torsional spring

C 相关文件

类 型*	引用文件，必要时，指明相关段落	相关的权利要求
Y	CN 106473451 A (无锡爱一力机械有限公司) 2017 年 3月 8日 (2017-03-08) 说明书第 0004-001 1段	1-3, 5-8, 14, 15
Y	CN 102715729 A (杭州蓝达工艺制品有限公司) 2012 年 10月 10 0 (2012-10-10) 附图2	1-3, 5-8, 14, 15
PX	CN 107149286 A (陈工) 2017 年 9月 12 0 (2017-09-12) 说明书第 1-2 页	1-3, 5-8, 14, 15
A	CN 105342138 A (深圳米乔科技有限公司) 2016 年 2月 240 (2016-02-24) 全文	1-15
A	CN 105901924 A (浙江嘉宜实业有限公司) 2016 年 8月 31日 (2016-08-31) 全文	1-15
A	WO 2016137119 A1 (SKE CO LTD) 2016 年 9月 1日 (2016-09-01) 全文	1-15

□ 其余文件在C栏的续页中列出。

☑ 见同族专利附件。

* 引用文件的具体类型：

"A" 认为不特别相关的表示了现有技术一般状态的文件

"E" 在国际申请日的当天或之后公布的在先申请或专利

"L" 可能对优先权要求构成怀疑的文件，或为确定另一篇引用文件的公布日而引用的或者因其他特殊理由而引用的文件 (如具体说明的)

"O" 涉及口头公开、使用、展览或其他方式公开的文件

"P" 公布日先于国际申请日但迟于所要求的优先权日的文件

"T" 在申请日或优先权日之后公布，与申请不相抵触，但为了理解发明之理论或原理的在后文件

"X" 特别相关的文件，单独考虑该文件，认定要求保护的发明不是新颖的或不具有创造性

"Y" 特别相关的文件，当该文件与另一篇或者多篇该类文件结合并且这种结合对于本领域技术人员为显而易见时，要求保护的发明不具有创造性

"&" 同族专利的文件

国际检索实际完成的日期	国际检索报告邮寄日期
2018 年 9月 18日	2018 年 9月 300

ISA/CN 的名称和邮寄地址	受权官员
中华人民共和国国家知识产权局 (ISA/CN) 中国北京市海淀区蓟门桥西土城路6号 100088	郑瑜
传真号 (86-10) 62019451	电话号码 62084086

表 PCT/ISA/210 (第2页) (2015年1月)

国际检索报告
关于同族专利的信息

国际申请号
PCT/CN2018/093294

检索报告引用的专利文件			公布日 (年/月/日)	同族专利			公布日 (年/月/日)
CN	106473451	A	2017年3月8日	无			
CN	102715729	A	2012年10月10日	CN	102715729	B	2014年5月21日
CN	107149286	A	2017年9月12日	无			
CN	105342138	A	2016年2月24日	无			
CN	105901924	A	2016年8月31日	无			
WO	2016137119	A1	2016年9月1日	JP	5950172	B1	2016年7月13日
				US	9480332	B2	2016年11月1日
				KR	101527121	B1	2015年6月10日
				JP	2016159140	A	2016年9月5日
				US	2016249737	A1	2016年9月1日

表 PCT/ISA/210 (同族专利附件) (2015年1月)

(19) RÉPUBLIQUE FRANÇAISE

INSTITUT NATIONAL
DE LA PROPRIÉTÉ INDUSTRIELLE

PARIS

(11) **N° de publication :** **2 894 794**
(à n'utiliser que pour les commandes de reproduction)

(21) **N° d'enregistrement national :** **05 12916**

(51) Int Cl[8] : **A 47 B 9/16** (2006.01)

(12) DEMANDE DE BREVET D'INVENTION A1

(22) **Date de dépôt :** 20.12.05.

(30) **Priorité :**

(43) **Date de mise à la disposition du public de la demande :** 22.06.07 Bulletin 07/25.

(56) **Liste des documents cités dans le rapport de recherche préliminaire :** *Se reporter à la fin du présent fascicule*

(60) **Références à d'autres documents nationaux apparentés :**

(71) **Demandeur(s) :** *HOH CHRISTIAN ROBERT ROGER* — FR.

(72) **Inventeur(s) :** HOH CHRISTIAN ROBERT ROGER.

(73) **Titulaire(s) :**

(74) **Mandataire(s) :** HOH CHRISTIAN.

(54) TABLE A PLUSIEURS HAUTEURS VARIABLES.

(57) Dispositif pour élever une table à plusieurs hauteurs (Fig 1).

Le système est constitué d'un plateau et de 2 cadres (1) et (2) articulés par 2 rotules sans axes (3).

Le cadre intérieur (1) est fixé sous la table par 2 pattes de fixation (6) à l'autre extrémité se trouvent 2 roulettes de glissement (8).

Le cadre extérieur (2) est fixé au sol par 2 pattes de fixation (6) à l'autre extrémité se trouvent les 2 roulettes de glissement (8).

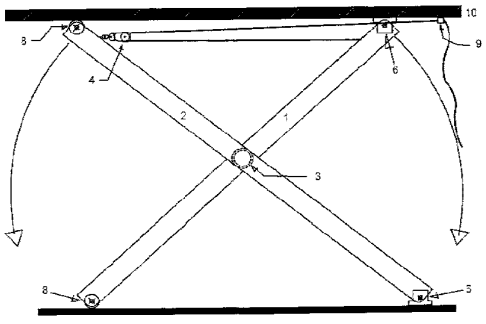
Une poulie de renvoi (4) est fixée au milieu de la largeur du coté des roulettes.

Une traction sur la corde permet d'élever la table (6), la corde est ensuite bloquée dans un taquet coinceur (9) après avoir réglé la table à n'importe quelle hauteur voulue.

Une cordelette fixée sur la cadre intérieur (1) est renvoyée par une poulie(4) fixée sur le cadre (2) et se bloque sous la table (10) par un taquet coinceur (9).

En référence au plan (Fig 3) les 2 rotules n'ont pas d'axes.

Ce dispositif est destiné au nautisme, au plein air, à tout milieu humide.



FR 2 894 794 - A1

1

La présente invention concerne un dispositif pour élever une table à plusieurs hauteurs.
le dispositif selon l'invention comporte plusieurs caractéristiques permettant le levage d'une table. Une cordelette par l'intermédiaire d'une poulie de renvoi démultipliant l'effort par 2 permet en même temps qu'une traction vers le haut de la table d'enclencher le levage de la table.
La table peut ainsi se positionner de table basse à table haute avec toutes positions intermédiaires possibles.
La cordelette de levage se bloque dans un taquet coinceur. Une deuxième cordelette de sécurité coulisse dans un bloqueur pour éviter une descente brutale.
Les dessins annexés illustrent l'invention, le plan 1 représente en coupe le dispositif. Le plan 2 représente la vue de dessus, système fermé, montrant les 2 cadres s'imbriquant l'un dans l'autre. Chaque cadre étant composé de quatre tubes en aluminium de section rectangulaire, assemblés par l'intermédiaire d'équerres en fonderie d'aluminium (plans 4 et 5). Ces équerres de part leur conception sont réversible gauche droite, deux usinages sont necessaires pour loger un axe commun à une roulette (8) ou une platine de fixation (6)
En référence à ces dessins le dispositif comporte 2 cadres (1) et (2). Ces 2 cadres sont reliés par 2 rotules (3) voir détails plan 3. Ces 2 rotules, qui font l'objet de l'invention ne comportent pas d'axe et sont constituées de chacune de 2 disques comportant 2 fraisages en demi-creux, l'assemblage de ces deux disques se faisant par un anneau de section carrée en polymère de friction, avec suffisament de jeu pour que les deux disques puissent pivoter l'un par rapport à l'autre.
Le cadre est fixé sur le sol par l'intermédiaire de deux platines (6) articulées en bout du cadre (1). La fixation sous la table se fait par deux platines (6) articulées en bout du cadre (2). Lors de l'élévation de la table (voir plan 1), l' »X » du mécanisme porte sur le sol sur deux roulettes fixées en bout du cadre (1) et sous la table par deux autres roulettes fixées en bout du cadre (2).
Pour élever la table , une cordelette fixée sur le cadre (1) au milieu de la largeur où se situent les platines (6) rejoint la poulie de renvoi (4) située sur le cadre (2) puis revient vers le point d'attache, passant dans un taquet coinceur (9). Une cordelette de sécurité non représentée double la sécurité du taquet coinceur, se fixant dans un coinceur à coté du taquet coinceur.

2

Revendication

1) Dispositif caractérisé par le fait que l'on peut élever une table à n'importe quelle hauteur, ce dispositif est constitué d'un plateau et de 2 cadres (1) et (2) imbriqués l'un dans l'autre et articulés par 2 rotules sans axes (3) permettant aux 2 cadres de pivoter l'un par rapport à l'autre.

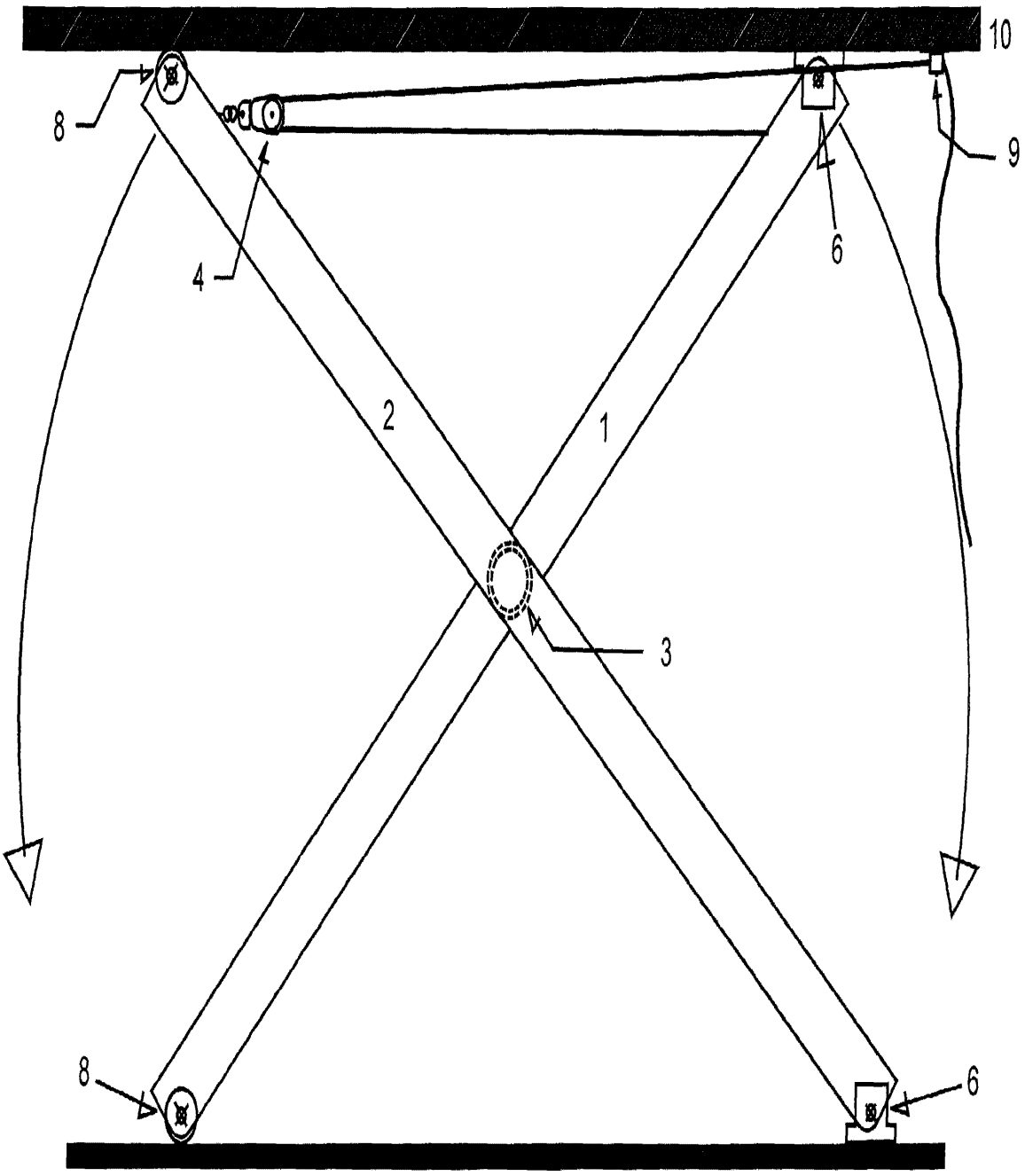
2) Dispositif selon la revendication 1) caractérisé en ce que ces 2 rotules, ne comportent pas d'axe et sont constituées chacune de 2 disques avec 2 fraisages en demi creux, l'assemblage de ces deux disques se faisant par une bague de section carrée en polymère de friction, les deux disques pivotent l'un par rapport à l'autre.

3) Dispositif selon les revendications 1) et 2) caractérisé en ce que un cadre est fixé au sol par son extrémité inférieure et est en liaison glissière par rapport au plateau par son extrémité supérieure, le second cadre est en liaison glissière par rapport au sol par son extrémité inférieure et est fixé au plateau par son extrémité supérieure, deux roulettes sur chacun des cadres permettant le glissement des parties non fixées.

4) Dispositif selon la revendication 3) caractérisée par le fait que l'effort de levage se trouve diminué de moitié par l'utilisation d'une poulie de renvoi

5) Dispositif selon la revendication 4) caractérisée en ce que une cordelette permet le positionnement à n'importe quelle hauteur du plateau de la table, la cordelette étant arrêtée par un taquet coinceur fixé sur l'un des cadres.

Fig 1 | 1/5



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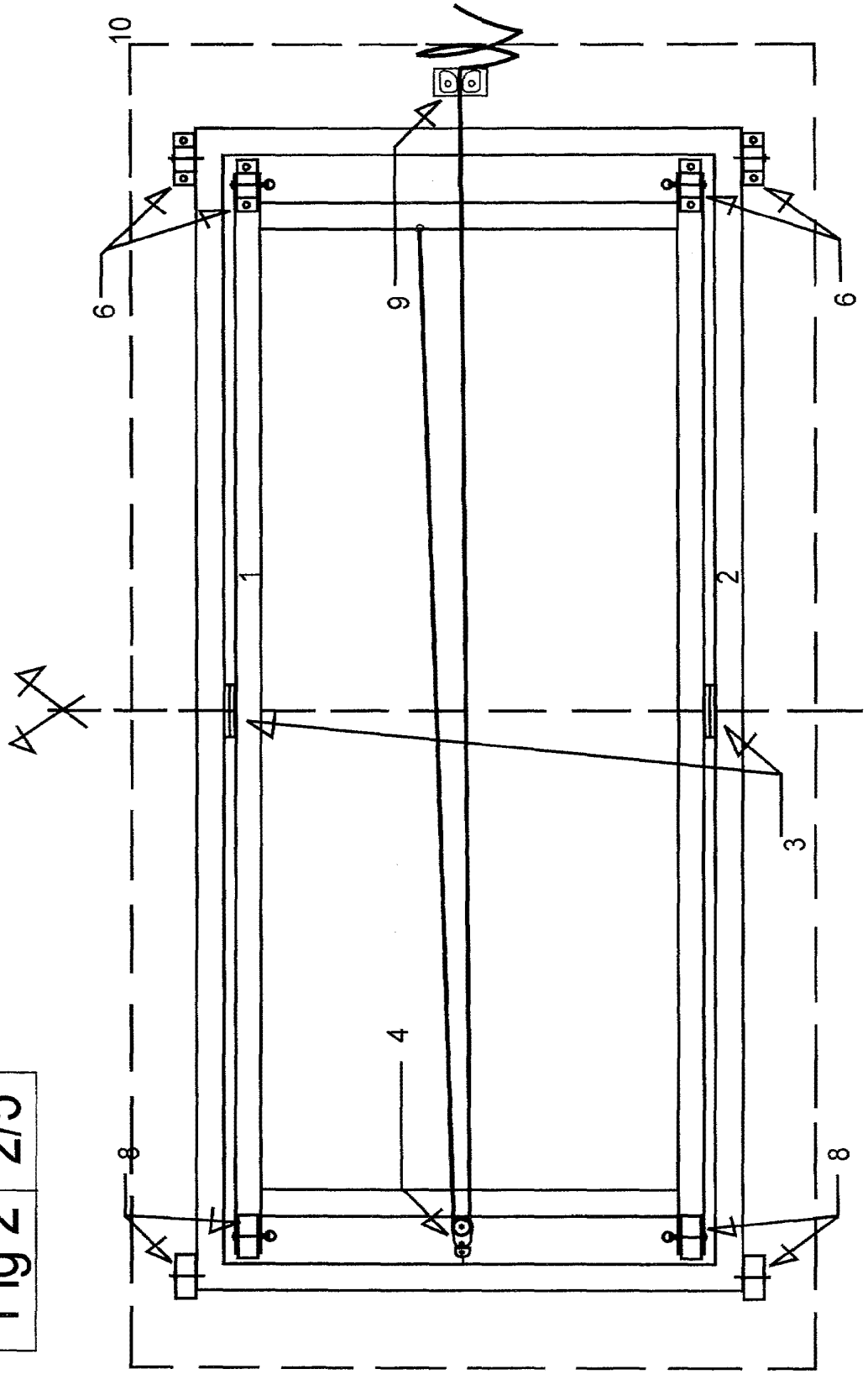


Fig 2 2/5

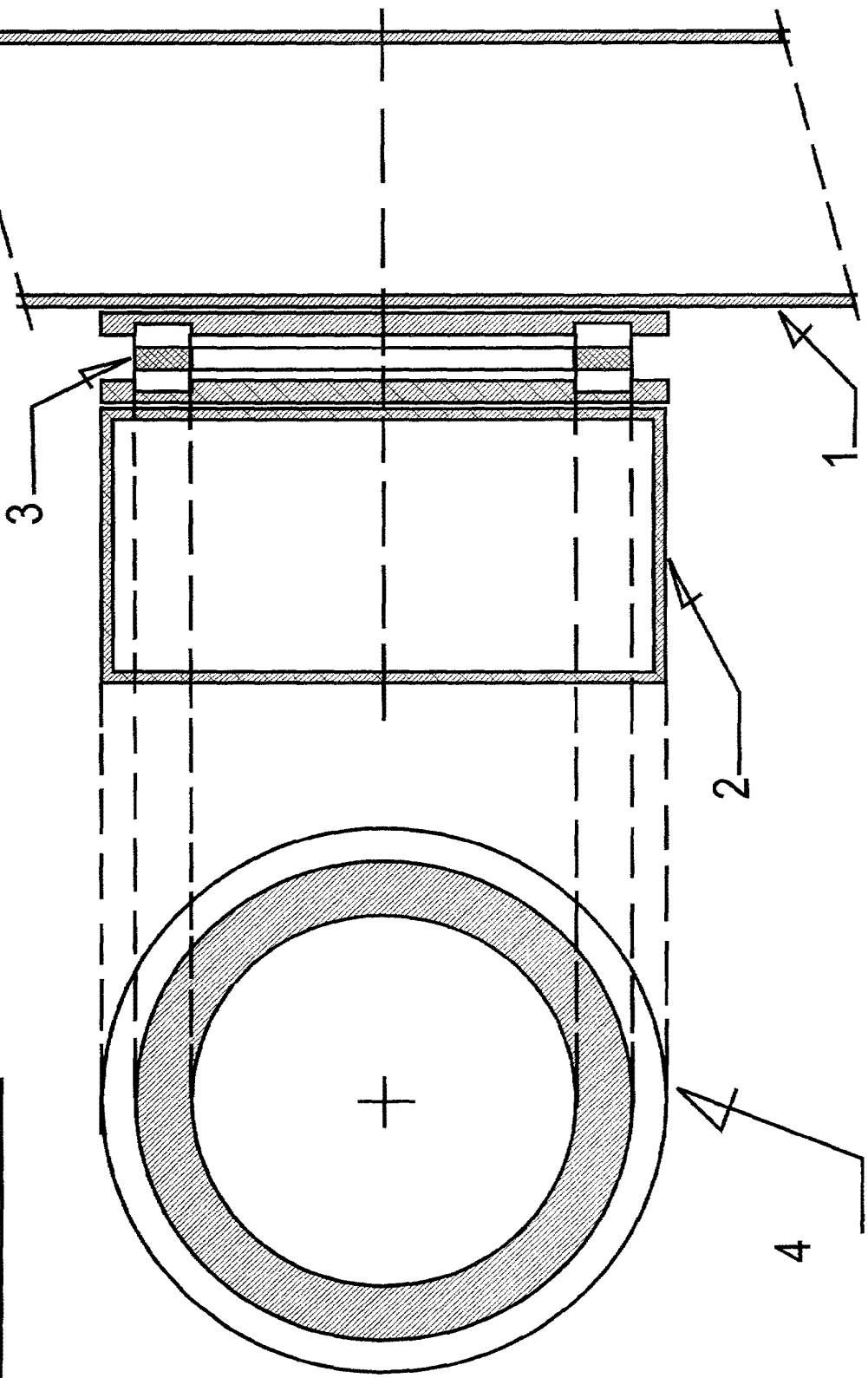
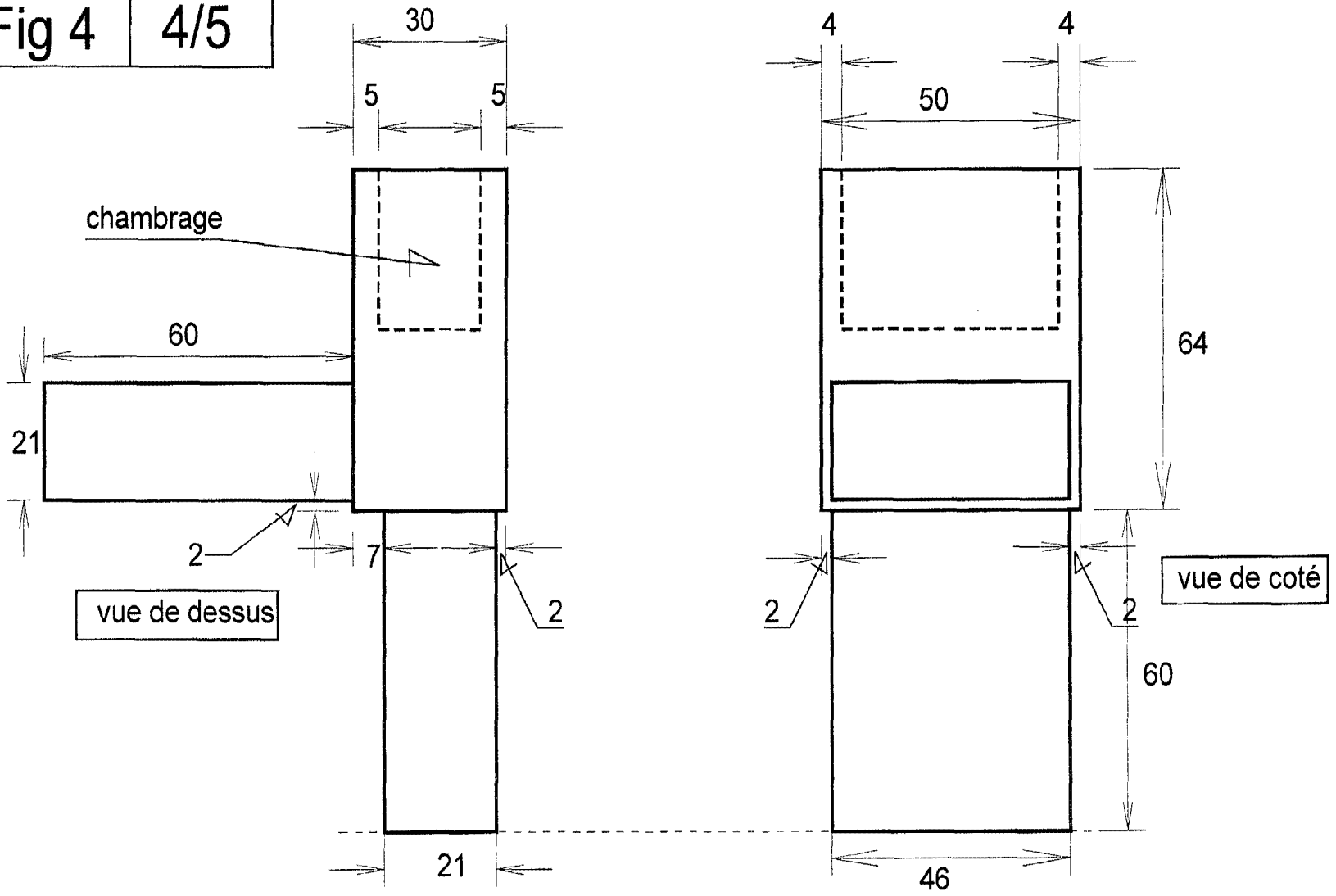


Fig 3 | 3/5

Fig 4 | 4/5



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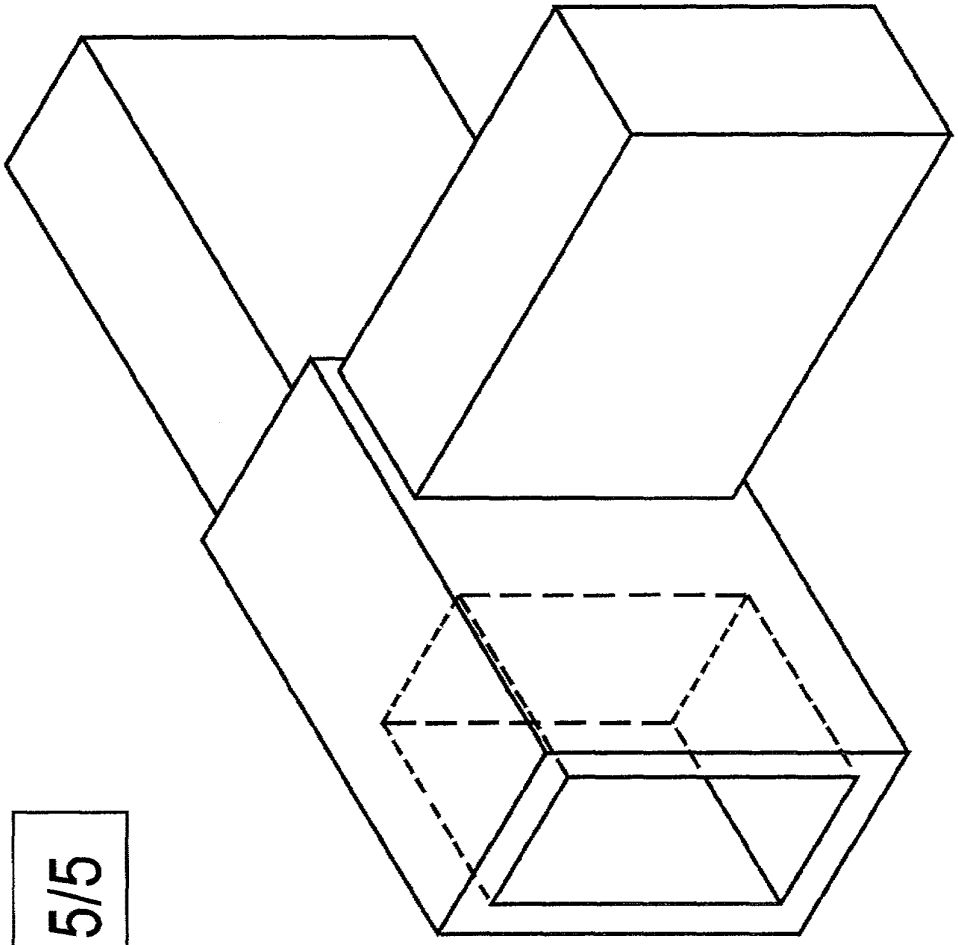


Fig 5 5/5

INSTITUT NATIONAL DE LA PROPRIETE INDUSTRIELLE

RAPPORT DE RECHERCHE PRÉLIMINAIRE

établi sur la base des dernières revendications déposées avant le commencement de la recherche

N° d'enregistrement national

FA 679196
FR 0512916

DOCUMENTS CONSIDÉRÉS COMME PERTINENTS		Revendication(s) concernée(s)	Classement attribué à l'invention par l'INPI
Catégorie	Citation du document avec indication, en cas de besoin, des parties pertinentes		
X	FR 2 445 572 A (KOBAYASHI ITARU) 25 juillet 1980 (1980-07-25)	1	A47B9/16
A	* page 2, ligne 20 - page 4, ligne 33; figures 1-6 *	2-5	

X	US 4 585 212 A (YANKER ET AL) 29 avril 1986 (1986-04-29)	1	
A	* colonne 2, ligne 52 - colonne 5, ligne 19; figures 1,2 *	2-5	

X	DE 100 24 075 A1 (HEIDE, GOTTHARD) 29 novembre 2001 (2001-11-29)	1	
A	* alinéa [0019] - alinéa [0025]; figure *	2-5	

			DOMAINES TECHNIQUES RECHERCHÉS (IPC)
			A47B

Date d'achèvement de la recherche: 8 septembre 2006

Examinateur: Klintebäck, Daniel

CATÉGORIE DES DOCUMENTS CITÉS

X : particulièrement pertinent à lui seul
Y : particulièrement pertinent en combinaison avec un autre document de la même catégorie
A : arrière-plan technologique
O : divulgation non-écrite
P : document intercalaire

T : théorie ou principe à la base de l'invention
E : document de brevet bénéficiant d'une date antérieure à la date de dépôt et qui n'a été publié qu'à cette date de dépôt ou qu'à une date postérieure.
D : cité dans la demande
L : cité pour d'autres raisons

& : membre de la même famille, document correspondant

2

EPO FORM 1503 12.99 (P04C14)

ANNEXE AU RAPPORT DE RECHERCHE PRÉLIMINAIRE RELATIF A LA DEMANDE DE BREVET FRANÇAIS NO. FR 0512916 FA 679196

La présente annexe indique les membres de la famille de brevets relatifs aux documents brevets cités dans le rapport de recherche préliminaire visé ci-dessus.
Les dits membres sont contenus au fichier informatique de l'Office européen des brevets à la date du 08-09-2006
Les renseignements fournis sont donnés à titre indicatif et n'engagent pas la responsabilité de l'Office européen des brevets, ni de l'Administration française

Document brevet cité au rapport de recherche		Date de publication	Membre(s) de la famille de brevet(s)		Date de publication
FR 2445572	A	25-07-1980	JP	1300773 C	31-01-1986
			JP	55086410 A	30-06-1980
			JP	60025123 B	17-06-1985
			US	4296694 A	27-10-1981
US 4585212	A	29-04-1986	DE	3567620 D1	23-02-1989
			EP	0185891 A1	02-07-1986
			JP	1730578 C	29-01-1993
			JP	4017876 B	26-03-1992
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DE 10024075	A1	29-11-2001	AUCUN		

EPO FORM P0465

Pour tout renseignement concernant cette annexe : voir Journal Officiel de l'Office européen des brevets, No.12/82

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DESCRIPTION FR3028735A1

[0001]

13 1 The present invention relates to an element forming a desk intended to be placed on a desk top to receive therein, for example, a document, a computer or the like on which the user must write or edit.

[0002]

19 The present invention also relates to an assembly comprising a desk and an element forming a pad of this kind.

[0003]

24 Sitting for long periods of time leads to pathologies, in particular back pain.

25 The medical profession recommends not to sit at your desk for too long and to stand or walk as much as possible.

[0004]

30 The present invention relates to a desk pad which makes it possible to alleviate the back pain of a person working for long periods of time seated at a desk.

[0005]

35 According to the invention, an element forming a desk pad comprising a tray, in particular of rectangular shape, intended to be placed on a desk top is characterized in that means are provided for passing the tray of the element under -hand between at least two positions, one of

the at least two positions being raised relative to the at least one other position.

39 By thus providing means for raising the desk pad, the user is enabled as soon as he wishes to be able to stand while still being able to continue working and, in particular, to be able to continue writing on a document or edit on a computer.

42 As a result, the user will be able to easily stand up while working and then sit down and thus avoid prolonged sitting which is harmful to his back.

44 According to a preferred embodiment of the invention, the means for passing from one position to another comprise at least one leg, preferably two legs, comprising two mutually articulated rods and of which at least one has an upper end which can slide relative to the plate of the under-hand element. 10 According to a preferred embodiment of the invention, means are provided for controlling the raising and/or lowering of the plate of the desk pad element, for example by means of a crank. 15 Preferably, the control means comprise an electric motor. The present invention also relates to an assembly 20 comprising a desk and an element forming a desk pad placed on the desk, the top of the desk pad having an area smaller than the area of the worktop of the desk. 25 According to a preferred embodiment of the invention, the element forming a desk pad is incorporated into the desk.

54 In particular, the desk pad element is received in a housing formed in the plane of the desk and the tray of the desk pad 30 is flush with the desk plane in a first position and in a second position, the tray is raised by compared to the plan of the office. 3028735 3 According to a preferred embodiment of the invention, means are provided for controlling the raising or lowering of the tabletop of the desk pad relative to the work surface of the desk. 5 Preferably, means are provided to lock the tray in the raised position. By way of example, preferred embodiments of the invention will now be described with reference to the drawings in which: FIG. invention 15 in its raised position; Figure 2 is a perspective view of the pad of Figure 1 in its lowered position; Figure 3 is a perspective view of an assembly comprising a desk and the desk pad of Figures 1 and 2 placed on the desk; FIG. 4 is a perspective view of a desk in which a desk pad according to the invention is incorporated in the position in which the top of the desk pad is flush with the work surface of the desk; and Figure 5 is a perspective view showing the desk of Figure 4 in the position in which the desk pad top is raised relative to the work surface of the desk.

68 3028735 4 In Figure 1 a pad according to the invention is shown in the raised state. The desk pad comprises a tray 1 of substantially rectangular shape with a length of between 15 cm and 1.50 m and a width 5 of for example between 15 cm and 1 meter. Two right and left leg elements 2 and 3 each comprise two front and rear rods respectively 4, 5 and 6, 7, the ends of which are mounted to slide. 10 The desk pad also comprises a lower support base 10 of shapes and dimensions substantially identical to those of the plate 1 of the desk pad. The upper plate 1 and the lower base 10 are connected by the 15 legs 2 and 3. The upper plate 1 has two edges 8 right and 9 left which protrude downwards from the upper plate 1. the lower base 10 comprises two flanges 20 11 right and 12 left which protrude from the lower base 10 upwards. Two grooves 18, 19 are formed in the left and right 9 edges of the upper plate 1 and two grooves 28, 29 are formed in the edges 11 and 12.

79 The upper end of the rear rods 5 and 7 are slidably mounted relative to the upper plate 1. This

sliding is achieved by means of a respective cylindrical lug 20 which projects laterally from the rod 5, respectively 7, and which is imprisoned in the right groove 18, respectively left 19. 3028735 5 The lower ends of the rods 5 and 7 are pivotally mounted with respect to a fixed point 30 with respect to the lower base 10, in particular at the level of the internal faces of the flanges 11, 12 right and left. 5 The front rods 4 and 6 have their respective upper ends which are mounted to pivot with respect to a fixed point with respect to the upper plate 1, in particular at the level of the internal faces of the flanges 8, 9 right and 10 left, while their lower ends are slidably mounted relative to the lower base 10 in the same way as the rods 5 and 7 are slidably mounted relative to the upper plate 1, that is to say via a lug 40, 40 '15 respective imprisoned respectively in the grooves 28, 29.

90 These lugs 40, 40' are made by means of two transverse rods which each extend over half the length of the lower plate 10. These two lugs 40, 40' in the form of a rod each extend from a casing 41 which is mounted to slide relative to an endless screw 42 extending perpendicularly to the two rods 40 and 40'. Control means, in the form of an electric motor 43, drive the screw 42 in rotation to cause it to turn in one direction or the other, in particular under the control of a button pad 44 comprising two left-hand buttons. and right respectively to rotate the worm 42 in one direction and the other. the two rods 40, 40' are integral with the casing 41. According to another embodiment, provision can be made for the rods 40, 40', the endless screw 42 and the casing 43 to be arranged not to block the sliding of the lower ends of the front rods 4 and 6 with respect to the base 10 but in such a way as to block the sliding of the upper ends 3028735 6 of the rear rods 5 and 7 with respect to the plate 1.

101 Thus the user, by pressing the left button of the pad 44, rotates the endless screw 42 in one direction to bring the plate 1 into the raised position as shown in Figure 1. When he wants to lower the plate 1, he presses the right button of the pad 44 which has the effect of rotating the screw 42 in the other direction and thus drive the rods 40 and 40 'through the housing 41 backwards to reach the position shown in Figure 2 in which the housing 41 is in the end position along the rod 42 and the plate 1 and the base 10 are in mutual contact. The respective geometries of the front and rear rods of the two legs and of the grooves are made so as to obtain these two positions as shown in the figures, that is to say, a lowered position and a raised position. 20 In each of these end positions, the motor is switched off and the plate is thus locked in position by the blocking of the housing 41 on the screw 42 which no longer rotates.

112 25 In Figure 3, there is shown in a perspective view from the front, a system consisting of a desk 100 comprising a work surface 101 mounted on vertical uprights. The desk pad is mounted on the front of the desk. The area of the plate 1 (respectively of the base 10) is less than the area of the work surface 101 of the desk 100. The desk pad is not attached to desk 100. However, it could be envisaged to do so by means of gluing and/or screws or the like. 3028735 7 In Figures 4 and 5, there is shown another embodiment in which the desk pad is incorporated into the desk. In Figure 4, the desk pad is in its lowered position and in Figure 5, the desk pad is in its raised position. The system is substantially identical to that shown above. The upper tray is received inside a cavity hollowed out in the plane 101' of the desk 100'.

121 Rods identical to the front 10 and rear rods of the left and right legs of the embodiment of FIGS.

1 to 3 are provided as well as an identical system with endless screws and transverse bars for raising and lowering the plate. The lower plane or bottom of the cavity replaces the function of the lower base 10 of the embodiments of FIGS. 1 to 3. In Figures 4 to 5, a button 44' is incorporated into the desk for controlling motor 43'. The user, depending on the needs, presses the button 44′ to activate the ascent or the descent as he wishes of the tray 1′ and its locking in position as soon as he stops pressing the button. The embodiment of Figures 1 to 3 describes a pad comprising a base 10. However, according to another embodiment, this base 10 could be dispensed with, the lower ends of the rods being placed directly in contact on the plane of the desk.

131 In such an embodiment, the blocking means, for example also in the form of rods 40', endless screw 42 and casing 43, would not be arranged to block the sliding of the lower ends of front rods 4 and 6 by relative to the base 10 but in such a way as to block the sliding of the upper ends 3028735 8 of the rear rods 5 and 7 relative to the plate 1. According to an improvement, it is possible to provide that the 5 rods of the legs do not have the same lengths to ensure that, in the raised position, the plate 1 or 1 'is inclined with respect to the horizontal to facilitate work on the document or the computer he is carrying. 10 According to yet another embodiment, provision could be made for the upper ends of the legs to be slidably mounted not in the width direction of the plate 1 but in the length direction. 15 In addition, according to such an embodiment, provision could also be made for dispensing with the base 10.

141 Furthermore, provision could also be made for the sliding ends of the legs, whether in the widthwise sliding or lengthwise sliding embodiment of the tray 1, to slide in grooves formed in the very thickness of the tray 1, which would have the advantage especially in the case where it is also planned to dispense with the base 200 to reduce as much as possible the thickness of the desk pad as a whole in the folded state. In particular, provision could be made for the slots to be formed in the tray itself or at its respective longitudinal or transverse side edges depending on the chosen positioning of the legs. 30

Patents

Adjustable-length column for chair, Tables or like and upright tube therefor

Abstract

A support with adjustable length for chairs and tables comprises an upright tube and a length-adjusting element (2) installed in the tube (1). A piston rod (7) of the length-adjusting element (2) is installed in the bottom (9) of the upright tube (1). The bottom (9) is opened toward inside of the upright tube (1) and provided with a groove (19) projected toward the upright tube (1) in the inside in the radius direction and an annular part (20) which is joined to the groove (19) to fix the piston rod (7). The groove (19) and the annular part (20) are unitedly formed with the upright tube (1).

Classifications

- A47C3/30 Chairs or stools with vertically-adjustable seats with vertically-acting fluid cylinder

View 2 more classifications

CN1142343A

China

Download PDF Find Prior Art Similar

Other languages: Chinese

Inventor: [redacted]

Current Assignee : Suspa Compart AG

Worldwide applications

1995 DE TW 1996 DE EP JP CN KR

Application CN96105489A events

1995-05-30	Priority to DE29508915.6
1995-05-30	Priority to DE29508915U
1996-05-22	Application filed by Suspa Compart AG
1997-02-12	Publication of CN1142343A
2003-05-28	Application granted
2003-05-28	Publication of CN1109270C
2016-05-22	Anticipated expiration
Status	Expired - Fee Related

Info: Patent citations (13), Cited by (1), Legal events, Similar documents, Priority and Related Applications

External links: Espacenet, Global Dossier, Discuss

Claims (8)

Hide Dependent

1. one kind is used for chair, the column jecket of the adjustable-length of desk or similar object, it is made up of a upright tube (1) and pneumatic or hydropneumatic length adjustment parts, and upright tube (1) and length adjustment parts are to be installed together by a common central longitudinal axis (3), in upright tube (1), the overcoat of length adjustment parts (4) is radially supported, and can move up and down along axis (3) direction through guiding, the piston rod of length adjustment parts (7) is fixed on the bottom (9) of upright tube (1) near the direction along a line (3) its free end, near the end (10) of leaving the upright tube (1) that upright tube (1) locates away from overcoat (4), bottom (9) comprises a groove (19) and an annular section (20), the opening of this groove (19) is the inside towards upright tube (1), and be contained on the radial direction among the upright tube (1), this annular section (20) and groove (19) connect together, and piston rod (7) is installed on the annular section (20), it is characterized in that: groove (19) and annular section (20) and upright tube (1) are integrally formed.

2. column jecket as claimed in claim 1 is characterized in that: described groove (19) has one towards the outside (22) that annular section (20) departs from.

3. column jecket as claimed in claim 1 or 2 is characterized in that: the joint portion of groove (19) and annular section (20) is circular.

4. as one of them described column jecket of claim 1 to 3, on bottom (19), by an axial roller bearing (8) support piston connecting rod (7), it is characterized in that: the diameter of annular section (20) (D ') is greater than the diameter of roller bearing (8) (d ').

5. one kind is used for chair, upright tube in the column jecket of the adjustable-length of desk or similar object, the axis of wherein pneumatic or hydropneumatic length adjustment parts and central longitudinal axis (3) can be movable arbitrarily coaxially, the overcoat (4) of length adjustment parts is radially supported in upright tube (1), and can move up and down along axis (3) direction through guiding, the piston rod of length adjustment parts (7) is being fixed on the bottom (9) of upright tube (1) along axis (3) direction near its free end, leaving outside the upright tube (1) away from overcoat (4), near the end (10) of upright tube (1), bottom (9) comprises a groove (19) and an annular section (20), the opening of this groove (19) is the inside towards upright tube (1), and be contained on the radial direction among the upright tube (1), this annular section (20) and groove (19) connect together, and piston rod (7) is installed on the annular section (20), it is characterized in that: groove (19) and annular section (20) and upright tube (1) are integrally formed.

6. upright tube as claimed in claim 5 is characterized in that: groove (19) has one towards the outside (22) that annular section (20) departs from.

7. as claim 5 or 6 described upright tubes, it is characterized in that: the joint portion of groove (19) and annular section (20) is circular.

8. as one of them described upright tube of claim 5 to 7, this upright tube is used for column jecket, piston rod in this upright tube (7) is to be supported by the axial roller bearing on bottom (9), it is characterized in that: the diameter of annular section (20) (D ') is greater than the diameter of roller bearing (8) (d ').

Description

The column jecket and the upright tube that are used for the adjustable-length of chair, desk or similar object

The present invention relates to a kind of column jecket and a kind of upright tube of adjustable-length.

The column jecket of well-known this adjustable-length comes from European patent EP 0366889B1 (corresponding to No. 4969619 patent of the U.S.).In the column jecket that these are known, the neck-in that upright tube is lower, cross section with a semicircular, this zone, semi-circular section forms a groove, and the opening of this groove is towards opening by the longitudinal axis direction at center and to upright tube inside.The chassis is to be supported by the front portion at upright tube edge.The front portion at edge and the inwall of upright tube separate.With a crimping on the upright tube, groove or similarly thing with towards the upper end of upright tube fixed underpan.This method itself method through having obtained good explanation in practice.

In addition, the column jecket of described adjustable-length is substantially similar to No. 4245826 patent of the U.S. (corresponding to the column jecket of described adjustable-length of German patent DE-U7623238) herein, there, the edge that upright tube is lower is aduncate along radial direction.Like this, the chassis just can be placed on this limit.The bead portion that forms in upright tube can be used as towards the protective device of chassis upside.

Purpose of the present invention is exactly column jecket and the upright tube that a kind of general type is provided respectively, and this column jecket and upright tube have high stability, and structure is simple especially and very easy production.

According to the present invention, the column jecket and the upright tube of the adjustable-length that this purpose can be by a kind of so general type reach.And the column jecket of this adjustable-length has the described feature of characteristic in the claim 1, and upright tube is the described upright tube of claim 5 preamble and has feature described in claim 5 characteristic.

According to the employed method of this invention, there is no need to carry out other independent operation to fix a special chassis by means of a crimping or similar thing.The stability of polycrystalline substance is very high so that compare with piston rod, even very big near near the upright tube bottom or the bearing bottom being connected to, the piston rod of length adjustment parts also can keep quite stable.

Further advantage will embody from dependent claims significantly.

By with reference to the accompanying drawings embodiment being described, the detailed content of this invention may be obvious that.

its accompanying drawing is:

Fig. 1 is vertical partial sectional view of a column jecket in this invention.

Fig. 2 is the longitudinal sectional view of partial view of the upright tube of column jecket.

Chair column jecket shown in the figure has a upright tube 1, and the gas spring 2 of an adjustable-length has been installed in upright tube 2, and it is a piston cylinder adjusting portion part that comes work with pneumatic or hydropneumatic mode.Upright tube 1 and gas spring 2 have a public longitudinal axis that passes through the center 3.

An overcoat 4 of gas spring 2 is supported in the guide rail axle sleeve 5, and can move along axis 3 directions.Guide rail axle sleeve 5 is mounted an end 6 shown in the figure, i.e. the end by the top of upright tube 1.The overcoat 4 of gas spring 2 is the overcoat of spring itself or the protective sleeve of that overcoat.

From the overcoat 4 outstanding parts of gas spring is a piston rod 7, and it is supported along the chassis 9 of the relative upright tube 1 of axis 3 directions by an axial roller bearing 8.Chassis 9 is set on the end 10 of upright tube 1, and 10 opposite the other end, end are first ends 6; in the drawings, end 10 is located at the bottom.The ledge 11 that passes the piston rod 7 of axial roller bearing 8 extends through the opening part 12 on chassis 9, and opening portion 12 is concentric with axis 3.A shim liner 13 and a spring locking ring 14 prevent that ledge 11 from coming off to bottom, chassis direction.The diameter of opening portion 12 is greater than the diameter of ledge 11.Use this fixing means, gas spring 2 can be with respect to upright tube 1 rotation.Owing between ledge 11 and the opening portion 12 radial clearance 15 is arranged, thus gas spring 2 can be in guide rail axle sleeve 5 proper motion, in other words, do not depart from upright tube 1.By piston rod 7, gas spring 2 is fixed in the upright tube 1 along axis 3 directions at last.Like this, when driving the vertical adjustment of pin 16 driving gas springs do, the overcoat 4 of gas spring 2 will stretch out or indentation conduit 1.Drive the end that pin 16 is placed on the overcoat 4 of gas spring 2, an end opposite with it is piston rod 7.Chair surface or table top just are fixed on and drive pin 16 places.

Adjacent end 10, upright tube 1 have one towards the end 10 tapered portion of shrinking a little, by it fully can be in the tapered hub of corresponding leg chair more than or similar object fixing upright tube 1.

Up to the present described column jecket is known and also can sees on market.It also can be used as the support column jecket of desk or similar object mainly as a kind of support column jecket of chair.For example, in Germany No. 1931012 patent (corresponding to No. 3711054 patent of the U.S.) and European patent EP 0133524B1 (corresponding to No. 4979718 patent of the U.S.) or European patent EP 0366889B1 (corresponding to No. 4969619 patent of the U.S.), just describe and illustrate.

The whole chassis 9 of upright tube 1 is integrally formed in together with upright tube 1, and promptly it is formed by the distortion of upright tube.Be bottom 18 below the tapering part 17, it is that relative tapering part compression forms, and chassis 9 also forms on it.There is the groove 19 of a side opening in the upright tube 1 on chassis 9, and what link to each other with groove 19 in axis 3 directions is an annular section 20 that is substantially the plane.This ring part 20 radially extends to axis 3, and conduct simultaneously is the supporting plane of roller bearing 8 axially, and opening 12 passes wherein.

As seen from the figure, groove 19 is a semicircle approx, does not have slightly pointed edge, and the joint portion 21 between groove 19 and the annular section 20 also is circular, and promptly it is not a wedge angle.For between groove 19 and annular section 20, forming a level and smooth connection, setover significantly towards annular section 20 towards the outside 22 annular section 20, groove 19, depart from the zone, semi-circular section.

As seen from the figure, the inside diameter D of the part 18 of upright tube 1 is than big several times of the diameter of piston rod 7.And the diameter d of roller bearing 8 ' significantly less than inside diameter D.3 mean breadth is 30 millimeters to 50 millimeters to groove 19 along radial direction to axis.The diameter d of piston rod 7 approximately is 10 millimeters.Diameter d ' radius be 20 millimeters to 30 millimeters.

As shown in Figure 1, the ledges 11 that protrude downwards by bottom 9 formed by shim liner 13 and spring locking ring 14, good as if immerse oneself in bottom 9, because protruding, groove 19 exceeded annular section 20 downwards.Therefore spring locking ring 14 is to be protected in the groove 19.It can not be owing to having the multilayer carpet to come off on the ground.And unhurt danger when a user's pin is met the bottom of this upright tube.

Patent Citations (13)

Publication number	Priority date	Publication date	Assignee	Title
Family To Family Citations				
CH105302A *	1923-02-19	1924-07-01	Carel Olland Willem	Adjustable liquid damper.
DE1529723B2 *	1966-12-02	1977-03-10	Stabilus Gmbh, 5400 Koblenz	SHOCK ABSORBER FOR HEIGHT-ADJUSTABLE FURNITURE PARTS
DE7623283U1 *	1976-07-23	1977-01-13	Stabilus Gmbh, 5400 Koblenz	GUIDE COLUMN FOR CONTINUOUSLY HEIGHT ADJUSTMENT OF CHAIR SEATS
US4640484A *	1985-05-06	1987-02-03	Fichtel & Sachs Industries	Support column with gravity dependent retention means
DE3833959A1 *	1988-10-06	1990-04-12	Bauer Fritz & Soehne Ohg	LENGTH ADJUSTABLE COLUMN FOR CHAIRS, TABLES OR THE LIKE
IL9803600 *	1991-05-02	1992-06-21	Yoav Cohen	Plastic stand pipe support for load-bearing adjustable piston
DE4129089A1 *	1991-09-02	1993-03-04	Suspa Compart Ag	Support column for chair or tables adjustable in length - has tubular upright with concentric axle inside it, and length adjustment inside housing, with piston rod and bearing discs.
DE4129513A1 *	1991-09-05	1993-03-11	Schaeffler Waelzlager Kg	SPRING BEARING
DE4200786A1 *	1992-01-14	1993-07-15	Suspa Compart Ag	LENGTH ADJUSTABLE COLUMN FOR TABLES, CHAIRS OR THE LIKE
DE4209218C2 *	1992-03-21	1995-03-16	Fichtel & Sachs Ag	Vibration damper or suspension in telescopic design
DE9208620U1 *	1992-06-26	1992-09-03	Fichtel & Sachs Ag, 8720 Schweinfurt, De	
DE4227553A1 *	1992-08-20	1994-02-24	Stabilus Gmbh	Height adjustable support esp. for chair seat - has foot, upright, guide surface, support in bottom of upright.
US5511759A *	1994-05-26	1996-04-30	Steelcase, Inc.	Hydraulic chair height adjustment mechanism

* Cited by examiner, † Cited by third party

Cited By (1)

Publication number	Priority date	Publication date	Assignee	Title
CN101135095B *	2006-08-31	2011-02-02	海尔集团公司	Full-automatic washing machine and washing method thereof
Family To Family Citations				

* Cited by examiner, † Cited by third party, ‡ Family to family citation

Similar Documents

Publication	Publication Date	Title
US4969619A	1990-11-13	Adjustable-length columns for chairs, tables or the like
JP3520116B2	2004-04-19	Longitudinally adjustable supports for chairs, desks, etc.
US4899969A	1990-02-13	Lockable elevating mechanism for the continuous adjustment of furniture and guide sleeve for such an elevating mechanism
US6338231B1	2002-03-12	Table leg with height-adjusting spacer
US4778198A	1988-10-18	Apparatus for compensating transverse forces in automotive struts
EP1696765B1	2007-08-01	A self-stabilizing support assembly for an item of furniture
US5531413A	1996-07-02	Adjustable-length column for chairs, tables or the like
JP2947907B2	1999-09-13	Hydro-magnetic height adjuster
KR940003452B1	1994-04-22	Height-adjustable swivel-tilt cantilever table for use with a recline chair

JPH0767740A	1995-03-14	Guide apparatus for cylindrical parts which are slidable on inside and outside to each other such as telescope
CN1041876A	1990-05-09	Turntable
JPH05154023A	1993-06-22	Vertical pipe supporting body made of plastic for adjustable supporting post to bear load
JP2007244866A	2007-09-27	Support for height-adjustable chair
CN1109527C	2003-05-28	Adjustable-length column for chair, tables or like and upright tube therefor
JPH0690833A	1994-04-05	Height adjustable supporting device
US6267337B1	2001-07-31	Vertically adjustable support for a chair or table
US5427035A	1995-06-27	Height-adjustable table
KR960001431Y1	1996-02-17	Length adjustable gas spring and apparatus using it
US20040076012A1	2004-04-22	Collapsible lampshade
EP1060723A2	2000-12-20	Adjustable side frame and wheelchair with adjustable side frame
CA2204560C	2005-10-18	Chair with vertically shiftable height adjustment
US20210259424A1	2021-08-26	Fixing Structure for a Foot Ring of a Chair
AU6466048Z	1994-02-24	Stackable swivel chair
CN1144902C	2004-04-07	Yarn brake and spindle installed same, double twisting spindle and double twister
US6007044A	1999-12-28	Adjustable-length column for chairs or the like

Priority And Related Applications

Priority Applications (2)

Application	Priority date	Filing date	Title
DE29508915.6		1995-05-30	
DE29508915U	1995-05-30	1995-05-30	Adjustable column for chairs, tables or the like, and standpipe for this

Legal Events

Date	Code	Title	Description
1997-02-12	P801	Publication	
1997-02-12	C06	Publication	
1998-05-27	SE01	Entry into force of request for substantive examination	
1998-05-27	C10	Entry into substantive examination	
2003-05-28	GR01	Patent grant	
2003-05-28	C14	Grant of patent or utility model	
2005-07-20	CF01	Termination of patent right due to non-payment of annual fee	
2005-07-20	C19	Lapse of patent right due to non-payment of the annual fee	

Concepts

machine-extracted

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Name	Image	Sections	Count	Query match
Show all concepts from the description section				

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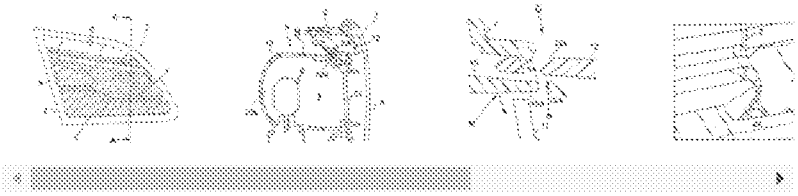
Patents

Vehicle lamp fitting

Abstract

PROBLEM TO BE SOLVED: To provide a vehicle lamp fitting which prevents melting of a hook of a housing and enables improvement of the appearance.SOLUTION: In a vehicle lamp fitting 1, a valve (a light source) 9, a reflector 10 which reflects light from the valve 9, and an extensin 12 covering a gap between the reflector 10 and the housing 2 are housed in a lamp chamber 4 defined by the housing 2 and an outer lens 3 covering an opening of the housing 2. Further, a hook 2A formed at the housing 2 is engaged with a hook hole 12A formed at the extension 12 to fix the extension 12 to the housing 2. The hook hole 12A is formed into a taper hole which shrinks toward the lamp fitting 4, and a heat shielding rib 10A covering the hook hole 12A from the inner side is provided. For example, an opening periphery of the reflector 10 is extended, and an extension part of the opening periphery is formed as the heat shielding rib 10A.SELECTED DRAWING: Figure 3

Images (6)



JP2017045506A

Japan

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Other languages: Japanese

Inventor: 新平 五十嵐, Kohei Igarashi, 新平 五十嵐

Current Assignee : Stanley Electric Co Ltd

Worldwide applications

2015 JP

Application JP2015164341A events

2015-08-24	Application filed by Stanley Electric Co Ltd
2015-08-24	Priority to JP2015164341A
2017-03-02	Publication of JP2017045506A
Status	Pending

Info: Legal events, Similar documents, Priority and Related Applications

External links: Espacenet, Global Dossier, Discuss

Claims (2)

Hide Dependent
translated from Japanese

A light source, a reflector that reflects light from the light source, and an extension that covers a gap between the reflector and the housing are housed in a lamp chamber defined by an outer lens that covers the housing and the opening,
In the vehicle lamp in which the hook formed in the housing and the hook hole formed in the extension are engaged, and the extension is fixed to the housing by this engagement.
A vehicular lamp characterized in that the hook hole is a tapered hole that decreases toward the lamp chamber, and a heat shield rib is provided to cover the hook hole from the inside. The vehicular lamp according to claim 1, wherein a peripheral edge of the opening of the reflector is extended, and the extended portion is used as the heat shield rib.

Description

translated from Japanese

The present invention relates to a vehicular lamp that fixes an extension to a housing by a hook method.

In a vehicular lamp, a transparent outer lens made of resin is also attached to the periphery of an opening of a resin housing, thereby forming a lamp chamber inside the lamp. A light source, a reflector, and an inner lens are formed in the lamp chamber. Extensions are accommodated, but as a method for fixing the outer lens to the housing, bonding with an adhesive such as hot melt, or a hook formed on one of the outer lens or the housing is engaged with a hook hole formed on the other A hook method or the like is used (see, for example, Patent Document 1).

Here, FIG. 5 and FIG. 6 show a conventional example of a vehicle lamp that employs a system in which an extension is fixed to a housing by a hook system.

5 is a partial longitudinal sectional view of a conventional vehicular lamp, FIG. 6 is an enlarged detail view of a portion D of FIG. 5, and the vehicular lamp 101 shown is a rear combination lamp disposed on the left and right of the rear portion of the vehicle. It is used as a stop lamp. The vehicular lamp 101 includes a stop signal 105, a turn signal lamp (not shown), a lamp chamber 104 defined by a resin-made housing 102 and a resin-made transparent outer lens 103 that covers the opening. A lamp unit having different functions such as a tail lamp and a back lamp is integrally incorporated.

As shown in FIG. 5, the stop lamp 105 includes a bulb, which is a light source, and a reflector 110 that reflects light emitted from the bulb 109 toward the rear of the vehicle (to the right in FIG. 5). And a transparent inner lens 111 disposed in front of the reflector 110 in the light reflecting direction (right side in FIG. 5), and an extension 112 that covers the gap between the housing 102 and the reflector 110 and the inner lens 111. Ing. Here, the reflector 110, the inner lens 111, and the extension 112 are integrally formed of resin, and the inner surface (reflection surface) 110a of the reflector 110 is subjected to a reflection process such as aluminum vapor deposition.

Thus, in the stop lamp 105, the extension 112 is fixed to the housing 102 by a hook method. That is, hook holes 112A are formed at a plurality of positions including the upper portion of the extension 112, and hooks 102a formed at a plurality of positions (corresponding to the hook holes 112A) of the housing 102 are engaged with the hook holes 112A. By doing so, the extension 112 is fixed to the housing 102.

JP 2006-235172 A

In the stop lamp 105 provided in the conventional vehicular lamp 101 shown in FIGS. 5 and 6, heat from the bulb 109 and heat from the heated inner lens 111 are extended 112 as indicated by arrows in FIG. The hook 102A of the housing 102 is heated to a temperature higher than the heat resistance temperature of the material of

the housing 102 due to the heat passing through the hook hole 112A of the housing 102, and the hook 102A may be melted to make the extension 112 unstable. Is there.

Another problem is that the appearance quality of the vehicular lamp 101 is impaired because parts such as the inner lens 111 can be seen from the outside through the hook hole 112A of the extension 112.

The present invention has been made in view of the above problems, and an object of the present invention is to provide a vehicular lamp that can prevent melting of a hook of a housing and can improve appearance quality.

In order to achieve the above object, a first aspect of the present invention provides a light source, a reflector that reflects light from the light source, a reflector that reflects light from the light source, a lamp chamber defined by an outer lens that covers a housing and an opening thereof, An extension that covers a gap with the housing is accommodated, and a hook formed in the housing is engaged with a hook hole formed in the extension, and the extension is fixed to the housing by this engagement. In the vehicular lamp, the hook hole is a tapered hole that decreases toward the lamp chamber, and a heat shield rib is provided to cover the hook hole from the inside.

The invention according to claim 2 is characterized in that, in the invention according to claim 1, the periphery of the opening of the reflector is extended, and the extension is used as the heat shield rib.

According to the present invention, the hook hole of the extension through which hot air heated by the light source passes is covered with the heat shield rib from the inside, and the opening area of the hook hole into the lamp chamber is reduced, so that the hook hole passes through the hook hole. The amount of hot air is limited, and heating of the hook of the housing that engages with the hook hole is suppressed. For this reason, the temperature of the hook is suppressed to be equal to or lower than the heat resistance temperature of the material of the housing, the melting of the hook is prevented, and the extension is fixed to the housing stably and reliably.

Further, since the hook hole of the extension is covered with the heat shield rib from the inside, the components in the lamp chamber are not visible from the outside through the hook, and the appearance quality of the vehicular lamp is improved.

1 is a front view of a vehicular lamp according to the present invention. It is the sectional view on the AA line of FIG. It is the B section enlarged detail drawing of FIG. It is a figure of the arrow C direction of FIG. It is a fragmentary longitudinal cross-sectional view of the conventional vehicle lamp. FIG. 6 is an enlarged detail view of a D part in FIG. 5.

Embodiments of the present invention will be described below with reference to the accompanying drawings.

1 is a front view of a vehicular lamp according to the present invention, FIG. 2 is a cross-sectional view taken along line AA in FIG. 1, FIG. 3 is an enlarged detail view of a portion B in FIG. FIG.

A vehicular lamp 1 shown in FIG. 1 is used as a rear combination lamp disposed on the left and right of a rear portion of a vehicle, and includes a resin housing 2 and a resin-made transparent outer lens 3 covering the opening. In the defined lamp chamber 4, a plurality of lamp units having different functions are arranged as a stop lamp 5, a turn signal lamp 6 disposed above and below the stop lamp 5, a tail lamp 7, and the stop lamp 5. The back lamp 8 is integrally incorporated. Since the basic configuration of the left and right vehicular lamps 1 is the same, only one vehicular lamp 1 will be illustrated and described below.

As shown in FIG. 2, the stop lamp 5 includes a bulb 9 that is a light source and a reflector 10 that reflects light emitted from the bulb 9 toward the rear of the vehicle (right side in FIG. 2). And a transparent inner lens 11 disposed in front of the reflector 10 in the light reflection direction (right side in FIG. 2), and an extension 12 that covers the gap between the housing 2, the reflector 10, and the inner lens 11. Has been. Here, the reflector 10, the inner lens 11, and the extension 12 are integrally formed of resin, and the inner surface (reflecting surface) 10a of the reflector 10 is subjected to a reflection process such as aluminum vapor deposition.

Thus, in the stop lamp 5 according to the present embodiment, the extension 12 is fixed to the housing 2 by a hook method. That is, hook holes 12A are formed at a plurality of locations including the upper portion of the extension 12, and each hook hole 12A has a claw-like shape integrally formed at a plurality of locations (locations corresponding to the hook holes 12A) of the housing 2. The extension 12 is fixed to the housing 2 by engaging the hook 2A.

Here, the hook hole 12A formed in the extension 12 is a rectangular taper hole that decreases toward the inside of the lamp chamber 4 (downward in FIGS. 3 and 4), as shown in FIGS. Has been. Specifically, one of the inner peripheral surfaces of the hook hole 12A is a flat tapered surface 12a that opens toward the outside of the lamp chamber 4 (upward in FIGS. 3 and 4).

In the present embodiment, the periphery of the opening of the reflector 10 is integrally extended toward the rear of the vehicle (the right side in FIGS. 2 and 3), and this extension extends the hook hole 12A of the extension 12 from the inside. The heat shield rib 10A is configured to be covered.

In the stop lamp 5 configured as described above, when the driver depresses the brake pedal, the bulb 9 emits light, and the light emitted from the bulb 9 is transmitted to the rear side (reflecting surface) 10a of the reflector 10 (2 and 3), the reflected light passes through the transparent inner lens 11 and the outer lens 3 and is emitted to the rear of the vehicle after the light distribution is controlled. 5 lights up and performs its original function.

Thus, the heat generated by the light emission of the bulb 9 and the heat generated by the heat of the heated inner lens 11 are caused by the flow of the extension 12 in the direction of the tapered hole 12A as shown by the arrows in FIG. The heat shielding rib 10 </ b> A and the extension 12 are used. Further, in the present embodiment, the hook hole 12A of the extension 12 is a tapered hole and the opening area into the lamp chamber 4 is narrowed, so the amount of hot air passing through the hook hole 12A is limited. Heating of the hook 2A of the housing 2 that engages with the hook hole 12A is suppressed. For this reason, the temperature of the hook 2A is suppressed below the heat resistant temperature of the material of the housing 2, the melting of the hook 2A is prevented, and the extension 12 is fixed to the housing 2 stably and reliably. Specifically, according to the thermal simulation, the expected temperature of the hook 2A in the conventional structure is 121.9 ° C., whereas the temperature of the hook 2A in the structure of the present invention is the heat resistant temperature of the material of the housing 2 110. It can be lowered by 106.6 ° C. and 15 ° C. below

In the present embodiment, the hook hole 12A of the extension 12 is covered with the heat shield rib 10A from the inside thereof, so that the components such as the inner lens 11 in the lamp chamber 4 can be seen from the outside through the hook hole 12A. There is also an effect that the overall appearance quality of the vehicular lamp 1 including the stop lamp 5 is improved.

In the above embodiment, the embodiment in which the present invention is applied to a vehicular lamp used as a stop lamp for a rear combination lamp has been described. However, the present invention is not limited to any vehicle used for other purposes. Of course, the present invention can be similarly applied to a lighting fixture. In the above embodiment, the heat shield rib is formed integrally with the reflector. However, the heat shield rib may be formed on other components.

DESCRIPTION OF SYMBOLS 1 Vehicle lamp 2 Housing 2A Housing hook 3 Outer lens 4 Light chamber 5 Stop lamp 6 Turn signal lamp 7 Tail lamp 8 Back lamp 9 Bulb (light source)
DESCRIPTION OF SYMBOLS 10 Reflector 10A Heat shield rib of reflector 10a Inner surface (reflective surface) of reflector
11 Inner lens 12 Extension 12A Extension hook hole 12a Hook hole taper surface

Similar Documents

Publication	Publication Date	Title
JP6261276B2	2018-01-17	Vehicle lighting
JP2010080075A	2010-04-08	Lighting fixture for vehicle
KR101451861B1	2014-10-16	Lamp for vehicle
JP5811675B2	2015-11-11	Vehicle lighting
JP2016004705A	2016-01-12	Vehicular lighting fixture
JP6868974B2	2021-05-12	Light fixtures for vehicles
JP2015185524A	2015-10-22	Lighting tool for vehicle
CN103867988B	2017-09-05	Light-emitting device for automotive headlight and the headlamp equipped with described device
JP2016119283A	2016-06-30	Vehicular lighting fixture
JP2017045506A	2017-03-02	Vehicle lamp fitting
JP2017107646A	2017-06-15	Vehicular lighting fixture including heat source for heating outer cover
JP6238668B2	2017-11-29	Vehicle lighting
JP2013025970A	2013-02-04	Vehicular lamp
JP2012155967A	2012-08-16	Lamp for vehicle
JP5702203B2	2015-04-15	LED position lamp for vehicles
JP6449617B2	2019-01-09	Vehicle lighting
JP6573562B2	2019-09-11	Passing light source module and in-vehicle headlamp
JP2008021602A	2008-01-31	Vehicular lighting fixture
JP2015060797A	2015-03-30	Vehicle lighting appliance
JP2006202600A	2006-08-03	Projector type vehicular headlight unit
KR20048299TY1	2017-03-24	Lamp apparatus for an automobile
JP2014186897A	2014-10-02	Light source device, and front lamp for vehicle using the same
JP6594125B2	2019-10-23	Vehicle clearance ramp structure
JP2013178978A	2013-09-09	Vehicle lamp
JP5677106B2	2015-02-25	Vehicle lighting

Priority And Related Applications

Priority Applications (1)

Application	Priority date	Filing date	Title
JP2015164341A	2015-08-24	2015-08-24	Vehicle lamp fitting

Applications Claiming Priority (1)

Application	Filing date	Title
JP2015164341A	2015-08-24	Vehicle lamp fitting

Legal Events

Date	Code	Title	Description
2018-07-05	A621	Written request for application examination	Free format text: JAPANESE INTERMEDIATE CODE: A621 Effective date: 20180705
2018-07-13	RD04	Notification of resignation of power of attorney	Free format text: JAPANESE INTERMEDIATE CODE: A7424 Effective date: 20180713
2019-07-29	A977	Report on retrieval	Free format text: JAPANESE INTERMEDIATE CODE: A971007 Effective date: 20190725
2019-07-30	A131	Notification of reasons for refusal	Free format text: JAPANESE INTERMEDIATE CODE: A131 Effective date: 20190730
2020-02-18	A02	Decision of refusal	Free format text: JAPANESE INTERMEDIATE CODE: A02 Effective date: 20200218

Concepts

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Name	Image	Sections	Count	Query match
peripheral		claims,description	2	0.000
melting		abstract,description	4	0.000
HRGPNT3		abstract	1	0.000

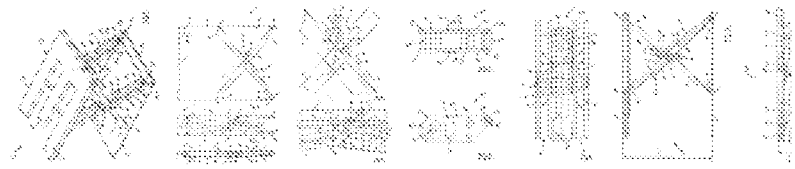
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Data provided by IFI CLAIMS Patent Services

Patents

Scissor type lifting table

Images (8)



Classifications

⊗ A47B9/16 Tables with tops of variable height with means for, or adapted for, inclining the legs of the table for varying the height of the top, e.g. with adjustable cross legs

View 2 more classifications

EP0613852B1

European Patent Office

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Other languages: German, French

Inventor: Hermann Janzen

Current Assignee : HYDRAULIK TECHNIEK

Worldwide applications

1993 BE 1994 DE EP AT

Application EP94102702A events

1993-03-02 Priority to DE9302967U

1993-03-02 Priority to DE9302967U

1994-02-23 Application filed by HYDRAULIK TECHNIEK

1994-09-07 Publication of EP0613852A1

1997-11-05 Application granted

1997-11-05 Publication of EP0613852B1

2014-02-23 Anticipated expiration

Status Expired - Lifetime

Info: Patent citations (18), Cited by (9), Legal events, Similar documents, Priority and Related Applications

External links: Espacenet, EPO GPI, EP Register, Global Dossier, Discuss

Claims (13) Hide Dependent

1. A scissor-type lifting table comprising between a bottom frame (2) which is on the floor side and an upper table top (3) at least one pair of scissor arms (5, 6; 7, 8) connected to one another in a universal joint (4) and which, in oppositely disposed end portions (14, 15; 16, 17) are in each case rigidly connected at one end to a pivot bearing (18, 19) and at the other via a loose bearing (20, 21) on the bottom frame (2) or on the table top (3), whereby this starting position which is disposed close to the bottom frame is in the region of at least one scissor arm (6, 8) subject to an expanding lever (40) with a pressure roller (44; 144) engaging underneath it in order to initiate a starting travel of the table top (3), the expanding lever (40) being disposed at the outer end (39) of the piston rod of a piston/cylinder unit (23, 24), characterised in that the expanding lever (40) is constructed as a lifting and swinging arm (42) disposed between respective inner members (25', 26'; 27', 28') of at least one of the pairs of scissor arms (5, 6; 7, 8) and which has at least at one end a connecting part (43, 43') coaxial with the universal joint (4) and which has at the other the pressure roller (44) and axially parallel between the universal joint (4) and the spindle (45) of the pressure roller a piston rod articulation (38) which, in the lowered position, is disposed above the median longitudinal plane (35) of the piston/cylinder unit (23; 24).

    2. A scissor type lifting table according to claim 1, characterised in that via a bracing arrangement (31, 32) which fixes the cylinder (33, 34) of the piston/cylinder unit (23, 24) in the end part close to the pivot bearing (18, 19) of the scissor arm (6, 8), the lifting swinging arm (42) on the one hand, the piston rod articulation (38) on the other and the thrust roller (44) constitutes an operative connection with the table top (3) and in that this latter can be moved into an extreme lifted position by only one piston/cylinder unit (23, 24) which, in every phase of lifting (H; H'; H''), has a substantially constant internal cylinder pressure, only one such unit (23, 24) being provided per pair of scissor arms (5, 6; 7, 8) and engaging under the table top (3).

    3. A scissor type lifting table according to claim 1 or 2, characterised in that the lifting swinging arm (42) has a shaped part (47, 47') which limits the pivot range in a first lifting phase (H') via an abutment member (46, 46') braced in the region of whichever is the inner arm (25', 26').

    4. A scissor type lifting table according to one of claims 1 to 3, characterised in that the table top (3) comprising a supporting area (48) on the under side of the table top has a pressure roller (44) disposed on the lifting swinging arm (42) so engaging under it that a bracing engagement is formed in a first lifting phase (H') bounded by the inward pivoting of the abutment member (46, 46') into the shaped part (47, 47').

    5. A scissor type lifting table according to one of claims 1 to 4, characterised in that the scissor arm (5) connected by a loose bearing (20) to the table top (3) is connected to the table top (3) via an element (51) engaging under the roller and the length (50) of which is attuned to the pivoting part of the lifting swinging arm (42).

6. A scissor type lifting table according to one of claims 1 to 5, characterised in that the cylinder (33, 34) of the piston/cylinder unit (23, 24) has in the region of the respective pivot bearing (19, 19') a bracing (53, 53') which is spaced apart from the longitudinal central plane (35, 35') thereof.

7. A scissor type lifting table according to one of claims 1 to 6, characterised in that the lifting swinging arm (42) is constructed as a transversely reinforced double member (55) between the thrust plates (56, 57) of which there is a piston rod articulation (38) which co-operates with the connecting part (43) in the region of the intersecting joint (4) and the pressure roller (44).

8. A scissor type lifting table according to one of claims 1 to 7, characterised in that the thrust plates (56, 57) disposed between a particular pair of scissor arms (25', 26', 27', 28') have in each case a groove (58) forming the shaped part (47, 47') into which it is possible for a pin (59, 59') to pivot which serves as an abutment member (46, 46') on the inner arms (25', 26') of the pairs (5, 6) of scissor arms.

9. A scissor type lifting table according to one of claims 1 to 8, characterised in that the thrust plates (56, 57) are provided with a coaxial connecting sleeve (43') in the region of the universal joint (4).

10. A scissor type lifting table according to one of claims 1 to 9, characterised in that two pairs (5, 6 and 7, 8) of scissor arms are each provided with a piston/cylinder unit (23, 24) and a lifting swinging arm (42, 42').

11. A scissor type lifting table according to one of claims 1 to 10, characterised in that the table top (3) is in the supporting region (48) for the supporting roller (44) provided with a stabilising plate on the under side.

12. A scissor type lifting table according to one of claims 1 to 11, characterised in that the piston/cylinder unit (23, 24) is provided with an inlet trough (60) in the region of the piston rod end (39).

13. A scissor type lifting table according to one of claims 1 to 12, characterised in that the expanding lever (40) is constructed as a double lifting swinging arm (142) with two piston/cylinder units (23; 123) whereby in the starting position there is respectively one (23) above and one (123) below the longitudinal median plane (35) over the piston rod articulating members (38) which are at the same radial distance associated with the universal joint (4).

Description

translated from German

The invention relates to a scissor lift table according to the preamble of claim 1.

In the case of a scissor lifting table of the type mentioned above, known from DE 39 30 529 A1, at least one of the scissor arms which cooperate as a pair and is connected in the region of an intersection joint is provided with a spreading lever which has a first piston / cylinder unit and with which the in an initial position Scissor arms located near a subframe are spread out from a lowered position, spread further via a second piston / cylinder unit when an initial stroke position is reached, and a table platform can thus be brought into a stroke end position. With such an arrangement of two piston / cylinder units connected in parallel via a common control unit, both the technical outlay and the production and operating costs are disadvantageously increased.

The invention has for its object a scissor lift table of the type mentioned Reduction of the technical effort so that this allows a flat and space-saving design when the scissor arms are in the lowered position and a long stroke of the table platform can be reached via a uniform lifting movement.

The invention solves this problem by a scissor lift table with the features of claim 1. With regard to further refinements, reference is made to claims 2 to 13.

The scissor-type lifting table according to the invention has, with the lifting rocker, a stroke-introducing member connected to the piston / cylinder unit, which forms an operative connection with a coaxial connection, provided on the one hand directly in the intersection joint, to the respective scissor arms, the articulation of the piston rod end arranged parallel to the axis, and the pressure roller supported on the other hand, which enables an advantageous flat design of the scissor lift table, the table platform of which can be moved from the lower position close to the ground to the end of stroke position by continuous utilization of the piston stroke by only one piston / cylinder unit without additional individual parts.

On the table platform as a direct part of the force flow in the scissor lift table, starting from a parallel starting position of the scissor arms, a pulling movement which is effective in a first lifting phase is initiated on the scissor arms to be spread via the pressure roller and, at a certain lifting angle, the lifting arm is locked against further swiveling in such a way that Torque is imparted to the scissor arms via the lifting arm via the continued stroke movement of the piston / cylinder unit and under Spreading the scissor arms the table platform is raised to the stroke end position.

With the piston rod linkage at a distance from the central longitudinal plane of the piston / cylinder unit that is essentially determined by the component height of the scissor arms in the lowered position, an asymmetrical linkage is formed with little effort, which enables the table platform to be raised in pressure in the first stroke phase with a few articulation points. A corresponding connection of the table platform to the scissor arm ends causes their mutual spreading, whereby after a certain stroke path a system part simultaneously entering a connection engagement on the lifting rocker on at least one scissor arm enables continuous pressure entry from the piston / cylinder unit, the further piston displacement thereof is deflected via a constant lever arm formed on the lifting rocker and the table platform can thus be moved into the end of stroke position with a largely constant internal cylinder pressure.

Fig. 1
eine Perspektivdarstellung eines erfindungsgemäßen Scherenhubtisches in einer ersten Ausführungsform,
Fig. 2
eine Seitenansicht des Scherenhubtisches ähnlich Fig. 1 mit einer Tischplattform in einer bodennahen Absenkstellung,
Fig. 3
eine Seitenansicht des Scherenhubtisches gemäß Fig. 2 mit der Tischplattform am Ende einer ersten Hubphase,
Fig. 4
eine Seitenansicht des Scherenhubtisches gemäß Fig. 2 oder 3 mit der Tischplattform in einer oberen Endstellung,
Fig. 5
eine Ausschnittsvergrößerung im Bereich eines Kreuzungsgelenks der Scherenarme des Scherenhubtisches gemäß Fig. 4,
Fig. 6
eine vergrößerte Ausschnittsdarstellung ähnlich Fig. 5 mit den Scherenarmen in einer Hubphase gemäß Fig. 3,
Fig. 7 und 8
jeweils eine Einzeldarstellung einer Hubschwinge gemäß der Erfindung in verschiedenen Ansichten,
Fig. 9
eine Seitenansicht im Bereich des Kreuzungsgelenks gemäß Fig. 5,
Fig. 10

eine Seitenansicht des in Hubendstellung befindlichen Scherenhubtisches in einer zweiten Ausführungsform mit einer Doppel-Hubschwinge im Bereich des Kreuzungsgelenkes der Scherenarme,

Fig. 11
eine Seitenansicht des Scherenhubtisches ähnlich Fig. 10 mit der Tischplattform in einer ersten Hubphase, und

Fig. 12
eine Einzeldarstellung der Doppel-Hubschwinge.

With regard to significant further advantages and individual parts of the invention, reference is made to the following description and the drawing, in which an exemplary embodiment of the object of the invention is illustrated schematically in more detail. The drawing shows:

Fig. 1
1 shows a perspective view of a scissor lift table according to the invention in a first embodiment,

Fig. 2
2 shows a side view of the scissor lift table similar to FIG. 1 with a table platform in a lowered position close to the ground,

Fig. 3
2 shows the side view of the scissor lift table according to FIG. 2 with the table platform at the end of a first lifting phase,

Fig. 4
3 shows a side view of the scissor lift table according to FIG. 2 or 3 with the table platform in an upper end position,

Fig. 5
4 shows an enlarged detail in the region of an intersection joint of the scissor arms of the scissor lift table according to FIG. 4,

Fig. 6
5 with the scissor arms in a lifting phase according to FIG. 3,

7 and 8
each an individual representation of a lifting arm according to the invention in different views,

Fig. 9
5 shows a side view in the region of the cross joint according to FIG. 5,

Fig. 10
a side view of the scissor lift table in the end of stroke position in a second embodiment with a double lifting arm in the region of the cross joint of the scissor arms,

Fig. 11
a side view of the scissor lift table similar to FIG. 10 with the table platform in a first lifting phase, and

Fig. 12
a single view of the double lifting arm.

1 shows a scissor lift table 1, designated as a whole as 1, designed as a flat lift table, the scissor arms 5, which are arranged along a longitudinal edge and are paired with each other in a cross joint 4,4 ', between a bottom frame 2 and an upper table platform 3, 6 or 7,8.

The table platform 3 is provided with an E-shaped, respective outer plate regions 9, 10 and a central region 11 having a plate contour with which, for example, a lifting tool (not shown) can reach under the objects located on the table platform 3 via respective shape recesses 12, 13. It is also conceivable to design the table platform 3 as a continuous plate or with a U-shaped plate contour for other applications, in particular one requiring a flat construction.

In FIG. 4, a side view of the scissor lift table 1 illustrates a connection provided in opposite end regions 14, 15 and 16, 17 of the scissor arms 5, 6, one end of which is fixed via a pivot bearing 18, 19 and the other end via a floating bearing 20, 21 is formed on the underside of the table platform 3 or the top of the lower frame 2 so that the table platform 3 can be brought into different lifting heights H (FIG. 2), H '(FIG. 3) and H' '(FIG. 4).

The pairs of scissors arms 5, 6 and 7, 8 are each in the area of the scissor arms 6 and 8 supported by the fixed pivot bearing 19, 19 'with an as Hydraulic cylinder trained piston / cylinder unit 23,24, which extends between respective legs 25,26 and 27,28 of the scissor arms 6 and 8 respectively.

The hydraulic cylinders 23, 24 are fixed at one end in the area of their cylinders 33, 34 to a lower cross member 30 (FIG. 1) located between the respective pivot bearings 19, 19 'of the scissor arms 6, 8, and respective support bearings 31, 32, and Piston rods 36, 37 movable via fluid pressure in a central longitudinal plane 35 of the piston / cylinder unit 23, 24 are connected at the other ends in the respective head region 39 via a piston rod linkage 38 with an expansion lever 40 (FIG. 1) or 40 '(not visible).

The enlarged representations according to FIGS. 5 and 6 make it clear in connection with FIG. 9 that the spreading lever 40 acts as one between the respective inner legs 25 ', 26' or 27 ', 28' of the respective pair of scissor arms 5, 6 or 7,8 located rocker arm 42 is formed which on one end has a connecting part 43 coaxial to the intersection joint 4 or 4 ', on the other end a pressure roller 44 and axially parallel between the intersection joint 4 and the pressure roller axis 45 which, in the lowered position of the table platform 3, advantageously above the central longitudinal plane 35 the piston / cylinder unit 23, 24 has the piston rod linkage 38 (FIG. 2).

With such a linkage of the lifting rocker 42, the respective cylinders 33, 34 of the piston / cylinder unit 23, 24 in the end region near the pivot bearing 19, 19 'of the scissor arms 6, 8 can be fixed Support bearing 31, 32 on the one hand, the piston rod linkage 38 on the other hand, and the pressure roller 44 to the table platform 3 are effectively connected, and the scissor-type lifting table 1, which is designed in an advantageous space-saving flat design, moves from the lowering position illustrated in FIG. 2 in a first lifting phase to that shown in FIG. 3 Stroke position H'd be brought about by the fact that the movement of the piston rods 36, 37 with a superimposed stroke-swivel movement in the area of the lifting arms 42, 42 'raises the cross joints 4,4', so that the lifting arm 42, 42 'is supported the rolling pressure roller 44 on the underside of the table platform 3 executes a pivoting of the lifting arms 42, 42 ' and the pairs of scissors arms 5, 6 are raised into the spreading position according to FIG. 3 via the bearings 18 and 20 on the table platform 3.

In this movement phase, respective stop parts 46, 46 'which limit the swivel angle of the lifting rocker 42 in this first lifting phase to the respective inner legs 25', 26 'are swiveled into the region of molded parts 47, 47', the pressure roller 44 on the underside of the plate the table platform 3 forms a support engagement in a support area 48 until the pivoting of the stop part 46 into the molded part 47 forms a positive connection which enables further force introduction. To stabilize the table platform 3, a stabilizing plate (not shown) can be provided in the support area 48.

In this lifting phase shown in FIGS. 2 and 3, the one with the table platform 3 is via the floating bearing 20 connected scissor arm 6 supported on the table platform 3 via a length 50 matched to the above-described swivel path or support area 48 of the lifting rocker 42, so that the lifting forces introduced via the pressure roller 44 on the scissor arms 5.6 and 7.8 both form a vertical spreading force component in the bearing 20 as well as in the bearing 18 and thus a uniform component load is achieved.

For the movement sequence described above, in particular for the movement of the flat scissor lift table 1 from the lowered position according to FIG. 2, the piston rod linkage 38 located above the central longitudinal plane 35 of the piston / cylinder unit 23, 24 forms an asymmetrical one in the region of the respective piston rods 36, 37 Force transmission, the effectiveness of which can be increased further in that the respective cylinders 33, 34 in the area of their support bearings 31, 32 have a support

53, which is also asymmetrical with respect to the central longitudinal plane 35, and thus the scissor lift table 1 on the respective lifting arm 42, 42 ', in the lowered position, a pressure action plane 52 is shown as a connecting line between the linkage 38 and the support 53.

In the area of the lifting rocker 42, respective force introduction levers are formed with the pressure action plane 52 both between the respective piston rod linkage 38 and the cross joint 4 and between the piston rod linkage 38 and the pressure roller 44, with which the scissor lift table 1 can be designed in a particularly space-saving flat design so that the Spreading or lifting as described above with only one piston / cylinder unit 23,24 can be carried out in the respective scissor arm pairs 5,6 or 7,8. A high mechanical efficiency can thus be achieved with reduced technical complexity and a uniform stroke movement over a large stroke distance, for example up to 1000 mm, can be achieved via a cylinder pressure which is largely constant in all stroke positions H, H ', H".

In FIGS. 5 and 6, enlarged detail representations in the area of the lifting rocker 42 illustrate a distance 54 which forms the effective lever length between the piston rod linkage 38 and the cross joint 4 and which extends from the lowered position H (FIG. 2) to the position H '(FIG. 3, Fig. 6) changes and with further increasing spreading of the scissor arms 5, 6 via the abutment of the stop parts 46 in the molded part 47, 47 ', this distance 54 remains effective as a constant lever arm until the table platform 3 reaches the stroke position H' '(FIG. 4, Fig. 5) has reached.

7 and 8, the lifting rocker 42 is illustrated in an advantageous illustration of its advantageous design as a cross-stiffened double member 55, with one end of a connecting sleeve 43 'supported in the region of the cross joint 4 between the connecting parts 43 between the pressure plates 56, 57 and the other on the other a support pin 44 'located pressure roller 44 and between these the piston rod linkage 38 are provided.

The installation position of the lifting rocker 42 according to FIG. 9 clarifies in connection with FIG. 8 that the pressure plates 56, 57 located between the respective pair of scissor arms 25 ', 26' each form a part 47,47 'forming groove 58,58' (Fig. 8), into each of which a pin 59,59 'provided as the stop member 46,46' and supported on the inner legs 25 ', 26' of the pairs of scissors arms can be pivoted.

In an expedient embodiment, the piston / cylinder unit 23, 24 is provided in the area of the respective head region 39 with an inlet recess 60 (FIG. 6), so that in the lowered position according to FIG. Cylinder unit 23, 24 allowing free space is reached and thus the components of the scissor lift table 1 can be lowered to an overall height forming the lifting height H without an overhang and good handling of the scissor lifting table 1 is made possible even in confined spaces.

FIG. 10 shows a second embodiment of a scissor lift table 101 which, in the area of the cross joint 4 as the spreading lever 40, has a double lifting arm 142 (FIG. 12) and its scissor arms 5,6 (or 7,8) with simultaneous action are spread by two piston / cylinder pairs 23, 123 and 24, 124 (not visible).

11 illustrates that the double rocker arm 142 and the scissor lift table 101 can be moved into the illustrated lifting position H 'in that a simultaneous working stroke of the two piston rods 36 of the piston-cylinder pair 23, 123 that are effective in one direction of rotation the double lifting arm 142 is imparted a superimposed lifting and pivoting movement in the region of the cross joint 4, around which the double lifting arm 142 is supported on the one hand the rolling pressure roller 44 on the underside of the table platform 3 and, on the other hand, the pressure roller 144 on the subframe 2 pivots and the bearings 18 and 20 raise the pairs of scissors arms 5, 6 to the spread position according to FIG. 10.

The individual representation of the double rocker arm 142 according to FIG. 12 shows its design with the respective effective pressure rollers 44, 144 grouping around the bore for the intersection joint 4, the two piston rod linkages 38, the distances 54, 154 and the shaped grooves 58, via which, in the manner described above Lifting force of the piston / cylinder units 23, 123 can simultaneously be transferred to the scissor arms 5, 6 (FIG. 10).

In an advantageous embodiment, the scissor lift table 101 having the double lifting rocker 142 can thus be provided for lifting larger weights, so that the possible uses of the lifting table are improved overall.

Patent Citations (18)

Publication number	Priority date	Publication date	Assignee	Title
Family To Family Citations				
US3246876A *	1963-12-26	1966-04-19	Jeddeloh Bros Sweed Mills Inc	Scissor-lift mechanism
DE1805941C3 *	1968-10-30	1980-05-08	Alois Dipl.-Ing. 4790 Paderborn Loedige	Scissor lifting device
US3991857A *	1975-03-24	1976-11-16	Charles J. Wolk	Elevatable platform for load transfer
SU527377A1 *	1975-03-28	1976-09-05	Проектно-Конструкторское Бюро Главного Управления Автомобильного Транспорта Мосгорисполкома	Lifting table
IT1140561B *	1980-02-12	1986-10-01	Giovanni Rossini	LIFTING DEVICE PARTICULARLY FOR THE MOVEMENT OF FLOORS OF FURNITURE AND SIMILAR
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US4558848A *	1983-09-20	1985-12-17	Lift-R Technologies, Inc.	Energy-recycling scissors lift
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SE456499B *	1987-02-04	1988-10-10	Hymo Ab	DEVICE AT A HYDRAULIC LIFT TABLE
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US10244861B1	2015-01-24	2019-04-02	Nathan Mark Poniatowski	Desktop workspace that adjusts vertically
IT201600091179A1 *	2016-09-09	2018-03-09	Goppion Spa	Museum showcase with motorized drive system for drawers
DE102021004855A1	2020-10-15	2022-04-21	Sew-Eurodrive Gmbh & Co Kg	Lifting device, in particular for a transport vehicle, and transport vehicle

* Cited by examiner, † Cited by third party, ‡ Family to family citation

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EP0461638A1	1991-12-18	Synchronisation device for a lifting platform
DE3151031A1	1983-05-19	Scissor lift table
EP0749826B1	2001-11-14	Mechanical toggle press
DE2947369C2	1983-01-05	Device for lifting and moving loads

Priority And Related Applications

Priority Applications (2)

Application	Priority date	Filing date	Title
DE9302967U		1993-03-02	
DE9302967U	1993-03-02	1993-03-02	

Legal Events

Date	Code	Title	Description
1994-07-21	PUAI	Public reference made under article 153(3) epc to a published international application that has entered the european phase	**Free format text:** ORIGINAL CODE: 0009012
1994-09-07	AK	Designated contracting states	**Kind code of ref document:** A1 **Designated state(s):** AT BE CH DE FR GB LI NL
1995-01-18	17P	Request for examination filed	**Effective date:** 19941117
1997-01-21	GRAG	Despatch of communication of intention to grant	**Free format text:** ORIGINAL CODE: EPIDOS AGRA
1997-03-12	17Q	First examination report despatched	**Effective date:** 19970123
1997-04-30	GRAH	Despatch of communication of intention to grant a patent	**Free format text:** ORIGINAL CODE: EPIDOS IGRA
1997-06-03	GRAH	Despatch of communication of intention to grant a patent	**Free format text:** ORIGINAL CODE: EPIDOS IGRA
1997-09-19	GRAA	(expected) grant	**Free format text:** ORIGINAL CODE: 0009210
1997-11-05	AK	Designated contracting states	**Kind code of ref document:** B1 **Designated state(s):** AT BE CH DE FR GB LI NL
1997-11-05	REF	Corresponds to:	**Ref document number:** 159918 **Country of ref document:** AT **Date of ref document:** 19971115

			Kind code of ref document: T
1997-11-14	REG	Reference to a national code	Ref country code: CH Ref legal event code: NV Representative=s name: BOVARD AG PATENTANWAELTE Ref country code: CH Ref legal event code: EP
1997-11-14	ET	Fr: translation filed	
1997-12-10	GBT	Gb: translation of ep patent filed (gb section 77(6)(a)/1977)	Effective date: 19971114
1997-12-11	REF	Corresponds to:	Ref document number: 59404495 Country of ref document: DE Date of ref document: 19971211
1998-09-11	STAA	Information on the status of an ep patent application or granted ep patent	Free format text: STATUS: NO OPPOSITION FILED WITHIN TIME LIMIT
1998-10-28	26N	No opposition filed	
2002-01-01	REG	Reference to a national code	Ref country code: GB Ref legal event code: IF02
2011-03-15	REG	Reference to a national code	Ref country code: CH Ref legal event code: PFA Owner name: HYDRAULIK TECHNIEK Free format text: HYDRAULIK TECHNIEK#PIONIERSWEG 15#NL-7826 TA EMMEN (NL) -TRANSFER TO- HYDRAULIK TECHNIEK#PIONIERSWEG 15#NL-7826 TA EMMEN (NL)
2013-02-28	PGFP	Annual fee paid to national office [announced via postgrant information from national office to epo]	Ref country code: GB Payment date: 20121218 Year of fee payment: 20
2013-04-30	PGFP	Annual fee paid to national office [announced via postgrant information from national office to epo]	Ref country code: FR Payment date: 20130319 Year of fee payment: 20 Ref country code: DE Payment date: 20121120 Year of fee payment: 20 Ref country code: CH Payment date: 20130207 Year of fee payment: 20
2013-05-31	PGFP	Annual fee paid to national office [announced via postgrant information from national office to epo]	Ref country code: BE Payment date: 20130130 Year of fee payment: 20 Ref country code: NL Payment date: 20130227

			Year of fee payment: 20
2013-06-28	PGFP	Annual fee paid to national office [announced via postgrant information from national office to epo]	Ref country code: AT Payment date: 20130225 Year of fee payment: 20
2014-02-25	REG	Reference to a national code	Ref country code: DE Ref legal event code: R071 Ref document number: 59404495 Country of ref document: DE
2014-02-28	BE20	Be: patent expired	Owner name: *HYDRAULIK TECHNIEK Effective date: 20140223
2014-02-28	REG	Reference to a national code	Ref country code: CH Ref legal event code: PL
2014-03-05	REG	Reference to a national code	Ref country code: NL Ref legal event code: V4 Effective date: 20140223
2014-03-19	REG	Reference to a national code	Ref country code: GB Ref legal event code: PE20 Expiry date: 20140222
2014-04-15	REG	Reference to a national code	Ref country code: AT Ref legal event code: MK07 Ref document number: 159918 Country of ref document: AT Kind code of ref document: T Effective date: 20140223
2014-04-30	PG25	Lapsed in a contracting state [announced via postgrant information from national office to epo]	Ref country code: GB Free format text: LAPSE BECAUSE OF EXPIRATION OF PROTECTION Effective date: 20140222 Ref country code: DE Free format text: LAPSE BECAUSE OF EXPIRATION OF PROTECTION Effective date: 20140225

Concepts

machine-extracted

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(51) Int. Cl. 3 = Int. Cl. 2 Int. Cl. 2: **B 66 F 3/22**
A 47 B 9/16

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(71) Anmelder: Trepel AG, 6200 Wiesbaden

(72) Erfinder: Adler, Heinz, 6204 Taunusstein; Wörner, Axel, 6200 Wiesbaden

Prüfungsantrag gem. § 28 b PatG ist gestellt

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5. 80 030 023/374 4/60

Patentansprüche

1. Scherenhebetisch, bei dem die oberen Laufrollen am Losende des Tisches unter einer unter der oberen Plattform angeordneten ebenen Schiene laufen dadurch gekennzeichnet, daß auf der Achse (1) der Laufrolle (2) ein Winkelflansch (3) angeordnet ist, dessen senkrechter Schenkel (4) mit der Achse (1) der Laufrolle (2) verbunden ist und dessen waagerechter Schenkel (5) in eine waagerechte Führungsausnehmung (6) eingreift, die zwischen oberer Plattform (7) und Schiene (8) angeordnet ist.

2. Scherenhebetisch nach Anspruch 1 dadurch gekennzeichnet, daß die Schiene (8) durch ein seitlich offenes U-Profil (9) gebildet ist, die Laufrollen auf der Außenfläche des unteren Schenkel (1o) des U-Profils laufen und der waagerechte Schenkel (5) des Winkelflansches (3) den unteren Schenkel (1o) des U-Profils (9) übergreift.

3. Scherenhebetisch nach Anspruch 1 und /oder 2 dadurch gekennzeichnet, daß die Führungsausnehmung (6) nach außen offen ist und der Winkelflansch (3) auf der den Scheren (11) abgekehrten Seite der Laufrollen (2) auf der Achse (1) angeordnet ist.

4. Scherenhebetisch nach einem oder mehreren der Ansprüche 1 - 3 dadurch gekennzeichnet, daß der Winkelflansch (3) seitlich verstellbar auf der Achse (1) angeordnet ist.

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Scherenhebetisch

Die Erfindung betrifft einen Scherenhebetisch, bei dem die oberen Laufrollen am Losende des Tisches unter einer unter der oberen Plattform angeordneten ebenen Schiene laufen.

Wird die obere Plattform eines solchen Scherenhebetisches, insbesondere in oberer Stellung der oberen Plattform am Festende außerhalb der Angrifsspunkte der Scheren hoch belastet, besteht bei solchen Scherenhebetischen die Gefahr, daß die obere Plattform am Losende sich von den Laufrollen abhebt. Abhängig davon wie stark sich die obere Plattform am Losende von den Laufrollen abhebt, besteht dann weiter die Gefahr, daß die Last von der oberen Plattform abrutscht.

Aufgabe vorliegender Erfindung ist es, einen Scherenhebetisch der eingangs genannten Art zu schaffen, bei dem die Gefahr, daß die Plattform bei hoher Belastung am Festende außerhalb der Angriffspunkte der Scheren sich von den Laufrollen abhebt,nicht mehr besteht.

Diese Aufgabe wird dadurch gelöst, daß auf der Achse der Laufrollen ein Winkelflansch angeordnet ist, dessen senkrechter Schenkel mit den Achsen der Laufrollen verbunden ist und dessen waagerechter Schenkel in eine waagerechte Führungsaus-

nehmung eingreift, die zwischen der oberen Plattform und der Schiene angeordnet ist.

Wird die obere Plattform eines solchen Hebetisches am Festende außerhalb der Angriffspunkte der Scheren sehr hoch belastet, kann die Plattform am Losende sich nicht mehr von den Laufrollen abheben, weil der in die Führungsausnehmung eingreifende waagerechte Schenkel des auf der Achse der Laufrollen befestigten Winkelflansches die Plattform hieran hindern. Es kann nur noch der ganze Tisch umkippen. Solches ist aber selbst bei stärkster Belastung des Festendes der oberen Plattform außerhalb der Angriffspunkte der Scheren praktisch nicht denkbar.

Weitere Merkmale der Erfindung sind in der Beschreibung der Figuren und in den Unteransprüchen dargestellt, wobei bemerkt wird, daß alle Einzelmerkmale und alle Kombinationen von Einzelmerkmalen erfindungswesentlich sind.

In den Figuren 1 und 2 ist die Erfindung an einer Ausführungsform beispielsweise dargestellt, ohne auf diese Ausführungsform beschränkt zu sein.

Figur 1 zeigt schematisch eine Seitenansicht eines Scherenhebetisches und

Figur 2 einen senkrechten Schnitt durch eine Laufrollenanordnung unter der oberen Plattform

Wie in Figur 1 dargestellt, besteht der Scherenhebetisch aus dem Unterrahmen 12 und dem Oberrahmen 13,auf dem die Plattform 7 angeordnet ist. Zwischen Oberrahmen und Unterrahmen befindet sich auf jeder Seite des Tisches ein Scherenpaar 11.

Das Spreizen der Scheren erfolgt mittels eines hydraulischen Arbeitszylinders 14, der wie in Figur 1 schematisch dargestellt, im Losende des Tisches angeordnet ist und mit dem freien Ende der nach oben gerichteten Kolbenstange an den nach oben gerichteten Armen des einen Scherenblattes und mit dem nach unten gerichteten Zylinderboden an dem nach unten gerichteten Arm des anderen Scherenblattes angreift. Dabei können zwischen den in gleicher Ebene liegenden Scherenblättern Quertraversen angeordnet sein, an die der Zylinder 14 angreift. Am Festende ist das eine Scherenblatt unter dem oberen Rahmen 13 an einem nach unten gerichteten Flansch 15 drehbar befestigt. Das andere Scherenblatt trägt am oberen Ende des nach oben gerichteten Armes eine Laufrolle 2, auf die der Oberrahmen 13 mit einer ebenen Unterfläche aufliegt

Wird der Zylinder 14 beaufschlagt, spreizt er die Schere 11. Die Laufrolle 2 läuft dann unter dem Oberrahmen 13 in Richtung auf das Festende. Wird die Flüssigkeit aus dem Zylinder 14 abgelassen, laufen die Scherenblätter nach unten zusammen und läuft die Laufrolle 2 in Richtung vom Festende weg.

Wie in Figur 2 dargestellt, ist am Losende des Tisches an jedem nach oben gerichteten Arm einer jeden Schere 11 eine nach außen gerichtete Achse 1 befestigt, die drehbar eine Laufrolle 2 tragen. Die Laufrolle 2 läuft unter einer Schiene 8, im dargestellten Ausführungsbeispiel unter dem unteren Schenkel 1o eines nach außen offenen U-Profils 9 aus denen der Unterrahmen 13 besteht. Auf der der Schere 11 abgekehrten Seite der Laufrolle 2 ist auf der Achse 1 ein Winkelflansch 3 mit dem senkrechten Schenkel 4 befestigt, dessen waagerechter Schenkel 5 auf die Schere 11 gerichtet ist und den von der Schere weg gerichteten unteren Schenkel 1o des U-Prfils übergreift.

Der Innenraum des U-Profils bildet im dargestellten Ausführungsbeispiel die Führungsausnehmung 6. Der Winkelflansch 3 kann dabei mit seinem senkrechten Schenkel 4 verstellbar auf der Achse 1 angeordnet sein, so daß die Laufrollen mit Achse und Winkelflansch vorgefertigt und im Bedarfsfalle den jeweiligen Gegebenheiten angepaßt werden können. Zum Verstellen kann dabei ein Stellring 16 dienen. Zwischen Stellring 16 und Laufrolle 2 kann noch ein Distanzstück 17 vorgesehen sein, insbesondere dann, wenn der Abstand zwischen beiden relativ groß ist. Gehaltert wird der Winkelflansch 3 auf der Achse 1 mittels einer Scheibe 18, die mit einem Sprengring 19 auf der Achse 1 befestigt ist. Im dargestellten Ausführungsbeispiel wird die Führungsausnehmung 6 durch den Innenraum eines U-Profils gebildet, der auf der den Scheren 11 abgekehrten Seite offen ist. Die Führungsausnehmung 6 kann selbstverständlich auch durch andere Mittel gebildet sein. Im Bedarfsfalle ist es auch möglich, das U-Profil umgekehrt anzuordnen. Die Reihenfolge der Teile 2, 17, 16 und 4 ist dann ebenfalls umgekehrt.

Leerseite

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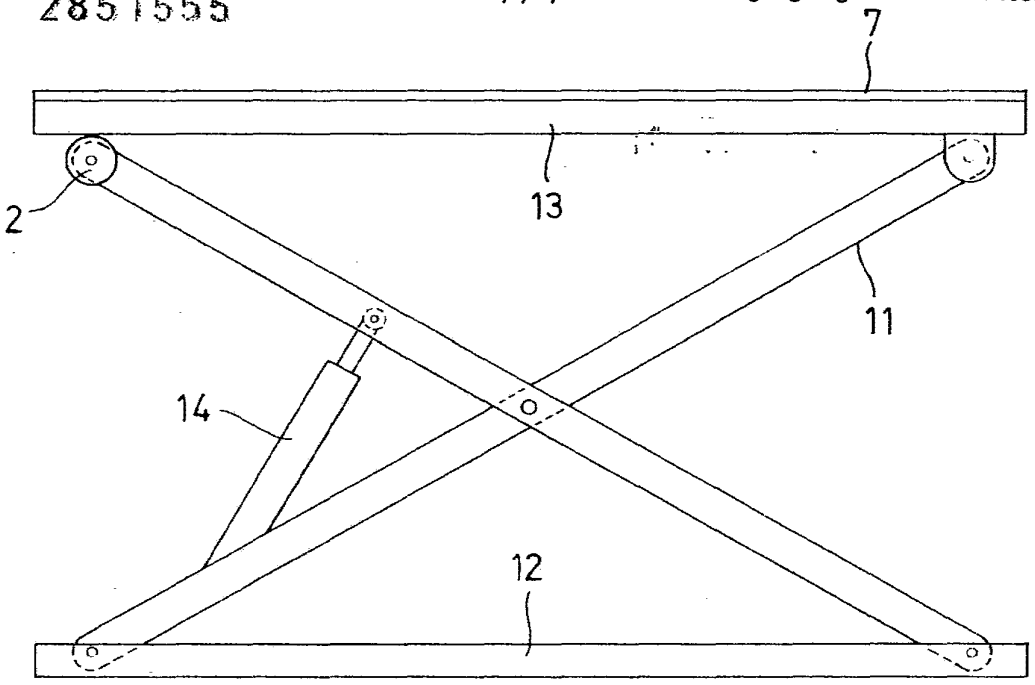


FIG. 1

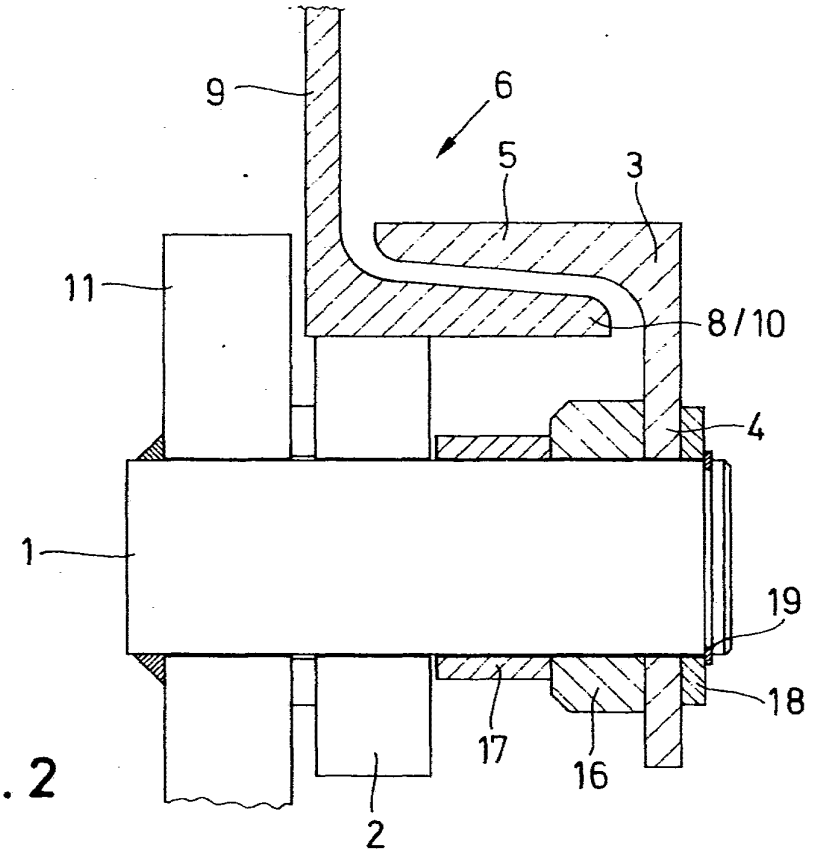


FIG. 2

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Patents

Table whose height can be adjusted equally well by a mechanical system and an electrical system

Abstract

The present invention relates to a table whose height is variable, being adjustable equally well by a mechanical system and an electrical system. If either system fails the failed system can be replaced by the other system and the table can be used at the different heights set by the manufacturer, so maintaining its height adjustability. The table comprises a rack-type mechanical system 9 and a jack-type electrical system 6. Switching from one to the other is by means of a simple action on both systems.

Classifications

A47B9/16 Tables with tops of variable height with means for, or adapted for, inclining the legs of the table for varying the height of the top, e.g. with adjustable cross legs

View 3 more classifications

FR2637165A1

Paris

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Other languages: French

Inventor: José Thoreau

Current Assignee : SAMKO SARL

Worldwide applications

1988 FR

Application FR8812993A events

1988-09-30 Application filed by SAMKO SARL

1988-09-30 Priority to FR8812993A

1990-04-06 Publication of FR2637165A1

Status Withdrawn

Info: Patent citations (7), Cited by (7), Legal events, Similar documents, Priority and Related Applications

External links: Espacenet, Global Dossier, Discuss

Claims (5)

Hide Dependent translated from French

- CLAIMS 1 adjustable height table system characterized by a part mechanical operating with a locking system 20 (fig. to the other system. adjustable character, whatever the incident occurred to one or -th, allows continuity in the use of height at fig. 1,2,3,4) which, during the defection of one or the other sys and an electrical part operating using a jack 6 (12,13) snapping into racks 9 (fig. 9,10,11,12,13). 2 adjustable height table system according to claim 1 comprising a melanic restraint system 9,18,19,20,21,22,23, 24,27,31,32 (fig. 9,18, 11,1Z, 13,1t +, 15) allowing the locking of the mechanical system 20 (fig. 1Z, 13,15) engaging in the creat - mesh 9 (Fig. 9,10,12,13) thereby facilitating the blocking desired height of the top of the support 1 (fi9.1,2,3,4,6,16). common axis 7 (fig. 5). connecting rods 3 and 4 (fio.1,2,3,. 5,5,14,15,17) pivoting around a The top of the support (fig. 1,2,3,4,6,15) is connected by a system behind the guide basset slides 8 (fig. 9,15). 11,15) using the Sas 25 rollers (fig. 14,15), the latter rolling movable relative to the pivoting of the support 2 (fig. 1,2,3,4,9,1U, fig. 1,2,3,4,16), by the alignment axis 28 (fig. 1,2,3,4) and remain The outer connecting rods are secured from above the support 1 ((fig.16,17). these rolling in the high guide rails of the connecting rods 17 of the support 1 (fig1,2,3,4,15) by means of the high rollers 36 (fig.17) -lors 37 (fig. 1,2,3,4,9) and remain movable relative to the top (fig. 1,2,3,4,9,1,11,15) by the alignment axis of the inter connecting rods The internal connecting rods are integral with the base of the support 2 3 table system according to claim 2 characterized in that it includes a tension spring system 27 facilitating the ei- - elevation of the tray 1 and the opening of the lock 20 on the racks 9. 4 table system according to claim 1 characterized by the taking the cylinder out of service when it is offset 10 (fig. 5,6) by means of a handle 11 (fig. 5,6). When the mechanical restraint system is put into service (fig. of the mechanical system (fig. 12,14). - smoothing of electrical continuity by decommissioning of axis 18 (fig. 5,6,7) in the movable axis of the jack and the re- that it involves putting the actuator into service by repositioning - aerated and therefore causes the rupture of the electrical supply 5 Table system according to claim 1 characterized in 13), the safety switch 25 (fig.12,13,14) is free

Description

translated from French

-The present invention consists of a HEIGHT TABLE
ADJUSTABLE AT ONCE AND INDEPENDENTLY BY A SYSTEM
MECHANICAL AND ELECTRICAL SYSTEM.

The adjustable character allows the user to modify the height of the table and to put it at the desired height between the extreme positions given by the manufacturer.

The absence of electrical power either by default of connection, - by power failure, or by defection of the electrical mechanism, is compensated by the starting of the mechanical system. The defection of the mechanical system can likewise be remedied by the start-up of the electric height adjustment system.

The technical field of the invention relates to the paramedical, aesthetic, veterinary, fitness, bodybuilding.

Until then there were tables having a mechanical height adjustment system, or an electrical system, or a pneumatic system, or a hydraulic system, but the defection of the adjustment system used did not allow continuity in the modification of this height.

The proposed invention makes it possible to use, to modify the height of this table, either the electrical system or the mechanical system, allowing at all times to substitute one system for the other to vary the height of the table.

The table consists of a top Dartie TOP
SUPPORT 1 (fig 1,2,3,4,16) movable from bottom to top (fig 1,2,3,4), from a lower part BASE
SUPPORT 2 (fig 1,2,3,4,9,10,11,15) fixed resting on the ground, of an -intermediate part allowing the approach or the distance of (1) compared to (2) .

This intermediate part consists of four connecting rods 3,4 (fig 1,2,3,4,5,6,14,15,16,17) integral two by two. The outer connecting rods 3 (fig 1,2 3,4,14,15,16) have a horizontal sliding movement on the part -2 (fig 1,2,3,4,9 <10,11,15) and a axial rotational movement -on part 1 (fig 1,2,3,4,16,17). The internal connecting rods 4 (fig 1,2,3,4,5,6,16,17) have a horizontal sliding movement on the part 1 (fig 1,2,3,4,16,17) and a movement of axial rotation on part 2 (fig 1,2,3,4,9,10,11,15). The connecting rods connected by a common axis 7 (fig 1,2,3,4,5) have a rotational movement on this axis.

The movement of raising and lowering from 1 to 2 can be done in two ways:
* By an electrical mechanism (fig 1,2) comprising a jack 6 (fig 1,2,3,4). The 6 operated by a. bipolar switch is anchored by its fixed base 16 (fig 9,10). In the operating position the 6 is also attached by its movable part on 10 (fig 5,6,7) and exerts a push or a pull on 4. The push of 6 on 10 (therefore on 4 secured to 10) causes the sliding from 36 to 17 (fig 17). The pivoting of 4 with respect to 2 on axis 37 (fig 1,2,3,4,9) causes a push of 4 on 1 (fig 2) or a pull of 4 on 1 (fig 1). The thrust of 6 out of 10, therefore out of 4 in solidarity with 10, causes a displacement of 7.The 3 undergo a thrust causing a sliding of 25 into 8 (fig 15). The pivoting of 3 relative to 1 on the axis 28 (fig 1,2,3,4,16) causes a push of 3 on 1 (fig 2) or a pull of 3 on 1 (fig 1). The thrust of the axis of 6 out of 10 causes a circumferential displacement of 10 compared to 7, the result being a sliding from 36 to 28 and a sliding from 25 to 37. The traction of 6 added to the weight of the whole part outside base of the table causes a circumferential displacement of 10 with respect to 7. the resultant being a spacing both between 25 and 37 and between 36 and 28.

* By a mechanical mechanism (fig 3,4,9,10,11, 12,13,14,16) comprising two racks 9 and a locking system 20 (fig 9,10,11,12,13,14).

The 9 are fixed on 18 (fig 9,10,11) by 19 (fig 11). The 20 centered between the 24 (fig 14,15) is included in the holes of 9 (fig 13), pushed into these holes by the sliding of 25 into 8. The weight of the table causes a distance of 37 from to 25 and 28 compared to 36. Raising 1 is facilitated by pulling 27 which brings 35 closer to 33, which is itself integral with 1. A small additional manual pull up will suffice to open up 20 of 9 and do sliding 20 out of 9 thus changing the distance between 1 and 2. The relaxation of this traction causes the intromission of 20 into 9, and the stability of 1 compared to 2 in an additional push of 1 out of 2.

The approximation of 1 compared to 2 requires opening up 20 out of 9 first requiring a small rise of 1 and then maintaining 20 in the position fig (12). This support can be performed by pressing with the foot on 31.

The transition from one to the other of these two systems (electrical and mechanical) involves a certain number of operations:
* Switching from the electrical system to the mechanical system:
In the electrical operating position the 20 is held in the position fig (12) by 21 (fig 12,14). The push of 21 following the arrow fig (14) causes the release of 20 fig (13,14) and actuates the 26 fig (12,13,14). The 20 can then be locked in 9.

The transition from the electrical system to the mechanical system requires secondarily the release of 6 by pulling on 11 (fig 5,6). This traction causes the displacement of 10 (arrow fig 6) which comes entirely out of 15 (fig 5,6,8) and fully enters 14 (fig 5,6,7) then compressing the 13 (fig 6). This maneuver takes 10 out of 6 which can then be placed on the ground keeping its fixed point relative to the table at 16. The table can then be cut using the mechanical mechanism described above.

* Switching from the mechanical system to the electrical system: 1 being returned to its starting position, pull 11 which forces 10 to enter 14, present the movable end of 6 between 14 and 15 along the axis 10 and release 11 which leads to the intromission of 10 in 6 then in 15 by the push of 13.

The transition from the mechanical system to the electrical system requires, secondarily, the opening up of 20 with respect to 9 and the maintenance of 20 in position fig (12) by an operation on 21 opposite to the arrow fig (14). This maneuver causes the electrical tensioning of 6 using 26. The table can then be used according to the electrical mechanism.

PI? 1E: SNTATION DES DESS I NS =
PAGE N01
Fig 1
Side view of table in position
high, cylinder in operating position.

Fig 2
Side view of table in position
low, cylinder in operating position.

PAGE N02
Fig 3 Side view of the table, in position
high, cylinder in no position
operation.

Fig 4
Side view of table in position
low, cylinder in no position
operation.

PAGE N "3
Fig 5
Internal lifting rods of
Table.

Fig 6
Axial section (AA) of the chappe
high cylinder linking.

PAGE N04
Fig 7
Section (B8) of the axis guide barrel
cylinder top anchor.

Fig 8
Section of the introductory barrel of
the upper cylinder anchoring axis.

Fig 9
Support leg viewing
the racks and their fixings
on the base.

PAGE N °5
Fig 10
Axial section (DD) of the chappe
cylinder fixing base.

Fig 11
Axial bend (EE) of the rack.

Fig 12
Axial cross-section (FF) of the lock
in the non-operating position.

Fig 13
Axial section (FF) of the lock
in operating position.

PAGE N °6
Fig 14
3/4 view of the mechanical system
in the non-operating position.

Fig 15
Axial section (II) of the alignment ring
lock and roller.

PAGE N07
Fig 16
Top view of the top of the support.

Fig 17
Axial section (GG) of the alignment axis
interior connecting rods.

LEGENDS =
1 TOP OF THE SUPPORT
2 SUPPORT BASE
3 EXTERNAL CONNECTING ROD
4 INTERIOR CONNECTING ROD
5 HIGH INKING CAP OF THE JACK
6 CYLINDER
7 ROTATION AXIS OF CONNECTING RODS
8 LOWER GUIDE GUIDE FOR CONNECTING RODS
9 RACK RACK 10 TOP RACK INKING AXIS 11 RACK ESCAMOTTING HANDLE 12 TOP ROTOR AXIS GUIDE SCREW 13 PUSHING SPEED OF THE RACK INK AXIS 14 14 CANON TOP GUIDE OF THE JACK 15 INTRODUCTION CANON OF THE TOP OF THE JACK AXIS 16 LOCK-INK CAP OF THE JACK 17 HIGH ROD GUIDE SLIDE 18 RACK FIXING PLATES 19 RACK INK RACKS 20 MECHANICAL SYSTEM LOCKING 21 LOCK RETAINING AXIS 22 LOCK RETAINING AXIS GUIDE RING 23 LOCK GUIDING RING 23 ex LOCK AND ROLLER ALIGNMENT RING 25 LOWER ROLLER 26 SECURITY SWITCH 27 TRACTION SPRINGS 28 AXIS ALIGNMENT OF EXTERIOR CONNECTING RODS 29 SECURITY STOP 30 LOCKING LOCK RETAINING STOP 31 LOCKING CONTROL BALL 32 LOCKING RETAINING AXLE CONTROL BALL 33 INK FLAT OF TRACTION SPRINGS 34 it SPACES EXTERNAL CONNECTING RODS 35 ALIGNMENT AXIS E T OF BRACKET SUPPORT 36 HIGH ROLLERS 37 ALIGNMENT AXIS OF INTERIOR CONNECTING RODS

Patent Citations (7)

Publication number	Priority date	Publication date	Assignee	Title
CH389198A *	1960-09-15	1965-03-15	Egger Fridolin	Table with a height-adjustable table top supported by a frame that can be folded up like scissors and can be locked in various positions
FR1447701A *	1964-09-14	1966-07-29	Luedin & Cie Ag	Improvements to hospital beds and the like
FR1530387A *	1966-07-09	1968-06-21	Bremshey & Co	Motor-driven patient bed with tilt adjustment
DE3104182A1 *	1980-02-12	1981-12-24	Augusto Caravaggio Bergamo Capelli	Lifting device, in particular for moving top surfaces of furniture and the like
FR2513512A1 *	1981-09-25	1983-04-01	Peyrard Rene	Multi-position bed for handicapped patient - has fixed lower frame connected to movable upper frame via scissor linkage
GB2146240A *	1983-09-12	1985-04-17	Doherty & Sons Limited Edward	Hospital bed

EP0269540A1 *	1986-11-18	1988-06-01	Ronflet, René	Medical bed or table
Family To Family Citations				

* Cited by examiner, † Cited by third party

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Publication number	Priority date	Publication date	Assignee	Title
WO1998047407A1 *	1997-04-10	1998-10-29	Inergo Produktion Ab	Apparatus at a vertically adjustable work bench for giving a linear vertical movement to the work plate
EP2638830A1 *	2012-03-14	2013-09-18	Somilar Sistemas de Descanso, S.L.	Mattress display rack with lift table
CN103462767A *	2013-09-28	2013-12-25	河南博爱科技有限公司	Anatomy bed for forensic mobile work handcart
EP2829196A1 *	2013-07-25	2015-01-28	Metacom S.A.S. Di Mucelli Angelo & C.	Device for supporting a height-adjustable surface, particularly for tables and other surfaces to be supported and tables or surfaces thus equipped
CN105686403A *	2016-02-05	2016-06-22	苏州圣艺文体用品有限公司	Bookshelf on desk top
WO2017184206A1 *	2016-04-20	2017-10-26	Henry Streicher	Height adjustable desktop assembly
US11113477481	2015-01-24	2021-10-05	Office Kick, Inc.	Desktop workspace that adjusts vertically
Family To Family Citations				

* Cited by examiner, † Cited by third party, ‡ Family to family citation

Similar Documents

Publication	Publication Date	Title
DE602220567T2	2008-05-21	elevation chair
FR2637165A1	1990-04-06	Table whose height can be adjusted equally well by a mechanical system and an electrical system
US5372560A	1994-12-13	Multi-functional sporting equipment
WO2004094216A3	2005-03-31	Adjustable bicycle seat post assembly
KR910000069A	1991-01-29	Chair back and seat connection suspension to pedestal
CA1081155A	1980-07-08	Apparatus for lifting disabled persons
MXPA04012124A	2005-04-28	Quick crank adjustable height table.
WO2009024972A2	2009-02-26	A continuously height adjustable baby mattress support and apparatus therefor
US5708992A	1998-01-20	Device for placement in a bathtub or similar structure as an entering and exiting aid
EP0006076B1	1984-04-04	Lifting device with independently moving cage for climbing a mast
US4660234A	1987-04-28	Bathtub insert for handicapped persons
US3982293A	1976-09-28	Foot rests for kayaks
FR2368892A1	1978-05-19	PERFECTED DEVICE FOR OPENING A LOCK AND MEANS FOR ACTING ON THIS DEVICE
CN212050525U	2020-02-11	Tripod for servo revolving stage
EP1386031A1	2004-02-04	Ironing board adjustable in height
DE2905924A1	1980-08-21	Transporter frame for glass panes - has automatic locking device between arm and upright supports joined to form frame
FR2667582A1	1992-04-10	Device for lifting and installing equipment at the top of a very tall construction
CN216281030U	2022-04-12	Lighting equipment for hydraulic engineering construction
US2651351A	1953-09-08	Control mechanism for motor operated chairs and the like
EP0269528A2	1988-06-01	Device for automatically lifting and lowering the movable parts of chairs and beds
KR0138502Y1	1999-04-01	Cradle Bed Variable Device

JPH04321445A	1992-11-11	Elevating/sinking device
FR2761969A1	1998-10-16	DEVICE FOR TELESCOPIC LADDERS AND MOBILE ELEMENT GUIDED ON THESE LADDERS, FOR A TOWER CRANE
CN212113196U	2020-12-08	Ready-package guide rail adjusting block
CN210148885U	2020-03-17	Limiting device and laminating machine

Priority And Related Applications

Priority Applications (1)

Application	Priority date	Filing date	Title
FR8812993A	1988-09-30	1988-09-30	Table whose height can be adjusted equally well by a mechanical system and an electrical system

Applications Claiming Priority (1)

Application	Filing date	Title
FR8812993A	1988-09-30	Table whose height can be adjusted equally well by a mechanical system and an electrical system

Legal Events

Date	Code	Title	Description
1991-07-26	ST	Notification of lapse	

Concepts

machine-extracted

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Name	Image	Sections	Count	Query match
rolling process		claims	2	0.000
Andrographis paniculata		claims	1	0.000
blocking		claims	1	0.000
grossing		claims	1	0.000

Show all concepts from the description section

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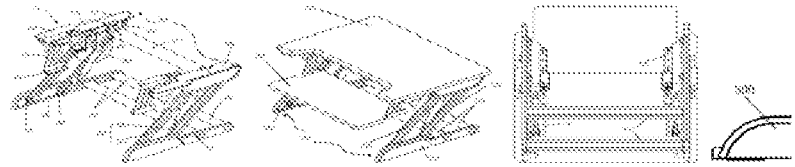
Patents

Lifting table and support structure thereof

Abstract

Provided in the present invention are a support structure and a lifting table, the support structure comprising support assemblies which are oppositely arranged on left and right sides, a top beam assembly, a bottom beam assembly and an auxiliary power component; the top beam assembly comprises a top beam, as well as a first upper connecting portion and a second upper connecting portion which are disposed on a top beam; the bottom beam assembly comprises a bottom beam, as well as a first lower connecting portion and a second lower connecting portion which are disposed on the bottom beam; an upper end of a front beam of the support assembly is hinged to the first upper connecting portion, and a lower end is hinged to the first lower connecting portion, while an upper end of a rear beam of the support assembly is hinged to the second upper connecting portion, and a lower end is hinged to the second lower connecting portion, the front beam, the bottom beam, the rear beam and the top beam forming a parallelogram; a fixed end of the auxiliary power component is hinged to the rear beam and is close to the second lower connecting portion, while a telescopic end of the auxiliary power component is connected to the top beam assembly, the telescopic end being connected to the top beam assembly between the first upper connecting portion and the second upper connecting portion. After a lifting table employs the support structure provided by the present invention, the lifting table may be extended and retracted more freely, having a small floor area, and saving materials.

Images (6)



WO2019001506A1
WIPO (PCT)

Download PDF Find Prior Art Similar

Other languages: French, Chinese

Inventor: [redacted]

Worldwide applications

2018 WO

Application PCT/CN2018/093293 events

2017-06-28 Priority to CN201720764515.8U
2017-06-28 Priority to CN201710509508.8A
2017-06-28 Priority to CN201710509508.8
2017-06-28 Priority to CN201720764515.8
2018-06-28 Application filed by [redacted]
2019-01-03 Publication of WO2019001506A1

Info: Patent citations (5), Cited by (1), Legal events, Similar documents, Priority and Related Applications

External links: Espacenet, Global Dossier, PatentScope, Discuss

Classifications

- A47B13/02 Underframes

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Claims (20)

Hide Dependent

1. A support structure for a lifting table, comprising: a support assembly disposed opposite to the left and right, a top beam assembly disposed opposite to the left and right, a bottom beam assembly disposed opposite to the left and right, and an auxiliary power member disposed opposite to the left and right;

   Each of the top beam assemblies includes a top beam and a first upper connecting portion and a second upper connecting portion disposed on the top beam;

   Each of the bottom beam assemblies includes a bottom beam and a first lower connecting portion and a second lower connecting portion disposed on the bottom beam;

   Each of the support assemblies includes a front beam and a back beam;

   Each of the auxiliary power members has a fixed end and a telescopic end;

   The upper end of the front beam is hinged to the first upper connecting portion, and the lower end is hinged to the first lower connecting portion, and the upper end of the rear beam is hinged to the second upper connecting portion, and the lower end is hinged to the first a second connecting portion, the front beam, the bottom beam, the back beam and the top beam form a parallelogram; a fixed end of the auxiliary power member is hinged on the back beam and adjacent to the second lower connecting portion The telescopic end of the auxiliary power member is coupled to the top beam assembly, and the telescopic end is connected between the first upper connecting portion and the second upper connecting portion as viewed from a side of the lifting table The top beam assembly.

   2. The support structure according to claim 1, further comprising an upper beam, the two ends of the upper beam being coupled to the top beam between the first upper connecting portion and the second upper connecting portion.

   3. The support structure of claim 1 further comprising a lower beam, each of said bottom beam assemblies further comprising a bottom beam extension, said bottom beam extension being coupled to a rear end of said bottom beam, both ends of the lower beam are connected to the bottom beam extension.

   4. A support structure according to any one of claims 1 to 3, wherein each of the top beam assemblies further comprises a fixing member and a top beam protection panel,

      The fixing member is disposed at a top of the top beam for fixing the first table of the lifting table;

      The top beam protection plate is disposed on an outer side of the top beam to cover the first upper connecting portion and the second upper connecting portion.

5. The support structure according to claim 4, wherein said fixing member comprises a horizontal fixing plate and a vertical fixing plate, said vertical fixing plate being connected below to an inner side of said horizontal fixing plate, said auxiliary power The telescoping end of the piece is coupled to the vertical fixed plate for securing the first table top.

6. The support structure of claim 4 wherein each of said top beam assemblies further comprises a suspension.

The suspension is disposed at a front end of the fixing member, the suspension is for fixing a second table of the lifting table, wherein the second table is lower than the first table, and The front end of the second table protrudes from the first table.

7. The support structure according to claim 4, wherein said first table top has a "concave" shape, and a notch-shaped recess of the first table is placed forward, said fixing member extending in the front-rear direction to the front A protruding portion of the first table "concave" shape is described.

8. The support structure according to claim 6, wherein the lower end of the suspension has a hook-like structure, and the hook-shaped structure of the suspension is oppositely disposed for fixing the second table of the lifting table on both sides board.

9. The support structure of claim 3 wherein each of said bottom beam assemblies further comprises a bottom beam shield and a protective sheet.

The bottom beam guard is installed on an outer side of the bottom beam to cover the first lower connecting portion and the second lower connecting portion.

The protective sheet is located outside the bottom beam extension to cover the end surface of the lower beam.

10. A support structure according to claim 3, wherein each of said top beam assemblies further includes a top beam extension connected to the front end of said top beam such that viewed from the side of the lift table The support structure has a "Z" shape.

11. The support structure according to claim 1, wherein a connection point of said telescopic end of said auxiliary power member to said top beam assembly is at a midpoint of an upper side of said parallelogram.

12. The support structure according to claim 1, further comprising a lock switch, the lock switch comprising a wrench, a transmission rod, a paddle, a fixing member and a transmission cable;

The wrench has a fixed end and a movable end;

Wherein the transmission rod is disposed on the top beam assembly and extends in a left-right direction, the fixed end of the wrench is connected to one end of the transmission rod, and the other end of the transmission rod is connected to the pick-up piece Upper end,

Wherein the transmission cable is placed in the front-rear direction, the lower end of the pick-up piece is connected to the front end of the transmission cable, and the rear end of the transmission cable is connected to the telescopic end of the auxiliary power component, the transmission The cable is fixed by the fixing member.

13. The support structure according to claim 12, wherein the cross section at both ends of the transmission rod has a polygonal structure.

14. The support structure according to claim 13, wherein the upper end of the paddle is provided with a through hole, the through hole is a polygonal through hole, and a polygonal structure at both ends of the transmission rod is matched with the polygonal through hole. A lower end of the pick-up piece defines a first keyway, and a front end of the transmission cable is connected to the first keyway.

15. The support structure according to any one of claims 12 to 14, wherein the lock switch further comprises a resilient member;

The resilient member includes a first resilient member and a second resilient member;

The first resilient member is disposed at a front end of the transmission cable and is located between the paddle and the fixing member, and the second resilient member is disposed at a rear end of the transmission cable and Between the telescopic ends of the auxiliary power components.

16. The support structure according to claim 15, wherein said fixing member has a "[]"-shaped structure as viewed from a side of said lifting table, and said top portion of said "[]"-shaped structure is fixed to a lifting table On the first table, the front portion of the "[]"-shaped structure is provided with a second keyway, and the transmission cable is placed in the second keyway.

17. The support structure according to claim 16, wherein the rear portion of the "[]"-shaped structure is provided with an inverted "L"-shaped positioning groove, and the positioning groove has an edge at the edge of the "[]"-shaped structure. An opening is provided to enable the transmission cable to enter and remain in the positioning slot through the opening.

18. The support structure according to claim 17, wherein a rubber protective cover is disposed on an outer circumferential surface of the transmission cable.

19. The support structure according to claim 18, wherein the telescopic end of the auxiliary power member is provided with a cable connecting portion, the cable connecting portion is connected to a rear end of the transmission cable, and the second A resilient member is disposed between the cable connection and the rear end of the drive cable.

20. A lifting table characterized by comprising the support structure according to any one of claims 1-19.

Description

Lifting table and support structure thereof
Technical field

The present invention relates to the field of lift table equipment, and in particular to a support structure for a lift table, and a lift table having the support structure.

Background technique

Due to the needs of modern life and work, many people must maintain a long-term sitting position for focused labor; according to medical research, long-term sitting posture will increase cardiovascular disease, diabetes and obesity; for those who maintain a long sitting position for a single day Will increase its chance of dying from

cardiovascular disease by 50%; maintaining the sitting posture will slow down the circulation of lipase in the human body and reduce the absorption of fat by the human body. When standing, the muscle will promote the action of lipase and promote the treatment of the human body. Fat and cholesterol, which came into being a relatively high workbench used when standing, but the use of high workbench also has the disadvantage of taking up space and increasing costs, which is not necessary for both sitting and using. The standing table is used to solve the corresponding technical problems.

Utility model content

In order to at least partially solve the problem of increasing the cost of the existing work table or the existing space in the workbench, the present invention provides a support structure for a lift table, comprising a support assembly disposed opposite to the left and right, and a top beam assembly disposed opposite to the left and right. a bottom beam assembly disposed oppositely to the left and right and an auxiliary power member disposed opposite each other; each of the top beam assemblies includes a top beam and a first upper connecting portion and a second upper connecting portion disposed on the top beam; each The bottom beam assembly includes a bottom beam and a first lower connecting portion and a second lower connecting portion disposed on the bottom beam; each of the support assemblies includes a front beam and a back beam; each of the auxiliary power members has a fixed An end portion and a telescopic end; wherein an upper end of the front beam is hinged to the first upper connecting portion, a lower end is hinged to the first lower connecting portion, and an upper end of the rear beam is hinged to the second upper connecting portion and a lower end Hinged to the second lower connecting portion, the front beam, the bottom beam, the back beam and the top beam form a parallelogram; the fixed end of the auxiliary power member is hinged on the back beam and adjacent to the a second connecting portion, the telescopic end of the auxiliary power member is coupled to the top beam assembly, and the telescopic end is at the first upper connecting portion and the second upper connecting portion as viewed from a side of the lifting table Connected to the top beam assembly.

Preferably, the support structure further includes an upper beam, and both ends of the upper beam are connected to the top beam between the first upper connecting portion and the second upper connecting portion.

Preferably, the support structure further comprises a lower beam, each of the bottom beam assemblies further comprising a bottom beam extension, the bottom beam extension being connected to a rear end of the bottom beam, both ends of the lower beam Connected to the bottom beam extension.

Preferably, each of the top beam assemblies further includes a fixing member and a top beam protection plate, the fixing member being disposed at a top of the top beam for fixing a first table of the lifting table; the top beam protection plate And disposed on an outer side of the top beam to cover the first upper connecting portion and the second upper connecting portion.

Preferably, the fixing member includes a horizontal fixing plate and a vertical fixing plate connected to an inner side of the horizontal fixing plate at a lower side, and a telescopic end of the auxiliary power member is connected to the vertical fixing a plate for fixing the first table.

Preferably, each of the top beam assemblies further includes a suspension, the suspension is disposed at a front end of the fixing member, and the suspension is configured to fix a second table of the lifting table, wherein the The second table is lower than the first table, and the front end of the second table protrudes from the first table.

Preferably, the first table top is in a "concave" shape, the first table "concave" shaped notch is placed forward, and the fixing member extends in the front-rear direction to the "concave" shape of the first table Part.

Preferably, the lower end of the suspension has a hook-like structure, and the hook-shaped structures of the suspension are oppositely disposed for fixing the second table of the lifting table on both sides.

Preferably, each of the bottom beam assemblies further includes a bottom beam shield and a protective sheet, the bottom beam shield being mounted on an outer side of the bottom beam to cover the first lower connecting portion and the first a lower connecting portion, the protective sheet is located outside the bottom beam extension to cover an end surface of the lower beam.

Preferably, each of the top beam assemblies further includes a top beam extension connected to the front end of the top beam such that the support structure has a "Z" shape when viewed from a side of the lift table.

Preferably, a connection point of the telescopic end of the auxiliary power member and the top beam assembly is at a midpoint of an upper side of the parallelogram.

Preferably, the support structure further includes a lock switch, the lock switch includes a wrench, a transmission rod, a paddle, a fixing member and a transmission cable; the wrench has a fixed end and a movable end; wherein the transmission rod Provided on the top beam assembly and extending in the left-right direction, the fixed

end of the wrench is connected to one end of the transmission rod, and the other end of the transmission rod is connected to the upper end of the paddle, wherein The transmission cable is placed in the front-rear direction, the lower end of the pick-up piece is connected to the front end of the transmission cable, the rear end of the transmission cable is connected to the telescopic end of the auxiliary power component, and the transmission cable is provided by the The fixing member is fixed.

Preferably, the cross section at both ends of the transmission rod has a polygonal structure.

Preferably, the upper end of the pick-up piece is provided with a through hole, the through-hole is a polygonal through-hole, a polygonal structure at both ends of the transmission rod is matched with the polygonal through-hole, and a lower end of the pick-up piece defines a first key groove. The front end of the transmission cable is connected to the first keyway.

Preferably, the lock switch further includes a rebounding member; the resilient member includes a first resilient member and a second resilient member; the first resilient member is disposed at a front end of the transmission cable, and Located between the paddle and the fixing member, the second resilient member is disposed between a rear end of the transmission cable and a telescopic end of the auxiliary power member.

Preferably, the fixing member has a "[]"-shaped structure from the side of the lifting table, and the top of the "[]"-shaped structure is fixed to the first table of the lifting table, the "[]" The front portion of the structure is provided with a second keyway, and the transmission cable is inserted into the second keyway.

Preferably, the rear portion of the "[]"-shaped structure is provided with an inverted "L"-shaped positioning groove, and the positioning groove has an opening at an edge of the "[]"-shaped structure to enable the transmission cable to pass The opening enters and remains in the positioning slot.

Preferably, a rubber protective sleeve is disposed on an outer circumferential surface of the transmission cable.

Preferably, the telescopic end of the auxiliary power member is provided with a cable connection portion, the cable connection portion is connected to a rear end of the transmission cable, and the second resilient member is disposed at the cable connection portion. Between the rear end of the transmission cable.

According to another aspect of the present invention, there is also provided a lift table comprising any of the support structures described above.

The support structure provided by the invention has a parallelogram structure as a whole, which not only solves the problem of occupying space existing in the existing

work table or the work table, but also increases the cost; and the auxiliary component forms an auxiliary tension effect by the auxiliary power component, and at the same time, the auxiliary The support point of the power component is located on the upper side of the parallelogram, and the support cushioning effect is excellent, and it can be retracted freely. Since the vertical descending gravity greatly causes the risk of pinching, the lifting table adopts the supporting structure of the invention, not only can prevent the risk of pinching, but also does not generate noise when stowed, which brings convenience to the user; for the user After sitting for a long time, the lifting table is propped up, and working through the standing state can effectively alleviate the discomfort and achieve the technical effect of relaxing the body.

The lock switch structure provided by the utility model can not only solve the problem that the design of the existing work table or the work table is unreasonable, and the take-off and landing state is unstable; and the use of the lock switch structure can maintain the lift table during use. In the fixed state, when the user closes the lifting table, the lifting table is completed by the interlocking action of the locking switch structure, saving labor and trouble, the action is completed in one go, and no noise is generated when stowed; in addition, the lifting table is based on the lock switch structure and the auxiliary power The function of the piece can also be automatically raised without human intervention, which is convenient and quick to deploy, and brings convenience to the user.

A series of simplified forms of concepts are introduced in the context of the present invention, which will be described in further detail in the Detailed Description section. The present invention is not intended to limit the key features and essential technical features of the claimed embodiments, and is not intended to limit the scope of protection of the claimed embodiments.

The advantages and features of the present invention are described in detail below with reference to the accompanying drawings.

DRAWINGS

The following drawings of the present invention are used herein as part of the present invention to understand the present invention. The embodiments of the invention and the description thereof are shown in the drawings in the drawing,

Figure 1 is a perspective view of the lift table (with the table removed) in an unfolded state of the present invention;

Figure 2 is a perspective view of the lift table of the present invention in an unfolded state;

Figure 3 is a bottom plan view of the lift table of Figure 2 of the present invention;

Figure 4 is a side view of the lift table of the present invention in a stowed state;

Figure 5 is an exploded view of the upper part of the lifting table of the present invention;

Figure 6 is a bottom exploded view of the lift table of the present invention.

Detailed ways

In the following description, numerous details are provided in order to provide a thorough understanding of the invention. However, those skilled in the art will appreciate that the following description relates only to the preferred embodiments of the present invention, which may be implemented without one or more such details. Moreover, in order to avoid confusion with the present invention, some of the technical features well known in the art are not described.

According to an aspect of the invention, a support structure for a lift table is provided. The support structure of the present invention adopts a parallelogram shape, and the parallelogram support structure has an advantage over the prior art in that when the user feels fatigue after sitting for a long time, the height of the lift table can be raised by the support structure, and the user stands by The state carries out the desk work to relieve the soreness of the waist. The auxiliary power piece can lift the table top at a constant speed, and the support structure is freely retractable, beautiful in appearance, rich in the sense of the times, and occupying a small space.

Figures 1-6 illustrate, from various angles, the entirety of a support structure and various components or portions included in the support structure in accordance with one embodiment of the present invention. In order to understand the position and function of these components or portions in the support structure, the support structure is first described in its entirety to provide a thorough understanding of the present invention.

As shown in FIG. 1-6, the support structure for the lift table 10 provided by the present invention includes a support assembly 200 disposed opposite to the left and right, a top beam assembly 600 disposed opposite to the left and right, a bottom beam assembly 300 disposed opposite to the left and right, and left and right relative settings. Auxiliary power unit 500. A table top is mounted on top of the support structure to form a lift table.

Each top beam assembly 600 includes a top beam 620, and a first upper connection portion 610 and a second upper connection portion 660 disposed on the top beam 620, see FIGS. 1 and 5.

Each of the sill assembly 300 includes a bottom beam 320, and a first lower connection portion 340 and a second lower connection portion 350 disposed on the bottom sill 320, see FIGS. 1 and 6.

Each support assembly 200 includes a front beam 210 and a back beam 220.

Each of the auxiliary power members 500 has a fixed end 520 and a telescopic end 510. The auxiliary power unit 500 can employ a common gas spring.

The upper end of the front beam 210 is hinged to the first upper connecting portion 610, and the lower end of the front beam 210 is hinged to the first lower connecting portion 340. The upper end of the rear beam 220 is hinged to the second upper connecting portion 660, and the lower end of the rear beam 220 is hinged to the second lower portion. The connecting portion 350, the front beam 210, the bottom beam 320, the rear beam 220, and the top beam 620 integrally form a parallelogram. Illustratively, the two ends of the front beam 210 are between the first upper connecting portion 610 and the second upper connecting portion 660, and/or both ends of the back beam 220 and the first lower connecting portion 340 and the second lower connecting portion 350 The connection can be made by pin.

The fixed end 520 of the auxiliary power member 500 is hinged to the rear beam 220 and adjacent to the second lower connecting portion 350. The telescoping end of the auxiliary power unit 500 is coupled to the top beam assembly 600. The telescopic end 510 of the auxiliary power member 500 is coupled to the top beam assembly 200 between the first upper connecting portion 610 and the second upper connecting portion 660 as seen from the side of the lift table. Preferably, the connection point of the telescopic end 510 of the auxiliary power member 500 to the top beam assembly 200 is at the midpoint of the upper side of the parallelogram. When the telescopic end 510 of the auxiliary power component 500 is connected thereto, the force is most uniform, which ensures that the top beam assembly 200 does not shake forward and backward when it is jacked up, so that the articles placed on the first table 700 are not shaken, so that they can be used. The lifting table 10 is safer and more reliable.

Preferably, the support structure further includes an upper cross member 670. The upper beam 670 can be one or more. The two top beam assemblies 600 are connected by an upper cross member 670 to stabilize the overall support structure. Both ends of the upper beam 670 are connected to the top beam 620 between the

first upper connecting portion 610 and the second upper connecting portion 660. Illustratively, the cross section of the upper beam 670 can be oblong. The upper beam 670 and the top beam 620 can be locked by threaded fasteners.

Preferably, the support structure further includes a lower beam 400. The lower beam 400 can be one or more. Each sill assembly 300 also includes a sill extension 360, see FIG. The bottom beam extension 360 is coupled to the rear end of the bottom beam 320. The lower cross member 400 is coupled between the bottom beam extensions 360 to stabilize the overall support structure. Illustratively, the cross section of the lower beam 400 may be oblong. Both ends of the lower beam 400 can be inserted into corresponding grooves in the bottom beam extension 360. Alternatively, the lower cross member 400 can also be coupled to the sill assembly 300 by threaded fasteners or other means. Preferably, the lower beam 400 is plural, and the plurality of lower beams 400 may be arranged in parallel with each other. Alternatively, the plurality of lower beams 400 may also be arranged in a cross, for example, the two lower beams are arranged in an "X" shape.

Preferably, each top beam assembly 600 also includes a top beam extension 690, see also Figures 1 and 5. A top beam extension 690 is coupled to the front end of the top beam 620. Since the rear end of the bottom beam 320 is also connected to the bottom beam extension 360, the support structure has a "Z" shape as seen from the side of the lift table, which is preferably shown in FIG. The Z-shaped support structure has good stability, and the support structure can be made stronger by providing the upper beam and the lower beam.

Preferably, each top beam assembly 600 can include a securing member 680 and a top beam protection panel 630 in addition to the top rail 620, as shown in FIG. A fixing member 680 is provided at the top of the top beam 620 for securing the first table 700 of the lift table. The lift table 700 can include a first table top 700 and a second table top 800. The first tabletop 700 is typically used to place a display of a laptop or desktop computer, and the like. The second table 800 is typically used to place a keyboard or the like. The second table 800 is lower than the first table 700. Illustratively, the fixing members 680 may be symmetrically disposed on the left and right sides. The first table top 700 can be fixed to the top of the fixing member 680. The first table 700 preferably covers the top beam assembly 600 as viewed from above the lift table. The first upper connecting portion 610 and the second upper connecting portion 660 are disposed on the top beam 620, and the top beam protection plate 630 is disposed outside the top beam 620 to cover the first upper connecting portion 610 and the second upper connecting portion 660.

Illustratively, the securing member 680 can include a horizontal securing plate 682 and a vertical securing plate 684, see FIG. The vertical fixing plate 684 is connected to the inner side of the horizontal fixing plate 682 at the lower side. It should be noted that the "inside" and "outside" mentioned herein are relative to the lifting table. For example, the side facing the outside of the lifting table is called the outer side, and the side facing the inside of the lifting table is called the inner side. . The telescopic end of the auxiliary power member 500 is coupled to the vertical fixing plate 684. The horizontal fixing plate 682 is for fixing the first table 700.

Preferably, each top beam assembly 200 can also include a suspension 640 for securing the second table top 800. The suspension 640 may be disposed at a front end of the fixing member 680. The upper end of the suspension 640 may be fixed to the lower surface of the first table 700. The second table 800 can be secured to the lower end of the suspension 640. Optionally, the lower end of the suspension 640 has a hook structure 650, and the hook structures 650 of the two suspensions 640 are oppositely disposed for fixing the second table 800 of the lifting table on both sides.

When two table tops are provided, preferably, the first table top 700 may be "concave" shaped with the "concave" shaped notches of the first table top 700 placed forward. The fixing member 610 extends in the front-rear direction to a "concave"-shaped protruding portion of the first table 700. Preferably, the front end of the second table 800 protrudes from the first table. Illustratively, the second table 800 can be "convex" shaped with the small end of the second table 800 placed rearward. Suspension 640 secures second table 800 on both sides of the small end.

Preferably, each of the bottom beam assemblies 300 may include a bottom beam shield 310 and a protective sheet 330 in addition to the bottom beam 320. The sill guard 310 is mounted on the outside of the bottom beam 320 to cover the first lower connecting portion 340 and the second lower connecting portion 350. The protective sheet 330 is located outside the bottom beam extension 360 to cover the end surface of the lower beam 400. Typically, both ends of the lower beam 400 and the bottom beam extension 360 are locked by threaded fasteners. The protective sheet 330 can cover the end faces of the lower beam 400 and the threaded fasteners to make the appearance flat.

In a preferred embodiment, a cushioning spacer is disposed between the front beam 210 and the rear beam 220. When the supporting structure is stowed, the cushioning gasket can prevent the noise caused by the collision of the front beam 210 and the rear beam 220, and can protect the device from the noise. Damage while avoiding the risk of pinching.

In order to be able to make the operation of the lifting table more secure and reliable, preferably the support structure further comprises a locking switch. In the illustrated embodiment, a lock switch 900 is provided on each side of the top beam assembly 600. However, alternatively, the lock switch 900 can be provided to only one side of the top beam assembly 600. The lock switch 900 will be described in detail below.

The lock switch 900 can include a wrench 910, a drive rod 920, a paddle 930, a fixture 970, and a drive cable 950, see FIG.

The wrench 910 has a fixed end and a movable end. Depending on the external force, the movable end of the wrench 910 can be moved between the locked position and the active position. The transmission rod 920 is disposed on the top beam assembly 600 and extends in the left-right direction. The drive rod 920 can pass through the top beam assembly 600 in the left and right direction to maintain its position by the top beam assembly 600. The fixed end of the wrench 910 is coupled to one end of the transmission rod 920, and the other end of the transmission rod 920 is coupled to the upper end of the paddle 930. The transmission cable 950 is placed in the front-rear direction, the lower end of the paddle 930 is connected to the front end of the transmission cable 950, and the rear end of the transmission cable 950 is connected to the telescopic end 510 of the auxiliary power member. The drive cable 950 is held in its position by the fixture 970.

Preferably, the cross section at both ends of the transmission rod 920 has a polygonal structure. Illustratively, the cross-sectional shape of the two ends of the transmission rod 920 may be a triangle, a diamond shape or a square shape. The shape of the two ends of the transmission rod 920 can better transmit the force between the wrench and the paddle without causing the transmission failure.

Preferably, the upper end of the paddle 930 is provided with a through hole, and the through hole is preferably a polygonal through hole. The polygonal structure at both ends of the transmission rod 920 is matched with the polygonal through hole, and the first key groove is opened at the lower end of the paddle 930 to drive the steel cable 950. The front end is connected to the first keyway.

Preferably, the lock switch 900 further includes a resilient member. The resilient member includes a first resilient member 940 and a second resilient member 960. The first resilient member 940 is disposed at the front end of the transmission cable 950 and is located between the paddle 930 and the fixed member 970. The second resilient member 960 is disposed at the rear end of the transmission cable 950 and the telescopic end of the auxiliary power member 500, between. The first resilient member 940 and the second resilient member 960 can employ a spring or a rebound paddle.

Preferably, the fixing member 970 has a "[]"-shaped structure as seen from the side of the lift table, as shown in FIGS. 1 and 5. The top of the "[]"-shaped structure is fixed to the first table top 700, and the front portion of the "[]"-shaped structure is provided with a second keyway, and the transmission cable 950 is placed in the second key groove. Preferably, the rear portion of the "[]"-shaped structure is provided with an inverted "L"-shaped positioning groove having an opening at the edge of the "[]"-shaped structure. In this way, the drive cable can enter the positioning groove through the opening and remain in the positioning groove.

Preferably, the outer circumferential surface of the transmission cable 950 is provided with a rubber protective cover.

Preferably, the telescopic end 510 of the auxiliary power member is provided with a cable connection portion, the cable connection portion is connected to the rear end of the transmission cable 950, and the second rebound member 960 is disposed behind the cable connection portion and the transmission cable 500 between the ends.

Preferably, the movable end of the wrench 910 is an elliptical polished structure. By polishing the structure, the risk of scratching when used by the user is prevented, and the user experience is improved.

It should be noted that the orientation terms related to the lifting table referred to herein, such as "high", "low", "front", "back", "left", "right", "upper" and "lower", etc. Both are in a state shown in FIG. 2 with respect to the lift table, that is, a state in which the second table 800 faces the user.

Based on the above-described lock switch, when the rotary wrench 910 simultaneously applies a downward force to the first table 700, the angle between the front beam 210 and the rear beam 220 and the bottom beam assembly 300 is reduced, the auxiliary power member 500 is compressed, and the lift table is The overall height is lowered to meet the sitting posture; and when the lifting table is in the stowed state, the transmission cable 950 causes the auxiliary power member 500 to be in a locked state. When the table is to be raised, the wrench 910 can be rotated to drive the transmission cable 950 to release the self-locking function of the auxiliary power member 500. Under the action of the auxiliary power member 500, between the front beam 210 and the rear beam 220 and the bottom beam assembly 300 As the angle increases, the overall height of the lift table rises to meet the standing position.

The locking switch can maintain the fixed state of the lifting table during use. When the user folds up the lifting table, the lifting table is stored by the interlocking action of the locking switch, which saves labor and troubles, and the action is completed in one go, and does not generate when the stowage is completed. Noise; In addition, the lifting table is also able to automatically rise based on the function of the locking switch and the auxiliary power unit, without human intervention, and is convenient and quick to deploy, which brings convenience to the user.

According to another aspect of the present invention, there is also provided a lift table which may have a first table or a first table and a second table. In addition, the lift table has a support structure as described above.

The present invention has been described by the above embodiments, but it should be understood that the above-described embodiments are only for the purpose of illustration and description. In addition, those skilled in the art can understand that the present invention is not limited to the above embodiments, and various modifications and changes can be made according to the teachings of the present invention. These modifications and modifications fall within the scope of the present invention. Within the scope of the claimed protection. The scope of protection of the present invention is defined by the appended claims and their equivalents.

Patent Citations (5)

Publication number	Priority date	Publication date	Assignee	Title
CN205493003U *	2016-03-06	2016-08-24	申为逵	Can sit upright alternate use's computer desk
CN205986096U *	2016-06-14	2017-03-01	陈亚迪	A kind of desktop lifting type computer desk
CN206006417U *	2016-07-05	2017-03-15	昆山奇器数码科技有限公司	Gas spring lifting mechanism
CN206166181U *	2016-08-16	2017-05-17	常州变形元素升降桌制造有限公司	Manual lift table
CN107307587A *	2017-06-28	2017-11-03	陈工	Same table and its supporting construction
Family To Family Citations				

* Cited by examiner, † Cited by third party

Cited By (1)

Publication number	Priority date	Publication date	Assignee	Title
US11134773B1 *	2015-01-24	2021-10-05	Office Kick, Inc.	Desktop workspace that adjusts vertically
Family To Family Citations				

* Cited by examiner, † Cited by third party, ‡ Family to family citation

Similar Documents

Publication	Publication Date	Title
WO2017045506A1	2017-03-23	Elevation working platform
US20180055214A1	2018-03-01	Height-adjustable desk
US6298794B1	2001-10-09	Ergonomic computer workstation
US20150289641A1	2015-10-15	Height adjustable desktop work surface
US10842257B2	2020-11-24	Height adjustable desk for placing on an existing desktop
US8276525B2	2012-10-02	Height-adjustable equipment stand
WO2019001506A1	2019-01-03	Lifting table and support structure thereof

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CN107951174B	2020-12-18	Multifunctional lifting table
CN109043813A	2018-12-21	Height-adjustable computer desk
WO2019001507A1	2019-01-03	Lifting table and support structure thereof
CN107307587A	2017-11-03	Same table and its supporting construction
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DE202008016812U1	2009-03-26	Seating furniture with extendable footrest
CN111887655A	2020-11-06	Electric bed
CN207912359U	2018-09-28	Same table and its locking mechanism
WO2020082697A1	2020-04-30	180 degree flipping hidden sofa bunk bed
CN109363355A	2019-02-22	A kind of workbench with computer bracket
US9867468B2	2018-01-16	Adjustable chair
CN210617941U	2020-05-26	Bus seat with height-adjustable table plate
CN103494442A	2014-01-08	Multifunctional bed desk
CN204210344U	2015-03-18	A kind of automobile and front-row seats thereof
CN210248957U	2020-04-07	Combined office table for computer
CN209628967U	2019-11-15	A kind of height-adjustable computer desk

Priority And Related Applications

Priority Applications (4)

Application	Priority date	Filing date	Title
CN201720764515.8U	2017-06-28	2017-06-28	Same table and its locking switch structure
CN201710509508.8A	2017-06-28	2017-06-28	Same table and its supporting construction
CN201710509508.8		2017-06-28	
CN201720764515.8		2017-06-28	

Legal Events

Date	Code	Title	Description
2019-02-13	121	Ep: the epo has been informed by wipo that ep was designated in this application	**Ref document number:** 18823605 **Country of ref document:** EP **Kind code of ref document:** A1
2019-12-31	NENP	Non-entry into the national phase	**Ref country code:** DE
2020-08-12	122	Ep: pct application non-entry in european phase	**Ref document number:** 18823605 **Country of ref document:** EP **Kind code of ref document:** A1

Concepts

machine-extracted

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Name	Image	Sections	Count	Query match
assembly		claims,abstract,description	18	0.000

≈ biological transmission	claims,description	56	0.000
≈ suspension	claims,description	17	0.000
≈ protective	claims,description	10	0.000

Show all concepts from the description section

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Patents

A kind of Adjustable computer table

Abstract

The invention discloses a kind of Adjustable computer table, plate, keyboard, which are placed, including computer places plate, connecting seat and connection sheet, and base, first, second fork-shaped rotating turret, two fork-shaped rotating turrets are slidably connected by first, second sliding groove and connecting seat positioned at connecting seat and chassis side, base formation respectively, first, second hydraulic stem is connected between chassis left side and the first fork-shaped rotating turret and between base and the second fork-shaped rotating turret, a latch fixing device is provided between first, second fork-shaped rotating turret and connecting seat; The present invention introduces hand latch position fixed structure on the basis of the computer desk that fork-shaped lifting structure, hydraulic system are constituted, the mode of operation that can be pressed by simple both sides hand, the fixation of computer desk optional position in certain stroke range can be achieved, and fixation, it is difficult to loosen, while cost is relatively low.

Classifications

- A47B21/02 Tables or desks for office equipment, e.g. typewriters, keyboards with vertical adjustable parts

View 5 more classifications

CN107212587A

China

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Other languages: Chinese

Inventor: 王[illegible]华

Worldwide applications

2017 CN

Application CN201710432670.4A events

2017-06-09 Application filed by 王[illegible]华

2017-06-09 Priority to CN201710432670.4A

2017-09-29 Publication of CN107212587A

Status Pending

Info: Patent citations (4), Cited by (1), Legal events, Similar documents, Priority and Related Applications

External links: Espacenet, Global Dossier, Discuss

Claims (3)

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1. a kind of Adjustable computer table, including computer place plate, keyboard place plate, placed for fixing computer plate connecting seat, The connection sheet of plate, and a base, the first fork-shaped rotating turret and the second fork-shaped rotating turret, described first are placed to connect keyboard Fork-shaped rotating turret and the second fork-shaped rotating turret pass through the first sliding groove positioned at connecting seat and chassis side, the second sliding groove respectively it is slidably connected with the connecting seat, base formation, between the chassis left side and the first fork-shaped rotating turret and base and second The first hydraulic stem and the second hydraulic stem are connected between fork-shaped rotating turret, it is characterised in that the first fork-shaped rotating turret, Between second fork-shaped rotating turret and connecting seat be provided with a latch fixing device, the latch fixing device by dentation retaining structure, in the way of flexible fastening and disconnecting, to be formed between the first fork-shaped rotating turret, the second fork-shaped rotating turret and connecting seat Position fix and high high adjustment.

2. a kind of Adjustable computer table as claimed in claim 1, it is characterised in that the latch fixing device is included by turning Tooth form the first rack directed downwardly of dynamic pin connection, the second rack, one can and rack formation engagement fan-shaped fixture block, described the The bottom that plate is placed in one rack upper end by elastic device and computer, which is formed, to be connected, and second rack is placed by one and computer Plate bottom surface forms affixed the first turning end formation and rotates connection, while being connected with pressing plate on the outside of the second rack right-hand member; Institute State pressing plate and affixed the second turning end formation rotation connection is formed by one and computer placement plate bottom surface; The fan-shaped fixture block is slided It is connected to the outside of the first sliding groove; And the inner side of the fan-shaped fixture block and the outside of the fork-shaped rotating turret form fixed company Connect.

3. a kind of Adjustable computer table as claimed in claim 2, it is characterised in that the elastic device is a spring, or bullet Property piece, the bottom surface that spring or the flexure strip upper end and computer place plate produces and is fixedly connected, the upper end of lower end and the second rack Form a fixed connection.

Description

A kind of Adjustable computer table

Technical field

The present invention relates to a kind of computer desk, more particularly to a kind of Adjustable computer table, belong to computer peripheral product technology neck Domain.

Background technology

The structure of most domestic computer desk is to be transformed conventional desk, that is, transform as and place plate with two pieces Desk (Place plate for one piece and place computer, one block of placement plate that can be twitched is used for holding keyboard), due to being follow-on desk, because This its height is fixed, but everyone height is different, is also not quite similar using the custom of computer, thus from practice I Find, be adjustable it is desirable to the height of computer desk, that is, pass through and simple adjust up and down, you can within the specific limits, root According to the height of the use habit adjustable computer desk of oneself, therefore, someone has invented the small-size computer desk of regulating height, regulation is high Low structure is a lot, and the method such as fastened

using sliding groove and bolt realizes regulation; The side of the electronic slip of more senior use Formula realizes high high adjustment, and the experience of elevation and subsidence mechanical is referred from recent years, and also someone uses fork-shaped lifting structure and hydraulic system phase With reference to mode come realize computer desk lift purpose; Three kinds of structures of summary, the first structure operation is complex, and two Error is larger during the regulation of and, easily causes the inclination of computer; Second of use is more convenient, but cost is higher; The third lifting Be relatively easy to it is smooth, but fixation have any problem.

The content of the invention

The present invention proposes a kind of Adjustable computer table aiming above mentioned problem, and the Adjustable computer table is easy to adjust, position Fixation is put, and it is simple in construction.

To reach above-mentioned purpose, the present invention proposes a kind of Adjustable computer table, including computer is placed plate, keyboard and placed Plate, the connecting seat for fixing computer placement plate, the connection sheet to connect keyboard placement plate, and a base, the first fork-shaped Rotating turret and the second fork-shaped rotating turret, the first fork-shaped rotating turret and the second fork-shaped rotating turret respectively by positioned at connecting seat and The first sliding groove, the second sliding groove and the connecting seat of chassis side, base formation are slidably connected, the chassis left side and the The first hydraulic stem and the second hydraulic stem are connected between one fork-shaped rotating turret and between base and the second fork-shaped rotating turret, A latch fixing device is provided between the first fork-shaped rotating turret, the second fork-shaped rotating turret and connecting seat, the latch fixes dress Put by dentation retaining structure, in the way of flexible fastening and disconnecting, to form the first fork-shaped rotating turret, the second fork-shaped Position between rotating turret and connecting seat is fixed and high high adjustment.

Preferably as the present invention, the latch fixing device is included by rotating the tooth form of pin connection the first tooth directed downwardly Bar, the second rack, one can and the rack formation engagement fan-shaped fixture block, the first rack upper end passes through elastic device and electricity Connection is formed on the bottom that brain places plate, and second rack places plate bottom surface by one and computer and forms the first affixed turning end Formed and rotate connection, while being connected with pressing plate on the outside of the second rack right-hand member; The pressing plate places plate bottom by one and computer Face forms affixed the second turning end formation and rotates connection; The fan-shaped fixture block is slidably connected to the outside of the first sliding groove; And And formed a fixed connection on the outside of the inner side of the fan-shaped fixture block and the fork-shaped rotating turret.

Preferably as the present invention, the elastic device is a spring, or flexure strip, spring or the flexure strip upper end and The bottom surface generation that computer places plate is fixedly connected, and the upper end of lower end and the second rack forms a fixed connection.

The present invention introduces hand latch position on the basis of the computer desk that fork-shaped lifting structure, hydraulic system are constituted and consolidated Determine structure, the mode of operation that can be pressed by simple both sides hand, you can realize that computer desk is any in certain stroke range The fixation of position, and fixation, are difficult to loosen, while cost is relatively low.

Brief description of the drawings

Shown in Fig. 1 is side surface structure schematic diagram of the present invention;

Shown in Fig. 2 is the rear side surface structure schematic diagram of the present invention;

Wherein, 1, computer places plate; 2nd, keyboard places plate; 3rd, connecting seat; 4th, connection sheet; 5th, base; 6th, the first fork-shaped rotating turret; 7th, the second fork-shaped rotating turret; 8th, the first sliding groove; 9th, the second sliding groove; 10th, the first hydraulic stem; 11st, the second hydraulic stem; 12nd, One rack; 13rd, the second rack; 14th, fan-shaped fixture block; 15th, the first turning end; 16th, pressing plate; 17th, the second turning end; 18th, spring.

Embodiment

The present invention is described in more detail with reference to the accompanying drawings and detailed description.

Understood with reference to Fig. 1 and Fig. 2, a kind of Adjustable computer tabie, including computer places plate 1, keyboard and places plate 2, for solid Determine the connection sheet 4 that computer places the connecting seat 3 of plate 1, plate 2 is placed to connect keyboard, and a base 5, the first fork-shaped are rotated The fork-shaped rotating turret 7 of frame 6 and second.

In said structure, the first fork-shaped rotating turret 6 and the second fork-shaped rotating turret 7 are respectively by positioned at connecting seat 3 and base 5 The first sliding groove 8, the second sliding groove 9 and the connecting seat 3 of side, the formation of base 5 are slidably connected, in the left side of base 5 and the first fork Between shape rotating turret 6, and between the fork-shaped rotating turret 7 of base 5 and second, it is connected to the first hydraulic stem 10 and the second hydraulic pressure Bar 11.

In said structure, by the first fork-shaped rotating turret 6, the second fork-shaped rotating turret 7 and the first hydraulic stem 10 and The high high adjustment of two hydraulic stems 11, it is possible to achieve computer places plate 1 and keyboard places the high high adjustment of plate 2.

A latch fixing device, the card are provided between the first fork-shaped rotating turret 6, the second fork-shaped rotating turret 7 and connecting seat 3 Tooth fixing device is by dentation retaining structure, in the way of flexible fastening and disconnecting, to form the first fork-shaped rotating turret 6th, the position between the second fork-shaped rotating turret 7 and connecting seat 3 is fixed and high high adjustment.

In the present invention, it is preferred to latch fixing device include by rotating the tooth form of pin connection the first rack directed downwardly 12nd, the second rack 13, one can and the first rack 12, the second rack 13 formation engagement fan-shaped fixture block 14, the upper end of the first rack 12 Connection is formed on the bottom for placing plate 1 by elastic device and computer, and the second rack 13 is placed the bottom surface of plate 1 by one and computer and formed Affixed the first turning end 15 formation rotates connection, while being connected with pressing plate 16 on the outside of the right-hand member of the second rack 13; The pressing plate 16 place the bottom surface of plate 1 by one and computer forms affixed the second turning end 17 formation rotation connection; Fan-shaped fixture block 14, which is slided, to be connected it is connected to the outside of the first sliding groove 8; And the inner side of the fan-shaped fixture block 14 and the outside of the fork-shaped rotating turret form fixed company Connect.

Said structure is specifically so to use: , can first bimanual thumb button when needing the height of adjustable computer desk Firmly computer places the both sides of plate 1 upper end, and remaining four refers to the bottom surface for pinning pressing plate 16 and pulled upwards, now the first rack 12, the The stress of two rack 13 rises and holddown spring 18, so that rack departs from the engagement with fan-shaped fixture block 14, now passes through the first fork Shape rotating turret 6, the second fork-shaped rotating turret 7 and the first hydraulic stem 10 and the second hydraulic stem 11 high high adjustment, it is possible to achieve Computer places plate 1 and keyboard places high high adjustment of the plate 2 in certain stroke range, and when suitable height is arrived in regulation, four refer to Pressing plate 16 is unclamped, fan-shaped fixture block 14 produces engagement with the first rack 12 or the bottom of the second rack 13 again, so as to securely fix The height of regulation.

In the present invention, it is preferred to elastic device be a spring 18, or flexure strip, spring 18 or flexure strip upper end and computer The bottom surface generation for placing plate 1 is fixedly connected, and the upper end of lower end and the second rack 13 forms a fixed connection.

Generally speaking, the present invention introduces hand on the basis of the computer desk that fork-shaped lifting structure, hydraulic system are constituted Latch position fixed structure, the mode of operation that can be pressed by simple both sides hand, you can realize computer desk in certain stroke In the range of optional position fixation, and fixation is difficult to loosen, while cost is relatively low.

Described above is only the preferred embodiment of the present invention, it is noted that come for those skilled in the art Say, on the premise of the technical principle of the present invention is not departed from, some improvement and modification can also be made, these improvement and modification it should be regarded as protection scope of the present invention.

Patent Citations (4)

Publication number	Priority date	Publication date	Assignee	Title
CN203041164U *	2012-12-31	2013-07-10	温州市标标实业有限公司	Foldable turnover dining table
CN203563866U *	2013-10-25	2014-04-30	郑州利生科教设备有限公司	Adjustable lifting school chair
CN204541230U *	2015-04-01	2015-08-12	宁波市镇海拓迪工业产品设计有限公司	A kind of lifting table
CN206079596U *	2016-07-15	2017-04-12	余亦根	Liftable stand -type desk
Family To Family Citations				

* Cited by examiner, † Cited by third party

Cited By (1)

Publication number	Priority date	Publication date	Assignee	Title
US10575663081 *	2015-01-24	2020-03-03	Nathan Mark Poniatowski	Desktop workspace that adjusts vertically
Family To Family Citations				

* Cited by examiner, † Cited by third party, ‡ Family to family citation

Similar Documents

Publication	Publication Date	Title
CN107212587A	2017-09-29	A kind of Adjustable computer table
CN202457089U	2012-10-03	Novel multifunctional table for laptop
CN103223918	2015-05-13	Tablet personal computer support
CN207693197U	2018-08-07	A kind of standing computer desk
CN211174972U	2020-08-04	Special-shaped hinge
CN207261953U	2018-04-20	Stent
CN206757477U	2017-12-15	A kind of computer lift rack
CN204210234U	2015-03-18	A kind of foldable drawing board for field sketching
CN106641647A	2017-05-10	Angle adjusting equipment used for waveform recorder
CN205410272U	2016-08-03	But computer support that standing position was used
CN205637653U	2016-10-12	Support for building
CN201127409Y	2008-10-08	Multifunction desk
CN203341246U	2013-12-18	Portable folding table
CN207223891U	2018-04-13	A kind of stapler with defencive function
CN202173310U	2012-03-28	Folding chopping board
CN208354953U	2019-01-11	A kind of desk that can quickly adjust height
CN207370327U	2018-05-18	A kind of desk
CN206950002U	2018-02-02	Wind-proof clothes hanger

CN208670540U	2019-03-29	A kind of lazyboot's bracket
CN209733143U	2019-12-06	Control switch for lifting of seat chassis
CN208658171U	2019-03-29	A kind of removable multi-functional desk
CN204635443U	2015-09-16	Sitting computer operation table
CN204986253U	2016-01-20	Display support
CN204444732U	2015-07-08	The multi-functional teacher's lectern of language teaching
CN207535117U	2018-06-26	A kind of fire-fighting refractory material production and processing fixing device

Priority And Related Applications

Priority Applications (1)

Application	Priority date	Filing date	Title
CN201710432670.4A	2017-06-09	2017-06-09	A kind of Adjustable computer table

Applications Claiming Priority (1)

Application	Filing date	Title
CN201710432670.4A	2017-06-09	A kind of Adjustable computer table

Legal Events

Date	Code	Title	Description
2017-09-29	PB01	Publication	
2017-09-29	PB01	Publication	
2017-10-27	SE01	Entry into force of request for substantive examination	
2017-10-27	SE01	Entry into force of request for substantive examination	
2020-02-11	WD01	invention patent application deemed withdrawn after publication	**Application publication date**: 20170929
2020-02-11	WD01	invention patent application deemed withdrawn after publication	

Concepts

machine-extracted

Download Filter table

Name	Image	Sections	Count	Query match
biosynthetic process		claims,abstract,description	12	0.000
formation reaction		claims,abstract,description	12	0.000

Show all concepts from the description section

(19)日本国特許庁(JP)　(12)公開特許公報(A)　(11)特許出願公開番号
特開2012-30022
(P2012-30022A)
(43)公開日　平成24年2月16日(2012.2.16)

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A47B 31/00	(2006.01)	A47B	31/00	E	
B66F 7/08	(2006.01)	B66F	7/08	Z	

審査請求 未請求　請求項の数 3　書面　（全 7 頁）

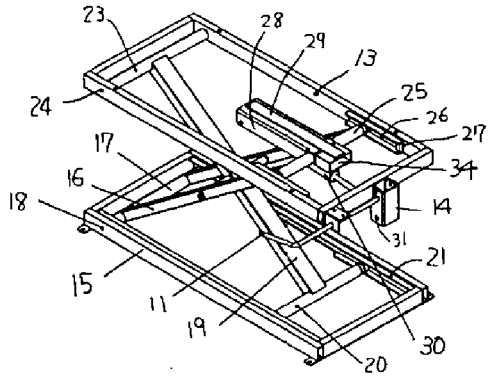
(21)出願番号　特願2010-182616 (P2010-182616)
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大阪市生野区巽東２丁目１番２号エフィービル

Fターム(参考)　3B053 NH03

(54)【発明の名称】昇降テーブル

(57)

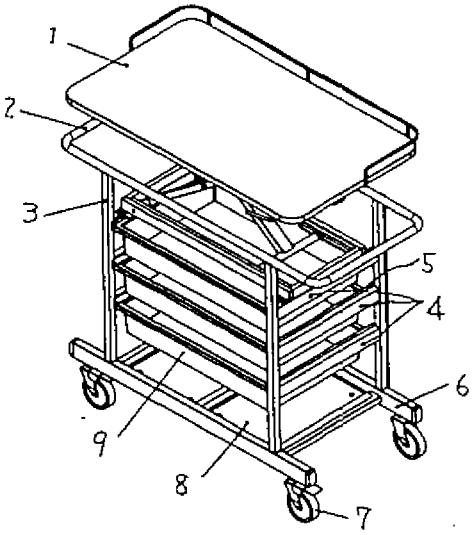


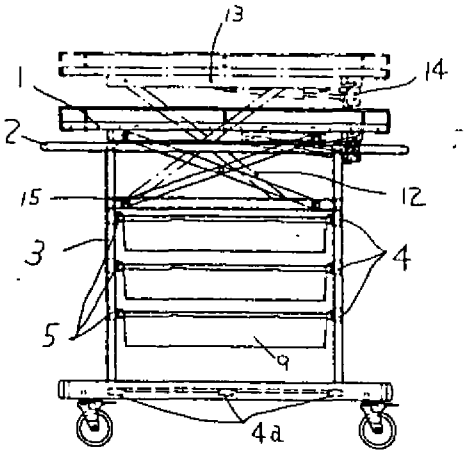
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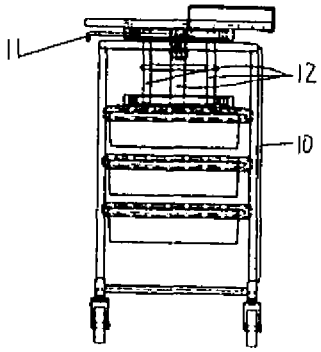
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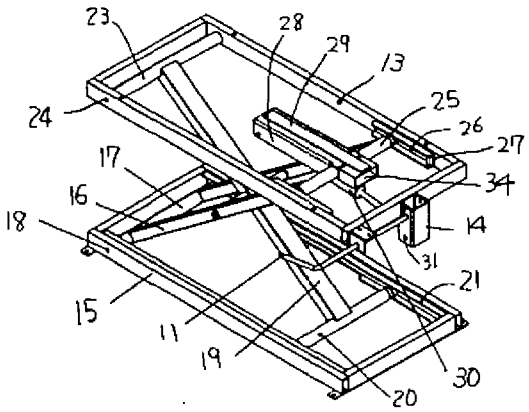
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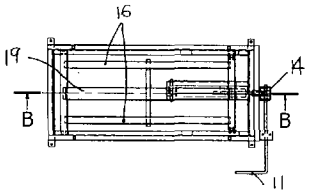
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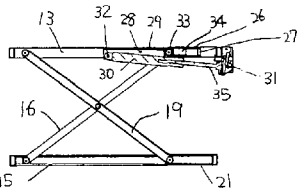

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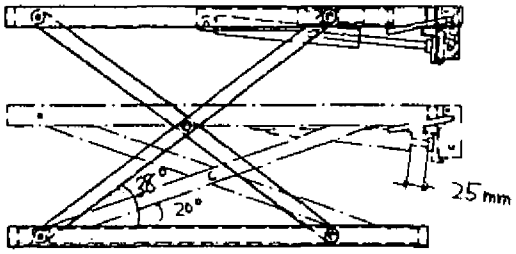

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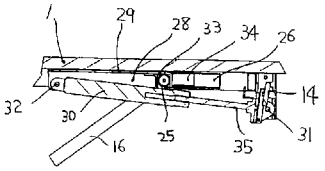

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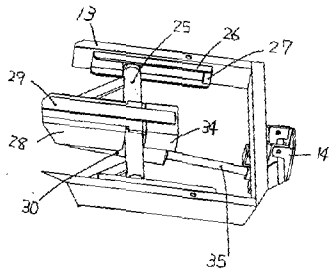

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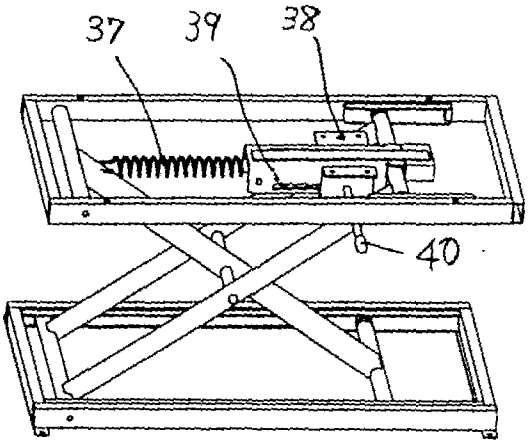

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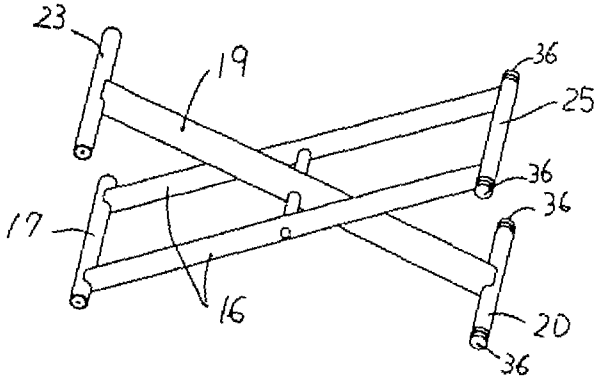

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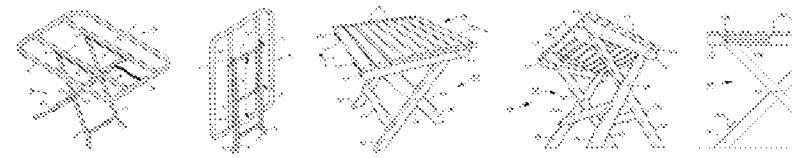
Patents

Fold type portable table

Abstract

The present invention provides a folding type portable table which can be horizontally installed in the ground that is uneven as well as flat. Moreover, a position of the table can be stably maintained, and when folding a leg of the table, the folded leg is fixated to the table not to be shaken or moved. Therefore, the table can be folded so that the volume thereof is minimized to the fullest. According to the present invention, the folding type portable table comprises: a pair of main frames; a pair of auxiliary frames; and a connection member.

Images (12)



Classifications

- A47B3/08 Folding or stowable tables with legs pivoted to top or underframe

View 6 more classifications

KR101635611B1
South Korea

Download PDF Find Prior Art Similar

Other languages: Korean

Inventor: 정석태

Worldwide applications

2015 KR

Application KR1020150165214A events

2015-11-25 Application filed by 주식회사 티피에스
2015-11-25 Priority to KR1020150165214A
2016-07-11 Application granted
2016-07-11 Publication of KR101635611B1

Info: Patent citations (2), Legal events, Similar documents, Priority and Related Applications

External links: Espacenet, Global Dossier, Discuss

Claims (5)

Hide Dependent translated from Korean

A pair of main frames symmetrically coupled to opposite side edge portions of the bottom surface of the upper plate;
A pair of auxiliary frames which are coupled to the bottom surface of the upper plate so as to be spaced apart from each other by an interval corresponding to the width of the main frames and the inner and outer legs, ;
Wherein an upper end of each of the outer legs is rounded and chamfered to be pivotally coupled to both inner side surfaces of the main frame and both upper ends of the inner leg are rounded and chamfered And is connected to a connection member which is inserted into and out of the two passages so as to be in contact with the outer surface of the subframe. delete delete delete delete

Description

translated from Korean

Folding portable table {FOLD TYPE PORTABLE TABLE}

The present invention can be used to place the table horizontally in a flat or uneven place, to support the posture of the table in a stable manner, and to hold the folded legs on the table so that the folded legs do not move or move when the table legs are folded. And an improved folding portable table capable of folding the volume of the table as small as possible.

The folding portable table has the advantage of being easy to carry and store and easy to install because the table is reduced in volume when the leg is folded.

The folding type portable table is disclosed in Korean Patent No. 10-1487184 (portable multi-table), Korean Patent No. 10-1487184, Korean Utility Model No. 20-2009-0012905 (folding portable table) 20-2009-0012905 (hereinafter referred to as "background technology").

SUMMARY OF THE INVENTION The present invention has been made to improve the background art of the prior art described above, and the background art described above will be described before describing the present invention in detail.

FIG. 1 is a perspective view showing a state where a table is installed in the background art, and FIG. 2 is a perspective view showing a folded state of the table leg of FIG. 1. Referring to FIG.

The object of the background art is to reduce the cost of logistics by making it possible to load a large amount when carrying the portable table 10 and to reduce the cost of all parts of the top plate as shown in Figure 1 when the legs of the portable table 10 are unfolded So as to be supported on the legs so as to achieve stability.

One of the legs 22 of the X-shaped leg 20 is pivotally connected to the bottom surface of the upper frame 12 using a hinge 14, and the other leg 21 is connected to the upper The guide rod 24 is coupled to the guide plate 24 and then the guide rod 24 is coupled to the guide 13 attached to the bottom surface of the upper plate frame 12 to lift one side of the upper plate 11. The other leg 21 is folded and the guide rod 24 of the one leg 22 moves toward the hinge 13 along the guide 13 so that the X-shaped leg 20 is moved toward the bottom face of the upper frame 12 It is characterized by being folded.

Reference numeral 11 denotes a top plate. Reference numeral 23 denotes a pivot for connecting the one leg 22 and the other leg 21 so as to pivot. Reference numeral 25 denotes a tensile spring having a tensile force for pulling the guide rod 24 therein.

When the X-shaped leg 20 is folded toward the bottom of the upper frame 12 with the hinge 14 as the center, the volume of the table 10 is reduced so that the loading space of the table is further expanded it is effective.

One of the legs 22 of the table of the background art is pivotally coupled to the upper frame 12 using the hinge 14 to support the upper plate 11 while the other leg 21 is connected to the guide rod 24 The guide rod 24 is moved along the guide 13 to make the table unstable and the X-shaped legs 20 The axes of both legs are not superimposed on each other due to the interference of the guide rods 24 protruded out of the guide 13 when folded, There is a problem in that it is structurally weak such that the leg portion of the opposite side of the hinge 14 is severely moved or a gap is generated due to a slight force,

In addition, when the table of the background art is installed on a rugged floor, since the height adjusting member such as a stone is inserted under the bridge or the floor must be pinched by piling up the floor, there is a problem that the posture of the table becomes unstable as well as inconvenient and troublesome. And propose this through the present invention.

The present invention has been made in view of all the problems of the background art, and it is an object of the present invention to provide a foldable portable table capable of installing a table horizontally without using a separate height adjusting member, .

Another object of the present invention is to provide a foldable portable table which can securely fix the legs when the table is installed and fix the folded legs when the legs of the table are folded to facilitate carrying and storing.

Another object of the present invention is to provide a foldable portable table capable of more firmly and stably supporting the table by firmly fixing the four folding legs to the table.

According to an aspect of the present invention,

A pair of main frames symmetrically coupled to opposite side edge portions of the bottom surface of the upper plate;

A pair of subframes having openings on one side and coupled to the bottom of the top plate so as to be spaced apart from each other by a width covering the inner and outer legs between the two main frames;

In joining the pair of inner and outer legs pivotably coupled to the bottom of the upper plate, both inner legs are pivotally coupled between the outer legs, And a connecting member pivotally coupled to the inside of the frame and into and out of the passage can be realized by an inner leg coupled to the upper portions of the both inner legs.

A challenge to stably support the table of the present invention is realized by connecting the inner and outer legs supporting the bottom of the table to be supported by the inner surface of the main frame and the inner legs by the outer surface of the auxiliary frame it is characterized by.

The problem of minimizing the height of the table of the present invention is realized by designing the inner and outer legs so that both axes of the inner and outer legs can be folded side by side and the widths of the inner and outer legs, Features ...

A problem to be solved for installing the table of the present invention horizontally on a rough surface is that the above-mentioned passage is provided in the longitudinal direction of the auxiliary frame, and a plurality of latching jaws are provided in the passage, To adjust the level of the table.

Since the inner and outer legs are inserted and fixed between the main frame and the auxiliary frame with the inner and outer legs juxtaposed, the table can be easily carried, handled and stored,

Further, in the present invention, when the table is used, since the outer legs of the extended X-shaped legs are supported by the inner surface of the main frame and the inner legs are supported by the outer surface of the auxiliary frame, the table can be firmly and firmly fixed,

In addition, the present invention can securely fix the plane of the table horizontally and stably even on uneven ground as well as on a flat floor by selectively fixing the connecting member to a specific one of the plurality of latching jaws provided in the passageway,

In addition, the present invention can effectively implement both the function of folding the legs and the function of supporting the table while the connecting member is in or out of the passageway when folding or installing the legs, and also the inner legs The two axes of the inner / outer legs are superimposed in parallel, and the volume of the table is most effectively reduced.

1 is a perspective view illustrating a state in which a conventional folding table is installed,
Fig. 2 is a perspective view illustrating a state in which the leg of the table shown in Fig. 1 is folded,
3 is a perspective view illustrating an example of using a folding type portable table according to the present invention,
Fig. 4 is a perspective view of the table shown in Fig. 3,
FIG. 5A is a sectional view taken along line AA in FIG. 3,
Fig. 5B is a view similar to Fig. 5A. Fig. 5B is a sectional view of a table adopting a modification example of an auxiliary frame,
FIG. 6A is a front view exemplifying the front view of the table of the present invention; FIG.
FIG. 6B is a side sectional view of the auxiliary frame attached to the bottom of the table of the present invention,
Fig. 6C is a view similar to Fig. 6B, showing a modification of the auxiliary frame,
7A to 7C are side cross-sectional views of a table illustrating a folding process of a table leg according to the present invention.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS Hereinafter, preferred embodiments of a foldable portable table according to the present invention will be described in detail with reference to the accompanying drawings.

3 is a perspective view illustrating an example of using the folding type portable table according to the present invention. FIG. 4 is a perspective view of the table shown in FIG. 3, An upper plate 110, and an X-shaped leg 120 pivotally coupled to the inner / outer legs 122 and 121.

6A is a front view of a table according to the present invention. FIG. 6A is a front view of a table according to the present invention. Referring to FIG. 6A, And an auxiliary frame 112 is coupled between the main frames 111 symmetrically with the main frame 111 at a predetermined distance T away from the main frame 111. [

The distance T between the two frames 111 and 112 is the sum of the thicknesses of the inner / outer legs 122 and 121 described above.

Referring to FIG. 6B, FIG. 6B is a sectional side view of the auxiliary frame attached to the bottom of the table according to the present invention. In the auxiliary frame 112, the height of the main frame 111 (H), and has a passage 112a whose one side is open in the longitudinal direction.

6C is a cross-sectional view illustrating a modification example of the auxiliary frame 112. The auxiliary frame 112 is provided with a plurality of locking protrusions 112c in the passage 112 described above, } Are exemplified.

When the connecting member 112b described below is selectively coupled to the plurality of latching protrusions 112c described above, the level of the table can be adjusted only by the legs without using the height adjusting member.

It is preferable that the length of the auxiliary frame 112 is approximately 2/3 of the length of the main frame 111. However, if the length of the auxiliary frame 112 is too short, the coupling member 112b may be pulled out of the passage 112a and the table may collapse.

Referring to FIG. 5A, FIG. 5A is a cross-sectional view taken along line A-A of FIG. 3, and shows a state of engagement between the X-shaped leg 120 and the upper plate 110 shown in FIG.

The X-shaped legs 120 are each formed of a pair of inner and outer legs 122 and 121 such that the inner legs 122 are pivoted by the pivot 123 between the two outer legs 121 Lt; / RTI >

Reference numerals 121a and 122a denote fixing members for connecting the pair of inner and outer legs 122 and 121 to each other. The fixing members 121a and 122a have two outer legs 121, The ecology that is in contact with the inner surface of the frame 111 is maintained and the length is adjusted so that both of the pair of outer legs cooperate with each other.

The fixing member 122a described above is fixed between the inner legs 122 by adjusting the length of the fixing member 122a so as to be in contact with the inside of the inner legs 122 on the outer surface of the auxiliary frame 112, (122) can be interlocked simultaneously.

The connecting member 112b is connected to the upper side of the pair of inner legs 122 so that the connecting member 112b can enter into the passage 112a.) Of the outer surface of the base plate (2).

The two outer legs 121 are pivotally coupled to the inner surface of both main frames 111 and have a fixing member 121a having the same length as the outer surface of the auxiliary frames 112 4) so that both outer legs 121 can move at the same time.

Each of the upper and lower ends of the inner and outer legs 122 and 121 is chamfered in a rounded shape so that the inner and outer legs 122 and 121 can be smoothly rotated when the outer leg is rotated about the pivot.

The table leg folding example of the present invention constructed as described above will be described with reference to the accompanying drawings.

7A to 7C are sectional side views of a table illustrating the folding process of the table leg according to the present invention. When the upper plate 110 is lifted in the direction of the arrow, The connecting member 112b inserted into the passage 112a is pulled out of the passage.

The inner leg 122 separated from the passage 112a is rotated around the pivot 123 as shown in FIG. 7B so that the axes of the legs 121 and 122 are aligned, The entire X-shaped leg 120 is brought into close contact with the bottom surface of the upper plate 110 and simultaneously the main frame 111 and the auxiliary frame 112 are rotated together with the pivot 111a, And is inserted and fixed.

In other words, when the X-shaped leg 120 is inserted between the main frame 111 and the auxiliary frame 112, the height of the X-shaped leg 120 is equal to the height H of the main frame 111, The two outer side surfaces of the X-shaped leg 120 are held between the main and auxiliary frames 111 and 112 and fixed to the top plate.

An example of use according to the installation of the table of the present invention will be described.

In the installation of the table 100, the legs of the table 100 are installed as shown in Figs. 3 and 5A by the reverse order of the table folding described above.

The outer side surfaces of the outer legs 121 of the X-shaped legs 120 are brought into contact with the inner surfaces of the two main frames 111 while the table 100 is installed, 122 are in contact with each other, so that the legs 121, 122 can be more firmly supported.

5B and 6C, when the auxiliary frame 112 having a plurality of locking protrusions 112c is used in the passage, even if the ground surface is uneven, only the X-shaped legs are used without using the height adjusting member The upper plate 110 of the table can be supported horizontally and stably.

The present invention differs from the background art described above in the following points.

(1) The table of the background art is susceptible to lateral pressure because the guide rods flow along the guide in the guide while the outer surface of the outer leg 121 of the present invention is applied to the inner surface of both main frames 111, Since the inner side surface of the auxiliary frame 122 is in contact with the outer side surfaces of the auxiliary frames 112, the legs and the upper plate can be stably and firmly supported.

(2) According to the present invention, the connection member 112b is selectively coupled to any one of the plurality of engagement protrusions 122c provided in the passage 112a, so that the table 100 can be rotated even in a place where the ground is flat, it can be installed horizontally, but this action can not be found in the background art.

(3) In the present invention, when the X-shaped leg 120 is folded, the side surface of the X-shaped leg 120 is fixed so as not to be moved by the two frames 111 and 112, but can not be found in the background art.

(4) The table legs according to the present invention can be most effectively reduced in thickness because the both legs of the inner / outer legs are folded in a side-by-side manner when the folded table legs are folded so that the thicknesses of the inner / outer legs are unified.

As described above, the present invention overcomes all the problems of the background art and can realize a more advanced folding portable table.

While the present invention has been particularly shown and described with reference to exemplary embodiments, it is to be understood that the invention is not limited to the disclosed exemplary embodiments, It is to be noted that the examples are included in the claims defined in the following claims and in the true meaning of the technical idea intended by the present inventor.

100: Table 110: Top plate
111: main frame 111a: pivot
112: auxiliary frame 112a: passage
112b: connecting member 112c:
120: X-shaped leg 121: outer leg
122: inner leg 123: pivot
121a: Fixing member 122a: Fixing member
H: Height of main frame
T: Spacing between mainframe and subframe

Patent Citations (2)

Publication number	Priority date	Publication date	Assignee	Title
KR900009486Y1 *	1987-08-31	1990-10-13	구세모	Height adjustable apparatus in table
JPH08140742A *	1994-11-18	1996-06-04	Takanashi Sangyo Kk	Furniture with foldable leg

Family To Family Citations

* Cited by examiner, † Cited by third party

Similar Documents

Publication	Publication Date	Title
US7765941B2	2010-08-03	Collapsible support stand for barbecue stove
KR200464934Y1	2013-01-28	Portable foot rest
US20140131138A1	2014-05-15	Folding stool
KR101101187B1	2012-01-03	Furniture with folding support
US9167893B2	2015-10-27	Folding table
KR20210001218U	2021-06-01	Stabilizing and combining structure in unfolding the folding tables
KR101803436B1	2017-12-28	Functional extension table
KR20150054374A	2015-05-20	Sliding Type Extensible Table
KR101635611B1	2016-07-11	Fold type portable table
KR20130007433U	2013-12-30	Braket for fixing oblique line type leg of furniture and hinge by using the same
KR20130005155U	2013-08-30	Collapsible legs and frame structure of the table
KR200337325Y1	2004-01-03	a fold up wooden bed
KR200450890Y1	2010-11-08	Fold type portable bed
US6511122B1	2003-01-28	Foldable chair having a reduced storage space in a folded state and adjustable backrest inclination
KR101554111B1	2015-09-17	Frame structure for folding type furniture
US8118358B2	2012-02-21	Chair
KR200357730Y1	2004-07-31	Portable folding chair
KR20120008565U	2012-12-12	Portable table
KR101654910B1	2016-09-06	Folding table having four plate
WO2017217707A1	2017-12-21	Folding bed
US9566948B2	2017-02-14	Enhanced folding bed bracket
KR20110011683U	2011-12-19	Convertable handy table
JP4847217B2	2011-12-28	Bunk beds
US20210172194A1	2021-06-10	Tent support
KR102132306B1	2020-07-09	Folding ladder

Priority And Related Applications

Priority Applications (1)

Application	Priority date	Filing date	Title

KR1020150165214A	2015-11-25	2015-11-25	Fold type portable table

Applications Claiming Priority (1)

Application	Filing date	Title
KR1020150165214A	2015-11-25	Fold type portable table

Legal Events

Date	Code	Title	Description
2016-06-20	E701	Decision to grant or registration of patent right	
2016-06-27	GRNT	Written decision to grant	
2019-12-09	FPAY	Annual fee payment	Payment date: 20191209 Year of fee payment: 4

Concepts

machine-extracted

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Name	Image	Sections	Count	Query match
corresponding		claims	1	0.000

Show all concepts from the description section

Data provided by IFI CLAIMS Patent Services

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The wording below is an initial machine translation of the original publication. To generate a version using the latest translation technology, go to the original language text and use Patent Translate.

1. The upper frame 1 is provided flatly, the lower frame 2 is provided horizontally in the front and rear direction below the upper frame 1, and the two rods are pivotally joined at the center attachment point 3 at the center to form an X-shaped X-shaped The rear ends of the lower part of one X 4 and the other X 5 are respectively connected to the rear left pivot point 6 and the rear right pivot point 6 so that it can slide back and forth to the left and right of the rear part of the lower frame 2 And the front end is pivotally attached to the left and right of the front part of the lower frame 2 by the front cloth pivot point 8 and the front cloth pivot point 9 and the X rod 4 and the other X rod 5 And the rear end of the upper part of the upper frame 1 are pivotally connected by the rear left pivot point 10 and the rear right pivot point 11 so as to be able to slide back and forth to the left and right of the rear part of the upper frame 1 and the front ends are respectively pivoted in front of the upper frame 1 The front cloth pivot point 12 and the front cloth pivot point 13 pivotally mounted on the left and right sides of the X rod 4 and the front end and the rear end of one X rod 4 and the front end and the rear end of the other X rod 5 To reduce the interval between And a spacing adjuster 15 capable of adjusting the distance between the front end and the rear end of one X rod 4 and the distance between the front end and the rear end of the other X rod 5 Height adjustable seat frame.

Electronic Acknowledgement Receipt

EFS ID:	45957205
Application Number:	17493830
International Application Number:	
Confirmation Number:	4682
Title of Invention:	DESKTOP WORKSPACE THAT ADJUSTS VERTICALLY
First Named Inventor/Applicant Name:	Nathan Mark Poniatowski
Customer Number:	155431
Filer:	Daniel Thomas Lund
Filer Authorized By:	
Attorney Docket Number:	1001-001US13
Receipt Date:	14-JUN-2022
Filing Date:	04-OCT-2021
Time Stamp:	22:13:16
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	no

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Information Disclosure Statement (IDS) Form (SB08)	IDS.pdf	1284644 dc75fc0780e2fcba186486333f8b16935c53f50d	no	4

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New Applications Under 35 U.S.C. 111

If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

Patents

Lifting desktop device and display integrated desk with same

Abstract

The invention discloses a lifting desktop device, which comprises a lifting desktop, a screw transmission mechanism, a first support, two push bars and two first support bars. The screw transmission mechanism comprises two synchronous pulleys, a synchronous belt, a motor device, two screw sliders and two screws. The two screw sliders are sleeved on the two screws respectively. The two synchronous pulleys are fixed on the two screws respectively at the same end, and the synchronous belt is connected with the two synchronous pulleys. One of the support bars is connected with the motor device. On end of a push bar is pivoted to the lifting desktop, and the other end of the push bar pivoted to the screw sliders. One end of the other support rod is pivoted to the lifting desktop, and the other end of the other support rod is pivoted to the first support. The lifting desktop is driven by the motor device to ascend or descend to fold in. The invention further discloses a display integrated desk with the lifting desktop device. The lifting desktop device is applicable to various computer desks, school desks, tea tables and the like and can be used for holding keyboards and mice. The lifting desktop is freely liftable and foldable, small and flexible, and highly universal and practical.

CN102599728A

China

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Other languages: Chinese

Inventor: 许秀明

Current Assignee : GUANGZHOU WULIANJIA INFORMATION TECHNOLOGY Co Ltd

Worldwide applications

2012 CN

Application CN201210092111.0A events

2012-03-30	Application filed by GUANGZHOU WULIANJIA INFORMATION TECHNOLOGY Co Ltd
2012-03-30	Priority to CN201210092111.0A
2012-07-25	Publication of CN102599728A
2014-07-16	Application granted
2014-07-16	Publication of CN102599728B
Status	Expired - Fee Related
2032-03-30	Anticipated expiration

Info: Patent citations (4), Cited by (10), Legal events, Similar documents, Priority and Related Applications

External links: Espacenet, Global Dossier, Discuss

Claims (7)

Hide Dependent

1. a up-down desktop assembly is applicable to be arranged on the support platform, it is characterized in that; Comprise up-down desktop, lead screw transmission mechanism, first bearing, two catch bars and two first support bars; Said lead screw transmission mechanism comprises motor device, two nut sliders of synchronizing wheel, synchronous band, output drive strength and the screw mandrel that be set in parallel on the support platform by two of motor device driving, and two said nut sliders are placed in respectively on two screw mandrels, and two synchronizing wheels are fixedly arranged on the same end of two said screw mandrels respectively; Said synchronous band connects two said synchronizing wheels; One of them of two screw mandrels is connected through gear with the output shaft of motor device, and two said catch bar one ends are installed on the up-down desktop with articulating respectively, and the two said catch bar other ends are installed on the nut slider with articulating respectively; Said first bearing is fixed on the said support platform; Two first support bars, one end is installed on the up-down desktop with articulating respectively, and the two said first support bar other ends are installed on said first bearing with articulating respectively, and said motor device drives and drives the synchronizing wheel rotation; Synchronizing wheel on another screw mandrel is driven by synchronous band and realizes rotating synchronously; Two screw mandrels rotate under the drive of synchronizing wheel, and two nut sliders move along the screw mandrel direction, move along the screw mandrel direction thereby drive catch bar; Slowly upwards lifting or fold downwards of the other end under two said catch bars and the two said promotions that are supported on nut slider, thus it is vertical with said support platform or fold downwards until two said support bars towards last lifting to drive same table.

2. lead screw transmission mechanism as claimed in claim 1; It is characterized in that; Said up-down desktop assembly also comprises second bearing and two second support bars, and said second bearing is fixed on the said support platform, and said second support bar, one end is installed on the up-down desktop with articulating respectively; The two said second support bar other ends are installed on second bearing with articulating respectively, two said second support bars parallel respectively with two said first support bars and consistent with the length of two said first support bars.

3. lead screw transmission mechanism as claimed in claim 2 is characterized in that, said first bearing is fixed between the two said screw mandrels, and said second bearing is fixed on the outside of two said screw mandrels.

4. lead screw transmission mechanism as claimed in claim 2 is characterized in that, said second bearing is fixed between the two said screw mandrels, and said first bearing is fixed on the two said screw mandrel outsides.

5. like claim 3 or 4 described lead screw transmission mechanism; It is characterized in that; Convex with block respectively on said first bearing and said second bearing, said block stops first support bar, second support bar respectively, and said first support bar is vertical with said support platform with said second support bar.

6. lead screw transmission mechanism as claimed in claim 1 is characterized in that, two said screw mandrels are separately installed with fixed block in two ends separately, and two said screw mandrels are installed on the support platform through said fixed block respectively.

7. display integral table; It is characterized in that, Comprise a body, display and up-down desktop assembly as claimed in claim 1; Said display keeps flat and is arranged on the said table body and said display and the pivot joint of said table body, and said up-down desktop assembly is installed in the said table body and amounts to the below that lies against said display, and said first bearing is fixedly mounted on the table body of said display table; Said display lifting stands on the upper surface of said table body, and upwards lifting is vertical with the upper surface of said table body until two said first support bars under the drive of said lead screw transmission mechanism for the up-down desktop of said up-down desktop assembly.

Description

Up-down desktop assembly and have the display integral table of this device

Technical field

The present invention relates to digital furniture technical field, be specifically related to a kind of desktop assembly and have the display integral table of this device of going up and down.

Background technology

More and more universal along with digital home, earth-shaking variation is taking place in people's life staying idle at home, and wherein, the digital automation design incorporates the modern digital household more and more becomes the most outstanding advantage.In home environment, desk has had multiple function and has been dissolved in people's life common dining table, computer desk, learning desk or the like of being applicable in the existing stage; But present table function is more single; Can not satisfy the demand of many usefulnessization, how combine digital and electronic science and technology, automatic technology to improve the function of desk better, save home room; Make the user enjoy the enjoyment of digital home better, building digital household environment is the hot issue that people study always.

Existing lifting actuator generally all is to be applied to industry Control or the precision equipment aspect is many; Fewer being applied in the work-at-home equipment; The lifting actuator of transmission all is thick; Can not do to such an extent that thinnerly satisfy in digital home equipment for a short time, satisfy the growing demand of people.

Summary of the invention

Can't be dissolved in the existing fitment for solving existing lowering or hoisting gear, the embodiment of the invention provides a kind of desktop assembly and have the display integral table of this device of going up and down, and the lowering or hoisting gear of screw mandrel transmission is applied in the digital fitment.

Accordingly; The embodiment of the invention provides a kind of up-down desktop assembly; Be applicable to be arranged on the support platform that said up-down desktop assembly comprises up-down desktop, lead screw transmission mechanism, first bearing, two catch bars and two first support bars, said lead screw transmission mechanism comprises motor device, two nut sliders of synchronizing wheel, synchronous band, output drive strength and the screw mandrel that be set in parallel on the support platform by two of motor device driving; Two said nut sliders are placed in respectively on two screw mandrels; Two synchronizing wheels are fixedly arranged on the same end of two said screw mandrels respectively, and said synchronous band connects two said synchronizing wheels, and one of them of two screw mandrels is connected through gear with the output shaft of motor device; Two said catch bar one ends are installed on the up-down desktop with articulating respectively; The two said catch bar other ends are installed on the nut slider with articulating respectively, and two first support bars, one end is installed on the up-down desktop with articulating respectively, and said first bearing is fixed on the said support platform; The two said first support bar other ends are installed on said first bearing with articulating respectively; Said motor device drives and drives the synchronizing wheel rotation, and the synchronizing wheel on another screw mandrel is driven by synchronous band and realizes rotating synchronously, and two screw mandrels rotate under the drive of synchronizing wheel; Two nut sliders move along the screw mandrel direction; Move along the screw mandrel direction thereby drive catch bar, slowly upwards lifting or fold downwards of the other end under two said catch bars and the two said promotions that are supported on nut slider, thus the drive same table is vertical with said support platform or fold downwards until two said support bars towards last lifting.

Preferably; Said up-down desktop assembly also comprises second bearing and two second support bars; Said second bearing is fixed on the said support platform; Said second support bar, one end is installed on the up-down desktop with articulating respectively, and the two said second support bar other ends are installed on second bearing with articulating respectively, two said second support bars parallel respectively with two said first support bars and consistent with the length of two said first support bars.

As one embodiment of the invention, said first bearing is fixed between the two said screw mandrels, and said second bearing is fixed on the outside of two said screw mandrels.

As another embodiment of the present invention, said second bearing is fixed between the two said screw mandrels, and said first bearing is fixed on the two said screw mandrel outsides.

Preferably, convex with block respectively on said first bearing and said second bearing, said block stops first support bar, second support bar respectively, and said first support bar is vertical with said support platform with said second support bar.

Preferably, two said screw mandrels are separately installed with fixed block in two ends separately, and two said screw mandrels are installed on the support platform through said fixed block respectively.

Correspondingly; inventive embodiments also provides a kind of display integral table; Comprise a body, display and aforesaid up-down desktop assembly; Said display keeps flat and is arranged on the said table body and said display and the pivot joint of said table body, and said up-down desktop assembly is installed in the said table body and amounts to the below that lies against said display, and said first bearing is fixedly mounted on the table body of said display table; Said display lifting stands on the upper surface of said table body, and upwards lifting is vertical with the upper surface of said table body until two said first support bars under the drive of said lead screw transmission mechanism for the up-down desktop of said up-down desktop assembly.

Through embodiment of the present invention, constructed a kind of up-down desktop assembly, this up-down desktop assembly receives the micro-machine Equipment Control; The output shaft of motor device is connected with screw mandrel through gear, drive screw mandrel and carry out transmission, thereby the nut slider that drives on the screw mandrel moves along the screw mandrel direction; Move along the screw mandrel direction thereby drive catch bar, the lifting up-down desktop that slowly makes progress, slowly lifting is vertical with support platform until two support bars with the up-down desktop for support bar simultaneously; Make up-down desktop parallel upright, correspondingly, said up-down desktop slowly folds downwards under the driving of motor device; Be superimposed together until catch bar, support bar and up-down desktop; It is little to take up room, and the lifting free folding and unfolding is applicable in the different device and applied environment.Said up-down desktop assembly, it is medium to be arranged on computer desk, desk, tea table, can supply to put keyboard, mouse etc., perhaps serves as stand, realizes the

multipurpose of fitment, satisfies the different demands of people's life, versatility and practical.Correspondingly, the present invention also provides a kind of display integral table with this up-down desktop assembly simultaneously, and display articulates with the table body, can realize lifting and keep flat.And desktop same table device is concealed under the display, and conserve space is when the user needs; Elder generation's lifting display is restarted lead screw transmission mechanism, lifting up-down desktop; Use; Simple and convenient, make household furniture merge intelligence, automation factor, for the user builds the comfortable digital home and the environment of digital home.

Description of drawings

In order to be illustrated more clearly in the embodiment of the invention or technical scheme of the prior art; To do to introduce simply to the accompanying drawing of required use in embodiment or the description of the Prior Art below; Obviously, the accompanying drawing in describing below only is some embodiments of the present invention, for those of ordinary skills; Under the prerequisite of not paying creative work property, can also obtain other accompanying drawing according to these accompanying drawings.

Fig. 1 is the structural representation of the up-down desktop assembly of the embodiment of the invention;

Fig. 2 is the enlarged diagram of A part among Fig. 1;

Fig. 3 is the structural representation of the display integral table of the embodiment of the invention;

Fig. 4 is the structural representation of another state of display integral table shown in Figure 3.

The specific embodiment

To combine the accompanying drawing in the embodiment of the invention below, the technical scheme in the embodiment of the invention is carried out clear, intactly description, obviously, described embodiment only is the present invention's part embodiment, rather than whole embodiment.Based on the embodiment among the present invention, those of ordinary skills are not making all other embodiment that obtained under the creative work prerequisite, all belong to the scope of the present invention's protection.

With reference to figure 1 and Fig. 2, corresponding, the embodiment of the invention provides a kind of up-down desktop assembly 10, is applicable to be arranged on the support platform, and said support platform can be learning desk, computer desk, tea table etc.Said up-down desktop assembly 10 comprises up-down desktop 200, lead screw transmission mechanism 100, first bearing 500, two catch bars 300 and two first support bars 400; Said lead screw transmission mechanism 100 comprise synchronizing wheel 110, synchronously with 120, motor device 130, two nut sliders 150 of output drive strength and two screw mandrels 140 that are set in parallel on the support platform that receive that motor device 130 drives; Two said nut sliders 150 are placed in respectively on two screw mandrels 140; Two synchronizing wheels 110 are fixedly arranged on the same end of two said screw mandrels 140 respectively, said be with synchronously 120 connect two said synchronizing wheel 110, two screw mandrels 140 one of them be connected through gear with the output shaft of motor device 130; Particularly; Be installed with screw mandrel 140 gears 142 on said and the screw mandrel 140 that motor device 130 is connected, the end of the output shaft 134 of motor device 130 is installed with motor gear 132, said screw mandrel 140 gears 142 and said motor gear 132 mutual Vertical Meshing; The output shaft 134 of said motor device 130 is vertical with said screw mandrel 140; Understandable, the output shaft 134 of said motor device 130 can be parallel with said screw mandrel 140, said motor gear 132 and 142 engagements of said screw mandrel 140 gears.Two said catch bar 300 1 ends are installed on the up-down desktop 200 with articulating respectively; Two said catch bar 300 other ends are installed on the nut slider 150 with articulating respectively; Said first bearing 500 is fixed on the said support platform; Two first support bars, 400 1 ends are installed on the up-down desktop 200 with articulating respectively, and two said first support bar, 400 other ends are installed on said first bearing 500 with articulating respectively, and said motor device 130 drives and drives synchronizing wheel 110 rotations; Synchronizing wheel 110 on another screw mandrel 140 is by being with 120 to drive realization rotation synchronously synchronously; Two screw mandrels 140 rotate under the drive of synchronizing wheel 110, and two nut sliders 150 move along screw mandrel 140 directions, move along screw mandrel 140 directions thereby drive catch bar 300; Slowly upwards lifting or fold downwards of the other end under two said catch bars 300 and the two said promotions that are supported on nut slider 150, upwards lifting is vertical with said support platform or fold downwards until two said first support bars 400 thereby drive up-down desktop 200.

Preferably; Said up-down desktop assembly 10 also comprises second bearing 700 and two second support bars 600; Said second bearing 700 is fixed on the said support platform; Said second support bar, 600 1 ends are installed on the up-down desktop 200 with articulating respectively, and two said second support bar, 600 other ends are installed on second bearing 700 with articulating respectively, two said second support bars 600 parallel respectively with two said first support bars 400 and consistent with the length of two said first support bars 400.Said first support bar 400, second support bar 600 are used for raising process at catch bar 300; Along with catch bar 300 slowly lifting together; When up-down desktop 200 is lifted to proper height, two first support bars 400, two second support bars 600 form the table pin of four vertical stand-ups of up-down desktops 200, firmly support said up-down desktop 200; Be appreciated that ground; Said up-down desktop 200 is preferably rectangle, and two said first support bars 400 are arranged on the end of up-down desktop 200 along the lifting direction, and two said second support bars 600 are arranged on the other end of up-down desktop 200 along the lifting direction.

In an embodiment of the present invention, said first bearing 500 is fixed between the two said screw mandrels 140, and said second bearing 700 is fixed on the outside of two said screw mandrels 140.Be appreciated that ground, as another embodiment of the present invention, said second bearing 700 also can fixedly be located between the two said screw mandrels 140, and said first bearing 500 is fixed on two said screw mandrels, 140 outsides.Through the fixing combination in inside and outside, make supporting construction more firmly firm.

Preferably; Convex with block 570 respectively on said first bearing 500 and said second bearing 700; Said block 570 stops first support bar 400, second support bar 600 respectively, and said first support bar 400 is vertical with said support platform with said second support bar 600.Said block 570 can prevent operation, prevented that catch bar 300 from reaching the maximum height continued operation of promotion, caused going up and down desktop 200 under the continuation in the same way of catch bar 300 promotes, to fold forward.

Preferably, two said screw mandrels 140 are separately installed with fixed block 160, two said screw mandrels 140 and are installed on the support platform through said fixed block 160 respectively in two ends separately.Said up-down desktop assembly 10 can be applied in the various environmental units, can make things convenient for the installation of screw mandrel 140 through said fixed block 160.

Correspondingly; With reference to figure 3 and Fig. 4; Inventive embodiments also provides a kind of display integral table, comprises a body 20, display 30 and aforesaid up-down desktop assembly 10, and said display 30 keeps flat and is arranged on the said table body 20 and said display 30 and said table body 20 pivot joints; Said display 30 drives in the screw mandrel transmission and can realize down that lifting stands on a body 20 or folds and lie against said body 20; The concrete structure of said display 30 and drive method specifically referring to another in first to file, application number is a related description in 201110396833.0 the invention application, no longer sets forth at this.Said up-down desktop assembly 10 is installed in the said table body 20 and amounts to the below that lies against said display 30; Said first bearing 500 is fixedly mounted on the table body 20 of 30 of said displays; Said display 30 liftings stand on the upper surface of said table body 20, and upwards lifting is vertical with the upper surface of said table body 20 until two said first support bars 400 under the drive of said lead screw transmission mechanism 100 for the up-down desktop 200 of said up-down desktop assembly 10.Preferably; It is in the opposite direction that said catch bar 300 and said first support bar 400, second support bar

600 are provided with; Promptly two first support bars 400, two second support bars 600 are respectively to away from the direction lifting over against display 30; To folding, and in up-down desktop 200 lifting processes near direction over against display 30, nut slider 150 promote catch bars 300 along screw mandrel 140 by near an end of the direction of display 30 to a end motion away from the direction of display 30; Fold in the process at up-down desktop 200, nut slider 150 promote catch bars 300 along screw mandrel 140 gradually to display 30 near moving.Be appreciated that ground; The direction that said catch bar 300 and said first support bar 400, second support bar 600 are provided with also can be consistent; During lifting up-down desktop 200, nut slider 150 by away from an end of the direction of display 30 to a end motion near the direction of display 30.

Pass through embodiment of the present invention; Constructed a kind of desktop assembly 10 and have the display integral table of this device of going up and down; This up-down desktop assembly 10 receives 130 controls of micro-machine equipment, and the output shaft of motor device 130 is connected with screw mandrel 140 through gear, drives screw mandrel 140 and carries out transmission; Thereby the nut slider 150 that drives on the screw mandrel 140 moves along screw mandrel 140 directions; Nut slider 150 promote catch bars 300 along screw mandrel 140 by near an end of the direction of display 30 to a end motion away from the direction of display 30, two first support bars 400, two second support bars 600 are respectively to away from the direction lifting over against display 30, thereby realize lifting up-down desktop 200; When folding, nut slider 150 promote catch bars 300 along screw mandrel 140 gradually to display 30 near moving.And two first support bars 400, two second support bars 600 are respectively to folding near the direction over against display 30; Thereby slowly upwards lifting or fold up-down desktop 200 downwards, when up-down desktop 200 was lifted to maximum height, first support bar 400, that second support bar 600 slowly is raised to two support bars with up-down desktop 200 was vertical with support platform; Make up-down desktop 200 parallel upright; Correspondingly, said up-down desktop 200 slowly folds downwards under the driving of motor device 130, and catch bar 300, support bar and up-down desktop 200 are superimposed together; Up-down desktop assembly 10 after folding can be hidden in the body 20 and be positioned at display 30 belows; it is little to take up room, and the lifting free folding and unfolding is applicable in the different device and applied environment.Said up-down desktop assembly 10, it is medium to be arranged on computer desk, desk, tea table, can supply to put keyboard, mouse etc., perhaps serves as stand, realizes the multipurpose of fitment, satisfies the different demands of people's life, versatility and practical.The display integral table of the embodiment of the invention, collection liftable keyboard desk, liftable display are one, display 30 articulates with table body 20, can realize lifting and keep flat.When up-down desktop 200 did not use, whole desktop same table device was concealed in display 30 times, conserve space; When the user needed, first lifting display 30 was restarted lead screw transmission mechanism 100; Lifting up-down desktop 200 uses, and is simple and convenient; Make household furniture merge intelligence, automation factor, for the user builds comfortable digital household environment.

Used concrete example among this paper principle of the present invention and embodiment are set forth, the explanation of above embodiment just is used for helping to understand method of the present invention and core concept thereof; Simultaneously, for one of ordinary skill in the art, according to thought of the present invention, the part that on the specific embodiment and range of application, all can change, in sum, this description should not be construed as limitation of the present invention.

Patent Citations (4)

Publication number	Priority date	Publication date	Assignee	Title
CN1625998A *	2003-12-12	2005-06-15	张成云	Over and under type multifunctional tea table
JP4409009B2 *	1999-10-26	2010-02-03	株式会社岡村製作所	Display storage type desk
CN201640949U *	2009-05-31	2010-11-24	陈丁	Computer table capable of regulating vertical height of tabletop
CN102293522A *	2011-06-14	2011-12-28	广州物联家信息科技股份有限公司	Three-in-one multifunctional tea table
Family To Family Citations				

* Cited by examiner, † Cited by third party

Cited By (10)

Publication number	Priority date	Publication date	Assignee	Title
CN102758996A *	2012-07-26	2012-10-31	广州物联家信息科技股份有限公司	Lifting and steering device
CN103211386A *	2013-04-15	2013-07-24	常州工学院	Notebook computer lifting platform
WO2018057751A1	2016-09-23	2018-03-29	Varidesk, Llc	Electrically-lifted computer desk and office desk thereof
CN109315924A *	2018-10-24	2019-02-12	林婉伟	A kind of height and the self-adjustable intelligent table of angle
CN109552138A *	2017-09-25	2019-04-02	依吉亚内饰系统印度私营责任有限公司	Shelf for vehicle
CN111713860A *	2020-06-19	2020-09-29	北京德威环亚家具有限公司	Office table with negative oxygen ion coating and preparation method thereof
US10893748B1	2017-07-08	2021-01-19	Office Kick, Inc.	Height adjustable desktop
US11019920B2	2016-09-23	2021-06-01	Varidesk, Llc	Electrically-lifted computer desk and office desk thereof
US11134774B1	2015-01-24	2021-10-05	Office Kick, Inc.	Desktop workspace that adjusts vertically
US11219307B2	2016-07-08	2022-01-11	Versa Products, Inc.	Motorized, height-adjustable desktop system
Family To Family Citations				

* Cited by examiner, † Cited by third party, ‡ Family to family citation

Similar Documents

Publication	Publication Date	Title
CN102599728B	2014-07-16	Lifting desktop device and display integrated desk with same
CN102511987B	2014-12-10	Stretching and lifting device and integrated table with same for displayer
CN202618792U	2012-12-26	Lifting table top device and displayer all-in-one table comprising the same
CN201002931Y	2008-01-09	Hoisting device with foldable suspension arm
CN104026872B	2017-01-11	Multifunctional transformable desk in classroom
CN202698229U	2013-01-30	Automatic lifting desk
CN202365168U	2012-08-08	Stretching and lifting device and display integrated table with same
CN105686746A	2016-06-22	Lifting device
CN105967119A	2016-09-28	Lifting platform car capable of flexibly regulating height and moving
CN102758996A	2012-10-31	Lifting and steering device
CN202493651U	2012-10-17	Belt transmission mechanism, display and display integrated table
CN202457090U	2012-10-03	Lead screw transmission mechanism, table top device, displayer and table integrated with displayer
CN203762559U	2014-08-13	Multifunctional dining table
CN102661376B	2015-12-16	A kind of belt gear, display device and display device integral table
CN102273818A	2011-12-14	Desk integrating electronic device
CN102132997B	2014-08-13	Telescopic automatic control desk
CN102488386B	2014-03-19	Lead screw transmission mechanism, table top device, displayer and table integrated with displayer
CN102597328B	2014-10-15	Steel wire transmission mechanism, display and display integrated desk
CN201968074U	2011-09-14	Automatically controlled telescopic table
CN102178395A	2011-09-14	Integrated computer desk
CN210643465U	2020-06-02	Portable visual transmission design display rack
CN210144135U	2020-03-17	Diameter-variable folding dining table with folding device
CN202069163U	2011-12-14	Desk integrating electronic equipment
CN202628967U	2012-12-26	Steel wire transmission mechanism, display and display integral table
CN204363335U	2015-06-03	Mechanical arm type painting and calligraphy The Cloud Terrace

Priority And Related Applications

Priority Applications (1)

Application	Priority date	Filing date	Title
CN201210092111.0A	2012-03-30	2012-03-30	Lifting desktop device and display integrated desk with same

Applications Claiming Priority (1)

Application	Filing date	Title
CN201210092111.0A	2012-03-30	Lifting desktop device and display integrated desk with same

Legal Events

Date	Code	Title	Description
2012-07-25	C06	Publication	
2012-07-25	PB01	Publication	
2012-09-26	C10	Entry into substantive examination	

2012-09-26	SE01	Entry into force of request for substantive examination	
2014-07-16	C14	Grant of patent or utility model	
2014-07-16	GR01	Patent grant	
2018-04-17	CF01	Termination of patent right due to non-payment of annual fee	
2018-04-17	CF01	Termination of patent right due to non-payment of annual fee	**Granted publication date:** 20140716 **Termination date:** 20170330

Concepts

machine-extracted

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Name	Image	Sections	Count	Query match
biological transmission		claims,abstract,description	23	0.000
synchronised		claims,abstract,description	11	0.000
Camellia sinensis var. sinensis		abstract	1	0.000

Show all concepts from the description section

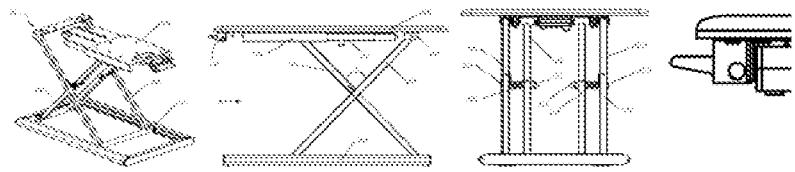
Patents

Lifting table and support structure thereof

Abstract

A support structure and a lifting table (10), the support structure comprising a first support assembly (200), a second support assembly (300), a top connecting assembly (100), an elastic part and an auxiliary power component (150); the first support assembly (200) and the second support assembly (300) form an X shape; the top connecting assembly (100) comprises a fixed assembly and a moving assembly (110) capable of moving along a first horizontal direction relative to the fixed assembly, an upper end of the first support assembly (200) being hinged to the fixed assembly, and an upper end of the second support assembly (300) being hinged to the moving assembly (110); the elastic part is disposed between the first support assembly (200) and the second support assembly (300) at a hinge point between the two, and is used to cause the upper end of the second support assembly (300) to apply a moving biasing force toward the top end of the first support assembly (200); the auxiliary power component (150) is connected between the fixed assembly and the moving assembly (110). A lifting table (10) using the described support structure extends and retracts more freely, takes up less surface area and saves material.

Images (14)



WO2019001507A1
WIPO (PCT)

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Other languages: French, Chinese

Inventor: [redacted]

Worldwide applications

2018 WO

Application PCT/CN2018/093294 events

2017-06-28 Priority to CN201720765866.0U
2017-06-28 Priority to CN201710509581.8
2017-06-28 Priority to CN201720765866.0
2017-06-28 Priority to CN201710509581.8A
2018-06-28 Application filed by [redacted]
2019-01-03 Publication of WO2019001507A1

Info: Patent citations (6), Cited by (2), Legal events, Similar documents, Priority and Related Applications

External links: Espacenet, Global Dossier, PatentScope, Discuss

Classifications

- A47B13/02 Underframes

View 1 more classifications

Claims (15)

Hide Dependent

1. A support structure for a lifting table, comprising:

   a first support assembly and a second support assembly, the first support assembly and the second support assembly are hinged to form an X shape;

   a top connection assembly, the top connection assembly including a fixed assembly and a movable assembly movable relative to the fixed assembly in a first horizontal direction, wherein an upper end of the first support assembly is hinged to the fixed assembly, the first An upper end of the two support assemblies is hinged to the moving assembly;

   An elastic member disposed between the first support assembly and the second support assembly at a hinge therebetween for providing an upper end of the second support assembly toward the first support The biasing force of the upper end of the assembly; and

   An auxiliary power member, the first end of the auxiliary power member is coupled to the fixed assembly, and a second end of the auxiliary power member opposite the first end is coupled to the moving assembly.

2. The support structure according to claim 1, wherein said first support assembly and said second support assembly are hinged by a pin, said elastic member comprising a torsion spring, said torsion spring being sleeved on said pin The shaft is located between the first support assembly and the second support assembly, and the two ends of the torsion spring respectively abut the first support assembly and the second support assembly.

3. The support structure according to claim 1, wherein said fixing assembly comprises first and second fixing members spaced apart in said first horizontal direction;

   The moving assembly is slidably disposed on the first fixing component, and an upper end of the first supporting component is hinged to the second fixing component.

4. The support structure according to claim 3, wherein the first fixing assembly comprises a pair of first fixing members disposed opposite to each other, and a pair of second fixing members disposed opposite to each other, the relative relationship of the first fixing members a first slide is disposed on an inner side thereof, and a second slide is disposed on an opposite inner side of the second fixing member.

   The moving component has a Y shape, and the moving component of the Y shape has a large end and a small end along the first horizontal direction, and a first sliding member is disposed on both sides of the large end of the moving component, a second sliding member is disposed on both sides of the small-sized end of the moving assembly, the first sliding member is slidably coupled to the first sliding rail, and the second sliding member is slidably coupled to the second sliding member Road.

5. The support structure according to claim 1, wherein said first support assembly comprises two first support columns and a first connecting post spaced apart in a second horizontal direction, said first connecting post being connected Between the bottoms of the first support columns to form a U-shaped structure, wherein the second horizontal direction is perpendicular to the first horizontal direction.

6. The support structure according to claim 5, wherein said second support assembly comprises two second support columns and a second connecting post spaced apart in said second horizontal direction, said second connecting post being connected Between the bottoms of the second support columns to form a U-shaped structure.

7. The support structure of claim 1 further comprising a bottom frame assembly, a lower end of said first support assembly being movably coupled to said bottom frame assembly, said lower end of said second support assembly being hinged to said The bottom frame component.

8. The support structure according to claim 7, wherein the bottom frame assembly comprises a pair of opposite bottom beams and a pair of opposite end beams, the pair of bottom end beams being respectively connected to the one a pair of bottom beams extending in the first horizontal direction at both ends of the bottom beam, wherein

a lower end of the first support assembly is slidably coupled to the pair of bottom beams;

A lower end of the second support assembly is pivotally coupled to one of the pair of bottom end beams.

9. The support structure according to claim 8, wherein the first support assembly further comprises a third sliding member disposed on both sides of the lower end of the first supporting assembly,

The opposite inner sides of the pair of bottom beams are provided with a third slide, and the third sliding member is connected to the third slide.

10. The support structure according to claim 7, wherein the fixing assembly further comprises a lock switch, the lock switch comprising:

a wrench fixing seat, the wrench fixing seat is disposed at an end of the fixing component along the first horizontal direction, and a first end of the auxiliary power component is fixed to the wrench fixing seat;

a wrench pivotally disposed within the wrench mount between a locked position and an unlocked position;

a transmission member coupled to the wrench and driven by the wrench to move in the first horizontal direction for applying a thrust to the first end of the auxiliary power member to unlock the auxiliary power member.

11. The support structure according to claim 10, wherein said wrench extends in a second horizontal direction perpendicular to said first horizontal direction, said wrench has an L-shaped cross section, said wrench having a horizontal section and a vertical In the straight section, the horizontal section is for gripping and the vertical section is connected to the transmission member.

12. The support structure according to claim 10, wherein said lock switch further comprises a pivoting member, one end of said pivoting member being pivotally coupled to said wrench holder, and the other end being The first end of the auxiliary power member can be pushed under the pushing of the transmission member to unlock the auxiliary power member.

13. The support structure according to claim 10, wherein said lock switch further comprises a hook, said hook being disposed on said transmission member, said hook being in said locked position of said wrench The bottom frame assembly can be snapped into engagement and the engagement with the bottom frame assembly can be released when the wrench is in the unlocked position.

14. The support structure according to claim 1, wherein said auxiliary power member is a self-locking type gas spring.

15. A lifting table comprising a table top and a supporting structure for supporting the table board, wherein the supporting structure is the supporting structure according to any one of claims 1 to 14, the table board being fixed at the On the fixed component of the top connection assembly.

Description

Lifting table and support structure thereof
Technical field

The present invention relates to the field of lift table equipment, and in particular to a support structure for a lift table, and a lift table having the support structure.

Background technique

Due to the needs of modern life and work, many people must maintain a long-term sitting position for focused labor; according to medical research, long-term sitting posture will increase cardiovascular disease, diabetes and obesity; for those who maintain a long sitting position for a single day Will increase its chance of dying from cardiovascular disease by 50%; maintaining the sitting posture will slow down the circulation of lipase in the human body and reduce the absorption of fat by the human body. When standing, the muscle will promote the action of lipase and promote the treatment of the human body. Fat and cholesterol, which came into being a relatively high workbench used when standing, but the use of high workbench also has the disadvantage of taking up space and increasing costs, which is not necessary for both sitting and using. The standing table is used to solve the corresponding technical problems.

Summary of the invention

In order to at least partially solve the problem of cost increase in the existing work table or workbench, the present invention provides a support structure for a lift table, comprising:

a first support assembly and a second support assembly, the first support assembly and the second support assembly are hinged to form an X shape;

a top connection assembly, the top connection assembly including a fixed assembly and a movable assembly movable relative to the fixed assembly in a first horizontal direction, wherein an upper end of the first support assembly is hinged to the fixed assembly, the first An upper end of the two support assemblies is hinged to the moving assembly;

An elastic member disposed between the first support assembly and the second support assembly at a hinge therebetween for providing an upper end of the second support assembly toward the first support The biasing force of the upper end of the assembly; and

An auxiliary power member, the first end of the auxiliary power member is coupled to the fixed assembly, and a second end of the auxiliary power member opposite the first end is coupled to the moving assembly.

Preferably, the first support assembly and the second support assembly are hinged by a pin, the elastic member comprises a torsion spring, and the torsion spring is sleeved on the pin and located at the first support assembly Between the second support assemblies, two ends of the torsion spring respectively abut the first support assembly and the second support assembly.

Preferably, the fixing assembly includes a first fixing component and a second fixing component spaced apart in the first horizontal direction; the moving component is slidably disposed on the first fixing component, the first An upper end of the support assembly is hinged to the second stationary component.

Preferably, the first fixing component includes a pair of first fixing members disposed opposite to each other, and a pair of second fixing members disposed opposite to each other, and the opposite inner side of the first fixing member is provided with a first sliding rail. The opposite inner side of the second fixing member is provided with a second sliding passage, the moving assembly is Y-shaped, and the moving assembly of the Y shape has a large-sized end and a small-sized end along the first horizontal direction, the movement a first sliding member is disposed on both sides of the large-sized end of the assembly, and a second sliding member is disposed on both sides of the small-sized end of the moving assembly, and the first sliding member is slidably coupled to the first sliding rail. The second slider is slidably coupled to the second slide.

Preferably, the first support assembly includes two first support columns and a first connecting post spaced apart in a second horizontal direction, the first connecting post being connected between the bottoms of the first support columns, A U-shaped structure is formed, wherein the second horizontal direction is perpendicular to the first horizontal direction.

Preferably, the second support assembly includes two second support columns and a second connecting post spaced apart in the second horizontal direction, the second connecting post being connected between the bottoms of the second support columns To form a U-shaped structure.

Preferably, a bottom frame assembly is further included, a lower end of the first support assembly being movably coupled to the bottom frame assembly, and a lower end of the second support assembly being hinged to the bottom frame assembly.

Preferably, the bottom frame assembly includes a pair of opposite bottom beams and a pair of opposite end beams disposed opposite to each other, the pair of bottom end beams being respectively connected to two ends of the pair of bottom beams, the pair a bottom beam extending along the first horizontal direction, wherein a lower end of the first support assembly is slidably coupled to the pair of bottom beams; a lower end of the second support assembly is pivotally coupled to the pair One of the bottom end beams.

Preferably, the first support assembly further includes a third sliding member disposed on two sides of a lower end of the first supporting assembly, and a third inner side of the pair of bottom beams is disposed with a third inner side a slide, the third slider is connected to the third slide.

Preferably, the fixing assembly further includes a locking switch, the locking switch includes: a wrench fixing seat, the wrench fixing seat is disposed at an end of the fixing component along the first horizontal direction, a first end of the auxiliary power member is fixed to the wrench holder; a wrench pivotally disposed in the wrench holder between the locked position and the unlocked position; and a transmission member, the transmission member Connecting to the wrench and being driven by the wrench to move in the first horizontal direction for applying a thrust to the first end of the auxiliary power member to unlock the auxiliary power member.

Preferably, the wrench extends in a second horizontal direction perpendicular to the first horizontal direction, the wrench has an L-shaped cross section, the wrench has a horizontal section and a vertical section, and the horizontal section is used for grasping The vertical section is coupled to the transmission member.

Preferably, the lock switch further includes a pivoting member, one end of the pivoting member being pivotally connected to the wrench holder, and the other end being capable of pushing the auxiliary under the pushing of the transmission member a first end of the power member to unlock the auxiliary power member.

Preferably, the lock switch further includes a hook, the hook is disposed on the transmission member, and the hook can be engaged to the bottom frame assembly when the wrench is in the locked position, And the engagement with the bottom frame assembly can be released when the wrench is in the unlocked position.

Preferably, the auxiliary power member is a self-locking type gas spring.

According to another aspect of the present invention, there is also provided a lifting table comprising a table top and a supporting structure supporting the table board, wherein the supporting structure is any one of the supporting structures as described above, the table A plate is secured to the stationary component of the top

connection assembly.

The support structure provided by the invention is an X-shaped support structure, which can not only solve the problem of occupying space existing in the existing work table or the workbench, but also increase the cost; and the elastic part at the hinge of the first support component and the second support component The biasing effect, at the same time, the role of the auxiliary power member, so that the supporting structure of the support structure is excellent, and it can be retracted freely. Since the vertical descending gravity greatly causes the risk of pinching, the lifting table adopts the supporting structure of the invention, not only can prevent the risk of pinching, but also does not generate noise when stowed; in addition, the lifting table is based on the function of the elastic member and the auxiliary power member. It can also automatically rise, reduce human intervention, and it is convenient and quick to deploy, which brings convenience to users.

A series of simplified forms of concepts are introduced in the Summary of the invention, which will be further described in detail in the Detailed Description section. The summary is not intended to limit the key features and essential technical features of the claimed invention, and is not intended to limit the scope of protection of the claimed embodiments.

Advantages and features of the present invention are described in detail below with reference to the accompanying drawings.

DRAWINGS

The following drawings of the invention are hereby incorporated by reference in their entirety in their entirety. The embodiments of the invention and the description thereof are shown in the drawings in the drawing.

1 is a perspective view of a support structure in an unfolded state in accordance with one embodiment of the present invention;

Figure 2 is a side elevational view of a lift table in accordance with one embodiment of the present invention;

Figure 3 is a schematic view showing the A direction of the lifting table of the present invention in Figure 2;

Figure 4 is a side elevational view of the lift table in a stowed condition, in accordance with one embodiment of the present invention;

Figure 5 is a bottom view of the lift table of Figure 1 in an unfolded state;

Figure 6 is an exploded view of the upper portion of the lift table in accordance with one embodiment of the present invention;

Figure 7 is a bottom exploded view of the lift table in accordance with one embodiment of the present invention;

Figure 8 is a perspective view of the support structure in an unfolded state in accordance with another embodiment of the present invention;

Figure 9 is a side elevational view of a lift table in accordance with another embodiment of the present invention;

Figure 10 is a schematic view showing the A direction of the lifting table of the present invention in Figure 9;

Figure 11 is a bottom plan view showing the lift table in a stowed state according to an embodiment of the present invention;

Figure 12 is a side elevational view of the lift table of Figure 11;

Figure 13 is an exploded view of the top connection assembly of the lift table in accordance with one embodiment of the present invention;

Figure 14 is a fragmentary view of a lift table in accordance with one embodiment of the present invention.

Detailed ways

In the following description, numerous details are provided in order to provide a thorough understanding of the invention. However, those skilled in the art can understand that the following description is merely illustrative of a preferred embodiment of the invention, which may be practiced without one or more such details. Moreover, in order to avoid confusion with the present invention, some of the technical features well known in the art are not described in detail.

According to an aspect of the invention, a support structure for a lift table is provided, the support structure of the present invention being an X-shaped support structure. The advantage of the X-shaped support structure of the present invention over the prior art is that it is freely retractable and takes up little space.

1-7 illustrate, from various angles, the entirety of a support structure and various components or portions included in the support structure in accordance with one embodiment of the present invention. In order to understand the position and function of these components or portions in the support structure, the support structure is first described in its entirety to provide a thorough understanding of the present invention.

As shown in FIGS. 1-5, the present invention provides a support structure for a lift table 10, including a top joint assembly 100, a first support assembly 200, a second support assembly 300, an elastic member, and an auxiliary power member 150.

The top connection assembly 100 includes a stationary assembly and a moving assembly 110. The moving assembly 110 is movable relative to the stationary assembly in a first horizontal direction. The first horizontal direction is the direction indicated by the arrow A in FIG. 2 and the opposite direction thereof, that is, the longitudinal direction of the lifting table. In the embodiment shown in the figures, the securing assembly is separate and includes a first securing component 120 and a second securing component 140 spaced apart in a first horizontal direction. Alternatively, the fixing component can also be integral. The table top 500 of the lift table is secured to the top attachment assembly 100. Illustratively, the table top 500 is of wood or stainless steel.

The first support assembly 200 is hinged to the second support assembly 300 to form an X shape. The elastic member is disposed between the first support assembly 200 and the second support assembly 300 at a hinge therebetween. The elastic member may be, for example, the torsion springs 212 and 222 in the illustrated embodiment. Alternatively, the elastic member may also employ a spring piece. The elastic member serves to provide a biasing force that causes the upper end of the second support assembly 300 to be applied toward the upper end of the first support assembly 200. The upper end of the second support assembly 300 has a tendency to move toward the upper end of the first support assembly 200 under the action of the elastic member.

Illustratively, the first support assembly 200 and the second support assembly 300 can be hinged by pins 211 and 221 . The elastic members may include torsion springs 212 and 222. The torsion springs 212 and 222 are respectively sleeved on the corresponding pins 211 and 221 and located between the first support assembly 200 and the second support assembly 300. Both ends of the torsion springs 212 and 222 abut against the first support assembly 200 and the second support assembly 300, respectively.

Illustratively, the first support assembly 200 can include two first support columns 210 and 220 and a first connection post 230 spaced apart in a second horizontal direction. The second horizontal direction is perpendicular to the first horizontal direction. The first connection post 230 is coupled between the bottoms of the first support columns 210 and 220 to form a U-shaped structure.

Illustratively, the second support assembly 300 can include two second support columns 310 and 320 and a second connection post 330 spaced apart in a second horizontal direction. The second connection post 330 is coupled between the bottoms of the second support columns 310 and 320 to form a U-shaped structure.

Preferably, as shown in FIG. 3, the second support assembly 300 is located inside the first support assembly 200 as viewed in a direction perpendicular to the plane of the paper (ie, the first horizontal direction). The pin 211 sequentially passes through the middle of the first support post 210, the torsion spring 212 and the middle of the second support post 310, and the pin 211 is locked by a nut 311. Both ends of the torsion spring 212 abut against the outer surfaces of the first support post 210 and the second support post 310, respectively. Alternatively, holes may be provided on opposite sides of the first support post 210 and the second support post 310, and both ends of the torsion spring 212 respectively abut against the holes. The pin 221 sequentially passes through the middle of the first support post 220, the torsion spring 222 and the middle of the second support post 320, and the pin 221 is locked by a nut 321 . Both ends of the torsion spring 222 abut against the outer surfaces of the first support post 220 and the second support post 320, respectively. Optionally, holes are also provided on opposite sides of the first support post 220 and the second support post 320, and both ends of the torsion spring 222 abut against the holes, respectively.

Preferably, the moving component 110 is provided with a plurality of limiting holes 115 extending along the first horizontal direction, as shown in FIG. 6. The limiting hole 115 is used to pass and fix the limiting screw 114 to the table top 500 of the lifting table. Illustratively, the limiting hole 115 is elongated, and the limiting screw 114 is fixed to the table 500 after passing through the limiting sleeve 113 and the limiting hole 115 in sequence.

The upper end of the first support assembly 200 is hinged to the fixed assembly, and the upper end of the second support assembly 300 is hinged to the moving assembly 110. By moving the moving assembly 110, the top angle α (see FIG. 2) between the first support assembly 200 and the second support assembly 300 is changed, thereby adjusting the height of the support structure, and lifting and lowering the lifting table. In embodiments where the stationary component is a split component, the mobile component 110 is slidably disposed on the first stationary component 120 and the upper end of the first support component 200 can be hinged to the second stationary component 140.

Optionally, pulleys are disposed on both sides of the moving assembly 110. As shown in FIGS. 6-7, pulleys 111 are disposed on both sides of the moving assembly 110. The opposite side of the first fixing component 120 is provided with a slide 121. The slide 121 extends in the first horizontal direction. The pulleys 111 are respectively

connected to the respective slides 121. The movable connection of the moving assembly 110 and the first fixed assembly 120 is achieved by the pulley moving within the slide. The moving assembly 110 is provided with a connector 116 for articulating the upper end of the second support assembly 300, as shown in FIG. The second fixing component 140 is provided with a connecting seat 141 for articulating the upper end of the first supporting component 200.

The auxiliary power unit 150 is coupled between the fixed assembly and the moving assembly 110. The auxiliary power unit 150 has opposite first and second ends. The first end of the auxiliary power unit 150 is coupled to the stationary assembly and the second end is coupled to the moving assembly 110. The auxiliary power unit 150 may employ a gas spring. Preferably, the gas spring can be a self-locking gas spring. The self-locking gas spring can be stopped at any position in the stroke and has a large locking force after stopping.

According to the support structure provided by the present invention, since the upper end of the second support assembly 300 is coupled to the moving assembly 110 of the top joint assembly 100, when a downward force is applied to the table 500, the upper end of the second support assembly 300 is at the moving assembly Moving downward in a direction away from the upper end of the first support assembly 200, the top angle a (see FIG. 2) between the first support assembly 200 and the second support assembly 300 is increased, the auxiliary power member 150 is compressed, and the support structure as a whole The height is lowered to meet the sitting position. Fig. 4 is a schematic view of the lifting table in a stowed state, which takes up a small space after being stored, and can be in a very light and thin state in the same industry, and is preferably about 5 cm. When the table top is to be raised, the top angle a is reduced and the overall height of the support structure is raised to meet the standing position requirement under the bias of the elastic members at the hinge of the first support assembly 200 and the second support assembly 300.

Preferably, the support structure further includes a bottom frame assembly 400. The lower end of the first support assembly 200 is movably coupled to the bottom frame assembly 400. The lower end of the second support assembly 300 is hinged to the bottom frame assembly 400. By providing the bottom frame assembly 400, the support structure 10 is more stable and secure.

Illustratively, the bottom frame assembly 400 includes a pair of opposite bottom beams 430 and 440 and a pair of opposite end beams 410 and 420 disposed opposite each other. Bottom end beams 410 and 420 are coupled to both ends of bottom beams 430 and 440, respectively. The bottom beams 430 and 440 extend in a first horizontal direction. The lower end of the first support assembly 200 is slidably coupled to the bottom beams 430 and 440. The lower end of the second support assembly 300 is pivotally coupled to the bottom end beam 410 or 420. The bottom end beams 410 and 420 respectively seal the ends of the bottom beams 430 and 440 at both ends. Alternatively, the bottom end beams 410 and 420 can be secured to the bottom cross members 430 and 440 by threaded fasteners.

Illustratively, the first support assembly 200 further includes sliders 213 and 223, as shown in FIG. The sliders 213 and 223 are respectively mounted on both sides of the lower end of the first support assembly 200, for example, at both ends of the first connection post 230 of the first support assembly 200. The opposite inner sides of the bottom beams 430 and 440 are provided with slides 431 and 441. Sliders 213 and 223 are connected to the slides 431 and 441.

Preferably, the fixing assembly further comprises a lock switch. The lock switch includes a wrench mount 131, a wrench 130, and a transmission member 132.

The wrench holder 131 is disposed at an end of the fixing assembly in a first horizontal direction. The wrench holder 131 is disposed, for example, on the first fixing component 120 or separately from the first fixing component 120 and the second fixing component 140. The first end of the auxiliary power member 150 is fixed to the wrench holder 131. The wrench 130 is pivotally disposed within the wrench mount 131 between the locked position and the unlocked position. Illustratively, the wrench 130 can be pivotally coupled to the wrench mount 131 by a pin 133. For ease of grip, the wrench 130 can be exposed beyond the edge of the table top 500. When the lifting and lowering operations are performed on the lifting table, the table top 500 can be leveraged, that is, the palms are on the top and the fingers are down while holding the edge of the table 500 and the wrench 130 to rotate the wrench 130.

Illustratively, the wrench 130 extends in a second horizontal direction that is perpendicular to the first horizontal direction. The wrench 130 has an L-shaped cross section. As shown in FIG. 6, the wrench 130 has a horizontal section and a vertical section. Wherein the horizontal section is for gripping and the vertical section is connected to the transmission member 132.

The transmission member 132 is coupled to the wrench 130. When the wrench 130 rotates, the transmission member 132 can be driven to move in the first horizontal direction. The transmission member 132 moves, and a thrust can be applied to the first end of the auxiliary power member 150 to unlock the self-locking function of the auxiliary power member 150. It should be noted that the transmission member 132 may directly apply a thrust to the auxiliary power member 150 to unlock the auxiliary power member 150; or, alternatively, the transmission member 132 indirectly applies a thrust to the auxiliary power member 150 through the intermediate member.

Illustratively, the transmission member 132 includes a T-shaped body 132a, a wrench connection portion 132b, and a power piece connection portion 132c. The T-shaped body 132a extends in a first horizontal direction. The T-shaped body 132a has a large-sized end and a small-sized end in the first horizontal direction. A hook 134 is

provided at the junction of the large-sized end and the small-sized end. A wrench connecting portion 132b is provided at the large-sized end and is connected to the wrench 130. A power member connecting portion 132c is provided at the small-sized end and is connected to the auxiliary power member 150.

Preferably, the lock switch further includes a hook 134. A hook 134 is disposed on the transmission member 132. The hook 134 can be engaged with the bottom frame assembly 400 when the wrench 130 is in the locked position to achieve storage locking. A buckle 421 adapted to the hook 134 may be disposed at a position on the bottom frame assembly 400 corresponding to the hook 134. The buckle 421 can be disposed on the bottom end beam 420 of the bottom frame assembly 400 corresponding to the position of the hook 134. When the hook 134 is engaged with the buckle 421, the storage state is locked. When the wrench 130 is in the unlocked position, the engagement with the bottom frame assembly 400 can be released.

In the above preferred embodiment, the auxiliary power unit 150 is a self-locking type gas spring having a self-locking function. The auxiliary power unit 150 is coupled between the transmission member 132 and the moving assembly 110. When the wrench 130 is in the unlocked position, the self-locking function of the auxiliary power member 150 can be released.

Illustratively, when the wrench 130 is pivoted upward from the locked position shown in FIG. 6 to the unlocked position, the transmission member 132 is moved toward the second fixed assembly 140, for example, the ejector pin on the self-locking gas spring is pressed. To achieve the purpose of unlocking the self-locking gas spring. The self-locking gas spring can be expanded and contracted as needed after being unlocked.

For the above exemplary embodiment, when it is required to lower the height of the lifting table, the wrench 130 is rotated upward, the wrench 130 is rotated to the unlocking position, the self-locking function of the auxiliary power member 150 is released, and when the downward force is applied to the table 500, the top clamp is applied. The angle a increases and the height of the lift table decreases until it enters the state shown in FIG. When the wrench 130 is released, the wrench 130 returns to the locked position, and the buckle 421 is engaged with the hook 134 to achieve the locking state in the stored state. When it is necessary to raise the height of the lifting table, the wrench 130 is rotated upward to the unlocking position, the jam between the buckle 421 and the hook 134 is released, and the self-locking function of the auxiliary power member 150 is released, and the torsion springs 212 and 222 are under the action, the top angle a between the first support assembly 200 and the second support assembly 300 is reduced, and the overall height of the lifting table is raised to meet the stance requirement, and the wrench 130 is loosened.

Figures 6-14 illustrate, from various angles, the entirety of a support structure and various components or portions included in the support structure in accordance with

another embodiment of the present invention. The main difference between this embodiment and the embodiment depicted in Figures 1-7 is the top connection assembly 100', and thus the same or similar components as the above-described embodiments will be described with the same reference numerals when describing the other embodiment, and These same or similar components will not be described in detail.

The top connection assembly 100' includes a stationary assembly and a moving assembly 110'. The moving assembly 110' is movable relative to the stationary assembly in a first horizontal direction. The first horizontal direction is the longitudinal direction of the lift table shown by the arrow A in FIG. In the embodiment shown in the figures, the securing assembly is separate and includes a first securing assembly 120' and a second securing assembly 140' spaced apart in a first horizontal direction.

Preferably, the first fixing member 120' includes a pair of first fixing members 122' disposed opposite to each other, and a pair of second fixing members 124' disposed opposite to each other, as shown in Figs. The opposite inner side of the first fixing member 122' is provided with a first slide 126', and the opposite inner side of the second fixing member 124' is provided with a second slide 128'. The moving assembly 110' has a Y-shape, and the Y-shaped moving assembly 110' has a large-sized end and a small-sized end along the first horizontal direction. A first slider 112' is disposed on both sides of the large-sized end of the moving assembly 110', and a second slider 114' is disposed on both sides of the small-sized end of the moving assembly 110'. The first slider 112' is slidably coupled to the first runner 126' and the second slider 114' is slidably coupled to the second runner 128'. The first slider 112' and the second slider 114' may be pulleys, projections, and the like. Preferably, the first slider 112' and the second slider 114' are convex to simplify the structure and reduce the thickness of the lift table in the stowed state. The above scheme using the Y-shaped moving assembly 110' can alleviate the weight of the support structure, and since the sliders are both disposed at the end of the moving assembly 110', the spacing between the first slider 112' and the second slider 114' Larger, so the movement of the moving assembly 110' can be made more stable.

Further preferably, as shown in Figures 8-14, the lock switch has a preferred configuration, the lock switch including a wrench mount 131', a wrench 130', a transmission member 132', and a pivot member 135'.

The wrench holder 131' is disposed at the end of the fixing assembly along the first horizontal direction, and the first end of the auxiliary power member 150 is fixed to the wrench holder 131' as shown in FIG. The wrench 130' is pivotally disposed within the wrench mount 131' between the locked position and the unlocked position. The transmission member 132' is coupled to the wrench 130' and is moved by the wrench 130' in a first horizontal direction. One end of the pivoting member 135' is pivotally coupled to the wrench mount 131', and the other end can push the first end of the auxiliary power member 150 under the pushing of the transmission member 132' to

unlock the auxiliary power member 150. Since the pivoting member 135' increases the force arm of the ejector auxiliary power member 150, the user can rotate the wrench with a small force, thereby having a good hand feeling and improving the user experience.

The transmission member 132' can be sandwiched between the table top and the wrench holder 131', and the wrench holder 131' is restricted from being oriented in a first horizontal direction within a certain range. Illustratively, the protrusion 134a' on the transmission member 132' for pushing the pivoting member 135' protrudes below the wrench holder 131', and the remaining portion may be held between the table top and the wrench holder 131'.

The hook 134' is disposed below the transmission member 132'. The hook 134' is engageable to the bottom frame assembly when the wrench 130' is in the locked position and can be disengaged from the bottom frame assembly when the wrench 130' is in the unlocked position. The function of this portion of the hook 134' is the same as that of the foregoing embodiment, and therefore will not be described again.

For the above exemplary embodiment, when it is required to lower the height of the lifting table, the palm presses the table and the finger pulls the wrench 130' to rotate the wrench 130' upward to the unlocking position. Referring to FIG. 14, the transmission member 132' moves to the left side. The protrusion 134a' thereon pushes the pivoting member 135' such that the pivoting member 135' pushes the first end of the pivoting member 135' (for example, the ejector pin on the self-locking gas spring), releasing the auxiliary power member 150 Self-locking function. At this time, when a downward external force is applied to the table, the top angle α is increased, the auxiliary power member 150 is compressed, and the height of the lift table is lowered until it enters the state shown in Figs. 11-12. When the wrench 130 is loosened, the wrench 130 returns to the locked position, and during the returning process, the buckle 421 is engaged to the bottom frame assembly to achieve the locking state in the storage state. When it is necessary to raise the height of the lifting table, the wrench 130 is rotated upward to the unlocking position, the jam between the buckle 421 and the hook 134 is released, and the self-locking function of the auxiliary power member 150 is released, and the torsion springs 212 and 222 are Under the action, the top angle α between the first support assembly 200 and the second support assembly 300 is reduced, and the overall height of the lifting table is raised to meet the stance requirement, and the wrench 130 is loosened.

According to another aspect of the present invention, there is also provided a lift table comprising a support structure as described above.

The support structure of the invention has the advantages that the support buffering effect is excellent and the storage is free. Since the vertical descending gravity greatly causes the risk of pinching, the lifting table adopts the supporting structure of the invention, not only can prevent the risk of pinching, but also does not generate noise when stowed; in addition, the lifting table is based on the function of the elastic member and the auxiliary power member. It can also automatically rise, reduce human intervention, and it is convenient and quick to deploy, which brings convenience to users.

The locking switch provided by the utility model has excellent locking effect, does not undergo any deformation after being stored, and is firmly locked; and passes through the first supporting component and the second supporting component through the action of the auxiliary power component during the lifting process The elastic member at the hinge forms a tension function, and at the same time, since the upper end of the second support assembly is slidably coupled to the other end of the top joint assembly through the auxiliary power member, the support structure has an excellent cushioning effect, and is freely retractable, and the lift table is based on The function of the elastic part and the auxiliary power piece can also be automatically raised without human intervention; it is convenient and quick to deploy, and brings convenience to the user.

The present invention has been described by the above-described embodiments, but it should be understood that the above-described embodiments are only for the purpose of illustration and description. Further, those skilled in the art can understand that the present invention is not limited to the above embodiments, and various modifications and changes can be made according to the teachings of the present invention. These modifications and modifications are all claimed in the present Patent Claims(s). The scope of the invention is defined by the appended claims and their equivalents.

Publication number	Priority date	Publication date	Assignee	Title
CN102715729A *	2012-07-11	2012-10-10	杭州盾达工艺制品有限公司	Lifting table top
CN105342138A *	2015-12-11	2016-02-24	深圳米乔科技有限公司	X-shaped lifting table
CN105901924A *	2016-06-29	2016-08-31	浙江嘉宜实业有限公司	Linkage mechanism for lift table
WO2016137119A1 *	2015-02-27	2016-09-01	에스케이이노 주식회사	Height-adjustable table

CN106473451A *	2016-11-04	2017-03-08	无锡爱力机械有限公司	Controllable gas spring same table
CN107149286A *	2017-06-28	2017-09-12	陈工	Same table and its supporting construction
Family To Family Citations				

* Cited by examiner, † Cited by third party

Cited By (2)

Publication number	Priority date	Publication date	Assignee	Title
US20200196748A1 *	2018-12-24	2020-06-25	Qidong Vision Mounts Manufacturing Co.,Ltd	Hand-operated Worm Gear Height Adjustable Table
US11134773B1 *	2015-01-24	2021-10-05	Office Kick, Inc.	Desktop workspace that adjusts vertically
Family To Family Citations				

* Cited by examiner, † Cited by third party, ‡ Family to family citation

Similar Documents

Publication	Publication Date	Title
WO2017045506A1	2017-03-23	Elevation working platform
US10264877B2	2019-04-23	Height adjustment mechanism, platform and method
US8276525B2	2012-10-02	Height-adjustable equipment stand
US6105508A	2000-08-22	Work surface for luggage and luggage carriers
WO2019001507A1	2019-01-03	Lifting table and support structure thereof
US6736073B2	2004-05-18	Work surface for luggage and luggage carriers
US10092089B1	2018-10-09	Height-adjustable table
JP4335282B2	2009-09-30	High and low adjustable table
US7252040B2	2007-08-07	Portable table for a laptop computer
US6439134B1	2002-08-27	Work surface for luggage and luggage carriers
EP3191063B1	2021-02-17	Seat assist device
CN107708486A	2018-02-16	Adjustable for height desk dock
USRE47955E1	2020-04-21	Folding table
WO2018010262A1	2018-01-18	Height-adjustable and stand-up computer desk
US10813448B2	2020-10-27	Hand-operated worm gear height adjustable table
US5449221A	1995-09-12	Portable leg rest
US11291298B2	2022-04-05	Lifting table
US20190053641A1	2019-02-21	Table or shelf with roll-top extender
US20200154877A1	2020-05-21	Multi-purpose portable platform stage
US20120271350A1	2012-10-25	Range of motion table
JP4335284B2	2009-09-30	High and low adjustable table
US8985031B2	2015-03-24	Desk top elevator
CN213524345U	2021-06-25	Students' dormitory bed is with activity type bed desk
US10918216B2	2021-02-16	System and method for raising a bed off the floor
WO2018054223A1	2018-03-29	Apparatus for adjusting device position

Priority And Related Applications

Priority Applications (4)

Application	Priority date	Filing date	Title
CN201720765866.0U	2017-06-28	2017-06-28	Same table and its locking mechanism
CN201710509581.5		2017-06-28	
CN201720765866.0		2017-06-28	
CN201710509581.5A	2017-06-28	2017-06-28	Same table and its supporting construction

Legal Events

Date	Code	Title	Description
2019-02-13	121	Ep: the epo has been informed by wipo that ep was designated in this application	**Ref document number:** 18825278 **Country of ref document:** EP **Kind code of ref document:** A1
2019-12-31	NENP	Non-entry into the national phase	**Ref country code:** DE
2020-08-12	122	Ep: pct application non-entry in european phase	**Ref document number:** 18825278 **Country of ref document:** EP **Kind code of ref document:** A1

Concepts

machine-extracted

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Name	Image	Sections	Count	Query match
biological transmission		claims,description	27	0.000
assembly		claims,description	3	0.000

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Patents

A kind of lifting tables

Abstract

A kind of lifting tables disclosed in this invention, the bottom end of at least two forked type cranes and the side progress parallel-moving type of pedestal are hinged, and it is hinged that a side of top one end and desktop bottom surface carries out parallel-moving type; The bottom other end of at least two forked type cranes and the other side pin shaft of pedestal are hinged, and the other side pin shaft of the top other end and desktop is hinged; It is connected between the bottom end of at least two forked type cranes by connecting rod, the driving device that control forked type crane is risen or fallen is fixed on pedestal, driving device is fixedly linked with connecting rod; The side of driving device is equipped with limit inductor, and the inductive head of limit inductor is corresponding with connecting rod.Its structure is by the descending operation of forked type crane, so that desktop realization rises or fails adjustings, and while rising or falling makes driving device work that lift adjustment can be completed, to improve practical performance using also more convenient.

Classifications

⊗ A47B21/02 Tables or desks for office equipment, e.g. typewriters, keyboards with vertical adjustable parts

View 6 more classifications

CN109008216A

China

Download PDF Find Prior Art Similar

Other languages: Chinese

Inventor: [redacted]

Current Assignee : Ningbo Kangying Metal Products Co Ltd

Worldwide applications

2018 CN

Application CN201811173016.7A events ⓘ

2018-10-09	Application filed by Ningbo Kangying Metal Products Co Ltd
2018-10-09	Priority to CN201811173016.7A
2018-12-18	Publication of CN109008216A
Status	Pending

Info: Cited by (2), Legal events, Similar documents, Priority and Related Applications

External links: Espacenet, Global Dossier, Discuss

Claims (10)

Hide Dependent

1. a kind of lifting tables, which is characterized in that including pedestal, desktop and the elevator being installed between pedestal and desktop Structure is embedded with wireless charging device on desktop; Elevating mechanism includes at least two cranes, the bottom of at least two forked type cranes Portion one end and a side of pedestal progress parallel-moving type are hinged, and a side of top one end and desktop bottom surface carries out parallel-moving type hinge it connects; The bottom other end of at least two forked type cranes and the other side pin shaft of pedestal are hinged, the top other end and desktop The other side pin shaft it is hinged; It is connected between the bottom end of at least two forked type cranes by connecting rod, it is fixed on pedestal The driving device for having control forked type crane to be risen or fallen, driving device are fixedly linked with connecting rod.

2. a kind of lifting tables according to claim 1, which is characterized in that further include Keyboard supporting board, the front side portion of desktop It is fixedly linked by inclination connecting plate with Keyboard supporting board.

3. a kind of lifting tables according to claim 2, which is characterized in that inclination connecting plate is equipped with USB interface and drawer Slot, drawer slot is interior to be fixedly linked inserted with drawer box, the top opening edge of drawer slot and the bottom surface of desktop, and the leading flank of drawer box It is provided with knob.

4. a kind of lifting tables according to claim 3, which is characterized in that the specific composition structure of drawer slot are as follows: inclination The top of connecting plate is equipped with through-hole, and leading flank is fixed with decorative panel; The top of decorative panel has drawer groove body, and drawer groove body passes through Reach through hole, and the bottom side in the bottom inside face and drawer box of the drawer slot on drawer groove body is in isosceles triangle shape downwards Be recessed and form tilted recessed portion one, and drawer groove body bottom outside face formed with forked type crane be fully deployed after etc. The consistent isosceles triangle lateral surface one of lumbar triangle shape concave shape; The bottom outside face of drawer box is formed and tilted recessed portion One corresponding matched isosceles triangle lateral surface two; The bottom side of through-hole is matched with being bonded with isosceles triangle lateral surface one Tilted recessed portion two; The leading flank of decorative panel and the leading flank of drawer box all have decorative stripe.

5. a kind of lifting tables according to claim 3 or 4, which is characterized in that the leading flank side of drawer box has existing There is flange, there is existing annular groove at the front opening of drawer slot, flange is corresponding to be inserted into annular groove.

6. a kind of lifting tables according to claim 2, which is characterized in that the top surface fitting of Keyboard supporting board is fixed with anti-skidding Cushion.

7. a kind of lifting tables according to claim 1, which is characterized in that the bottom end of at least two forked type cranes Hinged with the side progress parallel-moving type of pedestal, it is hinged that a side of top one end and desktop bottom surface carries out parallel-moving type; Thereon State the hinged structure of specific parallel-moving type are as follows: at least two forked type cranes respectively include two hinged supports of the rear pin shaft that intersects Bar one and support rod two are all provided on the bottom surface of desktop and pedestal there are two track, the rail on orbital position and pedestal on desktop Road position corresponds to each other; There is translatable pulley in the translation slot of track, at least the bottom end of two support rods one by shaft with Pedestal top sheave progress parallel-moving type is hinged, and the bottom surface pin shaft of top and desktop is hinged; Two top of at least two support rod is by turning Axis and the pulley of desktop bottom surface progress parallel-moving type are hinged, and the side pin shaft of bottom end and pedestal is hinged; At least two support rods one it

is connected with each other between bottom end by connecting rod; At least it is interconnected and fixed between the hinged place of two support rods two by a cross bar.

8. a kind of lifting tables according to claim 7, which is characterized in that the bottom surface of desktop is fixed with peace up and down Shell is filled, two tracks on desktop are installed respectively to be positioned on two inner sidewall of left and right of installation shell.

9. a kind of lifting tables according to claim 1, which is characterized in that the side of driving device is equipped with limit induction The inductive head of device, limit inductor is corresponding with connecting rod.

10. a kind of lifting tables according to claim 9, which is characterized in that the top of driving device and the side of pedestal Covering is equipped with shield shell, and driving device goes up and down electric cylinders using straight line.

Description

A kind of lifting tables

Technical field

The present invention relates to the technical fields carried to tablet computer, laptop, desktop computer etc., especially one Kind lifting tables.

Background technique

Desk is commonly in life, work and Learning in School as a kind of daily necessities, general desk usually by Desktop is formed by fixedly connecting with table leg, and the length of table leg is also fixed, so that the height of entire desktop is to fix not it is adjustable; And when needing to charge to mobile phone or tablet computer, it is necessary to pull out charging data line from attaching plug and insert Enter and carry out charging operations on mobile phone or tablet computer, since the length of charging data line is restricted, so that in charging Incoming call answer, make a phone call and information inspection is replied inconvenient, and the charging data line is easy to and it its power supply line, keyboard connecting line or the winding of mouse connecting line, so that the desktop of lifting tables is quite mixed and disorderly; And with application environment Difference and different crowd application demand, the requirement to the high diversity of desk, automatic degree, level of comfort also gets over Carry out convenience that is higher, and using; Therefore a kind of same table that liftable is adjusted is needed.

Summary of the invention

The one kind designed the purpose of the present invention is to solve the deficiency of above-mentioned technology desktop can be carried out rise or under Falling tone section, and a kind of lifting tables easy to use.

A kind of lifting tables designed by the present invention, including pedestal, desktop and the liter being installed between pedestal and desktop Descending mechanism is embedded with wireless charging device on desktop; Elevating mechanism includes at least two cranes, at least two forked type cranes Bottom end and pedestal a side carry out parallel-moving type it is hinged, top one end and desktop bottom surface a side carry out parallel-moving type Hingedly; The bottom other end of at least two forked type cranes and the other side pin shaft of pedestal are hinged, the top other end and table The other side pin shaft of plate is hinged; It is connected between the bottom end of at least two forked type cranes by connecting rod, it is solid on pedestal Surely the driving device for having control forked type crane to be risen or fallen, driving device are fixedly linked with connecting rod.

It further preferably, further include Keyboard supporting board, the front side portion of desktop passes through inclination connecting plate and Keyboard supporting board stationary phase Even.

Further preferably, inclination connecting plate is equipped with USB interface and drawer slot, and drawer slot is interior inserted with drawer box, drawer slot Top opening along and the bottom surface of desktop be fixedly linked, and the leading flank of drawer box is provided with knob.

Further preferably, the specific composition structure of drawer slot are as follows: the top for tilting connecting plate is equipped with through-hole, and leading flank is solid Surely there is decorative panel; The top of decorative panel has drawer groove body, and drawer groove body runs through through-hole, and the bottom of the drawer slot on drawer groove body Bottom side in portion's medial surface and drawer box is recessed downwards in isosceles triangle shape and forms tilted recessed portion one, and drawer The bottom outside face of groove body forms the consistent isosceles triangle of isosceles triangle concave shape after being fully deployed with forked type crane Shape lateral surface one; The bottom outside face of drawer box forms matched isosceles triangle lateral surface corresponding with tilted recessed portion one Two; The bottom side of through-hole, which has, is bonded matched tilted recessed portion two with isosceles triangle lateral surface one; The front side of decorative panel The leading flank of face and drawer box all has decorative stripe.

Further preferably, the leading flank side of drawer box has existing flange, has at the front opening of drawer slot existing Annular groove, flange is corresponding to be inserted into annular groove.

Further preferably, the top surface fitting of Keyboard supporting board is fixed with Skidproof soft cushion.

Further preferably, progress parallel-moving type in a side of the bottom end of at least two forked type cranes and pedestal is hinged, it is hinged that one side of its top one end and desktop bottom surface carries out parallel-moving type; The hinged structure of its above-mentioned specific parallel-moving type are as follows: at least Two forked type cranes respectively include two hinged support rods of the rear pin shaft that intersects one and support rod two, the bottom surface and bottom of desktop The orbital position there are two track, on desktop is all provided on seat to correspond to each other with the orbital position on pedestal; In the translation slot of track With translatable pulley, at least bottom end of two support rods one is hinged by shaft and pedestal top sheave progress parallel-moving type, top it holds hinged with the bottom surface pin shaft of desktop; Two top of at least two support rod carries out parallel-moving type hinge by the pulley of shaft and desktop bottom surface It connects, the side pin shaft of bottom end and pedestal is hinged; It is connected with each other at least between the bottom end of two support rods one by connecting rod; At least it is interconnected and fixed between the hinged place of two support rods two by a cross bar.

Further preferably, the bottom surface of desktop is fixed with installation shell up and down, and two tracks on desktop are installed respectively it is positioned on two inner sidewall of left and right of installation shell.

Further preferably, the side of driving device is equipped with limit inductor, the inductive head and connecting rod of limit inductor it is corresponding.

Further preferably, the top of driving device and the side of pedestal, which cover, is equipped with shield shell, and driving device is adopted Electric cylinders are gone up and down with straight line.

A kind of lifting tables designed by the present invention, structure passes through the descending operation of forked type crane, so that desktop is real Make driving device work that lift adjustment can be completed when now rising or falling adjusting, and rising or falling, realizes in desktop Upper progress wireless charging operation, to improve practical performance using also more convenient.

Detailed description of the invention

Fig. 1 is the overall structure diagram (one) of embodiment 1;

Fig. 2 is the overall structure diagram (two) of embodiment 1;

Fig. 3 is the overall structure diagram (three) of embodiment 1;

Fig. 4 is the explosive view of embodiment 1;

Fig. 5 is the structural schematic diagram (one) of the drawer of embodiment 1;

Fig. 6 is the structural schematic diagram (two) of the drawer of embodiment 1;

Fig. 7 is the overall structure diagram (four) of embodiment 1;

Fig. 8 is the overall structure diagram (five) of embodiment 1.

Specific embodiment

Following will be combined with the drawings in the embodiments of the present invention, and technical solution in the embodiment of the present invention carries out clear, complete Site preparation description, it is clear that described embodiments are only a part of the embodiments of the present invention, instead of all the embodiments.It is based on Embodiment in the present invention, those of ordinary skill in the art's every other embodiment obtained belong to what the present invention protected Range.

Embodiment 1:

As Figure 1-Figure 8, a kind of lifting tables described in the present embodiment, including pedestal 1, desktop 2 and be located at bottom Seat 1 and desktop 2 between and side by side spaced at least two forked types crane 3, the bottom one of at least two forked type cranes 3 End and a side of pedestal progress parallel-moving type are hinged, and it is hinged that a side of top one end and 2 bottom surface of desktop carries out parallel-moving type; Extremely The bottom other end of few two forked type cranes 3 and the other side pin shaft of pedestal are hinged, and the top other end is another with desktop 2 One side pin shaft is hinged; It is connected between the bottom end of at least two forked type cranes 3 by connecting rod 5, is fixed on pedestal 1 The driving device 4 that control forked type crane 3 is risen or fallen, driving device 4 are fixedly linked with connecting rod 5; Driving device 4 Side limit inductor 6 is installed, the inductive head of limit inductor 6 is corresponding with connecting rod 5.Straight line liter can be used in driving device Electric cylinders, cylinder, oil cylinder or gas spring drop; Straight line goes up and down electric cylinders by cylinder body and is set to the intracorporal screw rod of cylinder, servo motor structure At the end of cylinder body has been pierced by piston rod, and the bottom end of piston rod and the idler wheel sliding block of lead screw are fixed.

Wireless charging device 14 is embedded on desktop 2.Its wireless charging device, which solves, is needing opponent in the prior art When machine or tablet computer are charged, it is necessary to pull out from attaching plug and be carried out on charging data line insertion mobile phone or tablet computer Charging operations, since the length of charging data line is restricted, so that the incoming call in charging is answered, made a phone call And information inspection reply is inconvenient, and the charging data line is easy to and other power supply lines, keyboard connecting line or mouse Connecting line winding is marked, so that the technical problem that the desktop of lifting tables is quite mixed and disorderly; It is convenient to reach charging, desktop when charging The technical effect of neat and tidy, it is thus also avoided that the case where receiving calls during the charging process or playing game occurs (due to charging It receives calls or plays in the process the operations such as game to be easy to keep lithium battery hot, to be easy to occur to cause safety because hot Accident, safety are lower).

The design principle of above structure: straight line lifting electric cylinders and limit inductor are powered on, and straight line goes up and down the work of electric cylinders Stopper rod stretches out the operation for reaching the decline of forked type crane so that the upper and lower ends of forked type crane strut; When straight line goes up and down electric cylinders Piston rod retraction, promote the upper and lower ends of forked type crane to shrink, with reach forked type crane rise operation, the company of rising to After extension bar and the touching of the inductive head of limit inductor, electric cylinders, which automatically power off, to stop working, to complete to rise to maximum; Due to it is spaced setting side by side in front and back between each forked type crane, so that the support to desktop is more steady reliable, prevents side it turns over.It carries out carrying out wireless charging to mobile phone or tablet computer by wireless charging device.

In the present embodiment, the bottom end of at least two forked type cranes 3 and a side of pedestal 1 carry out parallel-moving type hinge it connects, it is hinged that a side of top one end and 2 bottom surface of desktop carries out parallel-moving type; The hinged structure of its above-mentioned specific parallel-moving type are as follows: At least two forked type cranes 3 respectively include two hinged support rods of the rear pin shaft that intersects 1 and support rod 2 32, desktop 2 Bottom surface and pedestal 1 on be all provided with there are two track 10,10 position of track on desktop 2 and 10 position of track on pedestal 1 are mutual it is corresponding; There is translatable pulley 12, at least bottom end of two support rods 1 passes through shaft and bottom in the translation slot 11 of track 10 Seat 1 top sheave progress parallel-moving type is hinged, and top and the bottom surface pin shaft of desktop 2 are hinged; 2 32 top of at least two support rod passes through The pulley of shaft and 2 bottom surface of desktop progress parallel-moving type is hinged, and bottom end and the side pin shaft of pedestal 1 are hinged; At least two support rods it is connected with each other between one 31 bottom end by connecting rod 5; Pass through 16 phase of a cross bar at least between the hinged place of two support rods 2 31 Connect fixation.Its structure makes forked type crane when doing the work risen or fallen, between support rod one and support rod two Hinged place top position or lower position strut or shrink more smooth stabilization, promote service performance, and structure has more compactedness; Two support rods two are fixed by cross bar, so that the positioning of two support rods two is more firm.And pulley can be in the translation slot of track it is slid or is translated or roll displacement.

In the present embodiment, the bottom surface of desktop 2 is fixed with installation shell 13 up and down, and two tracks 10 on desktop 2 divide it An Zhuan not be positioned on two inner sidewall of left and right of installation shell 13.Its structure is more firm to the installation positioning of track, convenient, and And pulley is also more smooth when translating sliding in slot.

It further include Keyboard supporting board 8 in the present embodiment, the front side portion of desktop 2 is solid by inclination connecting plate 7 and Keyboard supporting board 8 It is fixed to be connected.Its Keyboard supporting board is used for holding keyboard.For Keyboard supporting board when fixed, the rear side of Keyboard supporting board has locating slot, inclination Connecting plate is caught in locating slot, and the bottom for tilting connecting plate has supporting plate, and the rear side bottom surface of Keyboard supporting board is fixed on supporting plate. To use the fixed structure of the Keyboard supporting board, so that stronger reliable after Keyboard supporting board is fixed.

In the present embodiment, inclination connecting plate 7 is equipped with USB interface 71 and drawer slot 702, and drawer slot 702 is interior inserted with drawer The top opening of box 9, drawer slot 702 is fixedly linked along the bottom surface with desktop 2, and the leading flank of drawer box 9 is provided with knob 94. USB interface can directly plug data line and carry out carrying out charging operations to any mobile device, it is not necessary that plug is in addition inserted in power supply On socket, use is more convenient; Drawer box has the function of storing sundries.

In the present embodiment, the specific composition structure of drawer slot 702 are as follows: the top of inclination connecting plate 7 is equipped with through-hole 72, before Side is fixed with decorative panel 70; The top of decorative panel 70 has drawer groove body 701, and drawer groove body 701 runs through through-hole 72, and drawer Bottom side in the bottom inside face and drawer box 9 of drawer slot 702 on groove body 701 downwards in isosceles triangle shape recess and Form tilted recessed portion 1, and the bottom outside face of drawer groove body 701 formed after being fully deployed with forked type crane 3 etc. The consistent isosceles triangle lateral surface 1 of lumbar triangle shape concave shape; The bottom outside face of drawer box 9 formed with it is tilted recessed The isosceles triangle lateral surface 2 92 of one 91 Corresponding matching of concave portion; The bottom side of through-hole 72 has and isosceles triangle lateral surface one The 704 matched tilted recessed portions 2 711 of fitting; The leading flank of decorative panel 70 and the leading flank of drawer box 9 all have ornamental strip Line 705.its is compact-sized reliable, when making drawer box inner space more Datong District by isosceles triangle lateral surface and introversion inclined portion Forked type support frame is just being better than the outside bottom surface fitting of drawer groove body after being fully deployed, any interference does not occur after guaranteeing desktop decline Effect.Two sides of decorative panel and bottom side all have positioning plate, and two sides of bottom side positioning plate have locating piece, inclination connection Plate is positioned between the side positioning plate of decorative panel both sides, and bottom side positioning plate contradicts the supporting plate top surface in inclination connecting plate, and holds in the palm Plate is located between the locating piece of two side of bottom side positioning plate, is fixed after the completion of positioning by bolt.

In the present embodiment, the top of driving device 4 and the side of pedestal 1 cover and are equipped with shield shell 15.its shield shell Have the function of dust-proof, and makes pedestal more beautiful.

In the present embodiment, the leading flank side of drawer box 9 has existing flange 93, has at the front opening of drawer slot 702 There is existing annular groove 7021, flange 93 is corresponding to be inserted into annular groove 7021.Its structure positions after bouncing back to drawer box, to prevent from taking out Drawer, which is excessively pushed into inside drawer slot, to be caused to pull out drawer box into more difficulty, to improve service performance.

In the present embodiment, the top surface fitting of Keyboard supporting board 8 is fixed with Skidproof soft cushion 91; Its Skidproof soft cushion prevents from being placed on key Article slides and breaks on pan arrest plate.

The present invention is not limited to above-mentioned preferred forms, anyone can show that other are various under the inspiration of the present invention The product of form, however, make any variation in its shape or structure, it is all that there is skill identical or similar to the present application Art scheme, is within the scope of the present invention.

Cited By (2)

Publication number	Priority date	Publication date	Assignee	Title
CN110116426A *	2019-05-16	2019-08-13	苏州市职业大学	A kind of lifting computer desk
US10568841681 *	2015-01-24	2020-02-25	Nathan Mark Poniatowski	Desktop workspace that adjusts vertically
Family To Family Citations				

* Cited by examiner, † Cited by third party, ‡ Family to family citation

Similar Documents

Publication	Publication Date	Title
CN109008216A	2018-12-18	A kind of lifting tables
US20200107633A1	2020-04-09	Lifting desk
CN209202319U	2019-08-06	A kind of lifting tables
CN202218706U	2012-05-16	Multifunctional folding and lifting placement table for sewing machine
CN211657723U	2020-10-13	Multifunctional bedside cabinet
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CN210471383U	2020-05-08	Office equipment for project cost budget
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CN211380091U	2020-09-01	Desk integrating office work and life
CN209763139U	2019-12-10	Lighter with mobile phone support
CN210144116U	2020-03-17	Double-layer workbench
CN211269169U	2020-08-18	Movable computer workbench

Priority And Related Applications

Priority Applications (1)

Application	Priority date	Filing date	Title
CN201811173016.7A	2018-10-09	2018-10-09	A kind of lifting tables

Applications Claiming Priority (1)

Application	Filing date	Title
CN201811173016.7A	2018-10-09	A kind of lifting tables

Legal Events

Date	Code	Title	Description
2018-12-18	PB01	Publication	
2018-12-18	PB01	Publication	
2019-01-11	SE01	Entry into force of request for substantive examination	
2019-01-11	SE01	Entry into force of request for substantive examination	

Concepts

machine-extracted

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Name	Image	Sections	Count	Query match
corresponding		claims,abstract,description	11	0.000
inductive effect		claims,abstract,description	6	0.000
installation		claims,description	6	0.000
elevating		claims,description	2	0.000
rising		abstract,description	4	0.000

Show all concepts from the description section

(19) 대한민국특허청(KR)
(12) 등록특허공보(B1)

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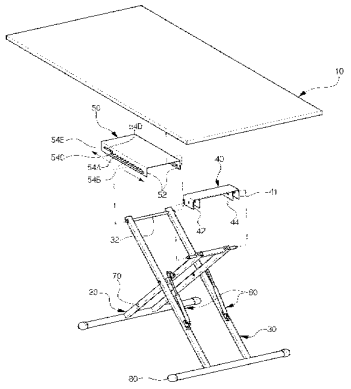
전체 청구항 수 : 총 7 항 심사관 : 박미정

(54) 접철식 높이조절장치

(57) 요 약

접철식 높이조절장치가 개시된다. 이 접철식 높이 조절장치는 탁자, 다림질판, 의자, 작업대, 재치대 및 책상과 같은 제품의 높이를 조절하기 위한 것으로서, 힌지에 의해 그 중간부가 서로 교차되게 결합되어 접혀지도록 된 제 1,2다리부재 중에서 제 1다리부재 선단부가 축으로 결합되고, 상기 제품의 저면 일측에 설치되는 제 1브라켓; 상기 제 2다리부재의 선단부에 구비된 걸림부재가 선택적으로 걸려 제품의 높이가 조절되도록 하기 위한 다수의 걸림홈을 갖는 적어도 하나 이상의 날개를 구비하여 제품의 저면 타측에 설치되는 제 2브라켓; 상기 제품의 높이 조절시 상기 걸림부재가 상기 걸림홈에서 빠졌을 때 상기 제품의 자중에 의해 제 1,2다리부재가 접혀지지 않게 탄력 지지하도록 신축가능하게 구성되어 상기 제 1다리부재와 제 2다리부재에 각 일단이 힌지로 결합되는 지지부;를 포함하는 것을 특징으로 한다. 이러한 접철식 높이조절장치는 폐쇄형의 작동공 및 제 1,2다리부재를 탄력 지지하는 지지부재 등에 의해 안정적이고 용이하게 높이조절이 가능하게 되고, 제품을 사용하지 않을 경우에는 다리부재들을 접을 수 있어서 보관성이 향상된다.

대표도 - 도1



발명의구성 발명

청구항 1

삭제

청구항 2

삭제

청구항 3

탁자, 다림질판, 의자, 작업대, 재치대 및 책상과 같은 제품의 높이를 조절하기 위한 것으로서,

힌지에 의해 그 중간부가 서로 교차되게 결합되어 접혀지도록 된 제 1,2다리부재 중에서 제 1다리부재 선단부가 축으로 결합되고, 상기 제품의 저면 일측에 설치되는 제 1브라켓;

상기 제 2다리부재의 선단부에 구비된 걸림부재가 선택적으로 걸려 제품의 높이가 조절되도록 하기 위한 다수의 걸림홈을 갖는 적어도 하나 이상의 날개를 구비하여 제품의 저면 타측에 설치되는 제 2브라켓;

상기 제품의 높이 조절시 상기 걸림부재가 상기 걸림홈에서 빠졌을 때 상기 제품의 자중에 의해 제 1,2다리부재가 접혀지지 않게 탄력 지지하도록 신축가능하게 구성되어 상기 제 1다리부재와 제 2다리부재에 각 일단이 힌지로 결합되는 지지부재;를 포함하고,

상기 제 2브라켓은 상기 걸림부재가 제 2브라켓의 길이방향으로 이동하면서 선택적으로 상기 걸림홈에 걸리기 위한 작동공을 구비하되,

상기 작동공은,

상기 날개에 길이방향으로 길게 형성되어 장방형 형태를 갖고, 내측 상부에는 상기 걸림홈이 연이어 형성되며,

상기 걸림부재가 이탈되지 않도록 폐쇄된 구조로 형성되며,

상기 제 1,2다리부재가 접혀질 때 곧바로 완전히 접혀지지 않도록 접힘방향 끝부분에 형성되는 안전걸림부: 및

상기 제 1,2다리부재가 완전히 접혀져 제품의 저면에 밀착되도록 연결통로에 의해 상기 안전걸림부 양옆과 연결되고, 상기 연결통로에서 접힘방향으로 길게 연장 형성되는 접힘부;를 구비하여 구성되는 것을 특징으로 하는 접철식 높이조절장치.

청구항 4

청구항 3에 있어서, 상기 연결통로와 접힘부의 연결코너 외측에는 상기 제 1,2다리부재가 펼쳐질 때 상기 걸림부재가 간섭없이 연결통로를 통하여 작동공 측으로 이동되도록 하기 위한 곡선 안내면이 형성되는 것을 특징으로 하는 접철식 높이조절장치.

청구항 5

청구항 3 또는 청구항 4에 있어서, 제 1,2다리부재의 접힘상태를 유지하기 위한 접힘유지수단이 구비되는 것을 특징으로 하는 접철식 높이조절장치.

청구항 6

청구항 5에 있어서, 상기 접힘유지수단은 상기 작동공과 마주보는 제 1다리부재 또는 제 2다리부재의 일면에 설치되어 제 1,2다리부재가 완전히 접혀질 때 상기 작동공에 탄력적으로 삽입되어 상기 제 1,2다리부재가 접힘상태를 유지하도록 하기 위한 볼 스톱퍼로 구성되는 것을 특징으로 하는 접철식 높이조절장치.

청구항 7

청구항 5에 있어서, 상기 접힘유지수단은 상기 제 2브라켓의 날개와 상기 날개와 마주보는 제 1다리부재 또는 제 2다리부재에 형성되는 각각의 끼움공;

각 상기 끼움공에 삽입되어 제 1,2다리부재의 접힘상태를 유지하기 위한 끼움편; 및

상기 끼움핀과 날개를 연결하여 끼움핀의 분실을 방지하기 위한 연결끈;으로 이루어지는 것을 특징으로 하는 접철식 높이조절장치.

청구항 8

삭제

청구항 9

청구항 6에 있어서, 상기 지지부재는 속업쇼버 또는 스프링으로 이루어지는 것을 특징으로 하는 접철식 높이조절장치.

청구항 10

삭제

청구항 11

청구항 9에 있어서, 상기 제 1,2다리부재의 하단부에는 이동수단으로서 바퀴가 구비되는 것을 특징으로 하는 접철식 높이조절장치.

청구항 12

삭제

명 세 서

발명의 상세한 설명

발명의 목적

발명이 속하는 기술 및 그 분야의 종래기술

<17> 본 발명은 접철식 높이조절장치에 관한 것으로, 특히 탁자, 다림질판, 의자, 작업대, 재치대 및 책상과 같은 다양한 제품의 높이를 용이하게 다단계로 조절할 수 있을 뿐만 아니라, 교차되는 각 다리부재에 속업쇼버가 설치됨으로써 접힘 및 펼침시 안정성을 확보할 수 있는 접철식 높이조절장치에 관한 것이다.

<18> 일반적으로 탁자, 다림질판, 의자, 작업대, 재치대 및 책상과 같은 다양한 제품들은 그 높이를 조절하기 위한 수단을 구비하고 있다.

<19> 예를 들면, 제품의 다리 하단부에 암나사를 형성하고, 이 암나사에 숫나사를 체결한 후 숫나사의 하단에 받침부재를 결합한 구조가 제공된다. 이 구조의 높이조절장치는 받침부재를 조임방향 또는 풀림방향으로 회전시키는 것에 따라 숫나사가 암나사에 체결되어 이동하게 되므로 결국 다리의 높이가 조절되는 것이다.

<20> 한편, 한 쌍의 다리를 교차시켜 다리를 접고 펼치는 것에 따라 그 상부에 배치된 상판의 높이가 조절되도록 구성된 높이조절장치가 제공되었다. 그러나, 이러한 구조의 높이조절장치는 상판의 저면에 고정 설치된 브라켓의 설치홈이 직하방으로 개구되어 있었기 때문에 다리의 상단부가 쉽게 이탈될 수 있었고, 이로 인하여 제품의 높이조절된 상태가 사용자의 의지와 상관없이 해제되는 문제점이 있었으며, 이로 인하여 사용자가 상해를 입는 문제점도 유발되었다. 그리고, 이러한 구조의 높이조절장치는 제품의 높이를 조절하기 위해서 제품을 뒤집은 후 다리의 선단부를 걸림홈에 삽입시킨 후 제품을 다시 원상태로 뒤집는 작업을 해야 하는 번거러움이 있었던 것이다.

발명이 이루고자 하는 기술적 과제

<21> 본 발명은 상기와 같은 종래기술의 문제점을 해소하기 위하여 안출된 것으로, 본 발명의 기술적 과제는 제품의 높이를 안전하게 조절할 수 있고, 용이하고 신속하게 조절할 수 있으며, 접힘구조를 갖는 높이조절장치를 제공하는 데 있다.

<22> 본 발명의 다른 기술적 과제는 접힘구조를 갖으면서도 이동이 용이한 높이조절장치를 제공하는 데 있다.

발명의 구성 및 작용

<23> 상기와 같은 기술적 과제를 해소하기 위해, 본 발명은,

<24> 탁자, 다림질판, 의자, 작업대, 재치대 및 책상과 같은 제품의 높이를 조절하기 위한 것으로서,

<25> 힌지에 의해 그 중간부가 서로 교차되게 결합되어 접혀지도록 된 제 1,2다리부재 중에서 제 1다리부재 선단부가 축으로 결합되고, 상기 제품의 저면 일측에 설치되는 제 1브라켓;

<26> 상기 제 2다리부재의 선단부에 구비된 걸림부재가 선택적으로 걸려 제품의 높이가 조절되도록 하기 위한 다수의 걸림홈을 갖는 적어도 하나 이상의 날개를 구비하여 제품의 저면 타측에 설치되는 제 2브라켓;

<27> 상기 제품의 높이 조절시 상기 걸림부재가 상기 걸림홈에서 빠졌을 때 상기 제품의 자중에 의해 제 1,2다리부재가 접혀지지 않게 지지하고 제 1,2다리부재에 탄력을 부여하도록 신축가능하게 구성되어 상기 제 1다리부재와 제 2다리부재에 각 일단이 힌지로 결합되는 지지부재;를 포함하는 것을 특징으로 하는 접철식 높이조절장치를 제공한다.

<28> 상기 제 2브라켓은 상기 걸림부재가 제 2브라켓의 길이방향으로 이동하면서 선택적으로 상기 걸림홈에 걸리기 위한 작동공을 구비하되,

<29> 상기 작동공은,

<30> 상기 날개에 길이방향으로 길게 형성되어 장방형 형태를 갖고, 내측 상부에는 상기 걸림홈이 연이어 형성되며, 상기 걸림부재가 이탈되지 않도록 폐쇄된 구조를 갖는 것을 특징으로 한다.

<31> 상기 작동공은,

<32> 상기 제 1,2다리부재가 접혀질 때 곧바로 완전히 접혀지지 않도록 접힘방향 끝부분에 형성되는 안전걸림부; 및

<33> 상기 제 1,2다리부재가 완전히 접혀져 제품의 저면에 밀착되도록 연결통로에 의해 상기 안전걸림부 영역과 연결되고, 상기 연결통로에서 접힘방향으로 길게 연장 형성되는 접힘부;를 더 포함하는 것을 특징으로 한다.

<34> 상기 연결통로와 접힘부의 연결코너 외측에는 상기 제 1,2다리부재가 펼쳐질 때 상기 걸림부재가 간섭없이 연결통로를 통하여 작동공 측으로 이동되도록 하기 위한 곡선 안내면이 형성되는 것을 특징으로 한다.

<35> 제 1,2다리부재의 접힘상태를 유지하기 위한 접힘유지수단이 구비되는 것을 특징으로 한다.

<36> 상기 접힘유지수단은 상기 작동공과 마주보는 제 1다리부재 또는 제 2다리부재의 일면에 설치되어 제 1,2다리부재가 완전히 접혀질 때 상기 작동공에 탄력적으로 삽입되어 상기 제 1,2다리부재가 접힘상태를 유지하도록 하기 위한 볼 스톱퍼로 구성되는 것을 특징으로 한다.

<37> 상기 접힘유지수단은 상기 제 2브라켓의 날개와 상기 날개와 마주보는 제 1다리부재 또는 제 2다리부재에 형성되는 각각의 끼움공;

<38> 각 상기 끼움공에 삽입되어 제 1,2다리부재의 접힘상태를 유지하기 위한 끼움핀; 및

<39> 상기 끼움핀과 날개를 연결하여 끼움핀의 분실을 방지하기 위한 연결끈;으로 이루어지는 것을 특징으로 한다.

<40> 상기 지지부재는 쇽업쇼버 또는 스프링으로 이루어지는 것을 특징으로 한다.

<41> 지면과 닿는 상기 제 1,2다리부재의 하단부에는 미끄럼을 방지하기 위한 마감부재가 설치되는 것을 특징으로 한다.

<42> 상기 제 1,2다리부재의 하단부에는 이동수단으로서 바퀴가 구비되는 것을 특징으로 한다.

<43> 이에 앞서, 본 명세서 및 청구범위에 사용된 용어나 단어는 통상적이거나 사전적인 의미로 한정해서 해석되어서는 아니 되며, 발명자는 그 자신의 발명을 가장 최선의 방법으로 설명하기 위해서 용어의 개념을 적절하게 정의할 수 있다는 원칙에 입각하여 본 발명의 기술적 사상에 부합하는 의미와 개념으로 해석되어야만 한다.

<44> 따라서, 본 명세서에 기재된 실시 예와 도면에 도시된 구성은 본 발명의 가장 바람직한 일 실시 예에 불과할 뿐이고, 본 발명의 기술적 사상을 모두 대변하는 것은 아니므로, 본 출원시점에 있어서 이들을 대체할 수 있는 다양한 균등물과 변형 예들이 있을 수 있음을 이해하여야 한다.

<45> 이와 같은 본 발명의 바람직한 실시 예를 첨부된 도면을 토대로 상세하게 설명하면 다음과 같다.

<46> 도 1 및 도 2에 도시된 바와 같이 접철식 높이조절장치는 제품(10)의 저면, 즉 제품(10)의 상판 저면에 설치되는 제 1브라켓(40)과, 제 1브라켓(40)과 소정의 거리를 유지하여 제품(10)의 저면에 설치되는 제 2브라켓(50)과, 제 1브라켓(40)에 힌지로 회전가능하게 결합되는 제 1다리부재(20)와, 제 1다리부재(20)의 중간부와 힌지(축)로 결합되고 상단부가 제 2브라켓(50)의 걸림홈(54B)에 선택적으로 걸리는 제 2다리부재(30)와, 제 1,2다리부재(20,30) 사이에 설치되어 제 1,2다리부재(20,30)를 탄력 지지하는 지지부재(60)로 이루어진다.

<47> 이를 보다 구체적으로 살펴보면 다음과 같다.

<48> 여기서 제품(10)은 탁자, 다림질판, 의자, 작업대, 재치대 및 책상에 한정되지 않는다.

<49> 제 1브라켓(40)은 중간부가 다수의 나사들에 의해 제품(10)의 저면 일측에 고정되고, 양측의 날개(41)는 직각으로 절곡되어 제 1다리부재(20)의 선단부가 축으로 회전가능하게 결합된다.

<50> 이러한 제 1브라켓(40)에는 제 2다리부재(30)가 접혀질 때 삽입되기 위한 삽입부(42)가 한 쌍의 보조날개(44)에 의해 형성된다. 따라서, 제 1다리부재(20)의 선단부는 각 보조날개(44)의 내측에 위치하게 되고 제 2다리부재(30)는 보조날개(44)와 양측의 날개(41) 사이에 위치하게 된다. 이러한 삽입부(42)는 제 1,2다리부재(20,30)가 접혀졌을 때 안정되고 유동없는 상태를 유지하도록 하고, 제 1다리부재(20)를 안정되게 고정하기 위한 것이다. 이때 상기 제 1브라켓(40)의 구조는 본 실시 예에 국한되는 것은 아니고 다양한 구조로 변형될 수 있다.

<51> 제 1,2다리부재(20,30)는 그 중간부가 힌지(축)에 의해 회전가능하게 결합되어 서로 겹쳐지도록 접힐 수 있다. 이 제 1,2다리부재(20,30)의 하단은 지지부가 양측으로 각각 연장 형성되며, 각 지지부의 양단에는 미끄럼을 방지할 수 있고, 마감기능을 갖는 마감부재(80)가 설치된다.

<52> 그리고, 제 2다리부재(30)의 상부 선단에는 걸림부재(32)가 구비된다. 이 걸림부재(32)는 한 쌍으로 이루어진 제 2다리부재(30)의 상단 선단부에 양단이 고정되고, 이러한 걸림부재(32)는 후술할 작동공(54A)의 걸림홈(54B)에 선택적으로 걸리도록 구성된다.

<53> 이와 같은 제 1,2다리부재(20,30)는 금속재로 구성되고 사각 또는 원형 파이프 구조를 갖으나, 사각 파이프 구조를 갖는 것이 바람직하다.

<54> 제 2브라켓(50)은 제 2다리부재(30)의 상단에 구비된 걸림부재(32)가 선택적으로 걸리도록 구성된 것으로, 중간부는 제품(10)의 저면에 고정 설치되고, 양측에는 날개(52)가 직각으로 각각 절곡되어 형성되며, 이 날개(52)에는 걸림홈(52)을 구비한 장방형의 작동공(54A)이 형성된다. 이 작동공(54A)은 제 2브라켓(50)의 길이방향 즉, 날개(52)의 길이방향을 길게 형성되며 폐쇄된 구조를 갖는다. 이와 같이 폐쇄된 구조에 의해 걸림부재(32)가 제 2브라켓(50)으로부터 이탈되는 현상이 방지된다.

<55> 그리고, 작동공(54A)의 구체적 구조는 다음과 같다. 작동공(54A)의 상부에는 걸림홈(52)이 연이어 형성된다. 이 걸림홈(52)은 작동공(54A) 내에서 길이방향으로 이동하는 걸림부재(32)가 선택적으로 삽입되어 걸리도록 하향 개구된 구조를 갖는다. 한편, 접혀지는 방향(도 1에 일점쇄선으로 표시된 화살표 방향)의 작동공(54A) 끝부분에는 걸림홈(52)에서 빠진 걸림부재(32)가 걸리는 안전걸림부(54C)가 형성된다. 이 안전걸림부(54C)는 걸림부재(32)가 걸림으로써 제 1,2다리부재(20,30)가 완전히 접히지 않도록 하는 역할을 한다. 즉, 제품(10)의 높이가 높지 않도록 제 1,2다리부재(20,30)를 접을 경우에, 제 1,2다리부재(20,30)가 곧바로 접혀지지 않고 지면과 일정한 거리를 유지한 상태가 되도록 하여 제 1,2다리부재(20,30)가 곧바로 접힘으로써 발생되는 안전사고를 방지하기 위한 것이다.

<56> 다른 방향에서 설명하면, 작동공(54A)의 길이는 제 1,2다리부재(20,30)가 완전히 접힐 수 있도록 걸림부재(32)가 이동될 수 있는 충분한 길이가 아닌 것이다. 즉, 제 1,2다리부재(20,30)가 완전히 접히기 위해서는 작동공(54A)가 충분한 길이를 구비하여야 하나, 본 발명에 따른 작동공(54A)은 안전걸림부(54C)에 의해 그 길이제한이 되어 걸림부재(32)의 이동을 방지하는 것이다.

<57> 안전걸림부(54C)의 입구 영역에는 상부로 연결통로(54D)가 형성된다. 그리고, 연결통로(54D)를 기준으로 접힘방향으로는 접힘부(54E)가 연장 형성된다. 접힘부(54E)는 도 1 또는 도 2에 도시된 바와 같이 작동공(54A)와 평행하다. 그러나 그 시작 위치가 안전걸림부(54C)의 영역에 위치한 연결통로(54D)이고, 이러한 연결통로(54D)에서 접힘방향으로 연장 형성된 것이다. 따라서, 걸림부재(32)가 연결통로(54D)를 통하여 접힘부(54E)로 이동하게 되면 제 1,2다리부재(20,30)는 완전히 접힐 수 있게 된다.

<58> 지지부재(60)는 제 1,2다리부재(20,30)에 양단이 각각 설치되어 걸림부재(32)가 걸림홈(54B)에서 빠졌을 때 제 1,2다리부재(20,30)가 제품(10)의 자중에 의해 곧바로 접혀지는 것을 방지하기 위한 것으로, 스프링, 탄성고무, 속업쇼버, 가스실린더 등으로 구성될 수 있으나, 속업쇼버(Shock Absorber)로 이루어지는 것이 바람직하다. 일반적으로 사용되는 속업쇼버는 제품(10)의 상판 무게를 충분히 견딜 수 있는 지지력을 구비한 것이 사용되어야 한다. 만약, 속업쇼버의 지지력(완충력)이 약하면 제품(10)의 무게를 충분히 지지하지 못하여 걸림부재(32)가 걸림홈(54B)에서 빠짐과 동시에 제 1,2다리부재(20,30)가 접혀져 안전사고를 유발할 수 있고, 지지력이 너무 강하면 제 1,2다리부재(20,30)를 접는 작업에 많은 힘이 소요되는 문제점이 발생된다.

<59> 한편, 본 실시 예는 접힘유지수단(90)을 구비한다. 이 접힘유지수단(90)은 제 2브라켓(50)의 날개(52)에 형성된 작동공(54A)과 마주보는 위치의 제 1다리부재(20) 일면에는 설치되는 볼 스톱퍼(70)로 구성된다. 이 볼 스톱퍼(70)는 강철볼과 스프링 및 지지 하우징 등으로 구성되어 제 1다리부재(20)의 내부에 설치되고 강철볼은 외부로 노출된다. 이 볼 스톱퍼(70)는 스프링의 탄성에 의해 출몰하는 구조를 갖는 것으로, 제 1,2다리부재(20,30)를 접을 때 볼 스톱퍼(70)의 강철볼이 날개(52)의 작동공(54A)에 탄력적으로 삽입되도록 하여 제 1,2다리부재(20,30)의 접혀진 상태가 유지되도록 하는 기능을 갖는다. 이때, 볼 스톱퍼(70)의 강철볼이 작동공(54A)이 아닌 별도의 구멍에 삽입되도록 날개(52)에 별도의 구멍을 형성할 수 있다.

<60> 다른 실시 예에 따른 접힘유지수단(90)은 도 5에 도시된 바와 같이 상기 제 2브라켓(50)의 날개(52)와 상기 날개(52)와 마주보는 제 1다리부재(20) 또는 제 2다리부재(30)에 형성되는 각각의 끼움공(94,96)과, 각 상기 끼움공(94,96)에 삽입되어 제 1,2다리부재(20,30)의 접힘상태를 유지하기 위한 끼움핀(92)와, 상기 끼움핀(92)과 날개(52)를 연결하여 끼움핀(92)의 분실을 방지하기 위한 연결끈(98)으로 이루어지는 것이다. 이러한 접힘유지수단(90)은 제 1,2다리부재(20,30)가 접혀졌을 때 끼움핀(92)을 날개(52)에 형성된 끼움공(94)과 제 1다리부재(20) 또는 제 2다리부재(30)에 형성된 끼움공(96)으로 끼워서 제 1,2다리부재(20,30)가 임의로 펼쳐지는 현상을 방지하게 된다.

<61> 이와 같이 구성된 본 높이조절장치의 작용을 설명하면 다음과 같다.

<62> 본 높이조절장치는 제 1,2다리부재(20,30)가 접혀졌을 때 도 3 또는 도 4a에 도시된 바와 같이 제품(10)의 상면 저면에 밀착(근접)된 상태를 유지하게 된다.

<63> 이때, 제 1,2다리부재(20,30)는 접힘유지수단(90)인 볼 스톱퍼(70)에 의해 도 4a에 도시된 바와 같이 그 접힘상태를 유지한다. 즉, 볼 스톱퍼(70)의 강철볼 일부가 작동공(54A)에 탄력적으로 삽입되어 있기 때문에 강철볼을 밀어넣을 정도의 외력이 가해지지 않고서는 제 1,2다리부재(20,30)는 그 접혀진 상태를 유지하게 된다. 그리고, 걸림부재(32)는 접힘부(54E)에 위치한 상태이다.

<64> 그리고, 지지부재(60)는 그 길이가 축소되고 탄력을 구비하여 압축된 상태이다.

<65> 이어서, 제 1,2다리부재(20,30)를 펼쳐 제품(10)의 높이를 조절하기 위해서는, 제 1,2다리부재(20,30)의 하단부가 지면에 닿은 상태에서 제품(10)의 상판을 상부로 이동시킨다. 이 과정에서 볼 스톱퍼(70)의 강철볼은 작동공(54A)에서 빠지게 되고, 따라서 제 1,2다리부재(20,30)는 펼쳐질 수 있게 된다.

<66> 이러한 동작으로 제 1,2다리부재(20,30)는 지지부재(60)의 탄성력에 의해 펼쳐지게 되고, 따라서 걸림부재(32)가 접힘부(54E)에서 연결통로(54D) 측으로 이동된다.

<67> 이어서, 사용자가 걸림부재(32)를 도 4b에 도시된 바와 같이 연결통로(54D)에서 안전걸림부(54C) 측으로 이동시킨다. 이 과정으로 제품(10)의 상판은 지면에서 소정의 높이를 유지하게 된다.

<68> 계속하여 제 1다리부재(20) 또는 제 2다리부재(30)를 지지한 후 제품(10)의 상판을 상부로 이동시키게 되면 걸림부재(32)는 작동공(54A)을 따라 도 4c에 도시된 실선 화살표 방향(펼침방향)으로 이동하게 되고, 이러한 상태에서 제품(10)을 상부로 들어올리는 동작을 멈추게 되면 걸림부재(32)는 인접한 걸림홈(54B)에 삽입되고, 따라서 제 1,2다리부재(20,30)는 펼쳐진 상태를 유지하게 되며 제품(10)의 높이는 높아지게 된다. 한편, 제품(10)의 상판을 들어올릴 때 압축되었던 지지부재(60)가 신장되면서 탄력을 발생시키기 때문에 상판을 상부로 들어올리는 동작이 원활함은 물론, 적은 힘으로 들어올릴 수 있게 된다.

<69> 그리고 제품(10)의 상판을 더욱 들어올리게 되면 걸림부재(32)는 삽입되어 있던 걸림홈(54B)에서 빠지면서 펼침방향으로 이동하게 되는 것이다.

<70> 이러한 과정으로 제품(10)의 상판 높이는 높아질 수 있게 된다.

<71> 그리고, 그 높이를 낮추기 위해서는 걸림부재(32)를 걸림홈(54B)에서 빼낸다. 이때, 걸림부재(32)가 걸림홈(54B)에서 빠져있더라도 제 1,2다리부재(20,30) 사이에 지지부재(60)가 설치되어 제 1,2다리부재(20,30)를 탄력지지하고 있기 때문에 제 1,2다리부재(20,30)는 상판의 자중에 의해 접혀지지 않게 된다.

<72> 이어서, 걸림부재(32)를 원하는 위치의 걸림홈(54B)에 삽입시킨 것으로 제품(10)의 높이는 낮아진다.

<73> 한편, 사용이 완료된 제품(10)을 접기 위해서는 걸림부재(32)를 접힘방향(도 4d에 도시된 일점쇄선 화살표 방향)으로 이동시킨 후 연결통로(54D)를 통하여 접힘부(54E)로 이동시킨다. 상기 걸림부재(32)가 접힘부(54E)로 끝부분으로 이동하면서 제 1,2다리부재(20,30)는 도 4a에 도시된 바와 같이 접혀지고, 볼 스톱퍼(70)는 작동공(54A)에 삽입되어 그 접힘상태를 유지하게 되는 것이다.

<74> 다른 실시 예에 따른 접철식 높이조절장치는 도 6a,6b에 도시된 바와 같이 제 1,2다리부재(20,30)의 하단부에 이동수단(100)이 구비된 것이다. 이 이동수단(100)은 제품(10)의 이동을 원활하게 이루어지도록 하기 위한 것이다. 이를 위해서 도 5a에 도시된 바와 같은 직진성을 갖는 바퀴가 사용될 수도 있고, 도 6b에 도시된 바와 같은 조향(회전)이 자유로운 캐스터타입 바퀴가 사용될 수 있다. 특히, 캐스터타입 바퀴에는 잠금장치를 구비하여 바퀴의 구름을 방지함으로써 제품(10)의 위치가 안정되게 고정되도록 할 수도 있는 것이다. 본 실시 예에 사용되는 캐스터타입의 바퀴 및 그 잠금장치는 일반적으로 사용되는 것이므로 상세한 설명은 생략한다.

<75> 한편, 또 다른 실시 예에 따르면, 도 7에 도시된 바와 같이 연결통로(54D)와 접힘부(54E)의 연결코너 외측에는 곡선 안내면(54F)가 형성된다. 이 곡선 안내면(54F)는 제 1,2다리부재(20,30)가 펼쳐질 때 걸림부재(32)가 간섭없이 연결통로(54D)를 통하여 작동공(54A) 측으로 이동되도록 하기 위한 것이다. 다시 설명하면, 제 1,2다리부재(20,30)를 펼치기 위해서 상판을 상부로 이동시키게 되면 걸림부재(32)는 접힘부(54E)에서 연결통로(54D) 측으로 이동한 후 곡선 안내홈(54F)을 따라 간섭없이 연결통로(54D)를 통과하여 작동공(54A)으로 이동될 수 있어서, 제품(10)의 높이를 높이기 위한 동작이 신속하게 용이하게 이루어질 수 있게 된다.

발명의 효과

<76> 본 발명에 따른 접철식 높이조절장치는 걸림홈이 형성된 작동공이 폐쇄된 구조를 갖기 때문에 걸림부재가 작동공으로부터 이탈되지 않아 걸림부재의 이탈로 발생되는 안전사고를 미연에 방지할 수 있고, 제 1,2다리부재 사이에 지지부재가 설치되어 탄력 지지하고 있기 때문에 걸림부재가 걸림홈에서 빠지더라도 제품이 자중에 의해 제 1,2다리부재가 접혀지는 현상을 방지하여 안전사고를 방지할 수 있으며, 제 1,2다리부재가 접혀진 상태에서 접힘유지수단인 볼 스톱퍼가 작동공에 탄력적으로 삽입되어 있으므로 제 1,2다리부재가 접혀진 상태를 안정적으로 유지할 수 있게 되는 효과가 제공된다. 또한, 걸림부재가 폐쇄된 구조의 작동공에 위치하게 되므로 이탈현상이 발생하지 않아 제품의 상판을 들어올리거나 걸림부재를 걸림홈에서 빼내는 동작만으로 제품의 높이가 조절되므로 제품의 높이조절작업이 용이하게 이루어질 수 있게 된다. 한편, 제 1,2다리부재가 접혀지므로 제품의 수납성이 향상된다.

<77> 이상과 같이 본 발명은 비록 한정된 실시 예와 도면에 의해 설명되었으나, 본 발명은 이것에 의해 한정되지 않으며, 본 발명이 속하는 기술분야에서 통상의 지식을 가진 자에 의해 본 발명의 기술 사상과 아래에 기재될 청구범위의 균등 범위 내에서 다양한 수정 및 변형이 가능함은 물론이다.

도면의 간단한 설명

<1> 도 1은 본 발명에 따른 접철식 높이조절장치를 도시한 분해 사시도.

<2> 도 2는 도 1에 도시된 접철식 높이조절장치의 결합상태 사시도.

<3> 도 3a,3b,3c,3d는 도 1에 도시된 접철식 높이조절장치에 의해 제품의 높이가 조절되는 상태를 도시한 작동상태도.

<4> 도 4는 도 1에 도시된 접철식 높이조절장치의 다리부재가 접혀진 상태를 도시한 저면도.

<5> 도 5는 본 발명에 따른 접힘유지수단의 다른 실시 예를 도시한 일부확대도.

<6> 도 6a,6b는 접철식 높이조절장치의 다리부재에 이동수단이 구비된 상태를 도시한 도면.

<7> 도 7은 본 발명에 따른 접힘부와 연결통로의 코너 연결 영역에 곡선 안내면이 형성된 상태를 도시한 일부확대도.

<8> <도면의 주요부분에 대한 부호의 설명>

<9> 10 : 제품 20 : 제 1다리부재

<10> 30 : 제 2다리부재 32 : 걸림부재

<11> 40 : 제 1브라켓 42 : 삽입부

<12> 50 : 제 2브라켓 52 : 날개

<13> 54A : 작동공 54B : 걸림홈

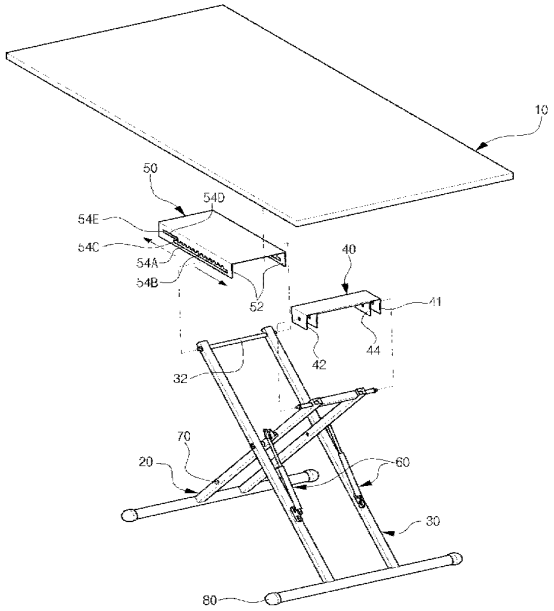
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<15> 54E : 접힘부 60 : 지지부재

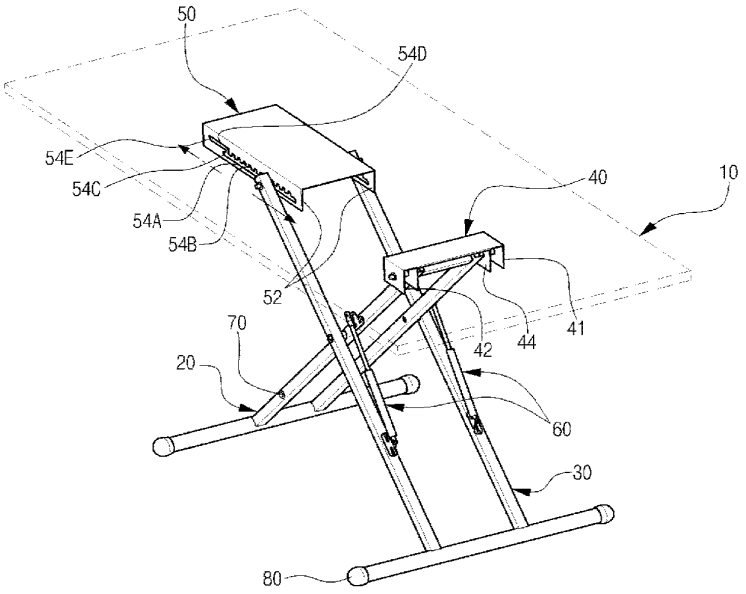
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도면

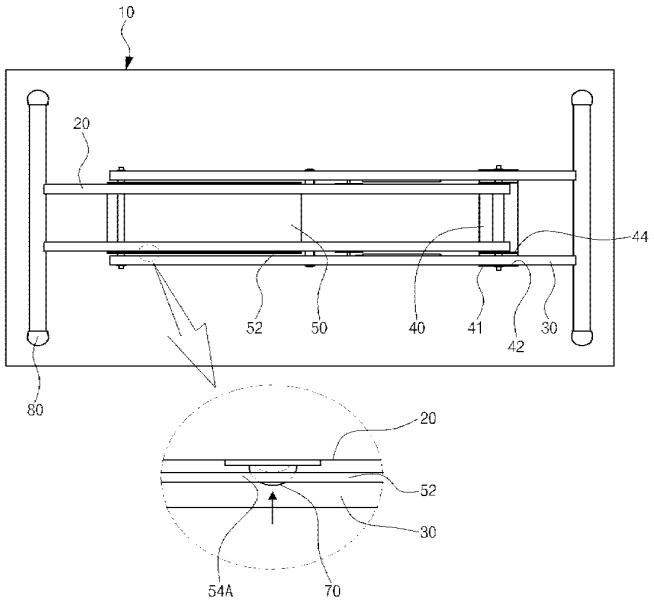
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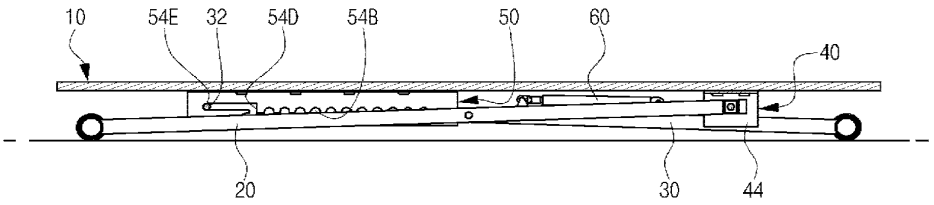
도면2


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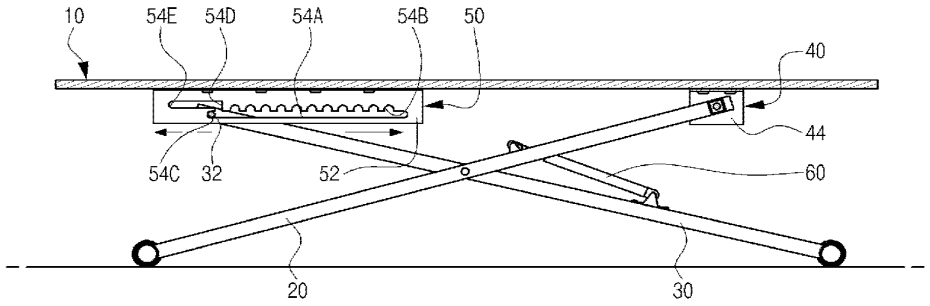
도면3


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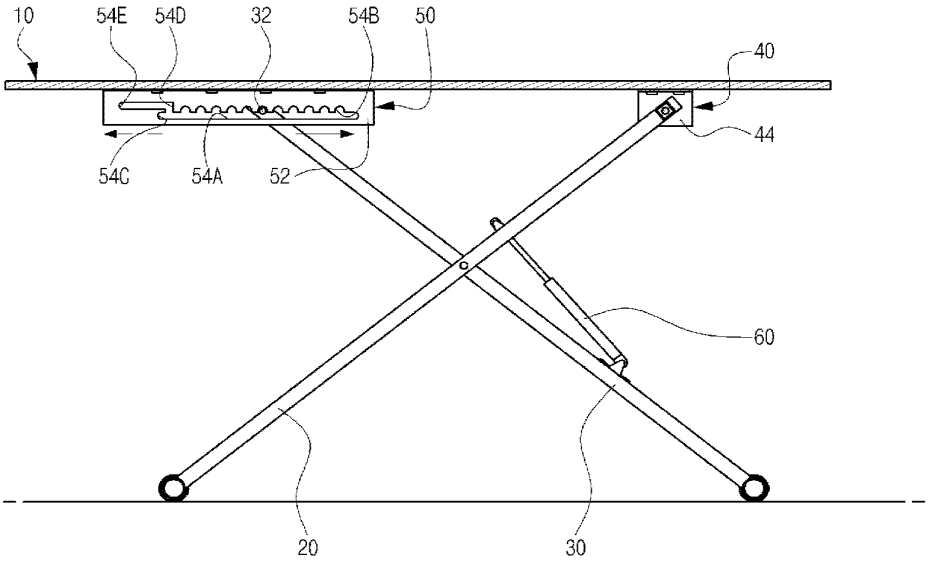
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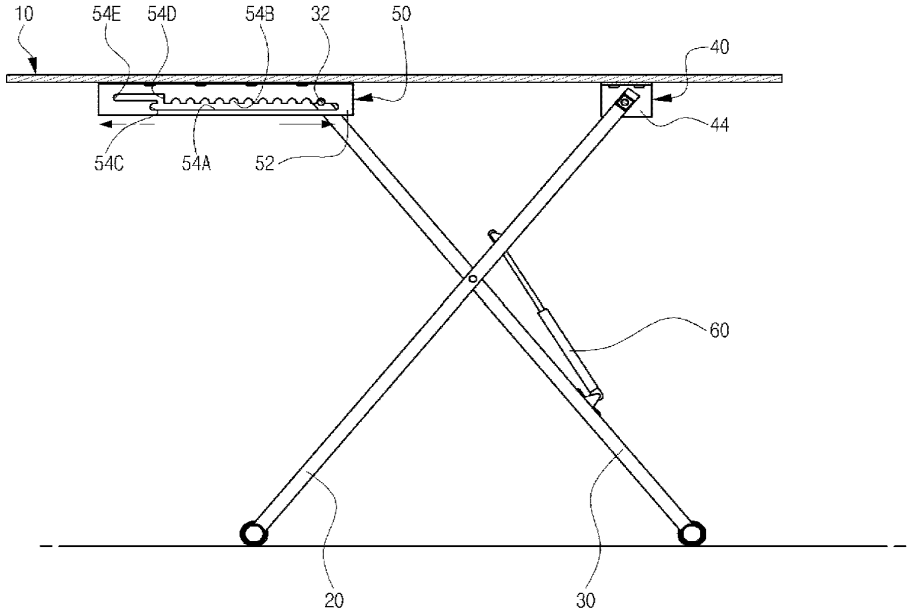
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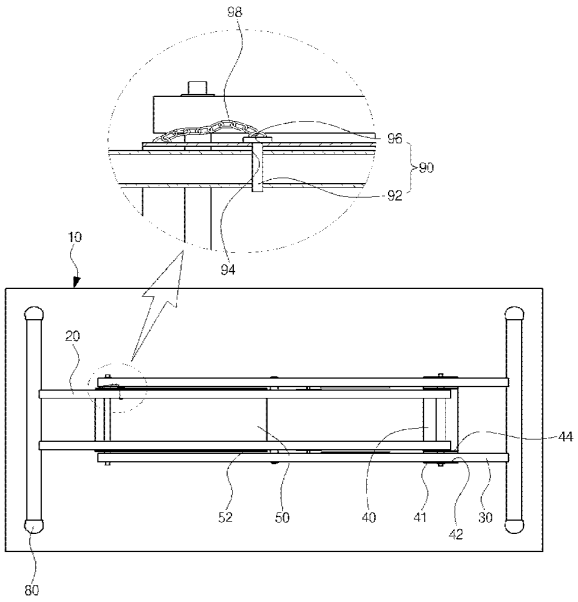
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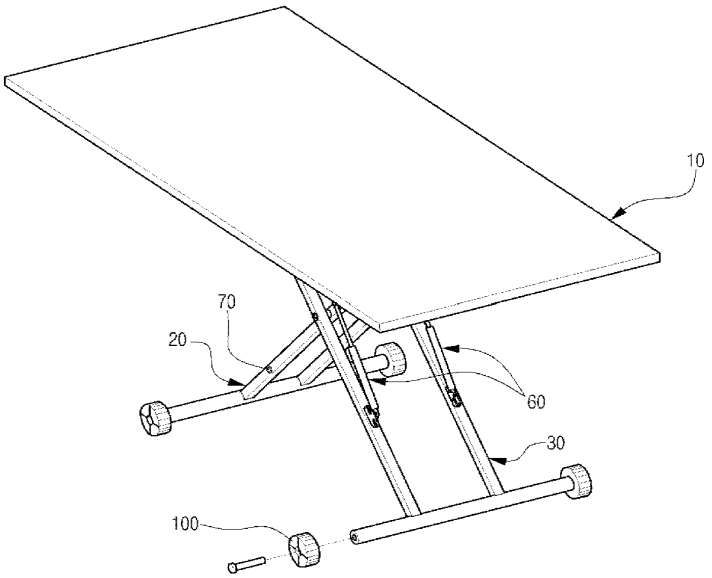
도면4


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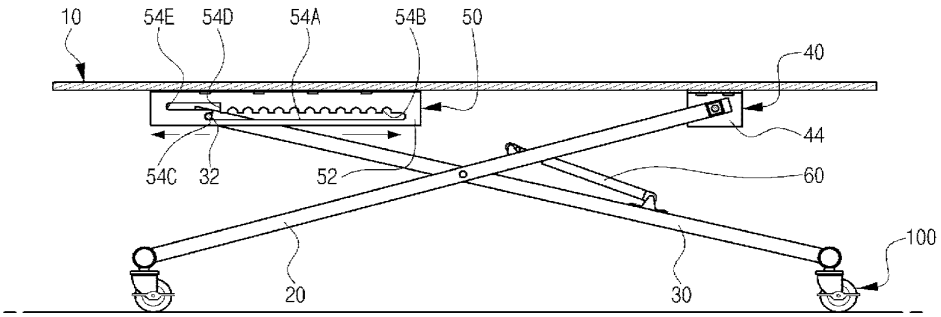
도면5


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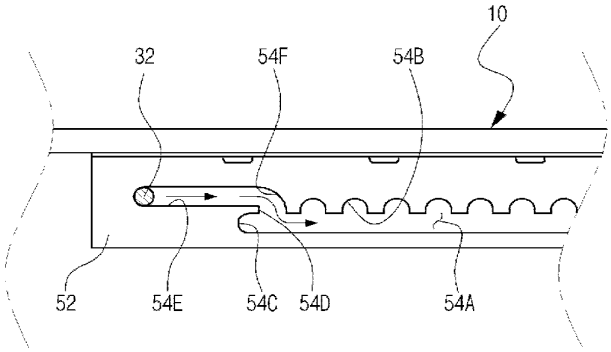
도면6a



도면6b



도면7



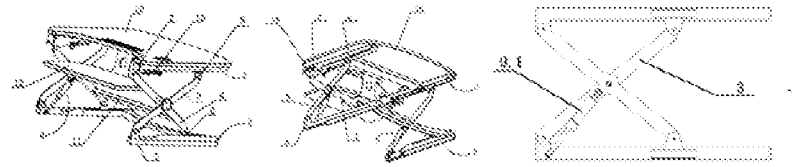
Patents

Elevation working platform

Abstract

An elevation working platform comprises a lower support (2) and an upper support (1). At least one group of X-type elevation mechanisms is provided between the lower support (2) and the upper support (1). The elevation working platform further comprises an elastic element (9). A first end of the elastic element (9) is connected between two end points of a first support rod (3) or a second support rod (4). A second end of the elastic element (9) is connected to the lower support (2) or a second hinging seat (6) capable of sliding relative to the lower support (2). The elastic element (9) supplies a support force for offsetting or partially offsetting a weight borne by the upper support (1), such that the working platform can stay at any height. By means of the X-type elevation mechanisms, the front and back positions of the upper support (1) does not change in an elevating process of the upper support (1), the structure is simple and practical, and the cost is relatively low.

Images (15)



Classifications

- A47B9/02 Tables with tops of variable height with balancing device, e.g. by springs, by weight

View 11 more classifications

WO2017045506A1
WIPO (PCT)

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Other languages: French, Chinese

Inventor: 项乐宏, 郑祥明, 林凌, 李方圆

Worldwide applications

2016 AU JP WO 2018 US 2019 US 2020 US

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Info: Patent citations (31), Cited by (21), Legal events, Similar documents, Priority and Related Applications

External links: Espacenet, Global Dossier, PatentScope, Discuss

Claims (16)

Hide Dependent

1. An elevating workbench comprising an elevating workbench body, the elevating workbench body comprising an upper support, a lower support, and at least one set of X-type lifting mechanisms connected between the upper support and the lower support, The utility model is characterized in that each set of X-shaped lifting mechanism comprises a first strut and a second strut which are hinged in an X shape in the middle, and the lower abutment is provided with a first hinge seat fixed on the lower support and opposite to the lower support a slidable second hinge seat, the upper support is provided with a third hinge seat fixed on the upper support and a fourth hinge seat slidable relative to the upper support, the lower end of the first support is The first hinge seat is hinged, the upper end is hinged with the fourth hinge seat, the lower end of the second pole is hinged with the second hinge seat, the upper end is hinged with the third hinge seat, and the lifting platform further comprises an elastic element, the elasticity a first end of the element is connected between the two ends of the first strut or the second strut, and the second end of the elastic element is connected to the lower support or the second hinge seat slidable relative to the lower support, The elastic element is used to offset or partially offset the upper bearing load.

2. The elevating table according to claim 1, wherein the elastic member is disposed between the lower support and the first strut, the first end of the elastic member is hinged to the lower support, and the second elastic member is The end is hinged to the first pole.

3. The elevating table according to claim 1, wherein the elastic member is disposed between the second hinge seat and the second strut, and the first end of the elastic member is hinged with the second hinge seat, and the elastic member The second end is hinged to the second rod.

4. A lifting table according to claim 2 or 3, wherein the elastic member is a compressed gas spring or a mechanical compression spring.

5. The lifting table according to claim 1, wherein the elastic member is disposed between the lower support and the second support, the first end of the elastic member is hinged to the lower support, and the second member of the elastic member The end is hinged to the second pole.

6. The lifting table according to claim 1, wherein the elastic member is disposed between the second hinge seat and the first strut, and the first end of the elastic member is hinged with the second hinge seat, and the elastic member The second end is hinged to the first strut.

7. The elevating table according to claim 5 or 6, wherein the elastic member is a tension gas spring or a tension spring.

8. The elevating table according to claim 1, wherein the lower holder is provided with a locking mechanism for restricting the sliding of the second hinge seat.

9. The lifting platform according to claim 8, wherein the lower support is provided with a locking mechanism for restricting the sliding of the second hinge seat, and the first sliding rail is connected to the lower support. The second hinge seat is slidably fitted on the first sliding rail, and the second hinge seat is provided with a plurality of positioning holes distributed along the longitudinal direction thereof; and a box is arranged on the lower support outside the second hinge seat Body, the box body is provided with a movable pin whose free end can be inserted or disengaged from the positioning hole, and the inside of the box body The sliding fit is a sliding plate that can move the movable pin and move the free end of the movable pin away from the positioning hole.

10. The elevating table according to claim 1, wherein the upper support is provided with a locking mechanism for restricting the sliding of the fourth hinge seat.

11. The lifting platform according to claim 10, wherein the upper support is provided with a locking mechanism for restricting the sliding of the fourth hinge seat, and the second sliding rail is connected to the upper support. The fourth hinge seat is slidably fitted on the second sliding rail, and the fourth hinge seat is provided with a plurality of positioning holes distributed along the longitudinal direction thereof; and a box is arranged on the upper support outside the fourth hinge seat The movable body pin having a free end capable of being inserted into or disengaging from the positioning hole is disposed in the casing, and the sliding body of the movable body pin is movable to move the movable pin away from the positioning hole.

12. The elevating table according to claim 9 or 11, wherein the inner space of the casing is matched with a movable pin seat, the movable pin is connected to the movable pin seat, and a return spring is sleeved on the movable pin. One end of the return spring abuts against the inner wall of the movable pin seat, the other end of the return spring abuts against the inner wall of the casing, and when the return spring is in a compressed state, the free end of the movable pin is disengaged from the positioning hole, the movable pin The bottom of the seat is provided with a first guiding inclined surface; the sliding plate is provided with a second guiding inclined surface matched with the first guiding inclined surface, and when the sliding plate slides outside the casing, the second guiding inclined surface is pressed A guide ramp moves the movable pin holder outwardly against the spring force of the return spring.

13. The elevating table according to claim 12, wherein the outer end of the sliding plate is connected to a cable, and the cable is provided with a cable return spring, one end of the cable return spring and the sliding The outer end side wall of the plate abuts, and the other end of the cable return spring abuts against the inner wall of the casing; the upper support is connected with a wrench, and the wrench is connected with the outer end of the cable.

14. The elevating table according to claim 1, wherein the at least one set of X-shaped lifting mechanisms are two sets of X-shaped lifting mechanisms, and are respectively disposed on two sides of the upper support, and the two sets of X-shaped lifting and lowering The boards are connected by horizontal plates.

15. The elevating table according to claim 1, wherein said upper support is connected to a table.

16. The elevating table according to claim 15, wherein the elevating table body further comprises a keyboard holder, and the keyboard holder is connected to the upper holder via a connecting plate.

Description

Lifting table
Technical field

The invention relates to the technical field of tablet computer bearing, and in particular to a lifting work platform.

Background technique

With the continuous development of the society, flat panel displays, tablet computers, etc. are becoming more and more popular in ordinary households, and the matching brackets have emerged. The prior art lifting and lowering worktable for carrying tablet computers is generally placed. For use on a table or a table top, most of the prior art lifting tables use mechanical springs or torsion springs to provide a rising spring force, and generally use a strut structure to raise or lower the table top relative to the lower support. More complicated, and the adjustment of the height of the table is more troublesome.

Summary of the invention

The technical problem to be solved by the present invention is to overcome the above drawbacks of the prior art and to provide an elevating worktable with simple structure and convenient height adjustment.

The technical solution of the present invention is to provide an elevating workbench having a structure including an elevating workbench body, the elevating workbench body including an upper support, a lower support, and an upper support and a lower support At least one set of X-shaped lifting mechanisms between the seats, each set of X-shaped lifting mechanisms includes a first strut and a second strut with an X-shaped hinge in the middle, and the second support is fixed on the lower support a hinge seat and a second hinge seat slidable relative to the lower support, the upper seat is provided with a third hinge seat fixed on the upper support and a fourth hinge seat slidable relative to the upper support, The lower end of the first strut is hinged with the first hinge seat, the upper end is hinged with the fourth hinge seat, the lower end of the second strut is hinged with the second hinge seat, and the upper end is hinged with the third hinge seat, the lifting work The table further includes an elastic member, the first end of the elastic member is connected between the two ends of the first strut or the second strut, and the second end of the elastic member is connected to the lower support or opposite to the lower support On the sliding second hinge seat, the elastic element is used The support bearing is canceled or partially canceled.

After adopting the above structure, the lifting table of the present invention has the following advantages compared with the prior art: the lifting table provides a supporting force through the elastic member for canceling or partially canceling the weight of the upper bearing, so that the table can be stopped At any height, the structure is simple, the height adjustment is convenient, and the cost is low; and with the X-shaped lifting mechanism, the front and rear positions of the upper support do not change during the lifting process of the upper support, so it is more practical.

The elastic element is disposed between the lower support and the first support, the first end of the elastic element is hinged to the lower support, and the second end of the elastic element is hinged to the first support.

Preferably, the elastic element is disposed between the second hinge seat and the second strut, the first end of the elastic element Hinged with the second hinged seat, the second end of the elastic element is hinged to the second strut.

Preferably, the elastic element is a compressed gas spring or a mechanical compression spring.

Preferably, the elastic element is disposed between the lower support and the second support, the first end of the elastic element is hinged to the lower support, and the second end of the elastic element is hinged to the second support.

Preferably, the elastic element is disposed between the second hinge seat and the first strut, the first end of the elastic element is hinged with the second hinge seat, and the second end of the elastic element is hinged with the first strut.

Preferably, the elastic element is a tension gas spring or a tension spring.

As an improvement, the lower support is provided with a locking mechanism for restricting the sliding of the second hinge seat.

Preferably, the lower support is provided with a locking mechanism for restricting the sliding of the second hinge seat, which means that the lower support is connected with the first sliding rail, and the second hinge seat is slidingly matched with the first a plurality of positioning holes distributed along the longitudinal direction of the second hinge seat; a lower body of the second hinge seat is provided with a box body, and the box body is provided with a free end energy The movable pin inserted or disengaged from the positioning hole, and the sliding body in the casing cooperates with a sliding plate which can move the movable pin and release the free end of the movable pin from the positioning hole. When the locking mechanism is actuated, the sliding plate is pulled to slide in the casing, and the sliding plate drives the movable pin to move the free end of the movable pin away from the positioning hole. At this time, the second hinge seat slides along the first sliding rail, so that the X-shaped lifting mechanism moves up and down. Height, when the upper support is raised to a certain height, the sliding plate is released, and the free end of the movable pin is inserted into the positioning hole again to restrict the second hinge seat from sliding.

As an improvement, the upper support is provided with a locking mechanism for restricting the sliding of the fourth hinge seat.

The locking mechanism can lock the X-shaped lifting mechanism to fix the height of the table of the X-shaped lifting mechanism, so that the load-bearing capacity of the lifting table can be improved, the locking mechanism is opened, and the elastic force of the elastic member is overcome by hand to adjust the height of the upper support. When the height of the upper support is adjusted, the locking mechanism is released, so that the fourth hinge seat is restricted from sliding, and the X-shaped lifting mechanism is locked. Therefore, the lifting table has a simple structure and convenient height adjustment.

Preferably, the upper support is provided with a locking mechanism for restricting the sliding of the fourth hinge seat, wherein the upper support is connected with a second sliding rail, and the fourth hinge seat is slidably engaged with the second a sliding hole is disposed on the fourth hinge seat, and a plurality of positioning holes are disposed along the longitudinal direction thereof; the upper support on the outer side of the fourth hinge seat is provided with a box body, and the box body is provided with a free end energy The movable pin inserted or disengaged from the positioning hole, and the sliding body in the casing cooperates with a sliding plate which can move the movable pin and release the free end of the movable pin from the positioning hole. When the locking mechanism is actuated, the sliding sliding plate is slid in the casing, and the sliding plate drives the movable pin to move to release the free end of the movable pin from the positioning hole. At this time, the fourth hinge seat slides along the second sliding rail to lift and lower the X-shaped lifting mechanism. Height, when the upper support is lifted to a certain height relative to the lower support, the sliding plate is released, and the free end of the movable pin is again inserted into the positioning hole to restrict the fourth hinge seat from sliding.

Preferably, the inner space of the box cooperates with a movable pin seat, and the movable pin is connected to the movable pin seat, and is live a return spring is sleeved on the driving pin, one end of the return spring abuts against the inner wall of the movable pin seat, the other end of the return spring abuts against the inner wall of the casing, and when the return spring is in a compressed state, the free end of the movable pin is disengaged Positioning hole, the bottom of the movable pin seat is provided with a first guiding inclined surface; the sliding plate is provided with a second guiding inclined surface matched with the first guiding inclined surface, and when the sliding plate slides outside the casing, the The second guiding ramp presses the first guiding ramp to move the movable pin seat outward against the elastic force of the return spring. When the sliding plate is pulled in the casing, the second guiding inclined surface on the sliding plate presses the first guiding inclined surface at the bottom of the movable pin seat to move the movable pin seat outward against the elastic force of the return spring, and the movable pin on the movable pin seat at this time The free end is separated from the positioning hole, the second hinge seat slides along the first sliding rail or the fourth hinge seat slides along the second sliding rail, so that the X-shaped lifting mechanism is lifted and lowered, and when the upper support is lifted to a certain height, the sliding is released. The movable pin is driven by the movable pin under the elastic force of the return spring to cause the free end of the movable pin to be inserted into the positioning hole to restrict the sliding of the second hinge seat or the fourth hinge seat, and at the same time, the first guide slope of the movable pin seat is pressed The second guiding bevel of the sliding plate resets the sliding plate.

The outer end of the sliding plate is connected to a cable, the cable is provided with a spring, one end of the spring abuts against the outer end side wall of the sliding plate, and the other end of the spring abuts against the inner wall of the casing; A wrench is connected to the upper support, and the wrench is connected to the outer end of the cable.

Preferably, the at least one set of X-shaped lifting mechanisms are two sets of X-shaped lifting mechanisms, and are respectively disposed on two sides of the upper support, and the two sets of X-shaped lifting mechanisms are connected by a horizontal plate. With this structure, the X-shaped lifting mechanism on both sides of the upper support can be synchronously moved, and the mechanical strength and stability of the lifting table can be enhanced.

A table is connected to the upper support.

The lifting platform body further includes a keyboard holder, and the keyboard holder is connected to the upper holder through a connecting plate. The keyboard tray can be placed on the keyboard.

DRAWINGS

1 is a schematic structural view of a first embodiment of a lifting workbench according to the present invention.

2 is a schematic view showing the bottom structure of the first embodiment of the lifting work platform of the present invention.

3 is a schematic structural view of a second embodiment of the lifting workbench of the present invention.

4 is a schematic structural view of a third embodiment of the lifting workbench of the present invention.

Figure 5 is a schematic view showing the structure of the fourth embodiment of the lifting table of the present invention.

Figure 6 is a schematic view showing the structure of the fifth embodiment of the lifting table of the present invention.

Figure 7 is a schematic view showing the structure of the sixth embodiment of the lifting table of the present invention.

Figure 8 is a schematic view showing the structure of the seventh embodiment of the lifting table of the present invention.

Figure 9 is a schematic view showing the structure of the locking mechanism of the embodiment of the lifting table of the present invention.

Figure 10 is a schematic view showing the structure of the eighth embodiment of the lifting table of the present invention.

Figure 11 is a schematic view showing the bottom structure of the eighth embodiment of the lifting table of the present invention.

Figure 12 is a schematic view showing the structure of the locking mechanism of the eighth embodiment of the lifting table of the present invention.

Fig. 13 is a schematic enlarged plan view showing a portion A of the lifting table of the present invention in Fig. 12;

Figure 14 is a schematic view showing the assembly structure of the lifting table locking mechanism of the present invention.

Figure 15 is a schematic view showing the assembled structure of the lifting table locking mechanism of the present invention at another angle.

as the picture shows:

1, upper support, 2, lower support, 3, first pole, 4, second pole, 5, first hinge seat, 6, second hinge seat, 7, third hinge seat, 8, first Four hinged seat, 9, elastic element, 9.1, gas spring, 9.2, spring, 10, table, 11, horizontal plate, 12, keyboard support, 13, wrench, 14, first slide, 15, second slide , 16, positioning hole, 17, movable pin, 18, box body, 19, cable return spring, 20, return spring, 21, movable pin seat, 22, first guiding bevel, 23, sliding plate, 24, second Guide the slope.

detailed description

The present invention will be further described in detail below with reference to the accompanying drawings and specific embodiments.

As shown in Figure 1 to Figure 9;

The lifting work platform of the present invention comprises a lifting work platform body, wherein the lifting work platform body comprises an upper support 1, a lower support 2 and at least one set of X-shaped connected between the upper support 1 and the lower support 2 a lifting mechanism, each set of X-shaped lifting mechanism includes a first strut 3 and a second strut 4 hinged in an X shape in the middle, and the lower abutment 2 is provided with a first articulated seat 5 fixed to the lower abutment 2 and a second hinge seat 6 slidable relative to the lower support 2, the upper support 1 being provided with a third hinge seat 7 fixed to the upper support 1 and a fourth hinge slidable relative to the upper support 1 a seat 8, the lower end of the first strut 3 is hinged with the first hinge seat 5, the upper end is hinged with the fourth hinge seat 8, and the lower end of the second strut 4 is hinged with the second hinge seat 6, the upper end and the third The hinged seat 7 is hinged, the lifting table further comprising an elastic element 9, the first end of the elastic element 9 being connected between the two ends of the first strut 3 or the second strut 4, the elastic element 9 The second end is connected to the lower support 2 or to a second hinge seat 6 slidable relative to the lower support 2, said resilient element 9 for counteracting or partially counteracting the upper support Bearing weight.

During the lifting and lowering of the upper support 1, the second hinge seat 6 and the fourth hinge seat 8 are slidable relative to the lower support 2 and the upper support 1, respectively, so that the X-shaped lifting mechanism can be adjusted to raise and lower the upper support 1.

Figure 3 is a second embodiment. in this embodiment, the elastic member 9 is a gas spring 9.1. The first end of the gas spring 9.1 is connected between the two ends of the first strut 3, and the second of the gas spring 9.1. The end is connected to the lower support 2. The gas spring in this embodiment is a compressed gas spring, that is, the gas spring provides an upward elastic force.

Figure 4 is a third embodiment. In this embodiment, the elastic member 9 is a gas spring 9.1. The first end of the gas spring 9.1 is connected between the two ends of the second strut 4, and the second of the gas spring 9.1. The end is connected to the second hinge seat 5. The gas spring in this embodiment is a compressed gas spring, that is, the gas spring provides an upward elastic force.

Figure 5 is a fourth embodiment. In this embodiment, the elastic member 9 is a spring 9.2. The first end of the spring 9.2 is connected between the two ends of the second strut 4, and the second end of the spring 9.2 is connected to the lower end. On the support 2, in this embodiment, the spring 9.2 is a tension spring. That is, the spring provides a contracted pulling force.

Figure 6 is a fifth embodiment. in this embodiment, the elastic member 9 is a spring 9.2. The first end of the spring 9.2 is connected between the two ends of the first strut 3, and the second end of the spring 9.2 is connected. On the upper support 1, in this embodiment, the spring 9.2 is a tension spring. That is, the spring provides a contracted pulling force. It can be seen that the embodiment is substantially the same as the fourth embodiment, except that the fourth embodiment is a symmetrical structure, that is, the upper support 1 in this embodiment is regarded as the lower support 2 in the fourth embodiment. The first strut 3 in this embodiment is regarded as the second strut 4 in the fourth embodiment, and the structure is the same as that in the fourth embodiment. Such a structure symmetrical to the fourth embodiment should also be within the scope of the present application.

FIG. 7 is a sixth embodiment. This embodiment is a symmetric structure of the second embodiment.

Figure 8 is a seventh embodiment. This embodiment is a symmetrical structure of the third embodiment.

Embodiments of the present application include, but are not limited to, the above embodiments.

As shown in the first embodiment shown in FIG. 9, FIG. 14, and FIG. 15, the upper support 1 is provided with a locking mechanism for restricting the sliding of the fourth hinge seat 8. The upper support 1 is provided with a locking mechanism for restricting the sliding of the fourth hinged seat 8, which means that the upper support 1 is connected with a second sliding rail 15, and the fourth hinged seat 8 is slidably engaged with The second sliding rail 15 is provided with a plurality of positioning holes 16 distributed along the longitudinal direction thereof; the upper support 1 outside the fourth hinged seat 8 is provided with a box body 18, The movable body pin 17 of the box body 18 can be inserted into or disengaged from the positioning hole 16 , and the sliding mechanism of the movable body pin 17 can be moved and the free end of the movable pin 17 can be disengaged from the positioning hole 16 . twenty three.

The movable body pin 17 is connected to the movable pin seat 21, and the movable pin 17 is sleeved with a return spring 20, and one end of the return spring 20 is movable. The inner wall of the pin seat 21 abuts, the other end of the return spring 20 abuts against the inner wall of the casing 18, and when the return spring 20 is in a compressed state, the free end of the movable pin 17 is disengaged from the positioning hole 16 of the fourth hinge seat 8, The bottom of the movable pin holder 21 is provided with a first guiding inclined surface 22; the sliding plate 23 is provided with a second guiding inclined surface 24 that cooperates with the first guiding inclined surface 22, and the sliding plate 23 slides outside the casing 18. The second guiding ramp 24 presses the first guiding ramp 22 to move the movable pin holder 21 outward against the elastic force of the return spring 20.

The outer end of the sliding plate 23 is connected with a cable, and the cable is provided with a cable return spring 19, and one end of the cable return spring 19 abuts against the outer end wall of the sliding plate 23, and the cable is reset. The other end of the spring 19 and the inner wall of the casing 18 A wrench 13 is connected to the upper support 1, and the wrench 13 is connected to the outer end of the cable.

The at least one set of X-shaped lifting mechanisms are two sets of X-shaped lifting mechanisms, and are respectively disposed on two sides of the upper support 1, and the two sets of X-shaped lifting mechanisms are connected by a horizontal plate 11 therebetween.

A table 10 is connected to the upper support.

The lifting platform body further includes a keyboard holder, and the keyboard tray 12 is connected to the upper holder 1 through a connecting plate.

As shown in FIG. 10 to FIG. 15, the eighth embodiment of the present invention has the same technical solution as that of the first embodiment, but the lower support 2 is provided with a locking mechanism for restricting the sliding of the second hinge seat 6. The locking mechanism in this embodiment is disposed on the lower support as compared with the first embodiment.

The lower support 2 is provided with a locking mechanism for restricting the sliding of the second hinge seat 6, which means that the lower support 2 is connected with the first slide rail 14, and the second hinge seat 6 is slidably engaged with a first sliding rail 14 is disposed on the second hinged seat 6 and a plurality of positioning holes 16 are disposed along the longitudinal direction thereof. The lower support 2 on the outer side of the second hinged seat 6 is provided with a casing 18. The movable body pin 17 of the box body 18 can be inserted into or disengaged from the positioning hole 16 , and the sliding mechanism of the movable body pin 17 can be moved and the free end of the movable pin 17 can be disengaged from the positioning hole 16 . twenty three.

The movable body pin 17 is connected to the movable pin seat 21, and the movable pin 17 is sleeved with a return spring 20, and one end of the return spring 20 is movable. The inner wall of the pin seat 21 abuts, the other end of the return spring 20 abuts against the inner wall of the casing 18, and when the return spring 20 is in a compressed state, the free end of the movable pin 17 is disengaged from the positioning hole 16 of the second hinge seat 6, The bottom of the movable pin holder 21 is provided with a first guiding inclined surface 22; the sliding plate 23 is provided with a second guiding inclined surface 24 that cooperates with the first guiding inclined surface 22, and when the sliding plate 23 slides outside the casing 18 The second guiding ramp 24 presses the first guiding ramp 22 to move the movable pin holder 21 outward against the elastic force of the return spring.

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DE4032674A1 *	1990-10-15	1992-04-16	Prinzess Moebel Gustav Weritz	Folding table supported by scissors-type linkage - has tension spring to provide initial erection force
DE20317442U1 *	2003-11-10	2004-03-18	Konrad Merkt Gmbh	Telescopic furniture part, comprising locking carriage with spring supported pin moving axially inside bars
KR20080005702A *	2006-07-10	2008-01-15	박진영	Height adjustable device for a desk
CN201205081Y *	2008-04-08	2009-03-11	广东省外贸开发公司	Stabiliser angle adjustment device of notebook computer rack
CN204541230U *	2015-04-01	2015-08-12	宁波市镇海拓迪工业产品设计有限公司	A kind of lifting table
CN105124920A *	2015-09-18	2015-12-09	宁波乐歌视讯科技股份有限公司	Lifting workbench
CN204949970U *	2015-09-18	2016-01-13	宁波乐歌视讯科技股份有限公司	Liftable working table
CN105901942A *	2016-05-31	2016-08-31	乐歌人体工学科技股份有限公司	Lifting working platform
Family To Family Citations				
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GB2022958B *	1978-06-10	1982-10-06	Pek Sun Chang	Adjustable height support apparatus
JPS59551982 *	1979-10-04	1984-02-04	Kitagawa Elaborate Mach	
JPS61162495A *	1984-12-29	1986-07-23	Sumitomo Electric Industries	Vertically movable device
DE3608231A1 *	1986-03-12	1987-09-17	Prinzess Moebel Gustav Weritz	Rapid lowering and lifting device for use in small items of furniture
JPH0425003Y2 *	1986-10-24	1992-06-15		
JPH0524693U *	1991-09-09	1993-03-30	上西鉄工株式会社	Table lifter
US5400720A *	1993-04-07	1995-03-28	Vestil Manufacturing Company	Lift and tilt table
JP2560869Y2 *	1993-09-02	1998-01-26	杉安工業株式会社	Workbench
EP0706769A3 *	1994-10-14	2000-09-06	Heinrich Oelschläger Metallwarenfabrik GmbH & Co.	Working height adjustment device for a table desktop or the like
US5709156A *	1995-06-07	1998-01-20	Krueger International, Inc.	Flip-up electrical and communications device for use in combination with a worksurface
US5931103A *	1997-05-21	1999-08-03	Huang; Huei Mien	Computer desk
CA2263062C *	1998-12-03	2006-04-11	Gordon S. Aimond	Flush mounted flip top telecommunication and electrical station for board room tables
US20100012807A1 *	2008-07-17	2010-01-21	K&L Supply Co., Inc.	Lifting apparatus
WO2011150192A2 *	2010-05-28	2011-12-01	Steelcase Inc.	Grommet assembly for work surfaces
JP2012030022A *	2010-07-30	2012-02-16	Fuji Kogyo Kk	Elevating table
CA2814945C *	2012-05-24	2019-04-30	Daniel J. Flaherty	Adjustable desktop platform

US8985031B2 *	2012-06-19	2015-03-24	Michael Gillotti	Desk top elevator
JP2017511246A *	2014-04-14	2017-04-20	エルゴトロン，インコーポレイティド	Height adjustable desktop work surface
US9326598B1 *	2014-06-03	2016-05-03	Virgil J. West	Rise up table top
KR20160100175A *	2015-02-13	2016-08-23	주식회사 삼흥사	Desk possible height-adjustment
KR101527121B1 *	2015-02-27	2015-06-10	에스케이이 주식회사	possible hight adjustment table
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FR3078614A1 *	2018-03-12	2019-09-13	Leonidas Kalogeropoulos	ELEMENT FORMING SUBJECT
US10499730B2 *	2015-02-13	2019-12-10	Samhongsa Co., Ltd.	Height-adjustable desk
US11083282B1 *	2020-05-11	2021-08-10	C.D. Great Furniture Co., Ltd.	Height-adjustable desk structure
US11109671B1 *	2020-06-04	2021-09-07	C.D. Great Furniture Co., Ltd.	Height-adjustable table structure
US11134773B1 *	2015-01-24	2021-10-05	Office Kick, Inc.	Desktop workspace that adjusts vertically
Family To Family Citations				
USD845037S1 *	2015-10-26	2019-04-09	Samhongsa Co., Ltd	Desk
CN206586583U *	2016-10-21	2017-10-27	深圳米乔科技有限公司	A kind of same table
CN206338567U *	2017-01-06	2017-07-18	乐歌人体工学科技股份有限公司	Desktop placed type lifting platform
US10463147B2 *	2017-06-09	2019-11-05	Innovative Office Products, Llc	Sit-stand workstation with adjustable keyboard tray
US10893748B1 *	2017-07-08	2021-01-19	Office Kick, Inc.	Height adjustable desktop
AU2018388926A1 *	2017-12-22	2020-07-02	Loctek Ergonomic Technology Corp.	Lifting worktable
US11039684B2 *	2018-06-06	2021-06-22	Innovative Office Products, Llc	Arm-based sit-stand workstation
CN109700183A *	2019-01-31	2019-05-03	黄建明	A kind of placed type lifting platform
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CN110029475A *	2019-03-21	2019-07-19	青岛海尔洗衣机有限公司	A kind of Controls Palette and clothes treatment device
USD923989S1 *	2019-07-19	2021-07-06	EP Family Corp.	Desk
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US11311100B1 *	2021-08-28	2022-04-26	Ningbo Sharesun Electronic Technology Co., Ltd.	Double-layer foldable lifting desk with lever type unlocking structure
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* Cited by examiner, † Cited by third party, ‡ Family to family citation

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US9326598B1	2016-05-03	Rise up table top
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US20150216296A1	2015-08-06	Vertical height work surface adjustment apparatus

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CN105901942B	2018-12-25	Self-powered platform
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CN107708486A	2018-02-16	Adjustable for height desk dock
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WO2019001507A1	2019-01-03	Lifting table and support structure thereof
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JP2011004917A	2011-01-13	Wagon desk
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CN208676540U	2019-04-02	A kind of auxiliary telescopic adjustment structure
CN206290932U	2017-06-30	Double-deck independent-lifting workbench
CN204519803U	2015-08-05	A kind of extraction-type drawing rack
CN214855133U	2021-11-26	Lifting working table
CN212036549U	2020-12-01	Lifting workbench
CN206687419U	2017-12-01	Lifting work table

Priority And Related Applications

Child Applications (1)

Application	Priority date	Filing date	Relation	Title
US15/865,255	2015-09-18	2018-01-09	Continuation	Elevation working platform

Priority Applications (4)

Application	Priority date	Filing date	Title
CN201520728687.0		2015-09-18	
CN201520728687.0U	2015-09-18	2015-09-18	Liftable working table
CN201610378869.9A	2016-05-31	2016-05-31	Self-powered platform
CN201610378869.9		2016-05-31	

Applications Claiming Priority (5)

Application	Filing date	Title
AU2016322281A	2016-08-17	Elevation working platform
JP2018504783A	2016-08-17	Lifting platform
US15/865,255	2018-01-09	Elevation working platform
US16/679,228	2019-11-10	Elevation working platform
US17/060,086	2020-10-01	Elevation working platform

Legal Events

Date	Code	Title	Description
2017-05-10	121	Ep: the epo has been informed by wipo that ep was designated in this application	**Ref document number:** 16845620 **Country of ref document:** EP **Kind code of ref document:** A1
2018-01-29	ENP	Entry into the national phase	**Ref document number:** 2018504753 **Country of ref document:** JP **Kind code of ref document:** A
2018-03-20	NENP	Non-entry into the national phase	**Ref country code:** DE
2018-04-12	ENP	Entry into the national phase	**Ref document number:** 2016322281 **Country of ref document:** AU **Date of ref document:** 20160817 **Kind code of ref document:** A
2018-10-10	122	Ep: pct application non-entry in european phase	**Ref document number:** 16845620 **Country of ref document:** EP **Kind code of ref document:** A1

Concepts

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elevating		claims,abstract,description	19	0.000
compression		claims,description	2	0.000
method		abstract,description	3	0.000

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DESCRIPTION DE102013008020A1

[0001]

13 The present invention relates to a loading device, suitable in particular for transporting freight on a traffic area and loading it into or unloading it from a transport vehicle, comprising a base structure, a loading structure with a freight receptacle and a lifting device that acts double-acting between the base structure and the loading structure.

[0002]

20 In the state of the art, there are a number of proposals for loading devices of the type specified above, which all serve the purpose of making loading and unloading easier.

22 Facilitate the unloading of transport vehicles with freight, so that this - including the transport of the freight on a traffic area - can be done by a single person if possible. In this way, for example, the personnel costs for delivering freight are to be reduced by making a co-driver who only works for a short time during the loading process superfluous. Since the lifting device is double-acting, it can not only be used for lifting or Lowering the loading structure (including the loaded freight) are used, but in the same way - when the loading structure is placed on the loading area of the transport vehicle - for raising the base structure in order to stow the loading device on the loading area of the transport vehicle.

[0003]

33 The relevant prior art is represented in particular by publications such as FR 1506606, DE 25 30 634, US 4061237, WO 83/04226, US 4613272, WO 92/07746, EP 889000, US 2005/0042068 and CN 201896055 U

[0004]

39 Although there is clearly an (increasing) need for charging devices of the type mentioned at the outset, the various proposals have not been able to establish themselves in practice, with one exception.

42 And the loading device sold under the trade name “Innolift” according to WO 92/07746 or CN 201896055 U also does not meet the expectations placed on it.

[0005]

47 The object of the present invention is to provide a charging device of the type specified at the outset, which is characterized by improved suitability for practical use.

[0006]

52 This problem is solved according to the present invention in that, in a loading device of the type specified at the outset, the loading structure has a lifting frame, on which the lifting device acts, and a freight carrier, which is mounted on the lifting frame via a pull-out guide with a pull-out direction oriented transversely to the lifting direction and which Freight pick-up comprises, wherein a chassis serving to move the loading device on the traffic area is part of the freight carrier.

58 In a synergetic functional interaction with one another, the features that determine the charging device according to the invention in combination with one another result in a number of serious practical advantages, which in particular substantially expand the possible uses of the charging device, facilitate its handling and increase safety by a decisive degree, while at the same time all of these Advantages having loading device structurally comparatively simple - and can be designed as light and compact - and thus reliable.

64 Especially with regard to safety - in conjunction with the other characteristic features of the loading device according to the invention - it is responsible that the loading structure is constructed in several parts in the sense that the freight pick-up is arranged on a freight carrier, which is mounted on a lifting frame via a pull-out guide , which in turn is attacked by the lifting device which causes the lifting and lowering of the loading structure when the base unit is standing on the traffic area.

70 Because in this way the cargo can be moved relative to the traffic area (departure area) into the loading space or onto the loading area (destination area) of the transport vehicle without simultaneous movement of the base structure. The loading device, i. H. whose basic structure is moved on the traffic area. This is an invaluable advantage, especially with regard to applications in which there is a comparatively uneven traffic surface or other comparatively uneven subsoil (e.g. when operating construction sites), because such an uneven subsoil when using known loading devices (particularly those loaded with heavy freight) their method much more difficult and also represents a significant safety risk, especially when the loading device is moved with a raised load due to the risk of tipping over.

79 Unlike the prior art (US 4613272, WO 92/07746 and CN 201896055 U), in which the base

structure is pushed a little way under the transport vehicle, the loading device according to the invention can also be used in the (often actually present) Use situation that the transport vehicle is driven up to a curb, typically so far that it is about under the loading sill. The workflow, as is possible using the invention, is more homogeneous and characterized by fewer interruptions than is the case with the prior art (in particular using charging devices according to WO 92/07746 and CN 201896055 U), namely in particular in view of the fact that the charging device is typically still maneuvered on the loading area of the transport vehicle after charging. According to the state of the art, this requires the load to be transferred again - by partially lifting the loading structure - to the base structure that has the running gear, whereas with loading devices according to the invention the load is immediately deposited on the running gear arranged on the freight carrier (in particular on wheels, which together with the load-bearing structural portions of the cargo carrier are part of the undercarriage used to move the loader).

92 A number of other advantages will become apparent from the following detailed explanation of the present invention and specific preferred further developments.

[0007]

97 The above explanations of the present invention, as well as the following ones, show that the features defining the charging device according to the invention are to be understood broadly, unless otherwise stated.

100 Thus, the base structure can have any desired constructive and static shape, by means of which the relevant function of supporting the lifting structure on the traffic area can be fulfilled. Any device is suitable as a lifting device, by means of which the loading structure can be raised (and lowered) when the base structure is supported on the traffic area and by means of which it can be lifted (and lowered) when it is fixed, i.e. H. For example, on the bed of a transport vehicle supported loading structure can raise (and lower) the base structure. The term “traffic area” is also to be interpreted broadly and includes any viable, i. H. accessible or navigable subsoil. Furthermore, “lifting frame” is to be understood as meaning any structure that is suitable for being connected to the lifting device and for introducing the forces transmitted from the freight carrier (including the freight that has been picked up) onto the lifting frame via the pull-out guide into the lifting device. There are also no design restrictions with regard to the “pull-out guide”; on the contrary, such a “pull-out guide” can be implemented by any essentially linearly variable-length structure that is capable of transmitting forces transversely to the pull-out direction.

114 Even the statement that the pull-out direction is oriented "transversely" to the lifting direction means, in the broadest sense, no more than that the pulling-out direction is oriented more or less at right angles to the lifting direction, i.e. more or less horizontally in particular in the case of a more or less vertical lifting direction.

[0008]

121 Also and especially with regard to the "chassis" there are hardly any design restrictions.

122 While the present invention can advantageously be implemented for most applications with wheeled undercarriages, which preferably have four wheels, this is by no means mandatory. Other suitable chassis that can be used advantageously for certain applications are, for example, crawler chassis, skid chassis, air cushion chassis, magnetic levitation chassis and the like. The sole decisive factor is that movement on solid ground such as the traffic area and/or the loading area of a transport vehicle is possible. If the present invention is explained in the following using an embodiment variant in which the running gear is designed as a wheeled running gear, this serves solely to facilitate understanding, without being associated with a restriction to wheeled running gears. Unless otherwise stated, the points shown apply in the same way to other types of running gear.

[0009]

135 According to a first preferred development of the invention, the running gear—which forms part of the freight receptacle—comprises (preferably four) wheels, which are particularly preferably arranged on the edge of the freight carrier, ideally directly under the lateral boundaries of the freight carrier or directly outside next to them.

139 This results in a large track width of the chassis, which represents an important safety-related aspect. In addition, wheels with a comparatively large diameter can be used in this case in particular, which makes handling easier and—once again with regard to using the loading device on an uneven surface—is also a safety-relevant aspect. In the interests of good handling, at least some of the wheels are preferably steerable, i. H. the wheels in question are z. B. designed as castors (possibly lockable for driving straight ahead); this facilitates the maneuvering of the loading device on the traffic area and/or the loading area of the transport vehicle. In addition, at least some of the wheels are preferably equipped with brakes, which are then applied during the loading process, for example, when the freight carrier has been placed on the loading area of the transport vehicle and - using the lifting device - the base structure has to be raised in order to then be pushed back under the loading structure will.

150 (In view of the possibility of accommodating the lifting device as flatly as possible under the loading structure to save space, the use of a scissor lift, which is explained in detail below, is particularly preferable. For the handling of the loading device it is advantageous if the brakes can be operated remotely, for example from a handle which is arranged at the rear end of the loading device and is equipped with appropriate operating elements.

[0010]

158 Since the base structure does not have to be moved on the ground when the load is raised, sufficient security against tipping can typically be achieved with a base structure that does not extend laterally beyond the track width of the wheels.

161 This enables a compact construction of the loading device, whereby in general the base structure even fits completely in the space between the wheels. However, it can also have support feet on the side opposite the pull-out direction, the overhang of which essentially

corresponds to the track of the wheels. For extreme applications, according to yet another development of the invention, it is also possible to equip the base structure with extendable, extendable and foldable support legs in order to further increase stability.

[0011]

170 Since the running gear suitable for transporting the loading device (possibly together with the freight that has been picked up) on the traffic area is part of the freight carrier, no wheels need to be arranged on the base structure.

173 This saves weight and is a great advantage from a static point of view. Absolutely mandatory is the absence of wheels or However, no rollers on the base structure. For example, (small) rollers can be provided, which only serve to support the weight of the base structure when moving the loading device on the traffic area, so that it does not have to be lifted by the lifting device.

[0012]

181 According to yet another preferred development of the present invention, the lifting device comprises a scissor lift.

183 This is favorable with regard to the kinematics as well as with regard to the statics and the possibility of designing the loading device according to the invention to be extremely compact and light. In particular, if a scissor lift is used as part of the lifting device, the latter can be folded up particularly flat and space-savingly, so that it can be accommodated under the loading structure in this configuration. A particular advantage in this respect is that at least one of the links of the scissor lift is cranked and/or a drive element engages on one of the links offset from the pivot point of the scissor lift, which makes it possible to provide sufficiently high lifting forces with particularly flat scissor lifts when the loading structure is lowered. In terms of favorable kinematic conditions, the bearing of the scissor lifter on the base structure in the direction of extraction (the pick-up of freight) is particularly preferably designed as a fixed bearing; i.e. H. the bearing of the scissor lifter on the base structure opposite the pull-out direction is designed as a floating bearing (with a support element guided in at least one linear guide).

[0013]

199 Another preferred development of the present invention is characterized in that the lifting device comprises an electric or an electro-hydraulic drive unit.

201 This enables compact and at the same time very powerful loading devices, with the use of electro-hydraulic drive units for the lifting devices being particularly advantageous, specifically in the case of larger loading devices intended for lifting particularly heavy freight. An electrical storage unit of the drive unit that is provided in this respect is particularly preferably arranged on the loading structure, specifically particularly preferably on the lifting frame on its front side

in the extension direction. This contributes to a comparatively favorable weight distribution, in particular with regard to the phase of lifting or Lowering the base structure when the freight carrier is placed on the loading area of the transport vehicle. If the electrical storage unit has a charging connection which can be connected to the electrical system of a transport vehicle (designed as a motor vehicle), then a comparatively small electrical storage unit is sufficient for typical applications.

212 This is advantageous in terms of cost, weight and size of the loading device. It is also favorable to design the electrical storage unit of the drive unit as a replaceable battery. This allows the memory unit to be made very small in size to fit into a relatively compact charger without limiting the uses of the charger. A removable battery removed from the charging device can be charged on the electrical system of a transport vehicle.

[0014]

220 In yet another preferred development of the present invention, a further drive unit brings about the extension and retraction of the freight carrier relative to the lifting frame.

222 Such an extension drive can, for example, be designed electrically. Such an extension drive could also include a hydraulic cylinder, for example, which is supplied by the hydraulic unit of the electro-hydraulic drive unit of the lifting device. From the point of view of operational safety, it is advantageous if a controller acts on the extension drive, which controls the extension movement, taking into account safety-relevant parameters. For example, the signal from at least one sensor arranged on the freight carrier, preferably in the area of the front wheels, and used to detect the position of the freight carrier relative to a loading area can be processed in the controller in such a way that the (continued over a fixed extension path of, for example, 400 mm)) Extension of the cargo carrier is prevented if the chassis is not at least partially over a loading area. The height of the chassis of the freight carrier above the loading area can also be taken into account in the controller in such a way that (further) extension of the freight carrier is prevented if the chassis is above a permissible value above a loading area.

234 Furthermore, in the control of the extension drive, signals from load sensors, which are assigned to support feet of the base structure and/or wheels of the chassis, can be evaluated in the sense that (further) extension of the freight carrier is omitted if a load situation indicating an increasing risk of tipping is determined . The safety-relevant parameters mentioned can also (or alternatively) also be used to generate a notification or warning are used.

[0015]

242 From a static point of view, it can be advantageous if the base structure has a comparatively large, continuous bearing surface for its support on the traffic area.

244 Conversely, however, it can also be advantageous for certain applications to arrange pronounced support feet on the base structure. This applies in particular if at least one support leg is assigned a load sensor (see above) that monitors the load situation and, for example, triggers a signal when the load distribution approaches a point that is critical in terms of

stability. Such load sensors can also be assigned to at least one of the wheels arranged on the freight carrier with the same advantage.

[0016]

253 The freight carrier and the lifting frame can particularly preferably be locked relative to one another.

255 And the lifting device can preferably be locked in a partially raised position of the loading structure. This makes it possible to secure the loading device on the loading area for the journey of the transport vehicle in that the loading structure is raised by means of the lifting device so far that the wheels arranged on the freight carrier are lifted off the loading area, with the locking of the freight carrier relatively to the lifting frame, the position of the cargo carrier and thus the cargo is secured relative to the base structure. Advantageously, such a (partially raised) position of the lifting device is permanently specified, for example via a corresponding setting in a controller of the loading device, in which the chassis of the freight carrier is just brought out of contact with the ground, so that the entire weight of the loading device and load - with the lowest possible center of gravity - is supported exclusively via the base structure on the ground.

266 To secure the freight on or on the freight carrier, the latter preferably has holders suitable for attaching fastening and/or securing means for the freight, for example eyelets, bores, openings or hooks.

[0017]

272 For the operation of the loading device including its maneuvering or

273 For maneuvering and the actuation of drives provided, the loading device preferably has a handle at its rear end opposite the pull-out direction, which handle is equipped with corresponding operating elements that serve to actuate the drives. Such a handle is preferably arranged on the base structure or the lifting frame. The arrangement and design of the handle is preferably such that it neither prevents a (preferably complete) sliding of the base structure under the loading structure nor constantly protrudes significantly beyond the minimum contour of the main components of the loading device (with the loading structure lowered and the freight carrier retracted). In this sense, the handle can be attached to the base structure or to the lifting frame so that it can be pivoted or folded and/or pushed in, for example in an articulated manner. The handle and/or its attachment to the base structure or the lifting frame is preferably designed in such a way that handles arranged on it can also be used if the height of the base structure or

285 Lift frames do not change their own height above the ground, or only change it slightly. Against the same background, according to another preferred development, it is particularly advantageous if the handle is an extendable, e.g. B. telescopic extendable or shortenable drawbar; because this facilitates the operation of the loading device in its intended use, during which the height of the lifting frame and the base structure changes over the traffic area. It is

particularly convenient if the length of the drawbar can be changed using a length adjustment drive. In the interest of further increased user-friendliness, this can be coupled in phases with the lifting drive in the sense that the length of the drawbar is automatically shortened when the component (base structure or lifting frame) to which it is attached is lifted by means of the lifting device. If the drawbar is attached to the lifting frame, a (phased) inverse coupling of the length adjustment drive of the drawbar with the drive of the lifting device must be provided for this.

297 From an ergonomic point of view, it is also advantageous if the extension direction of the drawbar is oriented at an angle to the lifting direction, i. H. in particular is slightly inclined backwards.

[0018]

303 For the greatest possible variety of usability of the loading device according to the invention, in this case, according to yet another preferred development, the freight carrier has an exchangeable, function-specific or application-specific attachment.

306 Such an attachment can, for example, be a (level) loading platform, a bulk goods receptacle or a special mount (e.g. B. for a cable drum).

[0019]

311 Especially large loading devices can be equipped with an additional drive acting on at least one of the wheels, which can be used to support the operator when moving the loading devices on the (possibly uneven) traffic area or the loading area of the transport vehicle (including maneuvering).

[0020]

318 In terms of the above explanations of the invention, the process that takes place when it is used is as follows: freight or

320 Load is carried on a cargo carrier, which is part of a liftable loading structure and has undercarriage serving for locomotion, received on an exit surface.

322 A base structure is set down on the starting surface, and the loading structure—supported on the base structure—is raised to such an extent that the chassis of the freight carrier is above the level of a target surface that is elevated relative to the starting surface. The freight carrier is extended transversely to the lifting direction and is moved over the target area, without the base structure being moved at the same time, with the freight carrier being supported with its chassis on the target area during that process (possibly after being lowered). When the cargo carrier is fully seated on the target surface, the base structure is fully raised and retracted toward the cargo receptacle and traversed over the target surface. A movement of the freight or Load on the target area by means of the chassis of the freight carrier can follow, as well as securing the position by lifting the freight carrier chassis from the target area while placing the

base structure on the target area.

[0021]

336 The loading device according to the invention can have at least one auxiliary roller that can be variably positioned and is arranged on the front side of the freight carrier, although this is not necessary for typical applications.

339 If necessary, this can be used when transferring the freight carrier onto the loading area of the transport vehicle, for example if the base structure is unstable due to an unstable subsoil or if the loading device could not be driven directly to the transport vehicle for any reason.

[0022]

345 It can be seen from the above explanations that the loading or

346 Unloading of transport vehicles using the loading device according to the invention is just one example of many conceivable applications. The loading device according to the invention, which in this respect could also be referred to as a combined conveying and lifting device, can also be used in various other application environments, for example in picking and storage technology.

[0023]

354 The present invention is explained in more detail below using two exemplary embodiments illustrated in the drawing.

356 while showing

[0024]

360 1 in side view a first embodiment of a charging device according to the invention in a first configuration,

[0025]

365 FIG. 2 in a perspective view the embodiment according to FIG. 1 in its first configuration,

[0026]

369 3 in side view the embodiment according to FIGS. 1 and 2 in a second configuration,

[0027]

373 4 shows a perspective view of the embodiment according to FIGS. 1 to 3 in its second

configuration,

[0028]

378 5 in side view the embodiment according to FIGS. 1 to 4 in a third configuration,

[0029]

382 6 shows a perspective view of the embodiment according to FIGS. 1 to 5 in its third configuration,

[0030]

387 7 shows a perspective view of a second embodiment of a charging device according to the invention in a first configuration,

[0031]

392 8 shows the embodiment according to FIG. 7 in a second configuration,

[0032]

396 9 shows the embodiment according to FIGS. 7 and 8 in a third configuration

[0033]

400 10 shows the embodiment according to FIGS. 7 to 9 in a fourth configuration and

[0034]

404 11 in an enlarged representation in a vertical section a loading device with a lifting device having a preferred scissor lifter.

[0035]

409 The components shown in Figures 1 through 6 in various configurations (i.e.

410 Operating situations) and views shown loading device 1 is used to transport freight F on a traffic area V and the loading of freight into a transport vehicle or unloading from this.

[0036]

415 The loading device comprises three main components, namely a base structure 2 , a loading

structure 3 and a lifting device 4 which acts between the base structure 2 and the loading structure 3 and serves to raise and lower the loading structure 3 .

418 The lifting device 4 is double-acting in the sense that it is also suitable for lifting the base structure 2 when the loading structure 3 is stationary.

[0037]

423 The base structure 2 is designed as a base frame 5 with two longitudinal members 6 and two transverse members 7 extending between them and transversely thereto.

425 On both sides are from the longitudinal beams 6 from two stiffened support feet 8 sideways.

426 In terms of a modification of the base structure 2, which may be expedient for reasons of stability, it is also possible to use extendable, extendable or fold-out support feet with a wider overhang when in use.

[0038]

432 The loading structure 3 , which has a freight receptacle 10 - here designed as a loading platform 9 - comprises a lifting frame 11 , a freight carrier 12 with the loading platform 9 and a pull-out guide 13 , by means of which the freight carrier 12 can be pulled out on the lifting frame 11 (arrow A). is.

436 The lifting frame 11 comprises longitudinal beams 14 and transverse beams 15 extending between them and transversely thereto.

438 The lifting device 4 acts on it.

439 The extension direction A, in which the freight carrier 12 can be extended from its position essentially aligned with the lifting frame 11 into a position offset with respect to the lifting frame 11, is oriented transversely to the lifting direction (arrow B), which is defined by the lifting and lowering movement of the Loading structure 3 is defined relative to the base structure 2.

443 By using an intermediate rail 16, the pull-out guide 13 is designed as a full extension, so that the freight carrier 12 is completely offset in relation to the lifting frame 11 in its extended position.

446 The freight carrier 12 has holders (not shown in detail) that are suitable for attaching fastening and/or securing means for the freight F.

448 In terms of an application-related modification, the freight carrier 12, adapted to the respective specific use, could also have a bulk goods receptacle (such as a trough or the like) or a special mount (such as a cable drum mount or the like) instead of a loading platform 9.

[0039]

454 The lifting device 4 comprises a scissor lift 17 with two crossed pairs of links 19 , 20 which are connected to one another in an articulated manner at the crossing point 18 .

456 Each link pair 19 , 20 is articulated at one end to the relevant component via a fixed bearing 21 , 22 and is guided at its other end to the other component along a linear guide 23 , 24 so as to

be displaceable.

459 The first pair of links 19 is at its lower end 25, which is at the front in the extension direction A, and is articulated to the base frame 5 via a fixed bearing 21, and is guided at its upper end 26 on the lifting frame 11 so that it can be displaced along a linear guide 23; and the second pair of links 20 is articulated at its upper end 27 to the lifting frame 11 via a fixed bearing 22 and is guided at its lower end 28 on the base frame 5 along a linear guide 24 so as to be displaceable.

465 The crossing point 18 of the two pairs of links 19, 20 moves accordingly when the loading structure 3 is raised on a circular path around the fixed bearing 21 of the first pair of links 19 and moves (also) with a movement component in the extension direction A. In the sense of a - for kinematic reasons possibly expedient - modification of the scissor lifter 17 can also (known as such) cranked handlebars are used.

[0040]

473 Four wheels 29 , 30 for moving the loading device 1 on the traffic area V—for transporting the freight F thereon—are arranged on the freight carrier 12 , specifically on the edge thereof directly below the side edges 31 .

476 They form a chassis 43 with the frame parts 42 of the freight carrier 12 .

477 The front wheels 29 - in extension direction A - are designed as fixed castors, the rear wheels 30 on the other hand as swivel castors, although other wheel designs (e.g.

479 B. four castors) are possible.

480 The wheels 29 , 30 have (lockable) brakes, by means of which the freight carrier 12 or the loading device 1 can be prevented from unintentionally rolling away. In contrast, no wheels are arranged on the base structure 2 in the present case. The support feet 8 of the base structure 2 are dimensioned in such a way that they fit between the rear wheels 30 of the freight carrier 12 . As a modification, however, the rear support feet 8 could also be moved backwards behind the rear wheels 30 and in this case be dimensioned such that their outreach essentially corresponds to the track of the wheels 29 , 30 . However, the base structure 2 should not extend laterally beyond the track width of the wheels 29 , 30 - in the interest of easy handling of the loading device 1 .

[0041]

492 The loading device 1 has several drives.

493 In particular, the lifting device 4 is equipped with a drive unit. This comprises two hydraulic cylinders 32 arranged parallel to one another, which, articulated to one of the crossbeams 15 of the lifting frame 11, extend between the lifting frame 11 and the pivot pin arranged at the crossing point 18 of the link pairs 19, 20 of the scissor lift 17. The loading of the hydraulic cylinder 32 is a - not shown - hydraulic unit whose pump is electrically operated. The electrical storage unit of the drive unit is arranged on the freight carrier 12 . It has a charging connection that can be connected to the electrical system of a transport vehicle designed as a motor

vehicle. Alternatively, in particular for charging devices with reduced power, for example the purely electric design of the drive unit of the lifting device 4 would be possible.

[0042]

505 By means of a further drive, namely an electric extension drive acting between the lifting frame 11 and the freight carrier 12, the freight carrier 12 can be extended into its extended position and retracted into its position aligned with the lifting frame 11.

508 Furthermore, for example by locking the extension guide 13 or blocking the extension drive, the freight carrier 12 can be locked relative to the lifting frame 11 and the lifting device 4 can be locked in a partially raised position of the loading structure 3 . In this way, the loading device 1 (and the freight F picked up) is secured on the loading area of the transport vehicle during transport, namely by locking the freight carrier 12 relative to the lifting frame 11 and lifting the loading structure 3 as a whole so far that the wheels 29 , 30 no longer lie on the loading area, so that the entire weight of freight F and loading device 1 is supported on the loading area via their base frame 5 .

[0043]

519 The service or

520 In the embodiment according to FIGS. 1 to 6 , the various drives are actuated by an operator using operating elements which are integrated into the handles 33 attached to the freight carrier 12 . In this respect in particular, the second embodiment illustrated in FIGS. 7 to 10 takes a different approach. Because in this case, a handle 35 is arranged on the lifting frame 11 at its end 34 opposite the extension direction A, which has operating elements 36 for actuating the various drives and which also serves to hold the loading device 1 during its movement on the traffic area or the loading area to direct or maneuver the transport vehicle.

[0044]

530 The handle 35 has a drawbar 37 which is inclined slightly backwards and can be extended telescopically from its stowed position (FIG. 7) into an operating position (FIG. 8).

532 The length adjustment drive that brings about the adjustment of the length of the drawbar 37 is inversely coupled to the drive unit of the lifting device 4 via the control of the loading device 1 in the sense that when the loading structure 3 is raised, the length of the drawbar 37 is essentially shortened to the extent , as the loading structure 3 is lifted, so that as a result the handles 38 of the handle 35 remain at least substantially at a constant height when lifting the loading structure 3. The same applies when lowering the loading structure 3 . In this embodiment, the brakes assigned to the wheels 29 , 30 can also be actuated via operating elements 36 arranged on the handle 35 .

[0045]

543 Other significant deviations of the embodiment according to FIGS. 7 to 10 from that according to FIGS basic function, so that the above explanations of the first embodiment essentially also apply to the second.

546 The wheels 29 , 30 in the second embodiment are also designed differently than in the first embodiment. These are arranged laterally on the freight carrier 12 so that they can have a comparatively large diameter—in the interests of increased suitability for use on uneven traffic surfaces.

[0046]

553 Incidentally, load sensors in particular, which are associated with the wheels 29 , 30 and/or the support feet 8 of the base structure 2 , can be connected to the controller of the loading device.

556 By monitoring the load situation on the support legs 8 and/or the wheels 29, 30, load conditions that could become critical for the stability of the loading device 1 can be identified at an early stage, and a (e.g. B. acoustic) warning and / or automatic locking of one or more drives.

[0047]

562 As for the embodiment illustrated in Figure 11, this is readily explained from the above explanations of Figures 1 to 10.

564 It should be noted, however, that the easily recognizable slight offset of the links 19 and 20 of the scissor lift 17 is such that the joint provided at the crossing point 18 is not exactly on the connecting lines VL19 and VL20 of the two bearings arranged at the ends of the links 19, 20, but rather slightly offset above these connecting lines. Conversely, the articulation point 40 of the hydraulic cylinder 32 on the links 19 is slightly offset from the connecting line VL19 from its end bearings downwards. This results in a scissor lift 17 that is so flat in its (shown) fully retracted configuration that it does not only fit under the loading structure 3 (projecting slightly upwards between the pull-out guides 13), but also has sufficient ground clearance 41 remains, and that with a sufficiently strong dimensioning of the links 19, 20 for lifting heavy loads and a kinematics of the drive adapted to lifting heavy loads.

574 It can also be seen in FIG. 11 that the lifting frame 11 and the two frame parts 42 of the freight carrier 12 connected to it via the pull-out guides 13, as already illustrated in FIGS. 1 to 6, lie essentially in the same plane. wherein in the retracted position of the freight carrier 12 the lifting frame 11 takes place between the frame parts 42 of the freight carrier.

[0048]

581 In both embodiments, the procedure for loading a transport vehicle with freight F (including transporting the freight to the transport vehicle) is typically as follows: The loading device 1 is lowered with the loading structure 3 and on its retracted freight carrier 12 recorded freight F -

on the at the Cargo carrier 12 arranged wheels 29, 30 - moved on the traffic area V to the transport vehicle, the pull-out guide locked and base structure 2 is completely raised by means of the lifting device 4.

[0049]

590 The loading device 1 is positioned adjacent to the transport vehicle, near the access opening to its loading area, with the extension direction A pointing towards the transport vehicle.

[0050]

595 Depending on the terrain, the wheels 29, 30 can or should be braked in this situation.

596 To set down the base structure 2 on the traffic area and then raise the loading structure 3, the lifting device 4 is actuated until the wheels 29, 30 of the freight carrier 12 are slightly above the level of the loading area of the transport vehicle.

599 Possibly applied brakes of the wheels 29, 30 can be released again.

[0051]

603 After the pull-out guide 13 has been unlocked, the freight carrier 12 is moved in the pull-out direction A using the pull-out guide 13 (and the extension drive that may be present) and in the process increasingly moves over the loading area of the transport vehicle.

[0052]

609 As soon as the front wheels 29 of the freight carrier 12 are above the loading area of the transport vehicle, the loading structure 3 is lowered by means of the lifting device 4 so far that the front wheels 29 of the freight carrier 12 touch down on the loading area of the transport vehicle.

[0053]

616 The freight carrier 12 is - with continued use of the extension guide 13 (and possibly the extension drive) - moved further in the extension direction A, with the rear wheels 30 of the freight carrier 12 touching down on the loading area of the transport vehicle.

[0054]

622 The brakes of the wheels 29, 30 are applied.

[0055]

626 The lifting device 4 is actuated to lift the base structure 2 .

[0056]

630 When the base structure 2 is completely raised, it is retracted using the pull-out guide 13 (and the extension drive, if applicable), i. H. pushed under the loading structure 3.

632 The pull-out guide 13 is then locked.

[0057]

636 The brakes are released and the loading device 1 can be maneuvered into its final position on the loading area of the transport vehicle.

[0058]

641 Depending on the standing conditions of the carrier vehicle, the wheels 29, 30 can or should be braked when the final position is reached.

[0059]

646 The loading structure 3 is raised slightly by means of the lifting device 4, namely until the wheels 29, 30 lift off the loading area of the transport vehicle.

648 In this position, the lifting device 4 is locked.

[0060]

652 Depending on requirements, the freight F remaining on the loading device 1 can be secured against slipping etc. directly on the transport vehicle by means of separate securing means.

[0061]

657 The procedure for unloading cargo from the transport vehicle is reversed.

658 QUOTES INCLUDED IN DESCRIPTION

[0062]

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Patents

Lifting desk top used on office desk

Abstract

The utility model relates to the field of office supplies. A lifting desk top used on an office desk comprises a desk top cover plate, a switch and two groups of supporting assemblies, wherein the switch is installed on the desk top cover plate, the desk top cover plate is installed on the two groups of supporting assemblies, the two groups of supporting assemblies are arranged symmetrically on the left side and on the right side along the center of the desk top cover plate, and the two groups of supporting assemblies are parallel to each other. The lifting desk top used on the office desk has the advantages of being novel and compact in structure, small in volume, good in lifting stability, low in electric motor power, high in bearing capacity, free from modification and damage to the original desk top and applicable to offices.

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Other languages: Chinese

Inventor: [redacted]

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Claims (3)

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1. the lifting desk surface that uses on the desk is characterized in that comprising desktop cover board, switch and two groups of supporting components; Switch is installed on the desktop cover board, and desktop cover board is installed on two groups of supporting components, and two groups of supporting components are arranged along the center left-right symmetry of desktop cover board, and two groups of supporting components are arranged parallel to each other; Supporting component comprises pedestal, motor, decelerator, screw mandrel, two support bars, torsion spring, slide rail, upper limit position switch, lower position switch and collision blocks, motor, decelerator and screw mandrel are installed in the pedestal, decelerator links to each other with screw mandrel, motor is connected the lower end of two support bars by decelerator with screw mandrel, the upper end of support bar connects desktop cover board by slide rail; The middle part of two support bars is hinged by connector, and two support bars connect by torsion spring; Slide rail is installed on the desktop cover board, and the upper end of support bar is installed on the slide rail, and the upper limit position switch that mates with the upper end of support bar is installed on the slide rail; Pedestal is provided with lower position switch, and the collision block with the lower position switch coupling is installed on the support bar.

2. the lifting desk surface that uses on a kind of desk according to claim 1 is characterized in that being provided with gripper shoe between two groups of supporting components, and the gripper shoe two ends link to each other with a support bar on two groups of supporting components respectively.

3. the lifting desk surface that uses on a kind of desk according to claim 1 is characterized in that on the described desktop cover board heating plate being installed.

Description

The lifting desk surface that uses on a kind of desk

Technical field

The utility model relates to the office appliance field, the lifting desk surface that especially uses on the desk.

Background technology

Along with social development, office's occupational disease is in rising trend.In a single day existing desk height all is constant, can customize height when perhaps making, still be delivered for use rear its height or very difficult change.The clerk is in for a long time on the desk desktop of sustained height and handles official business, and very easily produces the occupational disease of waist, back, neck or shank.

Summary of the invention

Goal of the invention of the present utility model is in order to overcome the problem that above-mentioned existing desk desktop can't lifting, a kind of novel structure is provided, need not to change with destroy former desktop be use on the common desk can the desk of table top height adjusting on the lifting desk surface that uses.

In order to realize the foregoing invention purpose, the utility model has adopted following technical scheme:

The lifting desk surface that uses on a kind of desk comprises desktop cover board, switch and two groups of supporting components; Switch is installed on the desktop cover board, and desktop cover board is installed on two groups of supporting components, and two groups of supporting components are arranged along the center left-right symmetry of desktop cover board, and two groups of supporting components are arranged parallel to each other; Supporting component comprises pedestal, motor, decelerator, screw mandrel, two support bars, torsion spring, slide rail, upper limit position switch, lower position switch and collision blocks, motor, decelerator and screw mandrel are installed in the pedestal, decelerator links to each other with screw mandrel, motor is connected the lower end of two support bars by decelerator with screw mandrel, the upper end of support bar connects desktop cover board by slide rail; The middle part of two support bars is hinged by connector, and two support bars connect by torsion spring; Slide rail is installed on the desktop cover board, and the upper end of support bar is installed on the slide rail, and the upper limit position switch that mates with the upper end of support bar is installed on the slide rail; Pedestal is provided with lower position switch, and the collision block with the lower position switch coupling is installed on the support bar.

As preferably, be provided with gripper shoe between described two groups of supporting components, the gripper shoe two ends link to each other with a support bar on two groups of supporting components respectively.

As preferably, on the described desktop cover board heating plate is installed.

Adopted the lifting desk surface that uses on a kind of desk of technique scheme, two groups of supporting components are arranged in parallel, and have namely adopted the up-down mode of bilateral driving, have guaranteed the stationarity of lifting.Motor is connected two support bars by decelerator with screw mandrel, the too fast stability that affects lifting of toggle speed when preventing from starting.Two support bars connect by torsion spring, have solved that power of motor is too small turns round hypodynamic problem.The advantage of the lifting desk surface that uses on this desk is that the novel structure compact volume is little, and the lifting stationarity is good, and the little bearing capacity of power of motor is high, need not to change with the especially suitable office of the former desktop of destruction to use.

Description of drawings

Fig. 1: the Facad structure schematic diagram of the utility model embodiment.

Fig. 2: the side structure schematic diagram of the utility model embodiment.

The specific embodiment

Below in conjunction with accompanying drawing 1 and Fig. 2 the utility model is described further.

The lifting desk surface that uses on a kind of desk as depicted in figs. 1 and 2, comprise desktop cover board 1, switch 2 and two groups of supporting components 3, switch 2 is installed on the desktop cover board 1, desktop cover board 2 is installed on two groups of supporting components 3, two groups of supporting components 3 are arranged along the center left-right symmetry of desktop cover board 1, and the bottom of two groups of supporting components 3 is arranged parallel to each other.

Every group of supporting component 3 includes pedestal 31, motor 32, decelerator 33, screw mandrel 34, two support bars 35, torsion spring 36, slide rail 37, upper limit position switch 38, lower position switch 30 and collision blocks 39.Pedestal 31 is square-tube-shaped, and motor 32, decelerator 33 and screw mandrel 34 are installed in the pedestal 31, and pedestal 31 volumes are little.Decelerator 33 links to each other with screw mandrel 34, motor 31 is connected the lower end that connects two support bars 35 by decelerator 33 with screw mandrel, the middle part of two support bars 35 is hinged by connector, and connector can be bolt, and two support bars 35 also connect by torsion spring 36, the position of torsion spring 36 is in the outside of connector, torsion spring 36 upper ends are fixed on the top of support bar 35, and torsion spring 36 lower ends are fixed on the bottom of support bar 35, and torsion spring 36 is two, the both sides of connector arrange respectively one, make its uniform stressed.The upper end of support bar 35 connects desktop cover board 1.Decelerator 33 and screw mandrel 34 support the use, the too fast stability that affects lifting of toggle speed when preventing from starting.Because be that office uses, therefore need the size of control pedestal 31 and motor 32, and need the power of control motor, prevent that noise is excessive, therefore adopted the structure of torsion spring 36, solved that power of motor is too small turns round hypodynamic problem.

The upper end of support bar 35 is fixed on the desktop cover board 1, and slide rail 37 is being installed on the desktop cover board 1, and the upper end of support bar 35 is installed on the slide rail 37, and support bar 35 connects desktop cover board 1 by slide rail 37.The upper limit position switch 38 that mates with the upper end of support bar 35 is installed on the slide rail 37.Pedestal 31 is provided with lower position switch 30, and the collision block 39 that mates with lower position switch 30 is installed on the support bar 35, and its position is in the bottom of support bar 35.Therefore adopted the structure of two groups of supporting component 3 bilateral drivings for the stability that improves support, but because the problem of two groups of supporting components 3 itself, support bar 35 adjustable heights and the inconsistent problem of speed of two groups of supporting components 3 about causing easily such as fine error of motor 31 rotating speeds etc., and adopted said structure namely to control position and the distance that liftings start and stop by lower position switch 30 and upper limit position switch 38, namely had the function of two groups of supporting component 3 adjustable heights of automatic adjustment and desktop cover board 1 leveiness.

Be provided with gripper shoe 5 between two groups of supporting components 3, gripper shoe 5 two ends link to each other with a support bar 35 on two groups of supporting components 3 respectively, and gripper shoe 5 is with the folding condition conversion angle of inclination of support bar 35.When two groups of supporting components 3 are distant, desktop cover board 1 shakes easily when lifting, gripper shoe 5 can well address the above problem, and after rising put in place, gripper shoe 5 can be used as baffle plate and uses simultaneously, block the sight line in dead ahead, because after user's desktop rose, the colleague's on its opposite height of table top may also be in original state, sight line just in time is between desktop cover board 1 and the pedestal 31, this moment, gripper shoe 5 can be blocked its sight line, had guaranteed a part of privacy.

Heating plate can be installed in above-mentioned desktop cover board 1 top, and the sky can heat practicality very in the time of cold.The lifting desk surface of this product is to use at desk, have the article such as water tumbler and display and be placed on it, so the stability when its weight capacity, balance, lifting is all particularly important.

During use, the lifting desk surface of this product directly is placed on the desktop of existing common desk, has guaranteed the integrality of original desk tops, need not to change and the former desktop of destruction, and cost is more economical than substituting existing desk, is convenient to promote.After opening switch, motor 31 is propped up desktop cover board 1 by decelerator 33 and screw mandrel 34 control support bars 35, and the height of desktop cover board 1 lifting can be controlled automatically by switch 2, in order to prevent faulty operation, switch 2 can be color or vary in size a plurality of.

The advantage of above-mentioned lifting desk surface is that the lifting stationarity is good, power of motor and volume are little, bearing capacity is high, need not to change and the original desktop of destruction, especially being fit to office uses, the desktop of the use differing heights that the clerk is frequent can be regulated the state of shank, waist, back, neck and shoulder, prevents that it is in for a long time an angle and state and produces occupational disease.

Cited By (1)

Publication number	Priority date	Publication date	Assignee	Title
US10413083B2	2012-05-24	2019-09-17	Varidesk, Llc	Adjustable desk platform

Family To Family Citations

* Cited by examiner, † Cited by third party, ‡ Family to family citation

Similar Documents

Publication	Publication Date	Title
CN202874328U	2013-04-17	Table with embedded type lifting table top
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CN202874336U	2013-04-17	Rise-fall desktop
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CN103638378	2016-03-02	A kind of bookcase of motorized adjustment height
CN202681006U	2013-01-23	Lifting table top
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CN202681013U	2013-01-23	Lifting desk top used on office desk
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CN104188350A	2014-12-10	Multi-degree-of-freedom intelligent leveling and lifting mechanical device for office table
CN202950219U	2013-05-29	Tabletop-adjustable bed table
CN210777767U	2020-06-16	Display support adjusting device of international trade exhibition
CN202681004U	2013-01-23	Lifting device used on office desk
CN208837247U	2019-05-10	A kind of adjustable book holding rack
CN203457981U	2014-03-05	Lifting desktop
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CN202043752U	2011-11-23	Tablet computer bag bracket structure
CN204328404U	2015-05-13	A kind of desktop Multifunctional combined support
CN204617545U	2015-09-09	A kind of multipurpose cabinet
CN204962191U	2016-01-13	Accomodate three -dimensional double -purpose notebook computer support of adjusting of formula wide angle degree

Priority And Related Applications

Priority Applications (1)

Application	Priority date	Filing date	Title
CN 201220336241	2012-07-11	2012-07-11	Lifting desk top used on office desk

Applications Claiming Priority (1)

Application	Filing date	Title
CN 201220336241	2012-07-11	Lifting desk top used on office desk

Legal Events

Date	Code	Title	Description
2013-01-23	GR01	Patent grant	
2013-01-23	C14	Grant of patent or utility model	
2019-06-28	CF01	Termination of patent right due to non-payment of annual fee	Granted publication date: 20130123 Termination date: 20180711
2019-06-28	CF01	Termination of patent right due to non-payment of annual fee	

Concepts

machine-extracted

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Name	Image	Sections	Count	Query match
heat treatment		claims,description	3	0.000
coupling		claims,description	2	0.000
coupling process		claims,description	2	0.000
coupling reaction		claims,description	2	0.000
assembly		abstract	4	0.000
modification		abstract	1	0.000
modification reaction		abstract	1	0.000

Show all concepts from the description section

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Application Number	17493830
Filing Date	2021-10-04
First Named Inventor	Nathan Mark Poniatowski
Art Unit	3637
Examiner Name	
Attorney Docket Number	1001-001US13

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	1	1142343	CN	A	1997-02-12	Herbert et al.		☓
	2	2781893	CN		2006-05-24	赵永东		☒
	3	2012030022	JP	A	2012-02-16	Fukuhara et al.		☒

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	Application Number	17493830
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	First Named Inventor	Nathan Mark Poniatowski
	Art Unit	3637
	Examiner Name	
	Attorney Docket Number	1001-001US13

	4	100802663	KR	B1	2008-02-12	김명신		☒
	5	2851555	DE	A1	1980-06-04	Adler et al.		☐
	6	5861051	JP	U	1983-04-25	English name unknown		☐

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	Art Unit	3637
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Name/Print	Daniel T. Lund	Registration Number	58614

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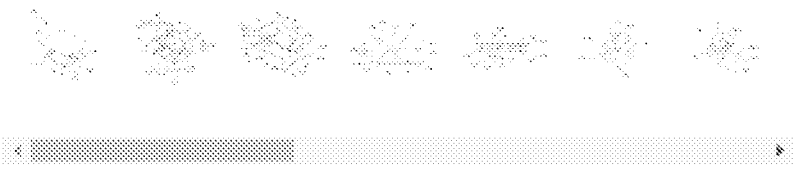
Patents WO-2018093007-A1

Device for elevating lift table

Abstract

Disclosed is a device for elevating a lift table comprising: a lower frame; an upper frame; a leg member; a roller member; a roller connection shaft; and an operating member, wherein one end of the operating member is connected to the roller connection shaft, and the other end of the operating member is connected to a leg other than a leg that is connected to the roller connection shaft from a plurality of legs constituting the leg member. Therefore, the roller connection shaft can replace a structure for connecting the one end of the operating member, and thus there is an advantage in that the structure for connecting the operating member is minimized and simplified.

Images (20)



Classifications

- A47B13/02 Underframes

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Other languages: French, Korean

Inventor: 배상원, 강성택, 장영일, 이명춘, 공주식

Worldwide applications

2017 WO

Application PCT/KR2017/006656 events

2016-11-21 Priority to KR1020160155335A
2016-11-21 Priority to KR1020160155332
2016-11-21 Priority to KR10-2016-0155332
2016-11-21 Priority to KR10-2016-0155335
2017-06-23 Application filed by 공성엔지니어링산업(주)
2018-05-24 Publication of WO2018093007A1

Info: Patent citations (5), Cited by (2), Legal events, Similar documents, Priority and Related Applications

External links: Espacenet, Global Dossier, PatentScope, Discuss

Claims (25)

Hide Dependent

1. A lower frame placed on the installation surface;

   An upper frame that can be elevated relative to the lower frame;

   A leg member connected between the lower frame and the upper frame so that a relative height of the upper frame relative to the lower frame can be changed;

   A roller member connected to the leg member, the roller member being movable along at least one of the upper frame and the lower frame when the upper frame moves up and down according to the rotation of the leg member;

   A roller connecting shaft which moves along the same frame of the upper frame and the lower frame and connects pairs of rollers constituting the roller member; And

   The upper frame is operated to smoothly move up and down, one end of which is connected to the roller connecting shaft, the other end of the plurality of legs constituting the leg member is connected to the other leg of the leg connected to the roller connecting shaft Lifting device for a lift table comprising a working member connected.

   2. The method of claim 1,

      A pair of upper rollers moved along the upper frame among the rollers connected by the roller connecting shaft are installed to move along each side portion of the upper frame facing each other.

      The roller connecting shaft connects the respective upper rollers across the inside of the upper frame,

      The leg member includes a first leg and a second leg that is pivotally connected to and intersects with the first leg,

      The lower end of the first leg is rotatably connected to one end of the lower frame, the upper end of the first leg is connected to the roller connecting shaft,

      The upper end of the second leg is rotatably connected to one end of the upper frame, the lower end of the second leg is arranged to be movable along the lower frame when the upper frame is elevated,

      One end of the operating member is connected to the roller connecting shaft, the other end of the operating member is connected to the second leg, the lifting device for a lift table.

   3. The method of claim 1,

      Fixing grooves are formed in the roller connecting shaft,

And a fixing means is coupled to the fixing groove so that one end of the operating member is connected to the roller connecting shaft.

4. The method of claim 3, wherein

The fixing grooves are respectively formed on both sides of the portion where one end of the operation member is connected, the lifting device for the lift table, characterized in that the fixing means are respectively coupled to each of the fixing grooves.

5. The method of claim 3, wherein

Lifting device for a lift table, characterized in that the fixing means is a C-type fixing ring.

6. The method of claim 4, wherein

Lifting device for a lift table, characterized in that the fixing means is a C-type fixing ring.

7. The method of claim 1,

A pair of lower rollers moved along the lower frame among the rollers connected by the roller connecting shaft are installed to move along each side portion of the lower frame facing each other.

The roller connecting shaft connects the respective lower rollers across the lower frame,

The leg member includes a first leg and a second leg that is pivotally connected to and intersects with the first leg,

The lower end of the first leg is rotatably connected to one end of the lower frame, the upper end of the first leg is arranged to be movable along the upper frame when the upper frame is elevated,

The upper end of the second leg is rotatably connected to one end of the upper frame, the lower end of the second leg is connected to the roller connecting shaft,

One end of the operation member is connected to the roller connecting shaft, the other end of the operation member is lift device for a lift table, characterized in that connected to the first leg.

8. The method of claim 2,

The lifting device for the lift table is

One end of the actuating member such that one end of the actuating member is connected to a portion spaced apart in the direction of either the upper frame or the lower frame from a centerline of the first leg or the second leg. And an elevating force adjusting member interposed between the first leg or the second leg and connecting one end portion of the actuating member to the first leg or the second leg. Device.

9. The method of claim 6,

The lifting device for the lift table is

One end of the actuating member such that one end of the actuating member is connected to a portion spaced apart in the direction of either the upper frame or the lower frame from a centerline of the first leg or the second leg. And an elevating force adjusting member interposed between the first leg or the second leg and connecting one end portion of the actuating member to the first leg or the second leg. Device.

10. The method of claim 7, wherein

The lifting force adjusting member

Lifting device for a lift table, characterized in that protruding a predetermined length from the first leg or the second leg, the one end of the operating member is rotatably connected to the distal end.

11. The method of claim 1,

And said actuating member is at least one of a gas spring and a hydraulic cylinder.

12. A lower frame placed on the installation surface;

An upper frame that can be elevated relative to the lower frame;

A leg member connected between the lower frame and the upper frame so that a relative height of the upper frame relative to the lower frame can be changed; And

And an auxiliary device mounting member capable of detachably connecting an auxiliary device to the upper frame.

13. The method of claim 12,

The upper frame

A pair of upper side bodies disposed parallel to each other,

An upper front connecting body connecting the front of each upper side body with each other,

An upper rear connecting body connecting the rear of each upper side body to each other,

Lifting device for a lift table, characterized in that the upper rear connecting body is the auxiliary device mounting member.

14. The method of claim 13,

Lifting device for the lift table, characterized in that the auxiliary device mounting member is formed in the upper detachable groove recessed to a predetermined depth for the connection of the auxiliary device.

15. The method of claim 14,

The lifting device for the lift table is

And an auxiliary device connecting member for connecting the auxiliary device mounting member and the auxiliary device.

The auxiliary device connecting member

An auxiliary device connection detachable tong member capable of detachably attaching the upper detachable groove;

And an auxiliary connecting body extending from the auxiliary device connection detachable tong member and connected to the auxiliary device.

16. The method of claim 15,

A plurality of upper detachable grooves are formed on the auxiliary device mounting member so as to be spaced apart from each other along a circumferential surface,

The auxiliary device connection detachable tong member is

Detachable tongs lower body that can be inserted into the front portion of one of the plurality of upper detachable grooves,

A detachable tong upper body coupled to the detachable tong lower body at an upper side of the detachable tong lower body, the front part of which can be inserted into another one of the plurality of upper detachable recesses;

And a detachable forceps coupling means for detachably coupling the detachable forceps lower body and the detachable forceps upper body to each other.

17. The method of claim 16,

Lifting device for a lift table, characterized in that the auxiliary table is mounted on the auxiliary connecting body.

18. The method of claim 17,

When the auxiliary connecting body is erected perpendicularly to each of the upper side bodies, the auxiliary table is erected perpendicularly to the table panel,

And the auxiliary table is placed on an extension line of the table panel when the auxiliary connecting body is laid parallel to each of the upper side bodies.

19. The method of claim 14,

Lifting device for a lift table, characterized in that the upper detachable groove is formed long in a predetermined length along the longitudinal direction of the auxiliary device mounting member so that the auxiliary device can be connected to any position of the auxiliary device mounting member.

20. For fixing the lift table to other objects,

A lower frame placed on the installation surface;

An upper frame that can be elevated relative to the lower frame;

A leg member connected between the lower frame and the upper frame so that a relative height of the upper frame relative to the lower frame can be changed; And

And a fixing member for fixing the lift table to the other object.

21. The method of claim 20,

The lower frame

A pair of lower side bodies disposed parallel to each other,

A lower front connecting member connecting the front of each lower side body to each other,

A lower rear connecting body connecting the rear of each lower side body to each other,

Lifting device for a lift table, characterized in that the lower rear connecting member is the fixing member.

22. The method of claim 21,

Lifting device for a lift table, characterized in that the fixing member is formed with a lower detachable groove recessed to a certain depth for connection of the other object.

23. The method of claim 22,

The lifting device for the lift table is

And a fixed connection member for connecting the fixed member and the other object.

The fixed connection member

A fixed detachable tong member for detachably picking up the lower detachable groove;

And a fixed connecting body extending from the fixed detachable tong member and coupled to a predetermined portion of the other object.

24. The method of claim 23,

A plurality of lower detachable grooves are formed to be spaced apart from each other along the circumferential surface on the fixing member,

The fixing detachable tong member is

A fixed detachable tong lower body capable of inserting a front portion into one of a plurality of lower detachable recesses;

A fixed detachable tongs upper body coupled to the fixed detachable tongs lower body at an upper side of the fixed detachable tongs lower body, the front part of which can be inserted into another one of the plurality of lower detachable recesses;

Lifting device for a lift table comprising a fixed detachable tongs coupling means for detachably coupling the fixed detachable tongs lower body and the fixed detachable tongs upper body.

25. A lower frame placed on the installation surface;

An upper frame that can be elevated relative to the lower frame;

A leg member connected between the lower frame and the upper frame so that a relative height of the upper frame relative to the lower frame can be changed;

An auxiliary device mounting member capable of detachably connecting an auxiliary device to the upper frame; And

And a fixing member for fixing the lift table to another object.

Description

Lifting device for lift table

The present invention relates to a lifting device for a lift table.

The lift table is disposed on an industrial site or a school, and the user can work, learn, and the like on a flat table panel installed at the upper side thereof, and the height of the table panel can be adjusted.

As described above, the structure for adjusting the height of the table panel in the lift table is a lifting device for the lift table.

In detail, a lift table generally includes two pairs of lower frames placed on an installation surface thereof, an upper frame on which the table panel is placed, and two ends each connected to the lower frame and the upper frame, the ends being connected to each other. Includes legs

Gas cylinders or hydraulic cylinders are used as the operating member to allow the lift table of this structure to be raised and lowered smoothly with less external force. Each end of the operating member has one of the upper frame and the lower frame and one of the legs. It is made of a structure that connects one or a pair of legs to each other.

As an example of such a lift table, Patent Publication No. 10-2016-0100175 (name of the invention: desk capable of height adjustment), Patent No. 10-1575195 (name of the invention: table lift) and the like can be presented.

However, according to the conventional lifting table lift apparatus, each end of the operating member is configured to connect one of the legs and one of the upper frame and the lower frame, or to connect a pair of legs to each other, Each end must be connected to a frame or leg, respectively, and therefore, each end of the actuating member and a structure for connecting to the frame or leg must be applied to each end of the actuating member respectively, so that there are many additional structures for such a connection. As a result, the manufacturing cost of the lift table increases, and the increase in the number of parts causes frequent failures.

In addition, according to the conventional structure for attaching the auxiliary device for the lift table, when additional attachment to the auxiliary device such as the auxiliary table and the work order plate is required in addition to the table panel, a structure for additional attachment to the auxiliary device is not provided separately. Not only is it difficult to further attach to such an auxiliary device, but there is also a disadvantage that an integral additional attachment is not possible by using a separate fixing means.

In addition, according to a conventional lift table lift apparatus, the lift table is applied to other objects, for example, Patent Application Publication No. 10-2016-0111905 (invention: industrial shelf forming rack system and the industrial shelf forming rack system is applied to if there is no means to fix the lift table to other objects, it is necessary to fasten it with a screw, etc., so that both the lift table and other objects may be damaged, and it may be repeatedly removed. There is a disadvantage that no coupling can be made.

An object of the present invention is to provide a lifting device for a lift table having a concise structure in which a structure for connecting an operation member such as a gas spring and a hydraulic cylinder is minimized.

Another object of the present invention is to provide a lift table lift apparatus capable of integrally attaching an auxiliary device to a lift table.

Still another object of the present invention is to provide a lift table lift apparatus capable of detachably fixing a lift table to another object.

Lifting apparatus for a lift table according to an aspect of the present invention includes a lower frame placed on the installation surface; An upper frame that can be elevated relative to the lower frame; A leg member connected between the lower frame and the upper frame so that a relative height of the upper frame relative to the lower frame can be changed; A roller member connected to the leg member, the roller member being movable along at least one of the upper frame and the lower frame when the upper frame moves up and down according to the rotation of the leg member; A roller connecting shaft which moves along the same frame of the upper frame and the lower frame and connects pairs of rollers constituting the roller member; And a lower end of the upper frame, the one end of which is connected to the roller connecting shaft, the other end of which is different from the leg to which the roller connecting shaft is connected, among the plurality of legs constituting the leg member. It includes an operating member connected to.

According to another aspect of the present invention, a lift apparatus for a lift lift table includes a lower frame placed on an installation surface; An upper frame that can be elevated relative to the lower frame; A leg member connected between the lower frame and the upper frame so that a relative height of the upper frame relative to the lower frame can be changed; And an auxiliary device mounting member capable of detachably connecting the auxiliary device to the upper frame.

Lifting device for a lift table according to another aspect of the present invention is for fixing the lift table to other objects,

A lower frame placed on the installation surface; An upper frame which can be lifted and lowered relative to the lower frame and on which a table panel is disposed; A leg member connected between the lower frame and the upper frame so that a relative height of the upper frame relative to the lower frame can be changed; And a fixing member extending from at least one of the upper frame and the lower frame so that the lift table is fixed to the other object and coupled to the other object.

Lifting apparatus for a lift table according to another aspect of the present invention includes a lower frame placed on the installation surface; An upper frame that can be elevated relative to the lower frame; A leg member connected between the lower frame and the upper frame so that a relative height of the upper frame relative to the

lower frame can be changed; An auxiliary device mounting member capable of detachably connecting an auxiliary device to the upper frame; And a fixing member for fixing the lift table to another object.

According to an elevating device for a lift table according to an aspect of the present invention, the elevating device for a lift table includes a lower frame, an upper frame, a leg member, a roller member, a roller connecting shaft, and an operating member, and one end of the operating member is connected to the roller connecting shaft, and the other end of the actuating member is connected to a leg different from the leg to which the roller connecting shaft is connected, among a plurality of legs constituting the leg member, Since one end of the actuating member can be connected to the roller linking shaft, which must be essentially present for the connection, a structure for linking one end of the actuating member can be replaced by the roller linking shaft, and accordingly The structure for the connection of the operating member can be made a simple structure with a minimum it works.

According to another aspect of the present invention, there is provided an auxiliary device attachment structure for a lift table, wherein the auxiliary device attachment structure for the lift table, together with the lower frame, the upper frame, and the leg member, can be detachably connected to the upper frame. By including the device connecting member, it is possible to integrally attach auxiliary devices such as auxiliary tables, work orders, etc. to the lift table, to easily attach and remove such auxiliary devices, and to raise the attached auxiliary devices, There is an effect that can be easily used by switching to lay down for various purposes.

According to a lifting device for a lift table according to another aspect of the present invention, the lifting device for a lift table, together with the lower frame, the upper frame and the leg member, so that the lift table is fixed to another object, among the upper frame and the lower frame. Extending from at least one, comprising a fixing member coupled to the other object, by detachably coupling the fixing member to the other object, it is possible to easily and easily detachable to the lift table to the other object it is effective.

1 is a perspective view showing a state in which the lift device for a lift table according to the first embodiment of the present invention is coupled.

Figure 2 is a perspective view showing a state that the table panel is separated in the lifting device for a lift table according to a first embodiment of the present invention.

3 is a perspective view showing a state in which the lift device for a lift table according to the first embodiment of the present invention is separated.

4 is a front view of the elevating device for the lift table according to the first embodiment of the present invention.

5 is a front view of a state in which a lift device for a lift table according to a first embodiment of the present invention is contracted;

FIG. 6 is an enlarged view of a portion A shown in FIG. 2; FIG.

FIG. 7 is an exploded view of the part shown in FIG. 6;

8 is a front view of the elevating device for the lift table according to the second embodiment of the present invention.

Figure 9 is a perspective view showing a state in which the lift table is applied to the lifting device for a lift table according to a third embodiment of the present invention.

10 is a perspective view of the table panel separated from the front side as viewed obliquely from above on the lift table to which the lift table lift apparatus according to the third embodiment of the present invention is applied;

11 is a perspective view showing a state in which a lift table to which a lift table lift apparatus according to a third embodiment of the present invention is applied is separated;

12 is a front view of a lift table to which a lift device for a lift table according to a third embodiment of the present invention is applied;

13 is a front view showing a state in which a lift table to which a lift device for a lift table according to a third embodiment of the present invention is applied is contracted;

FIG. 14 is an enlarged view of a portion B shown in FIG. 10; FIG.

FIG. 15 is an exploded view of the part shown in FIG. 14;

FIG. 16 is an enlarged view of a portion C shown in FIG. 11; FIG.

17 is a front view showing a state in which an auxiliary table is laid down in a lift table to which a lift table lift apparatus according to a third embodiment of the present invention is applied;

18 is a perspective view of the table panel separated from the rear side as viewed obliquely from a lift table to which a lift table lift apparatus according to a third embodiment of the present invention is applied;

FIG. 19 is an enlarged view of a portion D shown in FIG. 18; FIG.

20 is a front view of a lift table to which a lift device for a lift table according to a fourth embodiment of the present invention is applied;

Hereinafter, a lift apparatus for a lift table according to embodiments of the present invention will be described with reference to the drawings.

1 is a perspective view showing a state in which a lift device for a lift table according to a first embodiment of the present invention is coupled, Figure 2 is a state in which the table panel is separated in a lift device for a lift table according to a first embodiment of the present invention 3 is a perspective view showing a state in which the lift table lift apparatus according to the first embodiment of the present invention is separated, and FIG. 4 is a front view of the lift table lift apparatus according to the first embodiment of the present invention. 5 is a front view showing a state in which the lift device for a lift table according to the first embodiment of the present invention is contracted, and FIG. 6 is an enlarged view of a portion A shown in FIG. 7 is an exploded view of the part shown in FIG.

1 to 7 together, the lift device 100 for a lift table according to the present embodiment is the lower frame 110, the upper frame 130, the leg member 150, the roller member 156, 158, roller connecting shafts 155, 157, and actuation members 160, 165.

The lower frame 110 forms a lower structure of the elevating device 100 for the lift table, and is placed to directly contact an installation surface on which the elevating device 100 for the lift table is installed.

In detail, the lower frame 110 includes a pair of lower side bodies 111 and 115 disposed in parallel with each other, and a lower front connector 120 connecting the front portions of the lower side bodies 111 and 115 to each other. And a lower rear connecting member 125 connecting the rear parts of the lower side bodies 111 and 115 to each other, the inside of which has a rectangular shape.

In front of each of the lower side bodies 111 and 115, first leg connecting portions 112 and 116 are formed to be connected to allow the lower portion of the first leg 151 to be described later to rotate in a predetermined angle range. Lower roller moving holes 113 and 117 that can be moved while the lower roller 158 connected to the lower portion of the second leg 152, which will be described later, on the surfaces facing each other of the lower side bodies 111 and 115, respectively. Is formed.

The upper frame 130 forms an upper structure of the elevating device 100 for the lift table, may be elevated relative to the lower frame 110, and is wide in a predetermined area on an upper end of the upper frame 130. The table panel 101 in the form of a plate is disposed.

In detail, the upper frame 130 includes a pair of upper side bodies 131 and 135 disposed in parallel with each other, and an upper front connecting body 140 connecting front portions of the upper side bodies 131 and 135 to each other. And an upper rear connecting member 145 connecting the rear portions of the upper side bodies 131 and 135 to each other, the inside of which has a rectangular shape.

The front portion of each of the upper side body (131, 135) is formed with a second leg connecting portion (132, 136) is connected so that the upper portion of the second leg 152 is rotated in a predetermined angle range, The upper roller moving holes 133 and 137 may be formed on the surfaces of the upper side bodies 131 and 135 facing each other so that the upper roller 156 connected to the upper portion of the first leg 151 may be rotated, respectively. do.

The leg member 150 is connected between the lower frame 110 and the upper frame 130, so that the relative height of the upper frame 130 relative to the lower frame 110 can be changed.

In detail, the leg member 150 is formed in the form of a bar of a predetermined length bar, and formed in the form of a bar of a predetermined length and is intersected with the first leg 151 is rotated in a predetermined angle range The second leg 152 is pivotally connected.

The first leg 151 and the second leg 152 may be formed so as to cross at an arbitrary position, for example, each center portion of the leg pivot shaft 153 as a whole and cross in an 'X' shape. have.

When the lower portion of the first leg 151 and the upper portion of the second leg 152 is closer, and the upper portion of the first leg 151 and the lower portion of the second leg 152 is rotated closer, the leg member The height of the 150 is lowered, so that the upper frame 130 is lowered toward the lower frame 110.

On the other hand, when the lower portion of the first leg 151 and the upper portion of the second leg 152 is far away and the upper portion of the first leg 151 and the lower portion of the second leg 152 is rotated apart, The height of the leg member 150 is increased, so that the upper frame 130 is raised from the lower frame 110 side.

One leg member 150 is installed at each of both sides of the lower frame 110 and the upper frame 130.

The roller members 156 and 158 are connected to the leg members 150 and, as the leg members 150 rotate, the upper frame 130 and the lower frame when the upper frame 130 is elevated. It may be moved along at least one of the (110).

In detail, the roller members 156 and 158 are rotatably connected to the lower portion of the second leg 152 and the lower roller 158 which can be moved along the lower roller moving holes 113 and 117. And an upper roller 156 rotatably connected to an upper portion of the first leg 151 and movable along the upper roller moving holes 133 and 137.

The lower roller 158 and the upper roller 156 are each configured as a pair, and are connected to each of the first leg 151 and each of the second leg 152 one by one.

The roller connecting shafts 155 and 157 connect a pair of rollers moved along the same frame among the upper frame 130 and the lower frame 110. That is, the upper one of the roller connecting shafts 155 and 157 155 connects the pair of upper rollers 156 to each other across the inside of the upper frame 130, and the roller connecting shaft (The lower one of the 155 and 157 157 connects the pair of lower rollers 158 to each other across the lower frame 110.

The lower end of the first leg 151 is rotatably connected to the first leg connecting portions 112 and 116, which are one end of the lower frame 110, and the upper end of the first leg 151 is the upper portion. The upper and lower ends of the first leg 151 are disposed to be movable along the upper roller moving holes 133 and 137 when the frame 130 is elevated, and is disposed above the roller connecting shafts 155 and 157. It is connected to the 155, the upper end of the second leg 152 is rotatably connected to the second leg connecting portion 132, 136, which is one end of the upper frame 130, the second leg The lower end of 152 is disposed to be movable along the lower roller moving holes 113 and 117 when the upper frame 130 is lifted, and the lower end of the second leg 152 is connected to the roller connecting shaft (155 and 157 are connected to the lower one (157).

The upper ends of the pair of first legs 151 and the lower ends of the pair of second legs 152 are connected to each other by the roller connecting shafts 155 and 157, respectively. A pair of the upper roller 156 and a pair of the lower roller 158 are respectively connected to each end of the 157, so that the first leg 151 and the second leg 152 can be smoothly moved. In addition, each of the leg members 150 installed on both sides of the lower frame 110 and the upper frame 130 may be operated in conjunction with each other, so that the lifting of the upper frame 130 is more smoothly. Can be done.

The actuating members 160 and 165 are operated to smoothly raise and lower the upper frame 130, and one end of the actuating members 160 and 165 is connected to one of the roller connecting shafts 155 and 157. The other end portion of the operation members 160 and 165 is connected to a leg different from a leg to which the roller connecting shafts 155 and 157 are connected, among a plurality of legs constituting the leg member 150.

The actuating members 160, 165 comprise at least one of a gas spring and a hydraulic cylinder.

In the present embodiment, the upper portion of the operating member (160, 165) is arranged on the upper side of the roller connecting shaft (155, 157), that is, the upper end of the first leg (151) connected to each other Rotatably connected, and a lower portion of the actuating members 160 and 165 is rotatably connected to the second leg 152 below the point where the first leg 151 and the second leg 152 intersect. Connected. For example, when the actuating members 160, 165 are hydraulic cylinders, the cylinder body is connected to the upper one of the roller connecting shafts 155, 157, 155, and the piston is the leg member 150. Can be rotatably connected to the second leg 152.

A fixing groove 155a is formed in an upper portion 155 of the roller connecting shafts 155 and 157, and an upper portion of the actuating members 160 and 165 is upper of the roller connecting shafts 155 and 157. The fixing means 155b is coupled to the fixing groove 155a so that the state connected to the one disposed in the holding unit 155a is maintained.

The fixing grooves 155a are formed at both sides of portions at which one end portions of the operation members 160 and 165 are connected, and the fixing means 155b are coupled to the fixing grooves 155a, respectively.

The fixing means 155b may be presented as a C-shaped fixing ring.

Although the description of the fixing groove 155a and the fixing means 155b is not shown, the same applies to the lower one of the roller connecting shafts 155 and 157.

As described above, the upper portions of the operating members 160 and 165 are connected to the upper ones of the roller connecting shafts 155 and 157 and the upper both sides of the operating members 160 and 165. The fixing means 155b is coupled to each of the formed fixing grooves 155a, so that the upper portion of the operating members 160 and 165 are rotatably connected to the roller connecting shafts 155 and 157, respectively. The left and right flows in which the upper portions of the operation members 160 and 165 move on the shafts 155 and 157 are not generated.

On the other hand, in the present embodiment, the lifting device 100 for lift tables includes lifting force adjusting members 161 and 166.

The lifting force adjusting members 161 and 166 may have any one of the upper frame 130 and the lower frame 110 from one end of the operating member 160 or 165 from the center line of the second leg 152. A lower portion of the actuating members 160 and 165 and a lower portion of the actuating members 160 and 165 and the second leg so as to be connected to an offset portion in the direction of To connect 152.

In detail, the lifting force adjusting members 161 and 166 protrude a predetermined length from the second leg 152, and the lower portions of the operating members 160 and 165 are disposed at the distal ends of the lifting force adjusting members 161 and 166. It is connected rotatably.

The lifting force adjusting members 161 and 166 protrude a predetermined length vertically from the centerline of the second leg 152, and the operating members 160 and 165 at the distal ends of the lifting force adjusting members 161 and 166. As the lower portion of the second member rotably connects, the lower portion of the operating members 160 and 165 may be connected to a portion spaced apart from the centerline of the second leg 152, and thus the first leg 151 and the first portion. Even when the two legs 152 are folded in close proximity, the lifting force of the operation members 160 and 165 may be reduced.

Reference numeral 105 is a fixing lever, when the user grabs the fixing lever 105 by hand, the fixing of the lifting device 100 for the lift table may be released to be in a liftable state, and the fixing lever 105 When it is released, the lifting device 100 for the lift table is fixed again. Since the specific structure of the fixing lever 105 is outside the scope of the present invention and general, the detailed illustration and description thereof will be omitted here.

Hereinafter, with reference to the drawings will be described the operation of the lifting device 100 for a lift table according to this embodiment.

First, when the user grasps the fixing lever 105 and grips with his hand to release the lifting device 100 for lifting, the user presses the lifting device 100 for lifting. The lower roller 158 and the upper roller 156 are rearwards of the lower frame 110 and the upper frame 130 so that both ends of the leg 151 and the second leg 152 are close to each other. Is moved. Then, the height of the leg member 150 is gradually lowered, and the upper frame 130 is lowered accordingly.

On the other hand, when the user lifts the lifting device 100 for the lift table, the lower roller 158 and the upper roller (the two ends of the first leg 151 and the second leg 152 are far from each other) 156 is moved to the front of the lower frame 110 and the upper frame 130, respectively. Then, the height of the leg member 150 is gradually increased, thereby raising the upper frame 130.

The upper frame 130 may be smoothly lifted and lowered by the operation members 160 and 165 during the lifting of the upper frame 130.

As described above, the lifting device 100 for the lift table includes the lower frame 110, the upper frame 130, the leg members 150, the roller members 156 and 158, and the roller connecting shaft 155, 157 and the actuating members 160 and 165, one end of the actuating members 160 and 165 is connected to the roller connecting shafts 155 and 157, and the actuating members 160 and 165. The other end of the connection is connected to the other leg and the leg connected to the roller connecting shaft 155, 157 of the plurality of legs constituting the leg member 150, the connection of the roller in the lifting device 100 for the lift table One end of the operating member (160, 165) can be connected to the roller connecting shaft (155, 157) that must be essentially present for the connection of the one end of the operating member (160, 165) A structure can be replaced by the roller connecting shafts 155, 157, accordingly Therefore, a simple structure in which the structure for connecting the operation members 160 and 165 is minimized can be achieved.

Hereinafter, a lift apparatus for a lift table according to other embodiments of the present invention will be described with reference to the drawings. In carrying out this description, the description overlapping with the contents already described in the above-described first embodiment of the present invention will be replaced with, and will be omitted herein.

8 is a front view of the elevating device for the lift table according to the second embodiment of the present invention.

Referring to FIG. 8, in this embodiment, a pair of lower rollers 258 moved along the lower frame 210 among the rollers connected by the roller connecting shafts 255 and 257 are mutually out of the lower frames 210. It is installed to move along each side facing each other, the lower one of the roller connecting shafts (255, 257) 257 is connected to each of the lower rollers 258 across the lower frame (210) A lower portion of the actuating members 260, 265 is connected to the lower one of the roller connecting shafts 255, 257, and an upper portion of the actuating members 260, 265 is provided with a first leg 251. Is connected to.

In this embodiment, the lifting force adjusting member 266 protrudes a predetermined length from the first leg 251, and the upper portions of the operating members 260 and 265 are rotatable at the distal end of the lifting force adjusting member 266. is connected.

Hereinafter, a lift table lift apparatus according to a third embodiment of the present invention will be described with reference to the drawings.

9 is a perspective view showing a state in which a lift table to which a lift table lift apparatus according to a third embodiment of the present invention is coupled is coupled, and FIG. 10 is a lift to which a lift table lift apparatus according to a third embodiment of the present invention is applied. FIG. 11 is a perspective view of the table panel separated from the table at an oblique view from above, and FIG. 11 is a perspective view illustrating a lift table to which a lift table lift apparatus according to a third embodiment of the present invention is applied, and FIG. A front view of a lift table to which a lift table lift apparatus according to a third embodiment of the present invention is applied, and FIG. 13 is a view in which the lift table to which the lift table lift apparatus according to the third embodiment of the present invention is applied is contracted. Is a front view, FIG. 14 is an enlarged view of a portion B shown in FIG. 10, and FIG. 15 is shown in FIG. 16 is an enlarged view of a portion C shown in FIG. 11, and FIG. 17 is an auxiliary table in a lift table to which a lift table lift apparatus according to a third embodiment of the present invention is applied. FIG. 18 is a perspective view of the laid state from the front, and FIG. 18 is a perspective view of the table panel separated from the rear side of the lift table to which the lift table lift apparatus according to the third embodiment of the present invention is removed, and FIG. 19. 18 is an enlarged view of a portion D shown in FIG. 18.

9 to 19 together, the lift apparatus 300 for a lift table according to the present embodiment includes a lower frame 310, an upper frame 330, a leg member 350, and an auxiliary device mounting member. do.

In addition, the lifting device 300 for lifting the table is for fixing the lift table to another object, the lower frame 310, the upper frame 330, the leg member 350 and the fixing member include.

In addition, the lifting device 300 for the lift table includes roller members 356 and 358, roller connecting shafts 355 and 357, operating members 360 and 365, and auxiliary device connecting members 370. .

The lower frame 310 forms a lower structure of the elevating device 300 for the lift table, and is placed so as to directly contact an installation surface on which the elevating device 300 for the lift table is installed.

In detail, the lower frame 310 includes a pair of lower side bodies 311 and 315 disposed in parallel to each other, and a lower front connecting unit 320 connecting the front portions of the lower side bodies 311 and 315 to each other. And a lower rear connecting member 325 connecting the rear portions of the lower side bodies 311 and 315 to each other, the inside of which has a rectangular shape.

In front of each of the lower side bodies 311 and 315, first leg connecting parts 312 and 316 are formed to be connected so that the lower part of the first leg 351, which will be described later, is rotated in a predetermined angle range. Lower roller moving holes 313 and 317 that can be moved while the lower roller 358 connected to the lower portion of the second leg 352, which will be described later, on the surfaces facing each other of the lower side bodies 311 and 315, respectively, is formed.

The upper frame 330 may form an upper structure of the lifting device 300 for the lift table, and may be elevated relative to the lower frame 310, and may be wider in a predetermined area on an upper end of the upper frame 330. The table panel 301 in the form of a plate is disposed.

In detail, the upper frame 330 includes a pair of upper side bodies 331 and 335 disposed in parallel to each other, and an upper front connecting body 340 connecting the front portions of the upper side bodies 331 and 335 to each other. And an upper rear connecting member 345 which connects the rear parts of the upper side bodies 331 and 335 to each other, and has a rectangular shape inside.

The auxiliary device mounting member may detachably connect the auxiliary device to the upper frame 330. In this embodiment, the upper rear connecting member 345 becomes the auxiliary device mounting member, and thus the upper rear. A connector 345 detachably connects the auxiliary device to the upper frame 330.

In front of each of the upper side body (331, 335) is formed a second leg connecting portion (332, 336) is connected to enable the rotation of the upper portion of the second leg 352 in a certain angle range, The upper roller moving holes 333 and 337 may be formed on the surfaces of the upper side bodies 331 and 335 facing each other so that the upper roller 356 connected to the upper portion of the first leg 351 may be rotated, respectively. do.

The leg member 350 is connected between the lower frame 310 and the upper frame 330, so that the relative height of the upper frame 330 relative to the lower frame 310 can be changed.

In detail, the leg member 350 is formed in the shape of a bar of a predetermined length bar, and formed in the shape of a bar of a predetermined length and cross the first leg 351 is rotated in a predetermined angle range The second leg 352 is pivotally connected.

The first leg 351 and the second leg 352 may be formed at an arbitrary position, for example, each center portion is connected about the leg rotation axis 353 to intersect in an 'X' shape as a whole. have.

When the lower portion of the first leg 351 and the upper portion of the second leg 352 is closer, and the upper portion of the first leg 351 and the lower portion of the second leg 352 is rotated closer, the leg member The height of the 350 is lowered, so that the upper frame 330 is lowered toward the lower frame 310.

On the other hand, when the lower portion of the first leg 351 and the upper portion of the second leg 352 is far away and the upper portion of the first leg 351 and the lower portion of the second leg 352 is rotated away from the, The height of the leg member 350 is increased, so that the upper frame 330 is raised from the lower frame 310 side.

One leg member 350 is provided at each of both sides of the lower frame 310 and the upper frame 330.

The roller members 356 and 358 are connected to the leg members 350 and, as the leg members 350 rotate, the upper frame 330 and the lower frame when the upper frame 330 moves up and down. it can be moved along at least one of (310).

In detail, the roller members 356 and 358 may be rotatably connected to the lower portion of the second leg 352 and the lower roller 358 which may be moved along the lower roller moving holes 313 and 317. And an upper roller 356 rotatably connected to an upper portion of the first leg 351 and movable along the upper roller moving holes 333 and 337.

The lower roller 358 and the upper roller 356 are each composed of a pair, and are connected to each of the first leg 351 and each of the second leg 352, one by one.

The roller connecting shafts 355 and 357 connect pairs of rollers moved along the same frame among the upper frame 330 and the lower frame 310. That is, the upper one of the roller connecting shafts 355, 357 disposed 355 connects the pair of upper rollers 356 to each other across the upper frame 330, and the roller connecting shaft (The lower ones 357 of 355 and 357 connect the pair of lower rollers 358 to each other across the lower frame 310.

The lower end of the first leg 351 is rotatably connected to the first leg connecting portions 312 and 316, which are one end of the lower frame 310, and the upper end of the first leg 351 is the upper portion. When the frame 330 is raised and lowered, the upper roller moving holes 333 and 337 are disposed to be movable, and the upper end of the first leg 351 is disposed above the roller connecting shafts 355 and 357. It is connected to the 355, the upper end of the second leg 352 is rotatably connected to the second leg connecting portion (332, 336) which is one end of the upper frame 330, the second leg The lower end of the 352 is disposed to be movable along the lower roller moving holes 313 and 317 when the upper frame 330 is elevated, and the lower end of the second leg 352 is connected to the roller connecting shaft (355 and 357 are connected to the lower one disposed 357.

The upper ends of the pair of first legs 351 and the lower ends of the pair of second legs 352 are connected to each other by the roller connecting shafts 355 and 357, respectively. And a pair of the upper rollers 356 and a pair of the lower rollers 358 are respectively connected to respective ends of the 357 so that the first leg 351 and the second leg 352 can be smoothly moved. In addition, each of the leg members 350 installed on both sides of the lower frame 310 and the upper frame 330 may be operated in conjunction with each other, so that the lifting of the upper frame 330 is smoother. Can be done.

The actuating members 360 and 365 are operated to smoothly raise and lower the upper frame 330, and one end of the actuating members 360 and 365 is connected to one of the roller connecting shafts 355 and 357. The other end of the operating member 360 or 365 is connected to a leg different from the leg to which the roller connecting shafts 355 and 357 are connected, among a plurality of legs constituting the leg member 350.

The actuating members 360 and 365 are made of at least one of a gas cylinder and a hydraulic cylinder.

In this embodiment, the upper portion of the operating member (360, 365) is arranged on the upper side of the roller connecting shaft (355, 357) 355, that is, the upper end of the first leg (351) connected to each other Rotatably connected, and a lower portion of the actuating members 360 and 365 is rotatable to the second leg 352 at a lower side of the point where the first leg 351 and the second leg 352 intersect. Connected. For example, when the actuating members 360 and 365 are hydraulic cylinders, the cylinder body is connected to the upper one of the roller connecting shafts 355 and 357 355, and the piston is the leg member 350. It may be rotatably connected to the second leg 352 of the).

Fixing grooves 355a are formed in an upper portion 355 of the roller connecting shafts 355 and 357, and an upper portion of the operating members 360 and 365 is an upper side of the roller connecting shafts 355 and 357. The fixing means 355b is coupled to the fixing groove 355a so that the state connected to the one disposed in the holder 355 is maintained.

The fixing grooves 355a are respectively formed at both sides of portions at which one end portions of the operation members 360 and 365 are connected, and the fixing means 355b are coupled to the fixing grooves 355a, respectively.

The fastening means 355b may be presented as a C-shaped fastening ring.

Although the description of the fixing groove 355a and the fixing means 355b is not shown, the same applies to the lower one of the roller connecting shafts 355 and 357 357.

As described above, an upper portion of the operating members 360 and 365 is connected to an upper portion 355 of the roller connecting shafts 355 and 357, and both upper sides of the operating members 360 and 365 are connected. The fixing means 355b is coupled to the formed fixing grooves 355a, respectively, so that the upper portion of the operating members 360 and 365 is rotatably connected to the roller connecting shafts 355 and 357. The left and right flows in which the upper portions of the operating members 360 and 365 move on the shafts 355 and 357 are not generated.

On the other hand, in this embodiment, the lifting device 300 for lift tables includes lifting force adjusting members 361 and 366.

The lifting force adjusting members 361 and 366 have one end portion of the operating members 360 and 365 from one of the upper frame 330 and the lower frame 310 from a centerline of the second leg 352. A lower portion of the actuating members 360, 365 and the lower leg of the actuating members 360, 365 and the second leg so as to be connected to an offset portion in the direction of 352 is to connect.

In detail, the lifting force adjusting members 361 and 366 protrude a predetermined length from the second leg 352, and the lower portions of the operating members 360 and 365 are disposed at the distal ends of the lifting force adjusting members 361 and 366. It is connected rotatably.

The lifting force adjusting members 361 and 366 protrude a predetermined length vertically from the centerline of the second leg 352, and the operating members 360 and 365 at distal ends of the lifting force adjusting members 361 and 366. As the lower portion of the second member rotably connects, the lower portion of the operating members 360 and 365 may be connected to a portion spaced apart from the centerline of the second leg 352, and thus the first leg 351 and the first portion may be connected to each other. Even when the two legs 352 are folded in close proximity, the lifting force of the operating members 360 and 365 may be reduced.

Reference numeral 305 denotes a fixed lever. When the user grasps the fixed lever 305 by hand, the fixing of the lifting device 300 for the lift table may be released, and the lifting lever 305 may be lifted. When it is released, the lifting device 300 for the lift table is fixed again. Since the specific structure of the fixing lever 305 is outside the scope of the present invention and general, the detailed illustration and description thereof will be omitted here.

Hereinafter, an auxiliary table 377 is provided as the auxiliary device, but is not limited thereto, and various other structures such as a work instruction board may be presented as the auxiliary device.

In the present embodiment, the upper detachable groove 345a recessed to a certain depth is formed in the upper rear connecting member 345 which is the auxiliary device mounting member for the connection of the auxiliary device connecting member 370.

The upper detachable groove 345a may be formed in plural so as to be spaced apart from each other along a circumferential surface on the auxiliary device mounting member, and the auxiliary device connecting member 370 may be formed at an arbitrary position of the upper rear connecting member 345. The upper detachable groove 345a may be formed to have a predetermined length along the length direction of the upper rear connecting member 345 so that the upper and lower detachable grooves 345a may be connected to each other.

Preferably, the upper detachable groove 345a may be formed in the entire upper rear connector 345 in the longitudinal direction of the upper rear connector 345.

The auxiliary device connecting member 370 is for connecting the auxiliary device mounting member and the auxiliary device.

The auxiliary device connecting member 370 is an auxiliary device connecting detachable tong member 371 that can detachably pick up the upper detachable groove 345a from the rear of the upper rear connecting member 345, and the auxiliary device connecting detachable An auxiliary connector 375 extends rearward from the tong member 371 and is mounted on and connected to the auxiliary table 377.

The auxiliary device connection detachable forceps member 371 includes a detachable forceps lower body 372, a detachable forceps upper body 373, and detachable forceps coupling means 374.

The detachable tong lower body 372 may have a front portion inserted into one of the plurality of upper detachable grooves 345a.

The detachable tongs upper body 373 is coupled to the detachable tongs lower body 372 from the upper side of the detachable tongs lower body 372, and the front part of the detachable tongs upper body 345a may be inserted into another one of the plurality of upper and detachable recesses 345a. .

The detachable tongs lower body 372 and the detachable tongs upper body 373 are respectively coupled to different upper detachable grooves 345a, and the extension lines of the front and rear ends of the detachable tongs lower body 372 and the detachable tongs upper body 373 are By being coupled so as to converge with each other, the detachable tongs lower body 372 and the detachable tongs upper body 373 can firmly pick up the upper rear connector 345.

The detachable forceps coupling means 374 is to detachably couple the detachable forceps lower body 372 and the detachable forceps upper body 373 to each other. The detachable forceps lower body 372 is configured of a hexagon wrench bolt and a nut, and the like.) And the detachable tongs upper body 373 may be tightened to be fixed to each other, or the detachable tongs lower body 372 and the detachable tongs upper body 373 may be separated from each other.

The auxiliary connecting member 375 extends from the detachable tong coupling means 374, and forms a vertically bent shape, and the auxiliary table 377 is mounted on and fixed to the rear upper end of the auxiliary connecting member 375. Support 376 is formed. Then, as shown in FIG. 1, the auxiliary table 377 is vertically erected to the rear of the table panel 301, and thus may be used for a work instruction board or the like.

On the other hand, the upper rear connecting member 345 is rotatably connected to the rear of each upper side body (331, 335) to be rotated within a predetermined angle range. Then, when the auxiliary connecting body 375 is erected perpendicularly to each of the upper side bodies 331 and 335, the auxiliary table 377 is perpendicular to the table panel 301 as shown in FIG. 1 and the like. It can be used for the purpose of the operation indicator board, etc., the auxiliary connector 375 is rotated about 90 degrees, so that the upper rear connector 345 is each upper side body (331, 335) When laid parallel to, the auxiliary table 377 is placed on an extension of the table panel 301, as shown in FIG. 9, so that the auxiliary table 377 is positioned on the table panel 301. It can be used to expand the table area.

The fixing member allows the lift table to be fixed to the other object. In this embodiment, the lower rear connecting member 325 becomes the fixing member, and thus the lower rear connecting member 325 becomes the lift table. Removably fixed to the other object.

The fixing member is provided with a lower detachable groove 325a recessed to a predetermined depth for connection of the fixing member.

In the present embodiment, for example, the auxiliary device mounting member constitutes the upper frame 330, and the fixing member constitutes the lower frame 310.

The lower detachable groove 325a may be formed in plural to be spaced apart from each other on the lower rear connecting member 325 which is the fixing member, and the other object may be connected to an arbitrary position of the lower rear connecting member 325. The lower detachable groove 325a may be formed to have a predetermined length along the longitudinal direction of the lower rear connecting member 325.

Preferably, the lower detachable groove 325a may be formed in the entire fixing member in the longitudinal direction of the fixing member.

The elevating device 300 for the lift table further includes a fixed connection member 380 for connecting the fixed member and the other object.

The fixed connection member 380 includes a fixed detachable tong member 381 that can detachably detach the lower detachable groove 325a from the rear of the lower rear connector 325, and the fixed detachable tong member 381. A fixed connector 385 extends from and coupled to a portion of the other object.

The fixed detachable forceps member 381 includes a fixed detachable forceps lower body 382, a fixed detachable forceps upper body 383, and a fixed detachable forceps coupling unit 384.

The fixed detachable tong lower body 382 may have a front portion inserted into one of the plurality of lower detachable recesses 325a.

The fixed detachable tongs upper body 383 is coupled to the fixed detachable forceps lower body 382 at an upper side of the fixed detachable forceps lower body 382, and the front portion of the lower detachable tongs 325a is inserted into another one of the plurality of lower detachable forceps 325a. It can be.

The fixed detachable tongs lower body 382 and the fixed detachable tongs upper body 383 are respectively coupled to different lower detachable grooves 325a, and each of the fixed detachable tongs lower body 382 and the fixed detachable tongs upper body 383 The extension lines of the front part are coupled to converge with each other, so that the fixed detachable tongs lower body 382 and the fixed detachable tongs upper body 383 can firmly pick up the lower rear connecting member 325.

The fixed detachable tongs coupling means 384 couples the fixed detachable tongs lower body 382 and the fixed detachable tongs upper body 383 to each other in a detachable manner, and is composed of a hexagon wrench bolt and a nut, and the like. Tweezer lower body 382 and the fixed detachable tongs upper body 383 may be tightened to be fixed to each other, or the fixed detachable forceps lower body 382 and the fixed detachable tongs upper body 383 may be loosened to be separated from each other.

The fixed connection member 380 may be detachably connected to the plurality of removable connection members so as to be spaced apart from each other on the lower rear connection member 325 which is the fixing member, and each fixed connection member 385 is connected to the lower rear connection member 325. It may be made in the form of a predetermined length protruding to the rear.

Each of the fixed connection body 385 formed as described above is inserted or tightened in a portion of the other object, such that the lift table can be easily and detachably fixed to the other object.

Hereinafter, with reference to the drawings will be described the operation of the lifting device 300 for a lift table according to this embodiment.

First, when the user holds the fixing lever 305 and grips with his hand and the fixing device 300 for lifting device 300 is released, when the user presses the device 300 for lifting device 300, the first lifting device 300 is pressed. The lower roller 358 and the upper roller 356 are rearwards of the lower frame 310 and the upper frame 330 so that both ends of the leg 351 and the second leg 352 are close to each other. is moved. Then, the height of the leg member 350 is gradually lowered, and the upper frame 330 is lowered accordingly.

On the other hand, when the user lifts the lift device 300 for the lift table, the lower roller 358 and the upper roller (the two ends of the first leg 351 and the second leg 352 away from each other) 356 is moved to the front of the lower frame 310 and the upper frame 330, respectively. Then, the height of the leg member 350 is gradually increased, thereby raising the upper frame 330.

The upper frame 330 may be smoothly lifted and lowered by the operation members 360 and 365 during the lifting of the upper frame 330.

On the other hand, apart from this lifting operation, the auxiliary connecting body 375 is vertical to each of the upper side body (331, 335) to be used for the purpose, such as a work indicator board, or the auxiliary connecting body 375 is laid in parallel, the auxiliary table 377 can be used to expand the table area of the table panel (301).

Lifting operation of the lift table as described above may be made in a state fixed to the other object by the fixing member and the fixed connection member 370.

One end of the operating member (360, 365) is connected to the roller connecting shaft (355, 357), the other end of the operating member (360, 365) a plurality of constituting the leg member 350 The roller connecting shafts 355 and 357 of the legs are connected to a leg different from the leg to which they are connected, so that the roller connecting shafts 355 and 357 must be present for the connection of the rollers in the lifting device 300 for the lift table. Since one end of the operating member (360, 365) can be connected to, the structure for connection of one end of the operating member (360, 365) can be replaced by the roller connecting shaft (355, 357) Therefore, the structure for the connection of the operating member 360, 365 can be made in a simplified structure is minimized.

As the auxiliary device mounting member and the auxiliary device connecting member 370 are provided, an auxiliary device such as an auxiliary table, a work instruction board, and the like can be integrally attached to the lift table, and such an auxiliary device can be easily detached and replaced. It can be easily converted to various uses by setting up or laying the attached auxiliary device.

As described above, as the lifting device 300 for the lift table includes the fixing member together with the lower frame 310, the upper frame 330, and the leg member 350, the fixing member is attached to the fixing member. As the other object is detachably coupled, the lift table can be easily fixed to the other object.

Hereinafter, a lift table lift apparatus according to a fourth embodiment of the present invention will be described with reference to the drawings.

20 is a front view of a lift table to which a lift device for a lift table according to a second embodiment of the present invention is applied.

Referring to FIG. 20, in the present embodiment, the auxiliary device connecting member 470 is vertically erected in the upper rear connecting member 445, which is the auxiliary device mounting member, and at the top of the auxiliary device connecting member 470. The auxiliary table 477 is placed in the air above the table panel in parallel with the table panel. Then, the auxiliary table 477 may be arranged in the form of a two-stage table over the rear side of the table panel.

While the invention has been shown and described with respect to specific embodiments thereof, those skilled in the art can variously modify the invention without departing from the spirit and scope of the invention as set forth in the claims below. And that it can be changed. Nevertheless, it will be clearly understood that all such modifications and variations are included within the scope of the present invention.

According to the elevating device for a lift table according to an aspect of the present invention, the structure for connecting the operating members such as gas springs, hydraulic cylinders, etc. can be achieved in a simple structure with a minimum, and the auxiliary device is integrated in the lift table. It can be additionally attached, and

the lift table can be detachably fixed to other objects, so the industrial applicability is high.

Patent Citations (5)

Publication number	Priority date	Publication date	Assignee	Title
KR19990029343U *	1997-12-29	1999-07-15	정몽규	Jack handlebars for jack handle operation
DE19837188C1 *	1998-08-17	1999-09-30	Diw Bueroeinrichtungen Gmbh	Coupling for office furniture frame
JP2014027987A *	2012-07-31	2014-02-13	Paramount Bed Co Ltd	X link elevating mechanism
KR101435160B1 *	2014-03-28	2014-08-29	제트스타 주식회사	Multi-functional bed
KR200478652Y1 *	2015-04-03	2015-11-02	주식회사 에스엠티	A standing table
Family To Family Citations				

* Cited by examiner, † Cited by third party

Cited By (2)

Publication number	Priority date	Publication date	Assignee	Title
CN108813955A *	2018-07-24	2018-11-16	合肥爱玩动漫有限公司	A kind of cartoon design workbench
CN110326888A *	2019-07-22	2019-10-15	杭州席媒科技有限公司	A kind of table top riser being able to carry out right angle movement
Family To Family Citations				

* Cited by examiner, † Cited by third party, ‡ Family to family citation

Similar Documents

Publication	Publication Date	Title
WO2018093007A1	2018-05-24	Device for elevating lift table
WO2016006822A1	2016-01-14	Headrest moving device
WO2014116062A1	2014-07-31	Trolley
WO2013172565A1	2013-11-21	Six-legged walking robot having robotic arms for legs and plurality of joints
EP2737471A1	2014-06-04	Display apparatus
CN107107976A	2017-08-29	Head, Remote Control Vehicle and remote control delivery system
WO2017222196A1	2017-12-28	Cable support guide
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WO2014168421A1	2014-10-16	Thermotherapy device
WO2014003258A1	2014-01-03	Vehicle wiper multi-adapter
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WO2017018780A1	2017-02-02	Prefabricated coffin and assembly method thereof
WO2017179756A1	2017-10-19	Tripod journal cross bearing disassembling and assembling apparatus
WO2017007065A1	2017-01-12	Autoclave device capable of removing bubbles in multiple stages

WO2019035667A1	2019-02-21	Display apparatus
WO2015160003A1	2015-10-22	Drive control device for construction equipment and control method therefor
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WO2020256504A2	2020-12-24	Surgical system
WO2019221517A1	2019-11-21	Motorized easel
WO2018038334A1	2018-03-01	Tilting stage system
WO2018021763A1	2018-02-01	Multidirectional suspension device for walking exercise
WO2015005588A1	2015-01-15	Dovetail processing apparatus and processing method for horizontally loading wood plate
WO2018062736A1	2018-04-05	Vibration control device

Priority And Related Applications

Priority Applications (4)

Application	Priority date	Filing date	Title
KR1020160155335A	2016-11-21	2016-11-21	Combining structure of lift table
KR1020160155332		2016-11-21	
KR10-2016-0155332		2016-11-21	
KR10-2016-0155335		2016-11-21	

Legal Events

Date	Code	Title	Description
2018-11-28	121	Ep: the epo has been informed by wipo that ep was designated in this application	**Ref document number:** 17871407 **Country of ref document:** EP **Kind code of ref document:** A1
2019-05-22	NENP	Non-entry into the national phase in:	**Ref country code:** DE
2019-12-18	122	Ep: pct application non-entry in european phase	**Ref document number:** 17871407 **Country of ref document:** EP **Kind code of ref document:** A1

Concepts

machine-extracted

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Name	Image	Sections	Count	Query match
elevating		title,claims,abstract,description	16	0.000
coupling		claims,description	11	0.000
coupling process		claims,description	11	0.000
coupling reaction		claims,description	11	0.000
installation		claims,description	11	0.000

Show all concepts from the description section

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[19] 中华人民共和国国家知识产权局

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A47B 9/16 (2006.01)
B60P 3/39 (2006.01)

[12] 实用新型专利说明书

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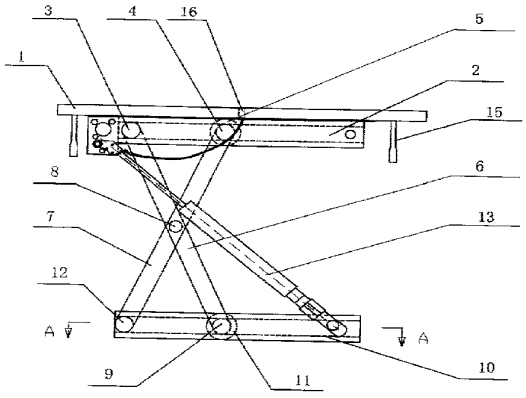
权利要求书 1 页 说明书 3 页 附图 1 页

[54] 实用新型名称

可控式升降台

[57] 摘要

可控式升降台，涉及床、桌或地板技术，台面的背部连接相互平行的两根上滑槽，在两根上滑槽之间设置一根上固定转轴，该上固定轴的两端分别可转动式连接在两根上滑槽上；在两根上滑槽之间还可滑动式布置一根上活动轴；在上固定轴的两端分别绞接一根连板，在上滑动轴的两端分别铰接另一根连板，两只连板中部相互铰接，两只连板的下端通过下活动轴连接，下活动轴的两端分别可滑动式布置在一对相互平行的下滑槽内，另两只连杆的下端可转动式连接在下滑槽上，两只连杆的下端之间铰连接下固定轴；在上、下滑槽之间设有可锁定气弹簧，通过可锁定气弹簧，任意调节台面高度，可改善一贯的卧铺只能睡的功能，大大增加了长途乘坐的舒适性。



1、可控式升降台，包括台面，其特征在于台面的背部连接相互平行的两根上滑槽，在两根上滑槽之间设置一根上固定轴，该上固定轴的两端分别可转动式连接在两根上滑槽上；在两根上滑槽之间还可滑动式布置一根上活动轴；在上固定轴的两端分别绞接一根连板一，在上滑动轴的两端分别铰接一根连板二，靠近同一根上滑槽的两只连板一、二中部相互铰接，两只连板一的下端通过下活动轴连接，下活动轴的两端分别可滑动式布置在一对相互平行的下滑槽内，两只连杆二的下端可转动式连接在下滑槽上，两只连杆二的下端之间铰连接下固定轴；在上、下滑槽之间设有可锁定气弹簧，所述可锁定气弹簧的两端分别铰连接在上、下滑槽上。

2、根据权利要求 1 所述的可控式升降台，其特征在于上活动轴通过滚轮连接在上滑槽上。

3、根据权利要求 1 所述的可控式升降台，其特征在于下活动轴通过滚轮连接在下滑槽上。

4、根据权利要求 1 所述的可控式升降台，其特征在于上连板一、二之间通过活动中轴连接。

5、根据权利要求 1 或 2 或 3 或 4 所述的可控式升降台，其特征在于两根下滑槽上分别设置固定脚。

6、根据权利要求 1 所述的可控式升降台，其特征在于台面背部设有辅助支撑脚。

可控式升降台

技术领域

本实用新型涉及床、桌或地板技术，特别是可调节其高度的技术结构。

背景技术

小型货车驾驶室与后方配有休息室，现有的休息室里虽然空间较大，但只有一张高度固定的床，床面被其下方的脚固定在车体上，只具有卧具的唯一功能。货车司机由于长途驾驶身心都很疲惫，这种休息室无法提供舒适的吃饭、喝茶、休闲条件，对长期跑长途的驾驶员来说极为不便，甚至还有影响安全驾驶。

实用新型内容

本实用新型目的在于为驾驶员提供一种可控式升降台面，通过调节台面高低，可改变台面的使用功能，为驾驶员多种需求提供方便。

本实用新型包括台面，特点是台面的背部连接相互平行的两根上滑槽，在两根上滑槽之间设置一根上固定轴，该上固定轴的两端分别可转动式连接在两根上滑槽上；在两根上滑槽之间还可滑动式布置一根上活动轴；在上固定轴的两端分别绞接一根连板一，在上滑动轴的两端分别铰接一根连板二，靠近同一根上滑槽的两只连板一、二中部相互铰接，两只连板一的下端通过下活动轴连接，下活动轴的两端分别可滑动式布置在一对相互平行的下滑槽内，两只连杆二的下端可转动式连接在下滑槽上，两只连杆二的下端之间铰连接下固定轴；在上、下滑槽之间设有可锁定气弹簧，所述

可锁定气弹簧的两端分别铰连接在上、下滑槽上。

本实用新型通过可锁定气弹簧，可根据需要任意调节台面高度，运用到中型、大型卡车的卧铺上，可改善一贯的卧铺只能睡的功能，该产品可使驾乘途中的随车人员可睡、可坐、可吃饭、吃茶等，大大增加了长途乘坐的舒适性，使卡车这个商品更具人性化。本实用新型还可运用到各种棋会俱乐部，以及日式的榻榻米。

为方便调节，上活动轴通过滚轮连接在上滑槽上；下活动轴通过滚轮连接在下滑槽上。

为增加产品的稳定性，本实用新型的上连板一、二之间通过活动中轴连接。

为增加产品与安装地面的稳定性，两根下滑槽上分别设置固定脚。

为防止调控不当，使台面过低，影响或压坏台面背部必需部件，台面背部设有辅助支撑脚。

附图说明

图 1 为本实用新型结构示意图。

图 2 为图 1 中 A-A 向剖示图。

具体实施例

如图 1 所示，台面 1 的背部固定连接相互平行的两根上滑槽 2，在两根上滑槽 2 之间设置一根上固定轴 3，上固定轴 3 的两端分别可转动式连接在两根上滑槽 2 上。在两根上滑槽 2 之间可滑动式布置一根上活动轴 4，上活动轴 4 两端分别连接一只滚轮 5，滚轮 5 配合在上滑槽 2 的轨道内。

如图 1、2 所示，在上固定轴 3 的两端分别绞接一根连板一 6，在上活动轴 4 的两端分别铰接一根连板二 7，靠近同一根上滑槽的两只连板一 6、

二 7 中部交叉并分别穿置在活动中轴 8 上，两只连板一 6 的下端通过下活动轴 9 连接，下活动轴 9 的两端分别可滑动式布置在一对相互平行的下滑槽 10 内，下活动轴 9 的两端分别连接一只滚轮 11，通过滚轮 11 配合在下滑槽 10 的轨道内。

两只连杆二 7 的下端可转动式连接在下滑槽 10 上，两只连杆二 7 的下端分别铰连接在下固定轴 12 的两端。

在上、下滑槽 2、10 之间设有可锁定气弹簧 13，可锁定气弹簧 13 的上、下两端分别铰连接在上、下滑槽 2、10 上。

在台面 1 的背部对称设有辅助支撑脚 15。

在两根下滑槽 10 上分别焊接一对固定脚 14，以增加产品与安装地面的稳定性。

配套专门的开关与钢线按钮连接，将钢性按钮开关 16 安装到桌面边处，为使升降桌作上下升降及支撑桌面的最佳效果对空气弹簧的气体压力，安装支点，设计出合理的制造数据。

使用该桌时，只要按动桌面开关，用手轻轻向上或向下提、压就可以实现其升降功能。

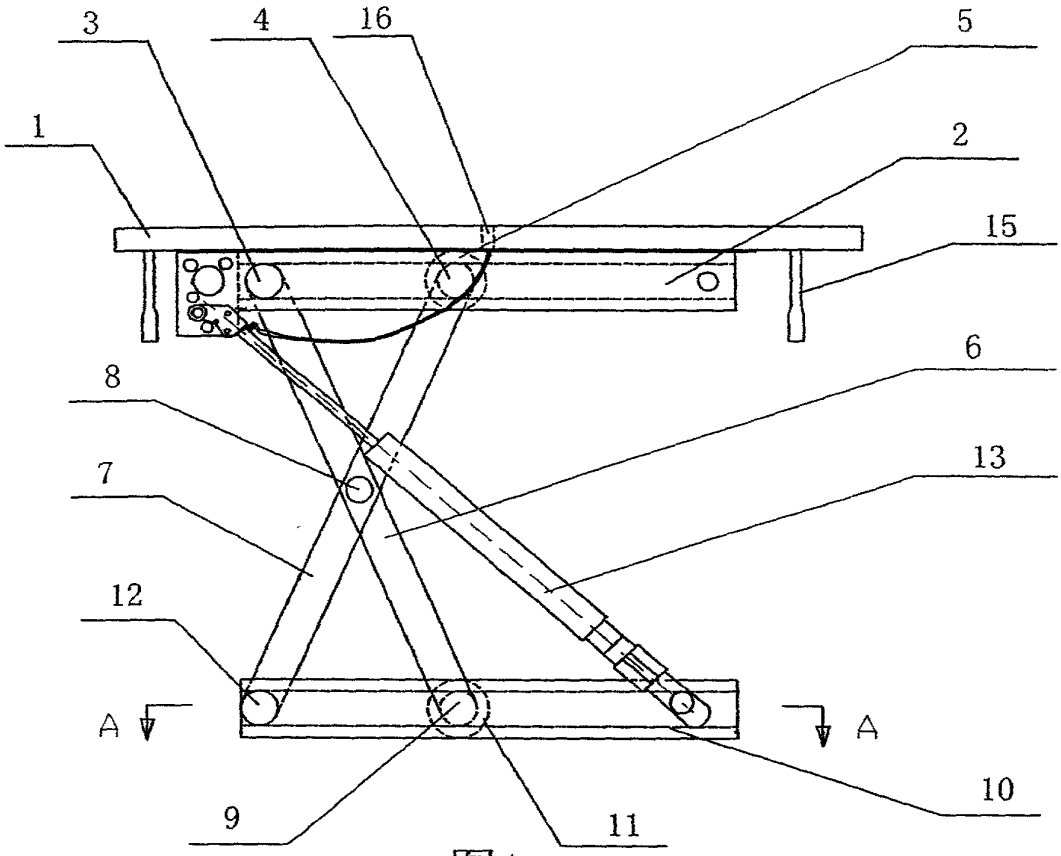


图1

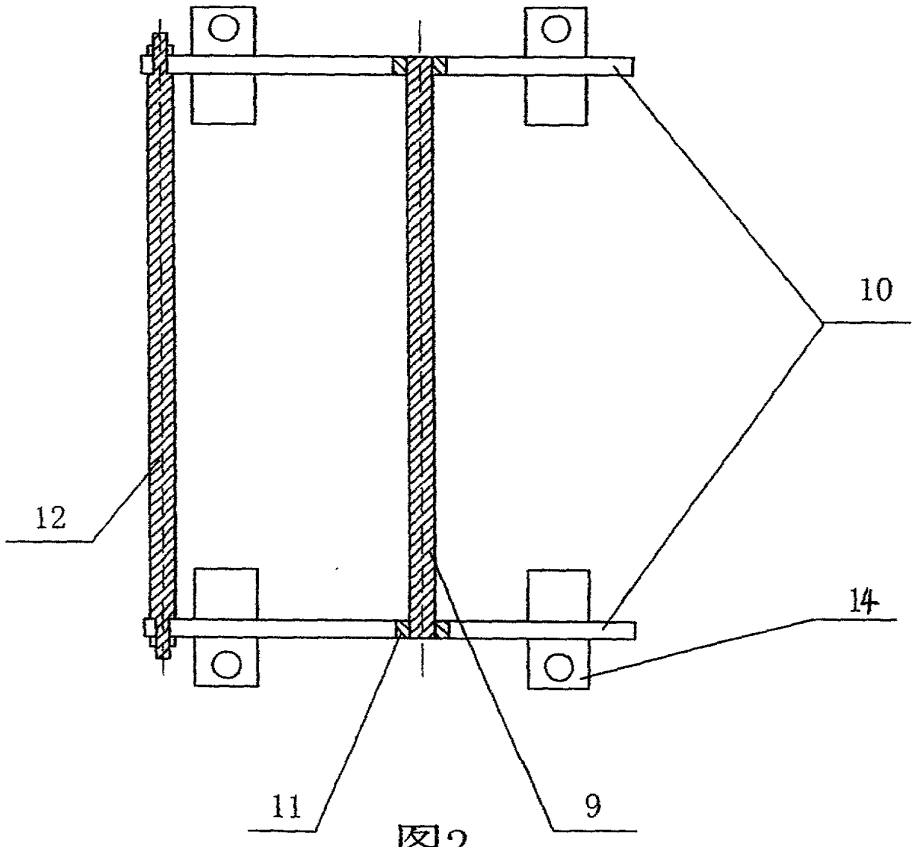


图2

Patents

Rise-fall desktop

Abstract

The utility model relates to the field of office supplies, in particular to a rise-fall desktop. The rise-fall desktop comprises a desktop cover plate, a crank, a connecting rod and two groups of support components. The two groups of the support components are installed at the bottom of the desktop cover plate, ranged in parallel and connected through the connecting rod. Each group of support components comprises an upper base, a lower base, a screw rod, a sliding rail and two support rods. The upper base is fixed at the bottom of the desktop cover plate, the screw rod is installed in the upper base, the sliding rail is installed on the lower base, the upper ends of the two support rods are connected with the upper base, the lower ends of the two support rods are connected with the lower base, and middle portions of the two support rods are hinged through connecting pieces. The crank is connected with the screw rod on a group of support components, and the crank controls linkage of the screw rods of the two groups of the support components through the connecting rod. The rise-fall desktop has the advantages of being novel in structure, small in size, and good in a rise-fall stationarity. Changing and damaging of an original desktop are not needed, and the rise-fall desktop is particularly suitable for being used in offices.

CN202874336U

China

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Other languages: Chinese

Inventor: [redacted]

Current Assignee : Hangzhou Landa Art & Craft Product Co ltd

Worldwide applications

2012 CN

Application CN 201220537920 events

2012-10-18	Application filed by Hangzhou Landa Art & Craft Product Co ltd
2012-10-18	Priority to CN 201220537920
2013-04-17	Application granted
2013-04-17	Publication of CN202874336U
Status	Active
2022-10-18	Anticipated expiration

Info: Cited by (6), Legal events, Similar documents, Priority and Related Applications

External links: Espacenet, Global Dossier, Discuss

Claims (7)

Hide Dependent

1. lifting desk surface is characterized in that comprising desktop cover board, crank, connecting rod and two groups of supporting components, and two groups of supporting components are installed in the bottom of desktop cover board, and two groups of supporting components are arranged in parallel, and two groups of supporting components link to each other by connecting rod; Every group of supporting component includes top base, bottom base, screw mandrel, slide rail and two support bars, top base is fixed on the bottom of desktop cover board, screw mandrel is installed in the top base, slide rail is installed on the bottom base, and the upper end of two support bars connects top base, lower end connection bottom base, wherein post upper links to each other with screw mandrel in the top base, another root support bar lower end connects the slide rail on the bottom base, and two support bars are arranged in a crossed manner, and the middle part of two support bars is hinged by connector; Crank links to each other with screw mandrel on one group of supporting component, and crank is controlled two groups of screw mandrels interlocks on the supporting component by connecting rod.

2. lifting desk surface according to claim 1 is characterized in that being separately installed with bevel gear set on the two ends of connecting rod, and connecting rod connects two groups of supporting components by bevel gear set.

3. lifting desk surface according to claim 1, it is characterized in that desktop cover board is made of substrate and side frame, the height of substrate is not higher than the height of side frame, and the position of two groups of supporting components all is in the inboard of side frame, and two groups of supporting components are arranged along the center left-right symmetry of substrate; Crank one end passes the side frame and connects one group of screw mandrel on the supporting component.

4. lifting desk surface according to claim 1 is characterized in that being provided with gripper shoe between two groups of supporting components, and the gripper shoe two ends link to each other with a support bar on two groups of supporting components respectively; Two support bars also connect by torsion spring.

5. lifting desk surface according to claim 3 is characterized in that described substrate top is equipped with heating plate.

6. lifting desk surface according to claim 1 is characterized in that described crank is collapsible crank.

7. lifting desk surface according to claim 3 is characterized in that the height of described side decoration plate is between 3-30CM.

Description

Lifting desk surface

Technical field

The utility model relates to the office appliance field, the lifting desk surface that especially uses on the desk.

Background technology

Along with social development, office's occupational disease is in rising trend.In a single day existing desk height all is constant, can customize height when perhaps making, still be delivered for use rear its height or very difficult change.The clerk is in for a long time on the desk desktop of sustained height and handles official business, and very easily produces the occupational disease of waist, back, neck or shank.

Summary of the invention

Goal of the invention of the present utility model is in order to overcome the problem that above-mentioned existing desk desktop can't lifting, a kind of novel structure to be provided, need not to change with destroy former desktop be use on the common desk can table top height adjusting lifting desk surface.

In order to realize the foregoing invention purpose, the utility model has adopted following technical scheme:

Lifting desk surface comprises desktop cover board, crank, connecting rod and two groups of supporting components, and two groups of supporting components are installed in the bottom of desktop cover board, and two groups of supporting components are arranged in parallel, and two groups of supporting components link to each other by connecting rod; Every group of supporting component includes top base, bottom base, screw mandrel, slide rail and two support bars, top base is fixed on the bottom of desktop cover board, screw mandrel is installed in the top base, slide rail is installed on the bottom base, and the upper end of two support bars connects top base, lower end connection bottom base, wherein post upper links to each other with screw mandrel in the top base, another root support bar lower end connects the slide rail on the bottom base, and two support bars are arranged in a crossed manner, and the middle part of two support bars is hinged by connector; Crank links to each other with screw mandrel on one group of supporting component, and crank is controlled two groups of screw mandrels interlocks on the supporting component by connecting rod.

As preferably, be separately installed with bevel gear set on the two ends of connecting rod, connecting rod connects two groups of supporting components by bevel gear set.

As preferably, desktop cover board is made of substrate and side frame, and the height of substrate is not higher than the height of side frame, and the position of two groups of supporting components all is in the inboard of side frame, and two groups of supporting components are arranged along the center left-right symmetry of substrate; Crank one end passes the side frame and connects one group of screw mandrel on the supporting component.

As preferably, be provided with gripper shoe between described two groups of supporting components, the gripper shoe two ends link to each other with a support bar on two groups of supporting components respectively; Two support bars also connect by torsion spring.

As preferably, described substrate top is equipped with heating plate.

As preferably, described crank is collapsible crank, has effectively utilized the space.

As preferably, the height of described side decoration plate is between 3-30CM.

Adopted the lifting desk surface of technique scheme, two groups of supporting components are arranged in parallel, crank is controlled two groups of screw mandrel interlocks on the supporting component by connecting rod, namely by crank manually control be installed in the lifting of the desktop cover board at two groups of supporting component tops, the stationarity of lifting has been guaranteed in the lifting of carrying out desktop cover board by two groups of supporting components.The advantage of this lifting desk surface is that novel structure is compact, and volume is little, and the lifting stationarity need not well to change with the especially suitable office of the former desktop of destruction and uses.

Description of drawings

Fig. 1: the deployed condition perspective view of the utility model lifting desk surface.

Fig. 2: the deployed condition side structure schematic diagram of the utility model lifting desk surface.

The specific embodiment

Below in conjunction with Fig. 1 and Fig. 2 the utility model is described further.

Lifting desk surface as depicted in figs. 1 and 2 comprises desktop cover board 1, crank 2, connecting rod 3 and two groups of supporting components, and two groups of supporting components are installed in the bottom of desktop cover board 1, and two groups of supporting components are arranged in parallel, and two groups of supporting components link to each other by connecting rod 3.

Every group of supporting component includes top base 4, bottom base 5, screw mandrel 6, slide rail 7 and two support bars 8, top base 4 is fixed on the bottom of desktop cover board 1, screw mandrel 6 is installed in the top base 4, slide rail 7 is installed on the bottom base 5, two support bars 8 are arranged in a crossed manner, and the upper end of two support bars 8 connects top base 4, the lower end connects bottom base 5, wherein support bar 8 upper end link to each other with screw mandrel 6 in the top base 4, lower end and bottom base 5 are hinged, another root support bar 8 upper ends and top base 4 are hinged, and the lower end is installed on the slide rail 7.The middle part of two support bars 8 is hinged by connector 9, and connector 9 can be bolt.Be separately installed with bevel gear set 14 on the two ends of connecting rod 3, connecting rod 3 connects two groups of supporting components by bevel gear set 14.Crank 2 links to each other with screw mandrel 6 on one group of supporting component, and crank 2 is by screw mandrel 6 interlocks on two groups of supporting components of connecting rod 3 controls.The movement of support bar 8 upper end positions of screw mandrel 6 controls, simultaneously another root support bar 8 lower ends movement on slide rail 7 has realized the superimposed of two support bars 8 or has opened, namely realized the lifting of the desktop cover board 1 on the supporting component.

Desktop cover board 1 is made of substrate 11 and side frame 12, and the height of substrate 11 is not higher than the height of side frame 12, and the position of two groups of supporting components all is in the inboard of side frame 12, and two groups of supporting components are arranged along the center left-right symmetry of substrate 11.Crank 2 one ends pass the screw mandrel 6 that side frame 12 connects on one group of supporting component.Be provided with gripper shoe 13 between two groups of supporting components, gripper shoe 13 two ends link to each other with a support bar 8 on two groups of supporting components respectively, and gripper shoe 13 is with the folding condition conversion angle of inclination of support bar 8.When two groups of supporting components are distant, desktop cover board 1 easily shakes when lifting, gripper shoe 13 can well address the above problem, and after rising put in place, gripper shoe 13 can be used as baffle plate and uses simultaneously, block the sight line in dead ahead, because after user's desktop rose, the colleague's on its opposite height of table top may also be in original state, sight line just in time is between desktop cover board 1 and the bottom base 5, this moment, gripper shoe 13 can be blocked its sight line, had guaranteed a part of privacy.

The height of above-mentioned side frame 12 is between 3-30CM, and namely lifting desk surface is when rounding state, and it is the tabular of above-mentioned dimensional thickness.During use, crank 2 one shakes and has driven screw mandrel 6 rotations on one side, screw mandrel 6 rotations of another side have been driven

simultaneously by bevel gear set 14 and connecting rod 3, two groups of supporting components have been realized interlock, the screw thread of two cocainine bars 6 is left-hand thread, in order in use can easily to shake, and must be grease-added in bevel gear set 14 engagement places, prevented that namely gear from getting rusty, improved again the sensitivity of transmission.

When rounding state, the height of substrate 11, top base 4 and bottom base 5 stacks is not higher than the height of side frame 12 yet, the position of two groups of supporting components all is in the inboard of side frame 12, so lifting desk surface has been hermetic state, and pen or paper can't enter in it.

Above-mentioned two support bars 8 can also connect by torsion spring, and the position of torsion spring is in the outside of connector 9, and the torsion spring upper end is fixed on the top of support bar 8, and the torsion spring lower end is fixed on the bottom of support bar 8.Crank 2 is collapsible cranks, has effectively utilized the space.Heating plate can be installed in substrate 11 tops, and the sky can heat practicality very in the time of cold.

The advantage of above-mentioned lifting desk surface is that the lifting stationarity is good, volume is little, bearing capacity is high, need not to change and the original desktop of destruction, especially being fit to office uses, the desktop of the use differing heights that the clerk is frequent can be regulated the state of shank, waist, back, neck and shoulder, prevents that it is in for a long time an angle and state and produces occupational disease.The lifting desk surface of this product is to use at desk, have the article such as water tumbler and display and be placed on it, so the stability when its weight capacity, balance, lifting is all particularly important.During use, the lifting desk surface of this product directly is placed on the desktop of existing common desk, has guaranteed the integrality of original desk tops, need not to change and the former desktop of destruction, and cost is more economical than substituting existing desk, is convenient to promote.

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CN105342138A *	2015-12-11	2016-02-24	深圳米乔科技有限公司	X-shaped lifting table
CN105686346A *	2016-04-21	2016-06-22	杭州骏达工艺制品有限公司	Dual-power lifting tabletop
CN110101213A *	2019-05-06	2019-08-09	巢湖学院	A kind of liftable rotary folding dining table
US10413083B2	2012-05-24	2019-09-17	Varidesk, Llc	Adjustable desk platform
US11140977781	2015-01-24	2021-10-12	Office Kick, Inc.	Desktop workspace that adjusts vertically
Family To Family Citations				

* Cited by examiner, † Cited by third party, ‡ Family to family citation

Similar Documents

Publication	Publication Date	Title
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CN202874328U	2013-04-17	Table with embedded type lifting table top
CN202681005U	2013-01-23	Lifting table top for offices
CN202874335U	2013-04-17	Lifting table top
CN102715729B	2014-05-21	Lifting table top
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US20040187742A1	2004-09-30	Table with variable configuration
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CN201088271Y	2008-07-23	Foldable computer desk
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CN202077861U	2011-12-21	Multifunctional bookshelf with television and computer holding area
CN102018366B	2012-05-09	Foldable computer desk

Priority And Related Applications

Priority Applications (1)

Application	Priority date	Filing date	Title
CN 201220537920	2012-10-18	2012-10-18	Rise-fall desktop

Applications Claiming Priority (1)

Application	Filing date	Title
CN 201220537920	2012-10-18	Rise-fall desktop

Legal Events

Date	Code	Title	Description
2013-04-17	GR01	Patent grant	
2013-04-17	C14	Grant of patent or utility model	

Concepts

machine-extracted

Download Filter table

Name	Image	Sections	Count	Query match
substrate		claims,description	13	0.000
heat treatment		claims,description	3	0.000
decoration		claims,description	2	0.000

Show all concepts from the description section

Patents

Scissors type lifting platform - has angle piece on roller spindle engaging in horizontal guide recess

Abstract

The scissors-type lifting platform has the top rollers at the discharge end running under a flat rail underneath the platform. An angle-piece (3) is mounted on the spindle (1) of each roller (2), its vertical flange (4) being secured to the spindle. The horizontal flange (5) engages in a horizontal guide recess (6) between the platform and the rail (8). The rail can be of U-section (9) open to the side, the angle-piece flange fitting over its lower one (10).

Classifications

- B66F7/065 Scissor linkages, i.e. X-configuration

View 2 more classifications

DE2851555A1

Germany

Find Prior Art Similar

Other languages: German

Inventor: Heinz Adler, Axel Woerner

Current Assignee : Trepel AG

Worldwide applications

1978 DE

Application DE19782851555 events

1978-11-29	Application filed by Trepel AG
1978-11-29	Priority to DE19782851555
1980-06-04	Publication of DE2851555A1
1983-11-03	Application granted
1983-11-03	Publication of DE2851555C2
Status	Expired

Info: Patent citations (2), Cited by (5), Legal events, Similar documents, Priority and Related Applications

External links: Espacenet, Global Dossier, DPMA, Discuss

Claims (4)

Hide Dependent
translated from German

Tl 4586 / Ge P at en t claims 1. 1 Scissor lift table with the upper rollers at the loose end A of the table run under a level rail arranged under the upper platform, characterized in that on the axis (1) of the roller (2) an angle flange (3) is arranged, whose vertical leg (4) is connected to the axis (1) of the roller (2) and its horizontal leg (5) engages in a horizontal guide recess (6) between the upper platform (7) and rail (8) is arranged. 2. Scissor lift table according to claim 1, characterized in that the rail 6) through a laterally open U-profile (9) is formed, the rollers on the outer surface of the run the lower leg (lo) of the U-profile and the horizontal leg (5) of the angle flange (3) the lower Legs (lo) of the U-profile (9) overlaps. 3. Scissor lift table according to claim 1 and / or 2, characterized in that that the guide recess (6) is open to the outside and the angle flange (3) on the scissors (11)

remote side of the rollers (2) is arranged on the axis (1). 4. Scissor lift table according to one or more of claims 1-3, characterized in that the angle flange (3) is arranged laterally adjustable on the axis (1). 0300 2 3/0 37 4

Description

translated from German

Tl 4586 / Ge

Applicant: Trepel AG, 62oo Wiesbaden-Schierstein, Alte Schmelze 18-22, Trepel-Haus

Scissor lift table

The invention relates to a viewer lifting table in which the upper castors at the loose end of the table under a level rail located under the upper platform to run.

If the upper platform of such a visionary lifting table, especially in the upper position of the upper platform at the fixed end outside the points of attack of the scissors loaded, there is a risk with such scissor lift tables that the upper platform at the loose end of the rollers lifts - Depending on how much the upper platform lifts off the rollers at the loose end, it then continues to exist the risk of the load slipping off the upper platform.

The object of the present invention is to provide a scissor lift table to create of the type mentioned, in which the risk that the platform at high load at the fixed end outside the points of application of the scissors lifts off the rollers, no longer exists.

This object is achieved in that an angle flange is arranged on the axis of the rollers, the more vertical one Leg is connected to the axles of the rollers and its horizontal leg in a horizontal guide

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engages recess, which is arranged between the upper platform and the rail.

Becomes the upper platform of such a lifting table at the fixed end very heavily loaded outside the points of application of the scissors, the platform can no longer lift off the rollers at the loose end because it is in the guide recess engaging horizontal legs of the angled flange attached to the axis of the rollers attach the platform to this prevent. The whole table can only tip over. However, this is the case even with the heaviest load on the fixed end upper platform outside the points of application of the scissors is practically inconceivable.

Further features of the invention are shown in the description of the figures and in the subclaims, whereby it is noted becomes that all individual characteristics and all combinations of individual characteristics are essential to the invention.

In Figures 1 and 2, the invention is shown in one embodiment, for example, without this embodiment to be limited.

Figure 1 shows schematically a side view of a scissors

lifting table and

Figure 2 is a vertical section through a roller assembly under the upper platform

As shown in Figure 1, the scissor lift table consists of the lower frame 12 and the upper frame 13 on which the platform 7 is arranged. A pair of scissors 11 is located on each side of the table between the upper frame and the lower frame.

030023/0374

Spreading the scissors by means of a hydraulic ram 14, as shown schematically in Figure 1, [71s1] loose end of the table is arranged and directed to the free end upwardly directed piston rod of the upwardly directed arms of a scissor blade and the downwardly Cylinder base engages the downward arm of the other scissor blade. In this case, cross members, on which the cylinder 14 engages, can be arranged between the scissor blades lying in the same plane. At the fixed end one of the scissor blades is rotatably attached to a downwardly directed flange 15 under the upper frame. The other scissor blade carries a roller 2 at the upper end of the upwardly directed arm, on which the upper frame rests with a flat lower surface

If the cylinder 14 is acted upon, it spreads the scissors 11. The roller 2 then runs under the upper frame 13 in the direction of the fixed end. When the liquid comes out of the cylinder 14 drained, the scissor blades converge downwards and the roller 2 runs away in the direction of the fixed end.

As shown in Figure 2, at the loose end of the table on each upwardly directed arm of each pair of scissors there is one attached to the outward axis 1, which rotatably support a roller 2. The roller 2 runs under a rail 8, in the illustrated embodiment, under the lower leg 10 of an outwardly open U-profile 9 from which the lower frame 13 exists. On the side of the roller 2 facing away from the scissors 11, an angle flange 3 is on the axis 1 with the vertical leg 4 attached, the horizontal leg 5 is directed to the scissors 11 and away from the scissors directed lower leg 10 of the U-Prfils overlaps.

030023/0374

-9-

In the exemplary embodiment shown, the interior of the U-profile forms the guide recess 6. The angle flange 3 can be arranged with its vertical leg 4 adjustable on the axis 1, so that the Rollers with axle and angle flange are prefabricated and, if necessary, adapted to the respective conditions can. An adjusting ring 16 can be used for adjustment. A spacer can also be placed between the adjusting ring 16 and the roller 2 17 may be provided, especially when the distance between the two is relatively large. Is paid the angle flange 3 on the axis 1 by means of a washer 18 which is fastened to the axis 1 with a snap ring 19. In the illustrated embodiment, the guide recess 6 is formed by the interior of a U-profile, the is open on the side facing away from the scissors 11. The guide recess 6 can of course also through other means may be formed. If necessary, it is also possible to reverse the U-profile. The chronological order of parts 2, 17, 16 and 4 is then also reversed.

030023/037 *

6- .

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Family To Family Citations				

* Cited by examiner, † Cited by third party

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Publication number	Priority date	Publication date	Assignee	Title
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CN104787698A *	2015-03-05	2015-07-22	苏州市汉诺威升降台有限公司	Lifting platform
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Family To Family Citations				
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* Cited by examiner, † Cited by third party, ‡ Family to family citation

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DE2165244C2	1986-12-11	Device for lifting and tipping motor vehicles
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DE1959981C3	1975-11-13	Working platform
DE7835353U1	1979-12-13	SCISSOR LIFT
DE2005710C3	1974-05-16	Bed frame
DE3008557A1	1981-09-17	Platform of adjustable height for use in theatre - is raised or lowered by scissor links actuated by screwed rod
DE1360883B	1962-09-06	Vehicle support device for lifting platforms
DE943320C	1956-05-17	Gripper for plates and sheet metal packages
DE1903929A1	1970-08-20	Stretcher platform for holding stretchers in ambulance vehicles
DE3735243A1	1989-04-27	DEVICE FOR NEUTRALIZING OVERLOAD LOADS
DE2511626A1	1975-10-09	Desk with height and incline adjustable top - has articulated arm displacement member allowing independent adjustment in any position
DE1534951C3	1975-01-30	Climbing hoist for sliding or climbing frames that support formwork
DE1188852B	1965-03-11	Stalk crusher with automatic adjustment of the crushing rollers
DE3412755A1	1985-10-17	Extendable running gear for a standing body
DE891090C	1953-09-24	Lid actuation device for industrial furnaces
AT304814B	1973-01-25	Mobile machine for lifting loads, in particular motor vehicles
DE2127450C3	1980-09-11	Jib crane, in particular a hydraulically operated jib crane
DE808018C	1951-07-09	Mobile foot lubrication press
DE657815C	1938-03-14	Loading countersink, which consists of a belt that runs around a liftable shaft and carries the flaps

Priority And Related Applications

Priority Applications (1)

Application	Priority date	Filing date	Title
DE19782851555	1978-11-29	1978-11-29	Scissor lift table

Applications Claiming Priority (1)

Application	Filing date	Title
DE19782851555	1978-11-29	Scissor lift table

Legal Events

Date	Code	Title	Description

1980-06-04	OAP	Request for examination filed	
1980-07-10	OD	Request for examination	
1983-11-03	D2	Grant after examination	
1984-05-03	8364	No opposition during term of opposition	
1987-04-23	8327	Change in the person/name/address of the patent owner	Owner name: TREPEL GMBH, HEBE- UND FOERDERTECHNIK, 6200 WIESBA
1990-11-08	8339	Ceased/non-payment of the annual fee	

Concepts

machine-extracted

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Name	Image	Sections	Count	Query match
Leg		claims,description	10	0.000
lower leg		claims,description	3	0.000

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Patents

The Table top type Liftable computer desk that a kind of bilateral slides

Abstract

The invention discloses the Table top type Liftable computer desk that a kind of bilateral slides, it includes desktop, the bottom plate being correspondingly arranged at below desktop, connect the lifting support group of desktop and bottom plate, four sliding slots are respectively equipped with desktop and bottom plate, the lifting support group includes two groups of crossbars and four pivoted poles for intersecting and being unfolded in " X " type, two pivoted poles connect the top both ends of two crossbars, other two pivoted pole connects the bottom both ends of two crossbars, adjusting detent mechanism is additionally provided between top or the one of which pivoted pole of bottom, the both ends of two pivoted poles at top are correspondingly arranged in the upper hopper chute respectively, the both ends of two pivoted poles of bottom are correspondingly arranged in the gliding groove respectively.Slided by the pivoted pole for lifting support group between the upper hopper chute of desktop and the gliding groove of bottom plate, realize the lifting of the computer desk, and positioning is realized by adjusting detent mechanism, make the computer desk of the present invention height can be adjusted according to the actual demand of user.

Classifications

A47B21/0314 Platforms for supporting office equipment

View 3 more classifications

CN107912868A

China

Download PDF Find Prior Art Similar

Other languages: Chinese

Inventor: [redacted]

Current Assignee : Inno Sports Co Ltd

Worldwide applications

2017 CN

Application CN201711308771.7A events

2017-12-11 Application filed by Inno Sports Co Ltd

2017-12-11 Priority to CN201711308771.7A

2018-04-17 Publication of CN107912868A

Status Pending

Info: Cited by (2), Legal events, Similar documents, Priority and Related Applications

External links: Espacenet, Global Dossier, Discuss

Claims (8)

Hide Dependent

1. A kind of 1. Table top type Liftable computer desk that bilateral slides, it is characterised in that including：Desktop, be correspondingly arranged under desktop The bottom plate of side, the lifting support group for connecting desktop and bottom plate, the bottom surface of desktop are equipped with four upper hopper chutes, and upper hopper chute is correspondingly arranged at this The both sides of wherein two opposite ends of desktop, the opening of each upper hopper chute towards opposite end, the bottom plate be equipped with four it is corresponding with The identical gliding groove of upper hopper chute opening direction, the lifting support group include two groups of intersections for intersecting and being unfolded in " X " type Bar and four pivoted poles, two groups of crossbars are set in relative spacing, wherein two pivoted poles connect the top both ends of two crossbars, separately Outer two pivoted pole connects the bottom both ends of two crossbars, and adjusting is additionally provided between top or the one of which pivoted pole of bottom Detent mechanism, the both ends of two pivoted poles at top are correspondingly arranged in the upper hopper chute respectively, two pivoted poles of bottom Both ends are correspondingly arranged in the gliding groove respectively.

    2. 2. the Table top type Liftable computer desk that a kind of bilateral as claimed in claim 1 slides, it is characterised in that：The bottom plate Four gliding grooves are corresponded in the inner side or outside of the length direction of four upper hopper chutes of desktop at the same time respectively.

    3. 3. the Table top type Liftable computer desk that a kind of bilateral as claimed in claim 2 slides, it is characterised in that：The bottom plate Four gliding grooves are corresponded in the outside of the length direction of four upper hopper chutes of desktop respectively, make the crosspoints of two groups of crossbars positioned at leaning on The middle and upper part of nearly desktop side, the center of gravity of whole computer desk is close to the middle and lower part of bottom plate.

    4. 4. the Table top type Liftable computer desk that a kind of bilateral as described in any one in claims 1 to 3 slides, its feature exist in：At least two oblique fulcrum bars are further included, two oblique fulcrum bars are at least articulated on the bar of any crossbar close to pivoted pole One end, the other end of two oblique fulcrum bars, which is fixed, to be articulated on the desktop or bottom plate.

    5. 5. the Table top type Liftable computer desk that a kind of bilateral as claimed in claim 4 slides, it is characterised in that：The oblique fulcrum bar including four, the desktop is respectively equipped with an oblique fulcrum bar in being articulated on the crossbar of same pivoted pole, the bottom plate in An oblique fulcrum bar is set respectively on two crossbars on another pivoted pole set with the pivoted pole in diagonal.

    6. 6. the Table top type Liftable computer desk that a kind of bilateral as claimed in claim 5 slides, it is characterised in that：On the desktop The connector of two confessions oblique fulcrum bar pivot joint is installed with, the bottom plate is equipped with an outline border, and the connector is articulated in outline border On side wall.

    7. 7. the Table top type Liftable computer desk that a kind of bilateral as claimed in claim 1 slides, it is characterised in that：Described adjust is determined Position mechanism coordinates the structure of positioning pin for telescopic sleeve, and telescopic sleeve includes inner tube and outer tube, one of inner tube or outer tube Equipped with a location hole for being combined with positioning pin, another pipe fitting is equipped with multiple adjustment holes.

    8. 8. the Table top type Liftable computer desk that a kind of bilateral as claimed in claim 1 slides, it is characterised in that：it is arranged on desktop On two pivoted poles or two pivoted poles being articulated on bottom plate between be additionally provided with an at least spring, the both ends of spring are fixed On

two pivoted poles, for desktop when the distance between bottom plate is maximum, spring is in normal condition.

Description

The Table top type Liftable computer desk that a kind of bilateral slides

Technical field

The present invention relates to a kind of computer desk, particularly relates to the Table top type Liftable computer desk that a kind of bilateral slides.

Background technology

The height of ordinary desk generally can not all be adjusted, its height is commonly designed between 700-800mm, this highly may be used it is seated office using most people, but not everyone handles official business and likes the office that is seated, and there are many people due to various reasons can Office is stand, in this way, the height of desk obviously can bring puzzlement to office, particularly at abroad, many people like stand does Public affairs, therefore a computer desk can be placed on the desktop of desk and is handled official business to place tablet computer, but common computer desk it can not carry out lift adjustment, it is impossible to meet requirement of the people for usage comfort of different heights.

Done with the development of the society, occurring a kind of portable computer for being positioned over ordinary desk desktop currently on the market Public desktop, it uses the use demand of the office worker of different heights by adjusting the height of portable computer desk tops, But this its height adjustment device structure of adjustable for height computer office desktop is determined using by the way of manual positioning pin mostly Position adjusts height, adjusts inconvenience, and adjustable range is small, and existing computer office desktop is mostly directly to rotate on ordinary desk Desktop on, easily topple after placed the equipment such as computer, display on computer office desktop and cause the damage of equipment, Even cause the injury to office worker.

In view of this, the designer in the design of existing computer desk structure for not attaining many missings and not caused by improving Just, deeply conceive, and actively research improvement has a fling at and develops and design the present invention.

The content of the invention

It is an object of the invention to provide a kind of adjustment height, and the Table top type liftable that the bilateral of steadily of centre of gravity slides Computer desk, so as to meet the use demand of different height crowds.

In order to achieve the above objectives, solution of the invention is:

The Table top type Liftable computer desk that a kind of bilateral slides, it includes desktop, the bottom plate being correspondingly arranged at below desktop, connection The lifting support group of desktop and bottom plate, the bottom surface of desktop are equipped with four upper hopper chutes, and upper hopper chute is correspondingly arranged at wherein the two of the desktop The both sides of opposite end, for the opening of each upper hopper chute towards opposite end, the bottom plate is equipped with four corresponding and upper hopper chute opening sides To identical gliding groove, the lifting support group includes two groups and intersects and be unfolded in the crossbar of " X " type and four pivot joints Bar, two groups of crossbars are set in relative spacing, wherein two pivoted poles connect the top both ends of two crossbars, in addition two pivoted poles connect The bottom both ends of two crossbars are connect, adjusting detent mechanism is additionally provided between top or the one of which pivoted pole of bottom, are pushed up The both ends of two pivoted poles in portion are correspondingly arranged in the upper hopper chute respectively, and the both ends of two pivoted poles of bottom correspond to respectively It is arranged in the gliding groove.

Further, four gliding grooves of the bottom plate, the length direction of four upper hopper chutes in desktop corresponding at the same time respectively Inner side or outside.

Further, four gliding grooves of the bottom plate correspond in the outside of the length direction of four upper hopper chutes of desktop respectively, The crosspoint of two groups of crossbars is set to be located at close to the middle and upper part of desktop side, the center of gravity of whole computer desk is under in bottom plate Portion.

Further, the Table top type Liftable computer desk that a kind of bilateral slides includes at least two oblique fulcrum bars, and two tiltedly prop up Bar is at least articulated on the bar of any crossbar close to one end of pivoted pole, and the other end of two oblique fulcrum bars, which is fixed, to be articulated in On the desktop or bottom plate.

Further, the oblique fulcrum bar includes four, and the desktop is set in being articulated on the crossbar of same pivoted pole respectively There is an oblique fulcrum bar, the bottom plate is on two crossbars on another pivoted pole set with the pivoted pole in diagonal points She Zhi not an oblique fulcrum bar.

Further, the connector of two confessions oblique fulcrum bar pivot joint is installed with the desktop, the bottom plate is equipped with outside one Frame, the oblique fulcrum bar are articulated on the side wall of outline border.

Further, it is described adjust detent mechanism for telescopic sleeve coordinate positioning pin structure, telescopic sleeve include inner tube and Outer tube, one of inner tube or outer tube are equipped with a location hole for being combined with positioning pin, and another pipe fitting is equipped with multiple adjustment holes.

Further, it is additionally provided between two pivoted poles being arranged on desktop or two pivoted poles being articulated on bottom plate An at least spring, the both ends of spring are fixed on two pivoted poles, and when the distance between bottom plate is maximum, spring is in just desktop Normal state.

With the above structure, the Table top type Liftable computer desk that a kind of bilateral of the present invention slides is between desktop and bottom plate Lifting support group is set, is slided by the pivoted pole for lifting support group between the upper hopper chute of desktop and the gliding groove of bottom plate, it is real The now lifting of the computer desk, and realize positioning by adjusting detent mechanism, make the computer desk of the present invention can be according to the reality of user Border demand adjusts height.

Brief description of the drawings

Fig. 1 is the three-dimensional exploded view of the present invention.

Fig. 2 is the combination stereogram that the present invention is fully deployed.

Fig. 3 is the stereogram that other direction of the present invention is fully deployed.

Fig. 4 is the side view that the present invention is fully deployed.

Fig. 5 is that the present invention reduces the combination stereogram after height.

Fig. 6 is the side view of Fig. 5 of the present invention.

Fig. 7 is folded to minimum stereogram for the present invention.

Fig. 8 is folded to minimum another stereogram for the present invention.

Embodiment

In order to further explain the technical solution of the present invention, the present invention is explained in detail below by specific embodiment State.

As shown in Figures 1 to 8, present invention is disclosed the Table top type Liftable computer desk 100 that a kind of bilateral slides, it includes Desktop 1, the bottom plate 2 for being correspondingly arranged at the lower section of desktop 1, the lifting support group 3 of connection desktop 1 and bottom plate 2, the bottom surface of desktop 1 is set There are four upper hopper chutes 11, upper hopper chute 11 is correspondingly arranged at the both sides of wherein two opposite ends of the desktop 1, and the opening of each upper hopper chute 11 is equal Towards opposite end, the bottom plate 2 is equipped with four corresponding gliding grooves 21 identical with 11 opening direction of upper hopper chute, the lifting branch Support group 2 includes two groups of crossbars 31 and four pivoted poles 32 for intersecting and being unfolded in " X " type, and every group of crossbar 31 includes two Root bar 311, two groups of crossbars 31 are set in relative spacing, wherein two pivoted poles 21 connect the top both ends of two groups of crossbars 31, Other two pivoted pole 32 connects the bottom both ends of two groups of crossbars 31, between top or the one of which pivoted pole 32 of bottom It is additionally provided with and adjusts detent mechanism 4, the both ends of two pivoted poles 32 at top is correspondingly arranged in the upper hopper chute 11 respectively, bottom The both ends of two pivoted poles 32 be correspondingly arranged at respectively in the gliding groove 21.

Preferably, as shown in Fig. 1, Fig. 3 and Fig. 4, four gliding grooves 21 of the bottom plate 2 are corresponding in desktop 1 at the same time respectively Four upper hopper chutes 11 length direction inner side or outside, i.e. the length of gliding groove 21 and upper hopper chute 11 in the computer desk 100 Stagger setting on direction is spent, makes the length that upper hopper chute 11 and gliding groove 12 design smaller, so that whole computer desk was lifting Cheng Zhong, desktop 1 will not produce offset with bottom plate 2, and desktop 1 can only move on the vertical direction of bottom plate 2.

In order to make the center of gravity of whole computer desk 100 more steady, four gliding grooves 21 of the bottom plate 2 are corresponded in desktop 1 respectively The outside of the length direction of four upper hopper chutes 11, makes the crosspoint 312 of two groups of crossbars 31 be located in 1 side of desktop Portion, the center of gravity of whole computer desk is close to the middle and lower part of bottom plate 2.

In order to avoid each pivoted pole 32 slides in upper hopper chute 11 and gliding groove 12, computer desk 100 of the present invention further include to Few two oblique fulcrum bars 5, two oblique fulcrum bars 5 are at least articulated on the bar 311 of any crossbar 31 close to the one of pivoted pole 32 End, the other end of two oblique fulcrum bars 5, which is fixed, to be articulated on the desktop 1 or bottom plate 2.As shown in the figure, in the present embodiment, the tiltedly branch Bar 5 includes four, and the desktop 1 is respectively equipped with an oblique fulcrum bar 5, institute in being articulated on the crossbar 31 of same pivoted pole 32 Bottom plate 2 is stated in setting an institute respectively on two crossbars 31 on another pivoted pole 32 of the pivoted pole 31 in diagonal setting State oblique fulcrum bar 5.The connector 12 that two confessions oblique fulcrum bar 5 is pivotally connected is installed with the desktop 1, the bottom plate 2 is a framework, Framework has an outline border, and the oblique fulcrum bar 5 is articulated on the side wall of outline border, and the gliding groove 21 is also disposed at the madial wall of outline border On.

Adjusting 4 structure of detent mechanism can use a variety of adjusting location structures, the mode adjusted for example with rack, Or using telescopic sleeve coordinate positioning pin structure, as shown in Fig. 3, Fig. 5 and Fig. 7, the present embodiment be by taking telescopic sleeve as an example, The telescopic sleeve 4 includes inner tube 41 and outer tube 42, and outer tube 42 is equipped with a location hole for being combined with positioning pin （Do not illustrate in figure）, it is Interior Pipe 41 is equipped with multiple adjustment holes 411.For the ease of the rise of computer desk of the present invention, two pivoted poles being arranged on desktop 1 At least a spring 6, the both ends of spring 6 are additionally provided between 32 or pivot joint two pivoted poles 32 on a base plate 2 to be separately fixed at On two pivoted poles 32, for desktop 1 when the distance between bottom plate 2 is maximum, spring 6 is in normal condition.Since bottom plate 2 is frame Body, therefore the adjusting detent mechanism 4 and spring 6 are set directly at the bottom surface of desktop 1.

During assembling, the both ends that will lift four pivoted poles 32 of support group 3 correspond to assembling in upper hopper chute 11 and glide respectively On groove 21, the inner tube 41 of detent mechanism 4 will be adjusted and the free end of outer tube 42 is separately fixed at two pivoted poles of 1 bottom surface of desktop On 32, the both ends of the spring 6 are also secured on two pivoted poles 32 on the desktop 1, and one end of the oblique fulcrum bar 5 passes through pin Nail or pivot are rotatably fixed on desktop 1 or bottom plate 2, and the other end is rotatably fixed on the bar 311 of crossbar 31, Complete the assembling of the present invention.

As shown in Figures 2 to 4, when the bottom plate 2 and the distance between desktop 1 of the computer desk 100 are maximum, namely the computer desk When being fully deployed, two pivoted poles 32 on desktop 1 are located at the innermost end of upper hopper chute 11, and two pivoted poles 32 on bottom plate 2 The innermost end of gliding groove 21 also is located at, at this time, the distance of adjusting detent mechanism 4 is most short, i.e. the inner tube 41 of telescopic sleeve covers completely Enter in outer tube 42, spring 6 does not stress in normal condition.

As shown in Figures 5 and 6, when being intended to reduce the height of the computer desk 100, first release and adjust the spacing of detent mechanism 4, Adjusting detent mechanism 4 is in adjustable state, be pressed downward the top surface of desktop 1, two groups of 31 ends of crossbar of lifting support group 3 It is displaced outwardly, drives pivoted pole 32 to be moved toward the outer end of upper hopper chute 11 and gliding groove 21, spring 6 is gradually stretched at this time, stretches The inner tube 41 of casing is gradually elongated, to need height when, by adjust detent mechanism 4 carry out it is spacing, complete adjusting action.

Such as Fig. 7 and Fig. 8, when being intended to 100 folding of computer desk of the present invention, equally first release and adjust the spacing of detent mechanism 4, Adjusting detent mechanism 4 is in adjustable state, be pressed downward the top surface of desktop 1, until it is each to be fixed together with crossbar 31 Pivoted pole 32 is located at the outermost end of upper hopper chute 11 and gliding groove 12, and spring 6 is stretched, will adjust detent mechanism 4 carry out it is spacing i.e. Can.

If the computer desk 100 from it is low toward height adjustment when, same release adjusts the spacing of detent mechanism 4 first, due to spring 6 it is stretched, under the effect of its elastic force, two pivoted poles 32 fixed with the spring 6 can be driven to move inside, if not pushing down desktop 1, The desktop 1 can directly rise to extreme higher position, that is, spring reset under the action of the spring, then will adjust detent mechanism 4 into Row is spacing to can tune to highest state, if need to adjust to other positions, during spring 6 resets, can push down desktop 1 it is spacing to adjusting detent mechanism progress during the height of top surface, extremely needs.

The Table top type Liftable computer desk that a kind of bilateral of the present invention slides sets lifting support group between desktop and bottom plate, Slided by the pivoted pole for lifting support group between the upper hopper chute of desktop and the gliding groove of bottom plate, realize the liter of the computer desk Drop, and realize positioning by adjusting detent mechanism, make the computer desk of the present invention height can be adjusted according to the actual demand of user.

Above-described embodiment and schema and non-limiting product form of the invention and style, any technical field it is common The appropriate change or modification that technical staff does it, all should be regarded as not departing from the patent category of the present invention.

Cited By (2)

Publication number	Priority date	Publication date	Assignee	Title
CN111493513A *	2020-04-03	2020-08-07	常州市韩发车辆配件有限公司	Portable lifting type office table
CN111839013A *	2020-07-30	2020-10-30	广州爱福康家具有限公司	Lifting folding kitchen cabinet based on connecting rod transmission
Family To Family Citations				

* Cited by examiner, † Cited by third party, ‡ Family to family citation

Similar Documents

Publication	Publication Date	Title
CN208676561U	2019-04-02	A kind of Table top type Liftable computer desk of bilateral sliding
US8056871B2	2011-11-15	Portable and adjustable stand for laptop computers or other devices
US20080251659A1	2008-10-16	Folding stand for laptop computers or other devices
CN107912868A	2018-04-17	The Table top type Liftable computer desk that a kind of bilateral slides
US7806812B2	2010-10-05	Foldable exercise device
CN210495089U	2020-05-12	Body-building aerial ladder convenient to adjust working distance
US8985031B2	2015-03-24	Desk top elevator
CN110410634A	2019-11-05	A kind of computer display screen fixation base structure
CN204499843U	2015-07-29	A kind of novel portable Deformable desk chair
CN208676540U	2019-04-02	A kind of auxiliary telescopic adjustment structure
CN201879096U	2011-06-29	Adjustable round dining table
CN104473437A	2015-04-01	Hung lifting desk board device
CN208676564U	2019-04-02	A kind of Liftable computer desk of single-sided sliding
CN209782112U	2019-12-13	Folding portable computer support
CN111166078A	2020-05-19	Multi-user multifunctional remote teaching table
CN207444567U	2018-06-05	Student's drawing tables
CN202566964U	2012-12-05	Adjustable computer desk
US20190000227A1	2019-01-03	Height adjustable monitor stand incorporating a charging station
KR20060012180A	2006-02-07	Slant adjusting desk
KR20190062640A	2019-06-07	Height adjustable stand portable
CN109621303A	2019-04-16	A kind of foldable domestic fitness equipment
CN104676216B	2017-06-16	Adjustable supporting
CN210643486U	2020-06-02	Model head fixing support
CN211408060U	2020-09-04	Movable restaurant
CN216243415U	2022-04-08	Computer supporting device for processing remote sensing image with adjustable use posture

Priority And Related Applications

Priority Applications (1)

Application	Priority date	Filing date	Title
CN201711308771.7A	2017-12-11	2017-12-11	The Table top type Liftable computer desk that a kind of bilateral slides

Applications Claiming Priority (1)

Application	Filing date	Title
CN201711308771.7A	2017-12-11	The Table top type Liftable computer desk that a kind of bilateral slides

Legal Events

Date	Code	Title	Description
2018-04-17	PB01	Publication	
2018-04-17	PB01	Publication	
2018-06-08	SE01	Entry into force of request for substantive examination	
2018-06-08	SE01	Entry into force of request for substantive examination	

Concepts

machine-extracted

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Name	Image	Sections	Count	Query match
bilateral		title,claims,abstract,description	18	0.000
corresponding		claims,description	5	0.000
gravity		claims,description	5	0.000

Show all concepts from the description section

(19) 日本国特許庁 (JP)　　(11)実用新案出願公開

(12) 公開実用新案公報 (U)　　昭58—61051

(51)Int. Cl.³	識別記号	庁内整理番号
A 47 C 3/36		7309--3B
A 47 B 9/16		6501--3B

(43)公開　昭和58年(1983)4月25日

審査請求　有

(全　頁)

(54)高さ調節座枠

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(22)出　願　昭56(1981)10月22日

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明　細　書

1　考案の名称

高さ調節座枠

2　実用新案登録請求の範囲

前後方向に水平に上枠1を設け、上枠1の下方に前後方向に水平に下枠2を設け、二本の桿が中央で中枢着点3で枢着されてX形に形成されたX桿の二個を備え、一方のX桿4と他方のX桿5との下部の後端を夫々下枠2の後部の左右に前後スライドが可能なように後左枢着点6と後右枢着点7とによつて枢着すると共に前端を夫々下枠2の前部の左右に前左枢着点8と前右枢着点9とによつて枢着し、一方のX桿4と他方のX桿5との上部の後端を夫々上枠1の後部の左右に前後スライドが可能なように後左枢着点10と後右枢着点11とによつて枢着すると共に前端を夫々上枠1の前部の左右に前左枢着点12と前右枢着点13とによつて枢着し、一方のX桿4の前端と後端との間

隔ならびに他方のX桿5の前端と後端との間隔を共に小にするように付勢する付勢バネ14を備え、一方のX桿4の前端と後端との間隔ならびに他方のX桿5の前端と後端との間隔を共に調節することのできる間隔調節具15を備えて成る高さ調節座枠

3　考案の詳細な説明

本考案の目的は、座当の高さを広い範囲で容易に調節することのできる簡単なる機構を得んとするにある。

本考案の要旨は、前後方向に水平に上枠を設け上枠の下方に前後方向に水平に下枠を設け二本の桿が中央で中枢着点で枢着されてX形に形成されたX桿の二個を備え一方のX桿と他方のX桿との下部の後端を夫々下枠の後部の左右に前後スライドが可能なように後左枢着点と後右枢着点とによつて枢着すると共に前端を夫々下枠の前部の左右に前左枢着点と前右枢着点とによつて枢着し一方のX桿と他方のX桿との上部の後端を夫々上枠の後

部の左右に前後スライドが可能なように後左枢着点と後右枢着点とによつて枢着すると共に前端を夫々上枠の前部の左右に前左枢着点と前右枢着点とによつて枢着し一方のX桿の前端と後端との間隔ならびに他方のX桿の前端と後端との間隔を共に小にするように付勢する付勢バネを備え一方のX桿の前端と後端との間隔ならびに他方のX桿の前端と後端との間隔を共に調節することのできる間隔調節具を備えて成る。

以下本考案の実施例の図面により、本考案の構成を説明する。

図面上の記号とその部分の名称との対応をまず説明すると、1は上枠、2は下枠、3は中枢着点、4は一方のX桿、5は他方のX桿、6、10は後左枢着点、7、11は後右枢着点、8、12は前左枢着点、9、13は前右枢着点、14は付勢バネ、15は間隔調節具である。

前後方向に水平に上枠1を設ける。

上枠1の下方に前後方向に水平に下枠2を設ける。

二本の桿が中央で中枢着点3で枢着されてX形に形成されたX桿の二個を備える。

一方のX桿4と他方のX桿5との下部の後端を夫々下枠2の後部の左右に、前後スライドが可能なように、たとえば前後方向に穿たれた左案内溝16と右案内溝17とに案内される後左枢着点6と後右枢着点7とによつて枢着する。またこの下部の前端を夫々下枠2の前部の左右に、前左枢着点8と前右枢着点9とによつて枢着する。

一方のX桿4と他方のX桿5との上部の後端を夫々上枠1の後部の左右に、前後スライドが可能なように、たとえば前後方向に穿たれた左案内溝18と右案内溝19とに案内される後左枢着点10と後右枢着点11とによつて枢着する。またこの上部の前端を夫々上枠1の前部の左右に、前左枢着点12と前右枢着点13とによつて枢着する。

一方のX桿4の前端と後端との間隔ならびに他方のX桿5の前端と後端との間隔を共に小にするように付勢する付勢バネ14を備える。付勢バネ14の構造は適宜であるが、図では後左枢着点10と後右枢着点11とを結合して後軸20とし、前左枢着点12と前右枢着点13とを結合して前軸21とし、後軸20と前軸21との間に引張バネを張つて、付勢バネ14としている。

一方のX桿4の前端と後端との間隔ならびに他方のX桿5の前端と後端との間隔を共に調節することのできる間隔調節具15を備える。

間隔調節具15の構造は適宜である。図では次のような場合が示されている。

後軸20に固定された後片22に後端が連結され、前端が上枠1の前部に連結されたフリーロック具をもつて、間隔調節具15としている。

フリーロック具のような間隔調節具15は機械的のものでも、流体的のものであつても、電気的のものであつても、その他のものであつても差支え

ない。

ハンドル２３は操作路２４を介し、間隔調節具１５をロック状態にもフリー状態にもできる。間隔調節具１５は常にはロック状態にある。

本考案はこのような構成を有するので、その作用、効果は、次のようである。

本考案は下枠２を床面等に設置し、上枠１の上に座当を設けて使用するものである。

間隔調節具１５がロック状態では、X桿４、５の前端と後端との間隔は不変であるので、X桿４、５を形成する桿のなす角度は一定であり、すなわち各桿の水平に対する角度は一定であつて、X桿４、５の形は不変である。すなわち間隔調節具１５がロック状態では上枠１の高さは一定であり、その上方からの荷重にたえる。

間隔調節具１５をフリー状態にするとX桿４、５の前端と後端との間隔は可変になるので、付勢バネ１４の付勢により前端と後端との間隔は小となり、上枠１は上方に押し上げられて高さが高くな

る。しかし上枠１を上から押さえつけると前端と後端との間隔は大になり、付勢バネ１４の付勢に抗して上枠１はさがり、高さが低くなる。すなわち高さが調節されるものである。

適当な高さのところで間隔調節装置１５をロック状態にすると、その高さで上枠１は固定される。

前端と後端との間隔の変化は、後端が左案内溝１６、１８と右案内溝１７、１９とに案内されて滑るので支障なく行なわれる。

フリーロック具等を用いる間隔調節具１５は公知のものを利用することができるので、説明を省略する。間隔調節具１５としては圧縮空気等により積極的な作動をするエアシリンダ等を用いることもできる。

本考案はＸ桿を利用するので構造が簡単であるにもかかわらず、高さ調節の範囲を広くすることができる。

このようにして本考案によれば、座当の高さを広い範囲で容易に調節することのできる簡単なる機

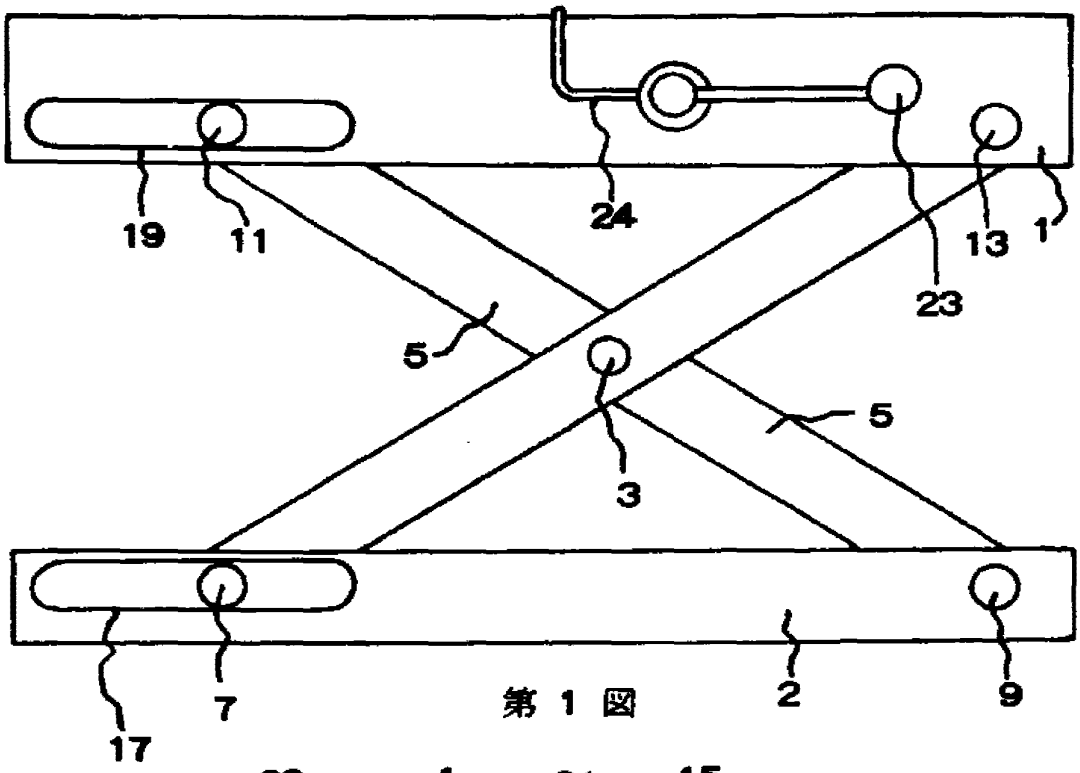
構が得られるものであり、実用上価値大である。なお本説明においては前後左右なる表現を用いているが、これらが逆になつても本考案は成立するものである。

4　図面の簡単な説明

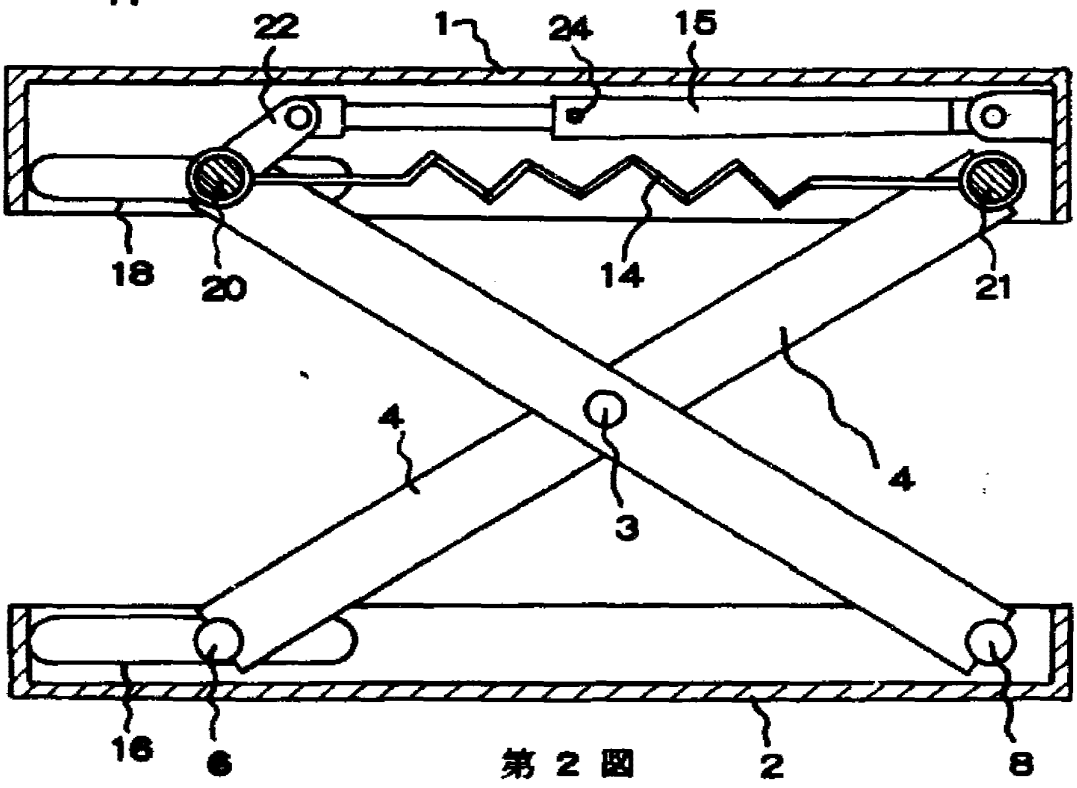
第1図は側面図、第2図は切欠側面図、第3図は上面図、第4図は前面図である。

図において、1は上枠、2は下枠、3は中枢着点、4は一方のX桿、5は他方のX桿、6、10は後左枢着点、7、11は後右枢着点、8、12は前左枢着点、9、13は前右枢着点、14は付勢バネ、15は間隔調節具である。

実用新案登録出願人　天龍工業株式会社

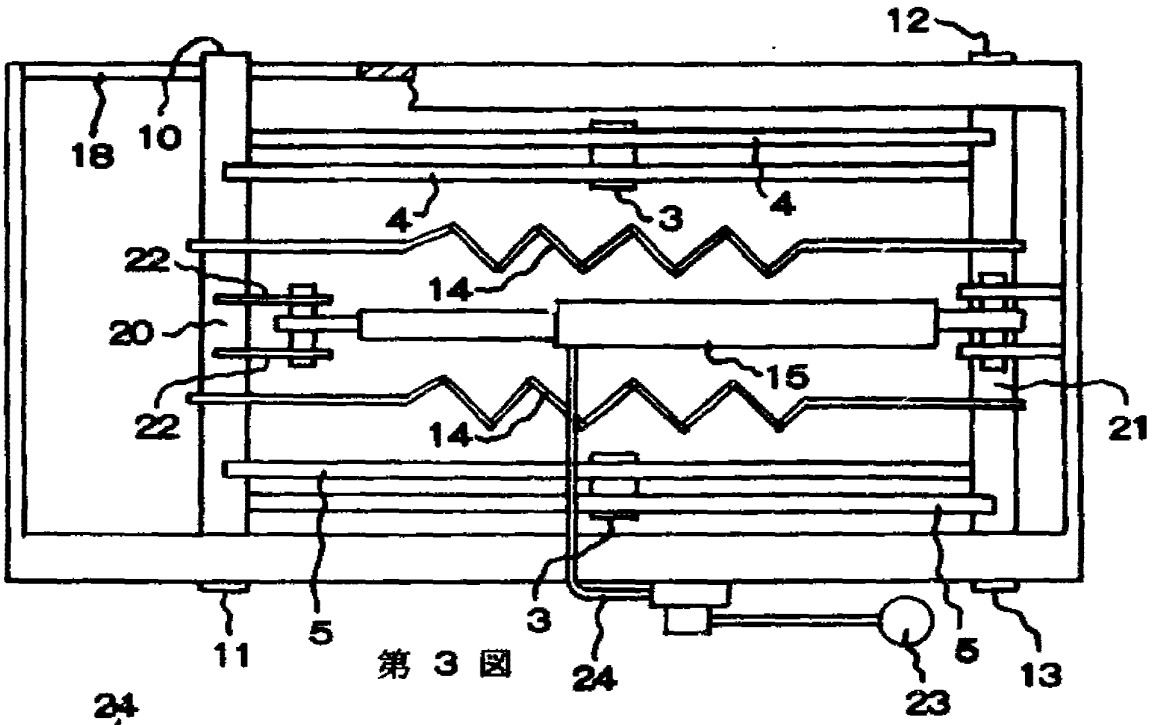


第 1 図

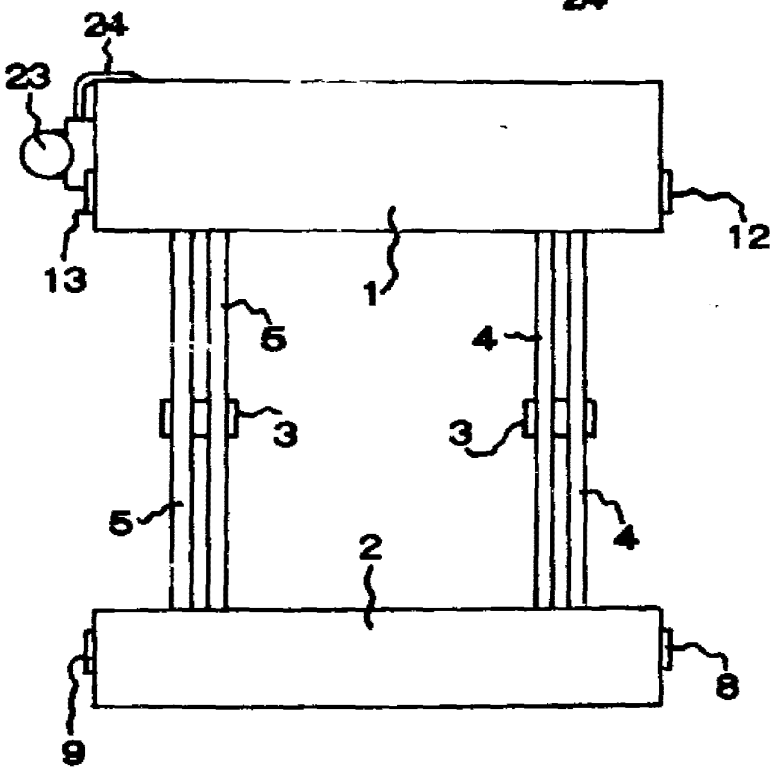


第 2 図

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第 3 図



第 4 図

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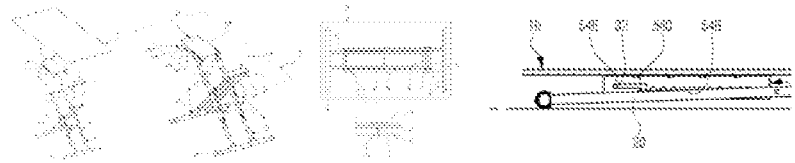
Patents KR 10-0802663

Apparatus for height controlling of folding and spreading type

Abstract

A folding type height control device is provided to control the height of a product safely, easily and promptly, to have a folding structure and to be moved easily despite a folding structure. A folding type height control device includes a first bracket(40), a second bracket(50), a first leg member(20), a second leg member(30) and a support member(60). The first bracket is installed on the bottom of a product(10). The second bracket is installed on the bottom of the product, being separated from the first bracket. The first leg member is rotatably coupled to the first bracket with a hinge. The second leg member is coupled to the middle of the first leg member with a hinge, and the upper end portion of the second leg member is selectively hung on a holding recess(543) of the second bracket.

Images (11)



Classifications

- A47B9/16 Tables with tops of variable height with means for, or adapted for, inclining the legs of the table for varying the height of the top, e.g. with adjustable cross legs

View 4 more classifications

KR100802663B1
South Korea

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Other languages: Korean

Inventor: 김영신

Worldwide applications

2006 KR

Application KR1020060111486A events

2006-11-13 Application filed by 김영신
2006-11-13 Priority to KR1020060111486A
2008-02-12 Application granted
2008-02-12 Publication of KR100802663B1

Info: Patent citations (2), Cited by (5), Legal events, Similar documents, Priority and Related Applications

External links: Espacenet, Global Dossier, Discuss

Claims (12)

Hide Dependent translated from Korean

delete delete To adjust the height of products such as tables, ironing boards, chairs, work benches, mounting tables and desks, A first bracket of which a first end of a first leg member is coupled to an axis of the first and second leg members of the first and second leg members, the middle parts of which are joined to each other by a hinge so as to cross each other; A second bracket provided on the other side of the bottom surface of the product by having at least one wing having a plurality of locking grooves to selectively hold the locking member provided at the front end of the second leg member to adjust the height of the product; The first leg member and the second leg member are elastically configured to elastically support the first and second leg members so as not to be folded by the weight of the product when the locking member is removed from the locking groove when the height of the product is adjusted. To each end is coupled to the support member by a hinge; including, The second bracket is provided with an operation hole for selectively engaging the locking groove while the locking member moves in the longitudinal direction of the second bracket, The operator, it is formed in the longitudinal direction in the wing has a rectangular shape, the engaging groove is formed continuously in the inner upper portion, is formed in a closed structure so that the locking member is not separated, Safety catch portion formed in the end portion of the folding direction so that the first and second leg members are not completely folded immediately when folded; And And a folding part connected to the safety catching area by a connection passage so that the first and second leg members are completely folded to be in close contact with the bottom surface of the product, and are formed to extend in the folding direction in the connection passage. Folding height adjustment device. The method of claim 3, wherein when the first and second leg members are unfolded, the curved guide surface is formed on the outer side of the connecting corner of the connecting passage and the folded portion so that the locking member is moved to the operating hole side through the connecting passage without interference. Folding height adjustment device. The folding type height adjusting device according to claim 3 or 4, further comprising folding holding means for maintaining a folded state of the first and second leg members. The method according to claim 5, The folding means is installed on one side of the first leg member or the second leg member facing the operating hole is elastically inserted into the operating hole when the first and second leg members are completely folded Foldable height adjusting device, characterized in that consisting of the ball stopper for maintaining the first and second leg members folded state. The method according to claim 5, The folding means for each fitting hole formed in the wing of the second bracket and the first leg member or the second leg member facing the wing; Insertion pins inserted into each of the fitting holes to maintain a folded state of the first and second leg members; And Foldable height adjustment device characterized in that consisting of; connecting the pin and the wing connecting strap for preventing the loss of the fitting pin. delete The foldable height adjusting device according to claim 6, wherein the support member comprises a shock absorber or a spring. delete The foldable height adjusting device according to claim 9, wherein wheels are provided at lower ends of the first and second leg members. delete

Description

translated from Korean

Folding height adjustment device {APPARATUS FOR HEIGHT CONTROLLING OF FOLDING AND SPREADING TYPE}

1 is an exploded perspective view showing a folding height adjustment device according to the present invention.

Figure 2 is a perspective view of the coupled state of the folding height adjustment device shown in FIG.

Figure 3a, 3b, 3c, 3d is an operating state diagram showing a state in which the height of the product is adjusted by the folding height adjustment device shown in FIG.

Figure 4 is a bottom view showing a state in which the leg member of the folding height adjustment device shown in FIG.

5 is a partially enlarged view showing another embodiment of the folding holding means according to the present invention.

Figure 6a, 6b is a view showing a state provided with a moving means in the leg member of the foldable height adjustment device.

7 is a partially enlarged view showing a state in which a curved guide surface is formed in the corner connection region of the folded portion and the connection passage according to the present invention.

<Description of the symbols for the main parts of the drawings>

10: product 20: first leg member

30: second leg member 32: locking member

40: first bracket 42: insertion portion

50: second bracket 52: wings

54A: Operator 54B: Hanging Groove

54C: Safety catching part 54D: Connecting passage

54E: Folded portion 60: Support member

70: ball stopper

The present invention relates to a folding height adjustment device, in particular, it is possible to easily adjust the height of various products such as tables, ironing boards, chairs, work tables, mounting tables and desks, as well as shock absorbers on each leg member to be crossed it is related to the folding height adjustment device that can ensure the stability during folding and unfolding.

In general, various products such as tables, ironing boards, chairs, work benches, mounting tables and desks have means for adjusting their height.

For example, there is provided a structure in which a female screw is formed at the lower end of the leg of the product, and a support member is coupled to the bottom of the male screw after the male screw is fastened to the female screw. The height adjusting device of this structure is that the male screw is fastened to the female screw in accordance with the rotation of the support member in the tightening direction or loosening direction, so that the height of the legs is adjusted.

On the other hand, the height adjustment device configured to adjust the height of the upper plate disposed on the upper side as the pair of legs to cross and unfold the legs provided. However, the height adjusting device of such a structure could be easily detached from the upper end of the leg because the mounting groove of the bracket fixed to the bottom of the top plate was opened directly downward, whereby the height adjustment state of the product is the user's will irrespective of whether there was a problem that is released, this also caused a problem that the user is injured. In addition, the height adjustment device of such a structure was to turn the product upside down to adjust the height of the product, insert the tip of the leg into the locking groove and then has to work to reverse the product back to its original state.

The present invention has been made to solve the problems of the prior art as described above, the technical problem of the present invention can safely adjust the height of the product, can be easily and quickly adjusted, providing a height adjustment device having a folding structure There is.

Another technical problem of the present invention is to provide a height adjustment device that is easy to move while having a folding structure.

In order to solve the above technical problem, the present invention,

To adjust the height of products such as tables, ironing boards, chairs, work benches, mounting tables and desks,

A first bracket of which a first end of a first leg member is coupled to an axis of the first and second leg members of the first and second leg members, the middle parts of which are joined to each other by a hinge so as to cross each other;

A second bracket provided on the other side of the bottom surface of the product by having at least one wing having a plurality of locking grooves to selectively hold the locking member provided at the front end of the second leg member to adjust the height of the product;

When the height of the product is adjusted to the elasticity to support the first and second leg members not to be folded and give elasticity to the first and second leg members when the locking member is removed from the locking groove when the height of the product Provides a foldable height adjusting device comprising a; support member coupled to the first leg member and the second leg member by a hinge.

The second bracket is provided with an operation hole for selectively engaging the locking groove while the locking member moves in the longitudinal direction of the second bracket,

The operator,

It is formed long in the longitudinal direction in the wing has a rectangular shape, the engaging groove is formed continuously in the inner upper portion, it characterized in that it has a closed structure so that the locking member is not separated.

The operator,

Safety catch portion formed in the end portion of the folding direction so that the first and second leg members are not completely folded immediately when folded; And

The first and second leg members are completely folded and connected to the safety catching area by a connecting passage so as to be in close contact with the bottom surface of the product, and a folded portion extending in the folding direction from the connecting passage. do.

A curved guide surface is formed on the outer side of the connecting corner of the connecting passage and the folded portion so that the catching member moves to the operating hole side through the connecting passage without interference when the first and second leg members are unfolded.

It is characterized in that the folding holding means for maintaining the folded state of the first and second leg members.

The folding holding means is installed on one surface of the first leg member or the second leg member facing the operating hole and is elastically inserted into the operating hole when the first and second leg members are completely folded. It characterized in that the ball stopper for maintaining the folded state.

The folding holding means is each fitting hole formed in the wing of the second bracket and the first leg member or the second leg member facing the wing;

insertion pins inserted into each of the fitting holes to maintain a folded state of the first and second leg members; And

It characterized in that consisting of; connecting the fitting pin and the wing to prevent the loss of the fitting pin.

The support member is characterized by consisting of a shock absorber or a spring.

The lower end of the first and second leg members in contact with the ground is characterized in that the closing member for preventing slipping is installed.

The lower end of the first and second leg members is characterized in that the wheel is provided as a moving means.

Prior to this, terms or words used in the present specification and claims should not be construed as being limited to the ordinary or dictionary meanings, and the inventors should properly explain the concept of terms in order to best explain their own invention. Based on the principle that can be defined, it should be interpreted as meaning and concept corresponding to the technical idea of the present invention.

Therefore, the embodiments described in the specification and the drawings shown in the drawings are only the most preferred embodiments of the present invention, and do not represent all of the technical idea of the present invention, which can be replaced at the time of the present application It should be understood that there may be various equivalents and variations.

When described in detail with reference to the accompanying drawings a preferred embodiment of the present invention as follows.

As shown in FIGS. 1 and 2, the foldable height adjusting device includes a first bracket 40, a first bracket 40, and a predetermined bracket installed on a bottom surface of the product 10, that is, a bottom surface of the top surface of the product 10. The second bracket 50 is installed on the bottom surface of the product 10 by maintaining a distance, the first leg member 20 rotatably coupled to the first bracket 40 by a hinge, and the first leg member 20 And the second leg member 30 and the first and second leg members 20 and 30, which are coupled to the middle part of the center and the hinge (shaft), and whose upper end part is selectively caught by the locking groove 54B of the second bracket 50. It is provided between the support member 60 for elastically supporting the first and second leg members (20, 30).

Looking at this in more detail as follows.

The product 10 is not limited to tables, ironing boards, chairs, work benches, mounting tables and desks.

The first bracket 40 has a middle portion fixed to one side of the bottom surface of the product 10 by a plurality of screws, and the wings 41 on both sides are bent at a right angle so that the tip portion of the first leg member 20 rotates axially. Possibly combined.

The first bracket 40 is formed with a pair of auxiliary wings 44 for insertion when the second leg member 30 is folded. Therefore, the front end of the first leg member 20 is located inside each auxiliary wing 44 and the second leg member 30 is located between the auxiliary wing 44 and the wings 41 on both sides. The insertion part 42 is intended to maintain a stable and flow-free state when the first and second leg members 20 and 30 are folded, and to stably fix the first leg member 20. At this time, the structure of the first bracket 40 is not limited to this embodiment and may be modified into various structures.

The first and second leg members 20 and 30 may be folded such that their middle portions are rotatably coupled by a hinge (shaft) and overlap each other. Lower ends of the first and second leg members 20 and 30 are formed to extend to both sides, respectively, and both ends of each support part can prevent slippage, and a closing member 80 having a finishing function is installed.

The upper end of the second leg member 30 is provided with a locking member 32. The locking member 32 is fixed to both ends of the upper end of the pair of second leg member 30, the locking member 32 is selectively in the locking groove 54B of the working hole 54A to be described later. It is configured to be caught.

Such first and second leg members 20 and 30 are made of metal and have a square or round pipe structure, but preferably have a square pipe structure.

The second bracket 50 is configured to selectively engage the engaging member 32 provided on the upper end of the second leg member 30, the middle portion is fixed to the bottom of the product 10, the wings 52 on both sides) Is bent at right angles to each other, and the blade 52 is formed with a rectangular working hole 54A having a locking groove 52. The operating hole 54A is formed to have a long length direction of the second bracket 50, that is, a length direction of the blade 52, and has a closed structure. As a result, the closing member 32 is prevented from being separated from the second bracket 50 by the closed structure.

And, the specific structure of the operating hole 54A is as follows. A locking groove 52 is formed successively in the upper portion of the operating hole 54A. The locking groove 52 has a structure that is downwardly opened so that the locking member 32 moving in the longitudinal direction in the operating hole 54A is selectively inserted and locked. On the other hand, at the end of the operating hole 54A in the folding direction (in the direction of the arrow indicated by a dashed line in FIG. 1), a safety catching portion 54C is formed to catch the locking member 32 that is pulled out of the locking groove 52. The safety catching portion 54C serves to prevent the first and second leg members 20 and 30 from being completely folded by the locking member 32. That is, when the first and second leg members 20 and 30 are folded so that the height of the product 10 is not high, the first and second leg members 20 and 30 are not immediately folded and are kept at a constant distance from the ground. It is to prevent the safety accident caused by folding the first and second leg members 20, 30 immediately.

In other directions, the length of the operating hole 54A is not long enough for the locking member 32 to be moved so that the first and second leg members 20 and 30 can be completely folded. That is, in order for the first and second leg members 20 and 30 to be fully folded, the working hole 54A should have a sufficient length. However, the working hole 54A according to the present invention is secured by the safety catching part 54C. Length limit is to prevent the movement of the locking member (32).

A connection passage 54D is formed in an upper portion of the inlet region of the safety catching portion 54C. Then, the folded portion 54E extends in the folding direction with respect to the connection passage 54D. Folded portion 54E is parallel to actuation hole 54A as shown in FIG. 1 or FIG. 2. However, the starting position is the connecting passage 54D located in the area of the safety catching portion 54C, and is formed to extend in the folding direction from the connecting passage 54D. Therefore, when the locking member 32 moves to the folded portion 54E through the connection passage 54D, the first and second leg members 20 and 30 can be completely folded.

The supporting member 60 is provided at both ends of the first and second leg members 20 and 30 so that the first and second leg members 20 and 30 are formed when the locking member 32 is removed from the locking groove 54B. It is to prevent the straight folding by the weight of (10), and may be composed of a spring, elastic rubber, shock absorber, gas cylinder, etc., but preferably made of a shock absorber (Shock Absorber). In general, the shock absorber should be used having a supporting force capable of sufficiently withstanding the weight of the top plate of the product (10). If the shock absorber has a weak support force (buffer force), the weight of the product 10 may not be sufficiently supported, and the first and second leg members 20 and 30 may be folded while the catching member 32 is pulled out of the catching groove 54B. It may cause a safety accident, if the bearing force is too strong, a problem that takes a lot of force to fold the first and second leg members (20,30) occurs.

On the other hand, this embodiment is provided with a folding holding means (90). The folding holding means 90 is composed of a ball stopper 70 is installed on one surface of the first leg member 20 in a position facing the operating hole 54A formed in the blade 52 of the second bracket 50. . The ball stopper 70 is composed of a

steel ball, a spring and a support housing and the like are installed inside the first leg member 20 and the steel ball is exposed to the outside. The ball stopper 70 has a structure in which the spring stops due to the elasticity of the spring, and when the first and second leg members 20 and 30 are folded, the steel ball of the ball stopper 70 is operated by the blade 52. 54A) to be elastically inserted so that the folded state of the first and second leg members 20 and 30 is maintained. At this time, the steel ball of the ball stopper 70 may be formed in a separate hole in the wing 52 to be inserted into a separate hole rather than the operating hole (54A).

As shown in FIG. 5, the folding retaining means 90 according to another embodiment may include the wings 52 of the second bracket 50 and the first leg member 20 or the second facing the wings 52. The fitting holes 94 and 96 formed in the leg members 30 and the fitting holes 94 and 96 are inserted into the fitting holes 94 and 96 to maintain the folded state of the first and second leg members 20 and 30. Pin 92, the fitting pin 92 and the blade 52 is made of a connecting string 98 to prevent the loss of the fitting pin 92 by connecting. The folding retaining means 90 is the fitting hole 94 and the first leg member 20 or the first leg member formed in the blade 52 when the first and second leg members 20 and 30 are folded. It is inserted into the fitting hole 96 formed in the two leg member 30 to prevent the first and second leg members 20 and 30 from being unfolded arbitrarily.

Referring to the operation of the height adjustment device configured as described above is as follows.

The height adjusting device maintains a state in which the first and second leg members 20 and 30 are in close contact with the bottom surface of the upper surface of the product 10, as shown in FIG. 3 or 4A.

At this time, the first and second leg members 20 and 30 maintain their folded state as shown in FIG. 4A by the ball stopper 70 which is the folding holding means 90. That is, since a part of the steel ball of the ball stopper 70 is elastically inserted into the operating hole 54A, the first and second leg members 20 and 30 are not applied without external force applied to the steel ball. It will remain folded. And the locking member 32 is in the state located in the folded part 54E.

And, the support member 60 is reduced in length and provided with elasticity and compressed.

Subsequently, in order to expand the first and second leg members 20 and 30 and adjust the height of the product 10, the lower ends of the first and second leg members 20 and 30 are in contact with the ground. Move the top plate to the top. In this process, the steel ball of the ball stopper 70 is pulled out of the operating hole 54A, and thus the first and second leg members 20 and 30 can be unfolded.

In this operation, the first and second leg members 20 and 30 are unfolded by the elastic force of the support member 60, and thus the locking member 32 is moved from the folded portion 54E to the connection passage 54D.

Subsequently, the user moves the locking member 32 from the connection passage 54D to the safety locking portion 54C side as shown in FIG. 4B. In this process, the top plate of the product 10 maintains a predetermined height on the ground.

After supporting the first leg member 20 or the second leg member 30 and moving the upper plate of the product 10 upwards, the locking member 32 is shown in FIG. 4C along the working hole 54A. The solid member moves in the direction of the solid arrow (unfolding direction), and in such a state, when stopping the operation of lifting the product 10 upward, the locking member 32 is inserted into the adjacent locking groove 54B, and thus the first and second The leg members 20 and 30 maintain the unfolded state and the height of the product 10 is increased. On the other hand, since the support member 60, which was compressed when the upper plate of the product 10 is lifted, generates elasticity, the operation of lifting the upper plate to the top is smooth, and it can be lifted with a small force.

When the upper plate of the product 10 is lifted further, the locking member 32 is moved in the unfolding direction while being pulled out of the locking groove 54B which has been inserted.

In this process, the height of the upper plate of the product 10 can be increased.

Then, to lower the height, the locking member 32 is pulled out of the locking groove 54B. At this time, even if the locking member 32 is pulled out of the locking groove 54B, the support member 60 is installed between the first and second leg members 20 and 30 to resilient the first and second leg members 20 and 30. Since it is supporting, the 1st and 1st leg members 20 and 30 will not be folded by the weight of the upper board.

Subsequently, the height of the product 10 is lowered by inserting the locking member 32 into the locking groove 54B at a desired position.

On the other hand, in order to fold the finished product 10, the locking member 32 is moved in the folding direction (one dashed line arrow direction shown in FIG. 4D), and then the folding part 54E is moved through the connecting passage 54D. . The first and second leg members 20 and 30 are folded as shown in FIG. 4A while the locking member 32 moves to the end with the folded portion 54E, and the ball stopper 70 is operated by the hole 54A.) To be folded.

Foldable height adjustment device according to another embodiment is provided with a moving means 100 in the lower end of the first and second leg members 20, 30 as shown in Figure 6a, 6b. This means for moving 100 is to facilitate the movement of the product (10). For this purpose, a wheel having straightness as shown in FIG. 5A may be used, and a caster-type wheel free of steering (rotation) as shown in FIG. 6B may be used. In particular, the caster-type wheel is provided with a locking device to prevent the rolling of the wheel to be able to be stably fixed the position of the product (10). Caster-type wheels used in this embodiment and its locking device are generally used, so detailed description thereof will be omitted.

On the other hand, according to another embodiment, the curved guide surface 54F is formed on the outer side of the connection corner of the connecting passage 54D and the folded portion 54E, as shown in FIG. This curved guide surface 54F is for causing the catching member 32 to move to the operating hole 54A side through the connecting passage 54D without interference when the first and second leg members 20 and 30 are unfolded. In other words, when the upper plate is moved upward to unfold the first and second leg members 20 and 30, the locking member 32 moves from the folded portion 54E to the connecting passage 54D and then the curved guide groove (54F) can be moved to the operating hole 54A through the connection passage 54D without interference, so that an operation for raising the height of the product 10 can be quickly and easily performed.

Since the folding height adjusting device according to the present invention has a closed structure in which a working hole having a locking groove is formed, the locking member is not separated from the working hole, thereby preventing a safety accident caused by the departure of the locking member. Since the support member is installed between the two leg members to support the elasticity, even if the locking member is pulled out of the locking groove, the product can prevent the first and second leg members from being folded due to its own weight, thereby preventing safety accidents. Since the ball stopper, which is a folding holding means, is elastically inserted into the operation hole in the folded state of the first and second leg members, the first and second leg members can be stably maintained in the folded state. In addition, since the locking member is located in the operating hole of the closed structure, there is no detachment phenomenon, and the height of the product is adjusted only by lifting the top plate of the product or removing the locking member from the locking groove so that the height adjustment of the product is easy. It can be done. On the other hand, since the first and second leg members are folded, the storage performance of the product is improved.

As described above, although the present invention has been described by way of limited embodiments and drawings, the present invention is not limited thereto, and the present invention is provided by the person skilled in the art to which the present invention pertains. Of course, various modifications and variations are possible within the scope of equivalents of the claims to be described.

Patent Citations (2)

Publication number	Priority date	Publication date	Assignee	Title
KR100339486B1	2000-05-17	2002-06-15	서광훈	A up and down assembly of bed
KR200284468Y1	2002-05-06	2002-08-03	(주)은행인더스트리	ironing board
Family To Family Citations				

* Cited by examiner, † Cited by third party

Cited By (5)

Publication number	Priority date	Publication date	Assignee	Title
KR200470921Y1 *	2012-03-15	2014-01-21	(주)테크노밸리	Transportable checkstand
KR20180057800A *	2016-11-22	2018-05-31	윤형한	electromotive bed
KR101958175B1 *	2018-06-26	2019-03-18	주식회사 씨아이에프	Larva selecting system
KR20190072159A *	2017-12-15	2019-06-25	주식회사 삼흥사	Height-adjustable table
KR200200002379U *	2019-04-19	2020-10-28	주식회사 뉴런모터스	Flat bench using as working table by convenient height-adjustable
Family To Family Citations				

* Cited by examiner, † Cited by third party, ‡ Family to family citation

Similar Documents

Publication	Publication Date	Title
US6302479B1	2001-10-16	Foldable beach chair
KR100802663B1	2008-02-12	Apparatus for height controlling of folding and spreading type
US7712422B2	2010-05-11	Folding table
KR940702244A	1994-07-28	Multi-level folding stage
MX9708824A	1998-02-28	Folding table.
JP3776154B2	2006-05-17	Mobile folding stage
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KR101297844B1	2013-09-04	Folding hinge
US6708630B2	2004-03-23	Foldable side support arrangement for foldable furniture
US20180177290A1	2018-06-28	Integrated foldable table tennis table
US3028205A	1962-04-03	Folding table tray and the like with operating handle
US20070278363A1	2007-12-06	Collapsible door painting support stand
KR200457810Y1	2012-01-03	The table for a bed
CN101152715B	2011-02-16	Folding structure for supporting table-board tool
CN210025585U	2020-02-07	Lifting saw bench
KR200195263Y1	2000-09-01	A foldable table leg
JP6153102B2	2017-06-28	Folding table

CN209950625U	2020-01-17	Folding table
AU713350B3	1999-12-02	Banquet table
GB2417196A	2006-02-22	A collapsible item of furniture with spring biased stays

Priority And Related Applications

Priority Applications (1)

Application	Priority date	Filing date	Title
KR1020060111486A	2006-11-13	2006-11-13	Apparatus for height controlling of folding and spreading type

Applications Claiming Priority (1)

Application	Filing date	Title
KR1020060111486A	2006-11-13	Apparatus for height controlling of folding and spreading type

Legal Events

Date	Code	Title	Description
2006-11-13	A201	Request for examination	
2007-08-29	E902	Notification of reason for refusal	
2007-10-31	E701	Decision to grant or registration of patent right	
2008-02-01	GRNT	Written decision to grant	
2008-04-10	G170	Publication of correction	
2011-01-31	FPAY	Annual fee payment	**Payment date:** 20110131 **Year of fee payment:** 4
2012-02-02	LAPS	Lapse due to unpaid annual fee	

Concepts

machine-extracted

Download Filter table

Name	Image	Sections	Count	Query match
absorbing agent		claims,description	8	0.000
shock		claims,description	8	0.000
insertion		claims,description	5	0.000
ironing		claims,description	5	0.000

Show all concepts from the description section

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Patents

Table with adjusting the height

Abstract

translated from Korean

The present invention provides a pair of adjustable legs beneath a horizontal table, with one of the legs fluidly mountable on the hinge of a support frame contacting the table and the ground, and the other of the legs being capable of rolling contact with the table and the support frame So that the height of the table can be adjusted with respect to the support frame. As a result, the other legs can be fixed to the rack formed on the support frame, The stopper formed on the leg can be fixed at an arbitrary position of the rack of the support according to the height of the table with respect to the support frame so that the height of the stopper can be appropriately set in accordance with the working environment of the user Adjustable The present invention relates to adjustable height adjustable tables, wherein the adjustable legs A table 10 is formed on the upper side and a square receiving table 20 is formed on the lower side so that the table 10 and the support frame 20 are fixed to each other. A pair of variable legs 30 are provided between the table 10 and the support frame 20 so as to adjust the height of the table 10 with respect to the support frame 20. The present invention also provides a pair of One of the variable legs 30 is formed in the table 10 and the support frame 20 so as to be able to move about the upper rear hinge 12 and the lower rear hinge 13 and the other side is provided with the upper rollers 31, Down rollers 32 are formed so as to be capable of rolling on each of the upper rail beam 11 and the lower rail beam 21 so as to adjust the height of the table 10 with respect to the support frame 20 , The present invention also includes a rack 22 having a certain length formed in the support frame 20, A stopper 33 is formed on the other side of the leg 30 so that the stopper 33 of the variable leg 30 can be held and fixed at an arbitrary position of the rack 22 of the support frame 20, The height of the table 10 can be adjusted with respect to the support frame 20 according to the selection and the operation lever stick 60 is fixed to the stopper 33 of the variable leg 30 The stopper 33 is released from engagement with the rack 22 of the support frame 20 by the adjustment of the operation lever stick 60 in the standing posture of the user, So that this engagement can be maintained in the position.

KR20140004886U

South Korea

Download PDF Find Prior Art Similar

Other languages: Korean

Inventor: 신현필

Worldwide applications

2013 KR

Application KR20201300001467U events

2013-02-26 Application filed by 신현필

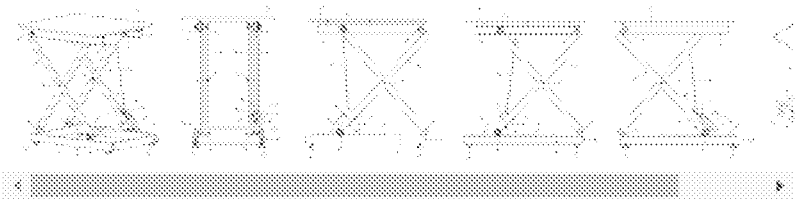
2013-02-26 Priority to KR20201300001467U

2014-09-03 Publication of KR20140004886U

Info: Cited by (5), Legal events, Similar documents, Priority and Related Applications

External links: Espacenet, Global Dossier, Discuss

Images (6)



Classifications

- A47B9/16 Tables with tops of variable height with means for, or adapted for, inclining the legs of the table for varying the height of the top, e.g. with adjustable cross legs

View 1 more classifications

Claims (4)

Hide Dependent

translated from Korean

In a height adjustable table in which variable legs are formed on a table so that the height of the table can be adjusted from the ground,
A table 10 is formed on the upper side and a square support frame 20 is formed on the lower side and a pair of variable legs 30 are formed between the table 10 and the support frame 20, So that the height of the table (10) can be adjusted. 2. The apparatus according to claim 1, wherein one of a pair of variable legs (30) between the table (10) and the support frame (20) is provided with an upper rear hinge (12) and a lower rear hinge (13) And the other one of the upper and lower rollers 31 and 32 is formed to be capable of rolling on each of the upper rail beam 11 and the lower rail beam 21 So that the elevation of the table (10) can be adjusted with respect to the support frame (20). The stopper (20) is provided with a rack (22) having a predetermined length and a stopper (33) is formed on the other side of the variable leg (30) 33 can be held and fixed at an arbitrary position of the rack 22 of the support frame 20 so that the height of the table 10 with respect to the support frame 20 can be adjusted according to the user's choice Height adjustable table. The operation lever stick 60 having the long length is fixed to the stopper 33 of the variable leg 30 so that the stopper 33 can be moved in the standing posture by the adjustment of the operation lever stick 60 Whereby the engagement of the stopper (20) with the rack (22) is released and the stopper (33) is held in engagement with the rack (22) at an arbitrary position.

Description

translated from Korean

(Table with adjusting the height)

The present invention relates to a height adjustable table capable of adjusting the height of a horizontal table from the ground, more particularly, a pair of adjustable legs below a horizontal table, wherein one side of the leg contacts the table with the ground So that the legs can move to one side about one table and the other table, so that the table can be moved relative to the table with respect to the table, And the other legs can be fixed at an arbitrary position by means of a stopper on a rack formed on the support frame. Thus, the height of the stopper can be adjusted in accordance with the height of the table relative to the support frame, Can be fixed at an arbitrary position of the rack of the support table. It will stand properly on the height-adjustable table that can be selected to adjust the height.

Generally, a table used in a work table or the like is generally a fixed table in which a table horizontally disposed and a leg supporting a table are firmly fastened to each other so that objects can be placed thereon.

In the case of such a stationary table, each of the components is firmly fastened to each other and has an advantage of excellent supportability and durability. However, in the work environment of the operator, for example, There is a problem that the working efficiency is lowered due to the difference in height when the table is used for sharing or when the workpiece extracted from another machine has a height in handling the workpiece and is subjected to secondary machining or the like , And purchasing a table having a different height according to each working environment may also increase the maintenance cost of the facility.

Further, in the case of a table adjusting the height, the leg of the table is made to be a folding leg, and the folding leg can adjust the degree of folding of the folding leg from the ground by means of a cylinder or the like, However, since the cylinder must be mounted on the folding leg of the table and the driving member for driving the cylinder is additionally installed, the cost of the product is increased.

In order to overcome the above problem, the present invention has a problem that a table is formed on the upper side and a square support frame is formed on the lower side, and a pair of variable legs are formed between the table and the support frame to adjust the height of the table relative to the support frame. .

In addition, the present invention is characterized in that one of the pair of adjustable legs is formed between the table and the support frame so as to be movable around the hinge on the table and the support frame and the other is formed to be capable of rolling the table, And the like.

Further, in the present invention, a rack having a certain length is formed on the support frame, and a stopper is formed on the other side of the variable leg so that the stopper of the variable leg can be held and fixed at an arbitrary position of the rack of the support frame, The height of the table relative to the support frame can be increased.

In addition, according to the present invention, the operation lever stick is fixed to the stopper of the variable leg so that the stopper can be disengaged from the rack of the support frame by adjusting the operation lever stick in the standing posture of the user, So that the engagement can be maintained in the position.

The present invention relates to a height adjustable table in which variable legs are formed on a table so that the height of the table can be adjusted from the ground, a table is formed on the upper side and a square support frame is formed on the lower side, A variable leg is formed so that the height of the table can be adjusted with respect to the support frame.

The present invention also contemplates that between the table and the support frame one of the pair of flexible legs is formed in the table and the support frame to be movable about the upper rear hinge and the lower rear hinge and the other is formed with upper and lower rollers So that the upper rail beam and the lower rail beam can be moved in a rolling manner, so that the height of the table can be adjusted with respect to the support frame.

Further, in the present invention, a rack having a certain length is formed on the support frame, and a stopper is formed on the other side of the variable leg so that the stopper of the variable leg can be held and fixed at an arbitrary position of the rack of the support frame, The height of the table can be adjusted with respect to the support frame.

In addition, in the present invention, an operation lever stick having a long length is fixed to the stopper of the variable leg, and when the stop lever is engaged with the rack of the support frame by the adjustment of the operation lever stick, So that this engagement can be maintained.

As described above, the present invention provides a pair of adjustable legs below a horizontal table, one of the legs being fluidly mounted on a hinge of a support frame that contacts the table with the ground, and the other of the legs being in rolling contact with the table and the support frame So that the legs can be moved to the other side with respect to one of the support frame and the table so that the height of the table can be adjusted with respect to the support frame and the other legs can be made adjustable The stopper formed on the leg can be fixed at an arbitrary position of the rack of the support frame in accordance with the height of the table with respect to the support frame so that the stopper can be fixed to the support frame at an arbitrary position, It is possible to select the height to adjust properly.

FIG. 1 is a perspective view of a table capable of adjusting the height of the present invention,
Figure 2 is a side elevation view of a height adjustable table of the present invention,
FIG. 3 is a front view of a height adjustable table of the present invention,
Fig. 4 is a view showing the state in which the operation control stick is operated in the elevation adjustable table of the present invention,
Fig. 5 is a rear view of the elevation adjustable table of the present invention in which the operation control stick is operated, Fig.
6 is a perspective view of another example of a height adjustable table of the present invention.

Specific examples of the present invention will be described in detail with reference to the accompanying drawings.

As shown in Figs. 1 to 5, the height adjustable table of the present invention has a flat table 10 on which an object or the like can be placed on the upper side, and a square receiving tray 20 which is in contact with the ground on the lower side And a pair of adjustable legs 30 are formed between the table 10 and the support frame 20 to adjust the height of the table from the ground.

Below the table 10, upper rail beams 11 having a long section in the longitudinal direction are formed in parallel with each other at intervals. Upper rollers 31 of the variable legs 30 to be described later are mounted on the upper rail beams 11 so as to be capable of rolling and the variable legs 30, And is movably mounted by rear hinges (12).

Next, the rectangular support frame 20 is a large rectangular frame member, and the lower rail beams 21 are formed in parallel with the longitudinal direction of the support frame 20. { The lower rail beams 21 are formed in parallel with the upper rail beams 11 of the table 10.

A rack 22 having teeth of a predetermined length is fixed to one side of the lower rail beam 21 of the support frame 20 by fixing means such as welding.

This rack 22 allows the stopper 33 formed on one side of the later-described variable leg 30 to be engaged and disengaged.

On the four sides of the support frame 20, there are provided support pads 23 in contact with the ground.

Next, variable legs 30 are formed between the table 10 and the support frame 20, and the variable legs 30 are folded into a substantially X-shaped link which can be moved by the central hinge 34 in the center So that a pair of X-shaped links are mounted between the table 10 and the support frame 20 in parallel.

That is, one of the pair of variable legs 30 between the table 10 and the support frame 20 is fixed to the table 10 and the support frame 20 with the upper rear hinge 12 and the lower rear hinge 13 as the center And the other one of the upper and lower rollers 31 and 32 is formed so as to be capable of rolling on the upper rail beam 11 and the lower rail beam 21, 20, the height of the table 10 can be adjusted.

A stopper 33 is formed on the other side of the variable leg 30. The stopper 33 is fixed to the hinge bracket 40 by fixing means such as a bolt 42 or the like. The stopper 33 is fixed to the hinge shaft 41 at the center of the hinge bracket 40 and the stopper 33 can be held elastically by the torsion spring 50 wound around the hinge shaft 41 Respectively. The torsion spring 50 allows the stopper 33 to exert a biasing force toward the rack 22 of the support frame 20 so that the stopper 33 can be held resiliently against the teeth of the rack 22 .

The torsion spring 50 is wound on the hinge shaft 41 of the hinge bracket 40 so that one end of the spring is held by the hinge bracket 40 and the other end is held by the stopper 33, 33 can be held resiliently against the teeth of the rack 22.

The operation lever stick 60 having a long length is fixed to the stopper 33 of the variable leg 30 so that the stopper 33 is moved in the posture of the support frame 20 So that the engagement of the stopper 33 with the rack 22 at an arbitrary position can be maintained.

3, when the operation lever stick 60 is pushed to the right, the stopper 33, which is resiliently held on the hinge bracket 40 of the variable leg 30, Can be separated from the teeth of the rack (22) of the vehicle. In this state, when the table 10 is slightly pushed to the right in Fig. 4 and the stopper 33 places the operating lever stick 60 in its original position in the teeth of the appropriate position of the rack 22, State to a higher position than the state.

Conversely, in this state, when the table 10 is slightly pushed to the left in Fig. 4 and the stopper 33 puts the operating lever stick 60 in its original position in the teeth of the appropriate position of the rack 22, Lt; RTI ID = 0.0 > 3, < / RTI >

As described above, the stopper 33 formed on the leg can be fixed at an arbitrary position of the rack 22 of the support frame 20 along the height of the table 10 with respect to the support frame 20, Depending on the environment, the height can be adjusted appropriately.

6, the lower rail beams 21 of the support frame 20 may be formed such that the rail beams 21 having a long cross section in the longitudinal direction are formed side by side at intervals in the same manner as the upper rail beams. The rail beams 21 can protect the lower rollers 32 of the variable legs 30 from being trampled or the like.

10: Table 11: Upper rail beam
12: Upper rear hinge 13: Lower rear hinge
20: support frame 21: lower rail beam
22: rack 23:
30: variable leg 31: upper roll
32: Lower roll 33: Stopper
34: central hinge 40: hinge bracket
41: Hinge 42: Bolt
50: Torsion spring 60: Operation lever stick

Cited By (5)

Publication number	Priority date	Publication date	Assignee	Title
KR101582864B1 *	2015-08-18	2016-01-07	주식회사 에스엠티	Lift Table for Computing
KR101582865B1 *	2015-08-18	2016-01-19	주식회사 에스엠티	Lift Table for Computing
WO2016137119A1 *	2015-02-27	2016-09-01	에스제이이 주식회사	Height-adjustable table
US9814309B2	2015-08-18	2017-11-14	Seung Ho Kim	Lift table for computer
CN108741900A *	2018-06-29	2018-11-06	池州市睿聚软件开发有限公司	A kind of desk bed
Family To Family Citations				

* Cited by examiner, † Cited by third party, ‡ Family to family citation

Similar Documents

Publication	Publication Date	Title
KR20140004886U	2014-09-03	Table with adjusting the height
US2843391A	1958-07-15	Creeper with adjustable supporting surface
RU2015149342A	2017-06-07	Device for working with power tools
EP2599595B1	2017-10-11	Adjustable sawhorse
US20070012826A1	2007-01-18	Mobile power tool stand
JPH0717483U	1995-03-28	Workbench
KR101725171B1	2017-04-10	Article storage facility
US9533410B2	2017-01-03	Foldable stand
KR20150133892A	2015-12-01	Portable work panel
RU2011131826A	2013-02-10	CONVEYOR DEVICE USING A CONVEYOR MOBILE MOBILE ELEMENT

KR20120076405A	2012-07-09	Press apparatus to fix drilling work
RU2014142681A	2016-05-20	TOOL MANIPULATION UNIT
CN104797384B	2016-08-24	For assembly or fitting table or the mobile system of welding bench
JP5682491B2	2015-03-11	Conveyor device for assembly work
KR101703729B1	2017-02-07	Fixing apparatus for forming eye portion of stabilizer
CN101405532A	2009-04-08	Support means
US8997659B2	2015-04-07	Furniture element comprising an articulated plate of variable surface
JP6449801B2	2019-01-09	desk
WO2006041860A3	2007-01-04	Device for a wiggle-free table
KR20150113335A	2015-10-08	Measuring apparatus of roll interval
KR102389192B1	2022-05-02	Functionality Worktable
JP7020319B2	2022-02-16	Transport trolley
JP6055744B2	2016-12-27	Sheet processing device
JP2018202467A	2018-12-27	Base frame
CN101664942A	2010-03-10	Quick clamping system of workbench

Priority And Related Applications

Priority Applications (1)

Application	Priority date	Filing date	Title
KR20201300014670	2013-02-26	2013-02-26	Table with adjusting the height

Applications Claiming Priority (1)

Application	Filing date	Title
KR20201300014670	2013-02-26	Table with adjusting the height

Legal Events

Date	Code	Title	Description
2013-02-26	A201	Request for examination	
2014-03-25	E902	Notification of reason for refusal	
2014-07-15	E701	Decision to grant or registration of patent right	

Concepts

machine-extracted

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Name	Image	Sections	Count	Query match
rolling process		claims,abstract,description	8	0.000

Show all concepts from the description section

Data provided by IFI CLAIMS Patent Services

Patents

A kind of liftable desk

Abstract

The invention discloses a kind of liftable desk, it solve the problems, such as in the prior art desk range it is smaller, it is complicated, involve great expense, there is the effect that installing space is small, rising height is high, supporting & stablizing, cost are low; Its technical scheme is: Including table, display bracket, lockable mechanism and intersect elevating mechanism, the display bracket is slidably connected to the front side of table, the lockable mechanism is connected with located at the elevating mechanism that intersects of the bottom of the table, and realizes that table lifts and is stably fixed on different height by adjusting lockable mechanism.

Classifications

- A47B21/00 Tables or desks for office equipment, e.g. typewriters, keyboards

View 5 more classifications

CN107744256A

China

Download PDF Find Prior Art Similar

Other languages: Chinese

Inventor: [redacted]

Worldwide applications

2017 CN

Application CN201710954985.5A events

2017-10-13	Application filed by [redacted]
2017-10-13	Priority to CN201710954985.5A
2018-03-02	Publication of CN107744256A
2020-01-03	Application granted
2020-01-03	Publication of CN107744256B
Status	Active
2037-10-13	Anticipated expiration

Info: Patent citations (1), Legal events, Similar documents, Priority and Related Applications

External links: Espacenet, Global Dossier, Discuss

Claims (10)

Hide Dependent

1. A kind of 1. liftable desk, it is characterised in that including table, display bracket, lockable mechanism and intersect elevating mechanism, The display bracket is slidably connected to the front side of table, and the lockable mechanism connects with the elevating mechanism that intersects located at the bottom of the table Connect, realize that table lifts and is stably fixed on different height by adjusting lockable mechanism.

    2. 2. a kind of liftable desk according to claim 1, it is characterised in that the bottom of the table, which is provided with, to be used to pacify Dress intersects the pedestal of elevating mechanism, and elastomeric element, the both sides of the pedestal are connected between the intersection elevating mechanism and pedestal Provided with slideway and some pin shaft holes, the front side of pedestal is provided with pipe.

    3. 3. a kind of liftable desk according to claim 1, it is characterised in that the intersection elevating mechanism includes two groups On the centrosymmetric lifting assembly of table, the lifting assembly includes at least two and intersects lifter group.

    4. 4. a kind of liftable desk according to Claims 2 or 3, it is characterised in that what is be connected with pedestal intersects lifting Bar group is provided with sliding block, and the sliding block, which is located in slideway, forms linear slide connection, and the end of sliding block is provided with packing ring.

    5. 5. a kind of liftable desk according to claim 1, it is characterised in that the lockable mechanism includes preceding stull Plate, rear cross member plate and threaded rod, the threaded rod sequentially pass through rear cross member plate and preceding wale piece, threaded rod and rear cross member plate screw thread Connection, the preceding wale piece, which is provided with, is used for the through hole that threaded rod passes through.

    6. 6. a kind of liftable desk according to claim 5, it is characterised in that the rear end of the threaded rod is provided with spacing Boss and handwheel.

    7. 7. a kind of liftable desk according to claim 1, it is characterised in that the display bracket includes bracket Plate, fixed mount and carrier bar, the carrier bar are installed on the bottom of carrier frame plate by stator, and the fixed mount is located at carrier frame plate Top and its both ends bending be fixed on the bottom of carrier frame plate.

    8. A kind of 8. liftable desk according to claim 2 or 7, it is characterised in that in the carrier bar insertion pipe, And the end both sides of carrier bar are arranged with salient point; The length adjustment display bracket and table entered by carrier bar in pipe Spacing.

    9. 9. a kind of liftable desk according to claim 1, it is characterised in that the bottom for intersecting elevating mechanism is set There is base, the base includes two backing plates and the transverse slat being connected between backing plate; The backing plate is provided with slideway and some pins Axis hole; The base is hinged by the bearing pin in pin shaft hole with intersecting elevating mechanism.

    10. A kind of 10. liftable desk according to claim 9, it is characterised in that the top undulate of the backing plate Set.

Description

A kind of liftable desk

Technical field

The present invention relates to daily life field, more particularly to a kind of liftable desk.

Background technology

At present, computer office has been popularized, and existing desk is generally operating personnel and set in front of the display by seat, on it is in long-term hanging working condition, this can cause cervical vertebra, lumbar vertebrae are ailing to occur, and influence health and office efficiency.Therefore, A kind of liftable desk is needed to solve the above problems.But existing liftable do work table have range it is smaller, knot Structure is complicated, the defects of involving great expense.

In summary, in the prior art for how to design it is a kind of be more suitable for computer office and will not increase fatigue ask Topic, still lacks effective solution.

The content of the invention

For overcome the deficiencies in the prior art, the invention provides a kind of liftable desk, its have installing space it is small, The low effect of rising height height, supporting & stablizing, cost, is especially suitable for the place for being positioned over limited space.

The present invention uses following technical proposals:

A kind of liftable desk, including table, display bracket, lockable mechanism and intersection elevating mechanism, the display Device bracket is slidably connected to the front side of table, and the spacing between display bracket and table is adjustable; The lockable mechanism is with being located at The intersection elevating mechanism connection of the bottom of the table, realize that table lifts and is stably fixed on different height by adjusting lockable mechanism.

Further, the bottom of the table, which is provided with, is used to install the pedestal for intersecting elevating mechanism, the intersection lift Elastomeric element is connected between structure and pedestal, the both sides of the pedestal are provided with slideway and some pin shaft holes, and the front side of pedestal is provided with Pipe.

Preferably, the elastomeric element is spring.

Further, the pedestal includes two the first backing plates be arrangeding in parallel, passes through two between first backing plate Parallel stator is connected, and the top of the first backing plate is provided with stator, and first backing plate is anchored on by stator and bolt The bottom of table.

Further, the bottom undulate of first backing plate.

Further, the intersection elevating mechanism includes two groups on the centrosymmetric lifting assembly of table, the lifting Component includes at least two and intersects lifter group.

Further, the lifter group of intersecting being connected with pedestal is provided with sliding block, and the sliding block is located in slideway and formed directly Line is slidably connected, and the end of sliding block is provided with packing ring.

Further, the lockable mechanism includes preceding wale piece, rear cross member plate and threaded rod, and the threaded rod sequentially passes through Rear cross member plate and preceding wale piece, threaded rod are threadedly coupled with rear cross member plate, and the preceding wale piece is provided with and passed through for threaded rod Through hole.

Further, the rear end of the threaded rod is provided with positive stop lug boss and handwheel.

Further, the display bracket includes carrier frame plate, fixed mount and carrier bar, and the carrier bar passes through stator The bottom of carrier frame plate is installed on, the fixed mount is fixed on the bottom of carrier frame plate located at the top of carrier frame plate and its both ends bending.

Further, in the carrier bar insertion pipe, and the end both sides of carrier bar are arranged with salient point, prevent bracket Bar skids off from pipe; The length adjustment display bracket and the spacing of table entered by carrier bar in pipe.

Further, the bottom for intersecting elevating mechanism is provided with base, and the base includes two the second backing plates and company The transverse slat being connected between the second backing plate; Second backing plate is provided with slideway and some pin shaft holes; The base passes through located at pin Bearing pin in axis hole is hinged with intersecting elevating mechanism.

Further, the top undulate of second backing plate is set, and the waveform of the first backing plate and the second backing plate is delayed Punching design, avoids backing plate from sharp angles occur and causes injury of human.

Compared with prior art, the beneficial effects of the invention are as follows:

(1) intersection elevating mechanism of the invention is compact-sized, and the width of elevating mechanism can be adjusted by different pin shaft holes Spend suitable for different spaces, desk can be fixed on to a certain height by lockable mechanism, supporting & stabilizing, be not in Rock;

(2) lifting lockable mechanism of the invention uses screw mechanism, has auto-lock function, simple in construction, easy to operate; And And threaded rod sets positive stop lug boss between elevating mechanism with intersecting, further increase the stability of mechanism;

(3) display bracket of present invention placement computer monitor can stretch, and can easily adjust eye distance and show Show the distance of device, avoid long-time from closely keeping a close watch on display screen and cause eye strain; Meanwhile go for the people of different eyesights Group;

(4) range of present invention intersection elevating mechanism is big, can be applied to the working method stood, sat simultaneously; Knot Structure is compact, occupies little space.

Brief description of the drawings

The Figure of description for forming the part of the application is used for providing further understanding of the present application, and the application's shows Meaning property embodiment and its illustrate be used for explain the application, do not form the improper restriction to the application.

Fig. 1 is the assembly structure schematic diagram of the present invention;

Fig. 2 is the intersection elevating mechanism schematic diagram of the present invention;

Fig. 3 is the base construction schematic diagram of the present invention;

Fig. 4 is the understructure schematic diagram of the present invention;

Fig. 5 is the display bracket top view of the present invention;

Fig. 6 is the display bracket upward view of the present invention;

Fig. 7 is the intersection lifter group structural representation of the present invention;

Fig. 8 is the supporting bar structure schematic diagram of the present invention;

Fig. 9 is the front transverse bar structural representation of the present invention;

Figure 10 is the back transverse bar structural representation of the present invention;

Figure 11 is the threaded rod structural representation of the present invention;

Figure 12 is the slide block structure schematic diagram of the present invention;

Wherein, 1- backing plates, 2- intersect elevating mechanism, 3- sleeves, 4- singletrees, 5- bases, wale piece before 6-, 7- rear cross members Plate, 8- threaded rods, 9- bearing pins, the backing plates of 10- second, 11- second support bars, 12- pedestals, 13- tables, the sliding blocks of 14- first, 15- Display bracket, 16- springs, the slideways of 17- second, 18- pin shaft holes, 19. pipes, the stators of 20- the 3rd, the slideways of 21- first, The stators of 22- second, the backing plates of 23- first, the stators of 24- the 4th, 25- carrier bars, 26- fixed mounts, 27- carrier frame plates, 28- are horizontal Plate, 29- intersect lifter group, 30- through holes, 31- the first reducing bars, the stators of 32- first, 33- screwed holes, the reducings of 34- second Bar, the stators of 35- the 5th, 36- first support bars, the positive stop lug boss of 37- second, 38 first positive stop lug boss, 39- handwheels, 40- second Sliding block, 41- holes, 42- packing rings.

Embodiment

It is noted that described further below is all exemplary, it is intended to provides further instruction to the application.It is uniess another indicate, all technologies used herein and scientific terminology are with usual with the application person of an ordinary skill in the technical field The identical meanings of understanding.

It should be noted that term used herein above is merely to describe embodiment, and be not intended to restricted root According to the illustrative embodiments of the application.As used herein, unless the context clearly indicates otherwise, otherwise singulative it is also intended to include plural form, additionally, it should be understood that, when in this manual using term "comprising" and/or " bag include " when, it indicates existing characteristics, step, operation, device, component and/or combinations thereof.

As background technology is introduced, exist in the prior art range it is smaller, it is complicated, involve great expense not Foot, In order to solve technical problem as above, present applicant proposes a kind of liftable desk.

In a kind of typical embodiment of the application, as shown in Fig. 1-Figure 12, there is provided a kind of liftable desk, fit Alternately office mode, including table 13, display bracket 15, lockable mechanism, intersection elevating mechanism 2 and bottom are stood or sat for people Seat 5, the display bracket 15 is located at the front side of table 13 (using the side away from user as front side), the intersection lift Structure 2 is located at the bottom of table 13, and the base 5 lifts located at the bottom for intersecting elevating mechanism 2, the lockable mechanism located at intersection The inside of mechanism 2.

The table 13 can be rectangle, circle, ellipse or rectangle, circle that arc-shaped recess is provided with close to position of human body Shape, ellipsoidal structure.

The top for intersecting elevating mechanism 2 is installed on the bottom of table 13 by pedestal 12, as shown in figure 3, the base Seat 12 includes two the first backing plates 23, and the head and the tail between two the first backing plates 23 are connected by the first stator 32 respectively, and first pads Coffin is surrounded between the stator 32 of plate 23 and first.

Position between the top of first backing plate 23, two the first stators 32 is respectively equipped with multiple second stators 22, the particular number of the second stator 22 is depending on the size of table 13; The length of second stator 22 is less than first Stator 32, two the first backing plates 23 are bolted in the bottom of table 13 by the first stator 32, the second stator 22.

Two parallel pipes 19, two pipes 19 are provided with positioned at the front side of the first stator 32 of the stem of the first backing plate 23 Between top be provided with the 3rd stator 20, the 3rd stator 20 is secured by bolts in the bottom of table 13, and pipe 19 passes through The mode of welding is connected with the first stator 32, the 3rd stator 20.

The pipe 19 is steel pipe.

First backing plate 23 is rectangular, and bottom is provided with some wavy bulges, and the flank forward section of the first backing plate 23 is provided with First slideway 21, phase side back segment are provided with some evenly spaced pin shaft holes 18, and according to actual conditions, adjustment intersects elevating mechanism 2 are articulated with the pin shaft hole 18 of diverse location, to increase the stability of table 13.

As shown in figure 4, the base 5 includes transverse slat 28 and two the second backing plates 10, the transverse slat 28 is fixed on two I-shaped structure is formed between two backing plates 10.

Second backing plate 10 is rectangular, and top is provided with some wavy bulges, and the flank forward section of the second backing plate 10 is provided with Second slideway 17, its side back segment are provided with some evenly spaced pin shaft holes 18.

As shown in Fig. 2 the intersection elevating mechanism 2 includes symmetrically arranged two groups of lifting assemblies, two groups of lifting assemblies it Between by singletree 4 be connected.The lifting assembly includes two intersection lifter groups 29, the intersection lifter group 29 and base on top Seat 12 is connected, and the intersection lifter group 29 of bottom is connected with base 5.

The intersection lifter group 29 on top and bottom to intersect lifter group 29 hinged.

The first support bar 36 and second support bar 11 intersected lifter group 29 and include setting in X-type cross, such as Fig. 7 Shown in Fig. 8, the intersection and singletree 4 of first support bar 36 and second support bar 11 are be hinged.Located at first support bar 36 The part of singletree 4 between second support bar 11 is provided with sleeve 3.

The top of first support bar 36 is provided with the first sliding block 14 in the intersection lifter group 29 on top, second support bar 11 Top is provided with bearing pin 9, and the first sliding block 14 is located at outside, and bearing pin 9 is located at inner side; One end of spring 16 is fixed with the bearing pin 9, The other end of the spring 16 is fixed in first support bar 36 close to the position of the first sliding block 14.Horizontality is presented in spring 36. To intersect auxiliary power is provided during elevating mechanism hoisting depth.

In the first slideway 21 of pedestal 12, the first sliding block 14 can be slided first sliding block 14 in the first slideway 21 it is dynamic; The end of first sliding block 14 is provided with packing ring 42, and the diameter of packing ring 42 is more than the height of the first slideway 21, prevents the first sliding block 14 skid off the first slideway 21.

The end of the first support bar 36 of the intersection lifter group 29 of bottom is provided with bearing pin 9, the end of second support bar 11 Provided with the second sliding block 40, for second sliding block 40 in the second slideway 17 of base 5, the second sliding block 40 can be in the second slideway 17 interior slip; The end of second sliding block 40 is provided with packing ring 42.

As shown in figure 12, the inside of the sliding block 40 of the first sliding block 14 and second is provided with the hole for being used for being connected with support bar 41。

Lockable mechanism is provided between two groups of lifting assemblies, the lockable mechanism includes preceding wale piece 6, rear cross member plate 7 and spiral shell Rasp bar 8, preceding wale piece 6 and rear cross member plate 7 are respectively arranged on the intersection lifter group on top and the hinge for intersecting lifter group of bottom Between contact.

As shown in figure 9, the section of the preceding wale piece 6 assumes diamond in shape, through hole 30, the both ends of preceding wale piece 6 are provided among it Provided with the first reducing bar 31, the maximum gauge of the first reducing bar 31 is less than the end cross-sectional size of preceding wale piece 6, to be formed Two layers of boss structure, by two layers of boss structure, before making wale piece 6 and top intersect lifter group, bottom intersects lifting Stable connection between bar group, it will not slide.

As shown in Figure 10, the section of the rear cross member plate 7 assumes diamond in shape, and is provided with screwed hole 33 among it, and the two of rear cross member plate 7 End is provided with the second reducing bar 34, and the maximum gauge of the second reducing bar 34 is less than the end cross-sectional size of rear cross member plate 7, with shape into two layers of boss structure, by two layers of boss structure, make rear cross member plate 7 and top intersect lifter group, bottom intersects liter The stable connection between bar group is dropped, will not be slided.

The threaded rod 8 passes through preceding wale piece 6 and rear cross member plate 7, to be threadedly coupled between threaded rod 8 and rear cross member plate 7, The front end of threaded rod 8 passes through the through hole 30 of preceding wale piece 6, and through hole 30 plays guide effect to threaded rod 8.

As shown in figure 11, the rear end of the threaded rod 8 is provided with handwheel 39, is set successively between the handwheel 39 and threaded rod 8 There are the first positive stop lug boss 38 and the second positive stop lug boss 37, handwheel 39 is fixed at the rear portion of first positive stop lug boss 37, and described second The diameter that the size of positive stop lug boss 37 is more than threaded rod 8 is less than the size of the first positive stop lug boss 37.

The handwheel 39 can be circular, ellipse or other are easy to the manually operated shape of people.

As shown in Figure 5 and Figure 6, the display bracket 15 includes carrier frame plate 27, fixed mount 26 and carrier bar 25, the support Hack lever 25 is formed by steel pipe bending, and middle bending forms U-shaped portion, and both ends bending forms horizontal part; The top of the U-shaped portion of carrier bar 25 End is welded with the 4th stator 24, and the 4th stator 24 is fastened by bolts in the bottom of carrier frame plate 27; The level of carrier bar 25 in portion's insertion pipe 19, the end both sides of horizontal part are provided with salient point, make it in pipe 19 by the horizontal part of pull carrier bar 25 Movement adjusts the distance between eye and display to adjust the spacing between carrier frame plate 27 and table 13, makes it suitable Crowd for different eyesights.

The fixed mount 26 is formed by steel pipe bending, and middle bending forms U-shaped portion, and both ends bending forms horizontal part; It is fixed The U-shaped portion width of frame 26 is more than the U-shaped portion width of carrier bar, and the U-shaped portion of fixed mount 26 is used to support display; Fixed mount 26 U-shaped portion is located at the top of carrier frame plate 27, and its horizontal part bending makes carrier frame plate 27 be stuck in the U of fixed mount 26 to the bottom of carrier frame plate 27 Type subordinate side; The horizontal part of fixed mount 26 by the 5th stator 35 on the upside of the middle part of the U-shaped portion of carrier bar 25 with being anchored on support The bottom of frame plate 27.

The carrier frame plate 27 can be circular, ellipse, but be not limited to both shapes.

The application when in use, by rotating threaded rod 8, shortens the distance between rear cross member plate 7 and preceding wale piece 6, handed over The longitudinal separation of fork elevating mechanism 2 is shortened, and height increases, and the height of table 13 is lifted therewith; Otherwise operation, increase rear cross member plate 7 The distance between preceding wale piece 6, the height reduction of table 13, because screw thread has auto-lock function, therefore table 13 can be realized Height adjustable, and can be firmly secured in some height.

In the another embodiment of the application, unilateral lifting assembly intersects lifter group including three or more than three, The hoisting depth of intersection elevating mechanism can be increased by increasing the lifter group quantity on vertical direction, passing through increases level Lifter group quantity on direction intersects the width and stability of elevating mechanism to increase.intersect the specific setting side of lifter group Formula is decided according to the actual requirements.

In another embodiment of the application, the afterbody of the threaded rod is provided with positive stop lug boss, and the positive stop lug boss is consolidated Due on the motor shaft of motor, pass through the rotation of motor control threaded rod.

Other structures are identical with above-mentioned embodiment, and here is omitted.

The preferred embodiment of the application is the foregoing is only, is not limited to the application, for the skill of this area For art personnel, the application can have various modifications and variations.It is all within spirit herein and principle, made any repair Change, equivalent substitution, improvement etc., should be included within the protection domain of the application.

Patent Citations (1)

Publication number	Priority date	Publication date	Assignee	Title
CN107041626A *	2017-03-16	2017-08-15	[redacted]	A kind of liftable desk

Family To Family Citations

* Cited by examiner, † Cited by third party

Similar Documents

Publication	Publication Date	Title
CN1051799028	2017-07-28	A kind of display is freely lifted frame
CN107013794A	2017-08-04	A kind of computer display support
CN103663255A	2014-03-26	Liftable operating platform in force bearing barrel of satellite
CN108285104A	2018-07-17	A kind of lightweight single leg support recreational vehicle electric jack stand
CN104806857A	2015-07-29	Computer displayer supporting frame
CN107744256A	2018-03-02	A kind of liftable desk
CN108751023A	2018-11-06	A kind of elevator lifting arm
CN205876157U	2017-01-11	Electric power overhaul ladder
CN109655353A	2019-04-19	Mud motor creeps into Behavior modeling experimental system
CN205842138U	2016-12-28	A kind of electrodynamic type computer display screen lowering or hoisting gear
CN208676539U	2019-04-02	A kind of folding lifting platform
CN205214602U	2016-05-11	Lifting office table
CN207317274U	2018-05-04	A kind of boiler support
CN206536158U	2017-10-03	A kind of fixture of box-type workpieces
CN110104583A	2019-08-09	A kind of auto repair crane
CN201504834U	2010-06-16	Myopia prevention seat
CN204545311U	2015-08-12	Horizontal brake shoes rushes riveter
CN210422655U	2020-04-28	Adjustable pedal device for hydraulic support
CN107616818A	2018-01-23	Neurosurgery retractor fixing device
CN106473451A	2017-03-08	Controllable gas spring same table
CN103720226B	2016-08-31	A kind of rocking chair structure
CN209235239U	2019-08-13	A kind of hand stepless lifting desk
CN209203813U	2019-08-06	A kind of Pediatric nursing bed of adjustable guardrail position
CN203321455U	2013-12-04	Lifting rope replacing device for guide wheel of pumping unit
CN213046230U	2021-04-27	Split type lifting bed

Priority And Related Applications

Priority Applications (1)

Application	Priority date	Filing date	Title
CN201710954985.5A	2017-10-13	2017-10-13	Liftable desk

Applications Claiming Priority (1)

Application	Filing date	Title
CN201710954985.5A	2017-10-13	Liftable desk

Legal Events

Date	Code	Title	Description
2018-03-02	PB01	Publication	
2018-03-02	PB01	Publication	
2018-03-27	SE01	Entry into force of request for substantive examination	
2018-03-27	SE01	Entry into force of request for substantive examination	
2020-01-03	GR01	Patent grant	
2020-01-03	GR01	Patent grant	

Concepts

machine-extracted

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Name	Image	Sections	Count	Query match
elevating		claims,abstract,description	30	0.000
carrier		claims,description	32	0.000
bending		claims,description	9	0.000
insertion		claims,description	3	0.000
effects		abstract,description	4	0.000
rising		abstract,description	2	0.000

Show all concepts from the description section

Patents

A kind of hand-operated lifting table

Abstract

The invention provides a kind of hand-operated lifting table, belong to field of mechanical technique.It solves existing same table inconvenient problem with use.This hand-operated lifting table includes：Support；Desk body, it is installed on support；Lifting assembly, the quantity of the lifting assembly is the both sides that two groups and two groups of lifting assemblies are respectively arranged at desk body, and the two ends of two groups of lifting assemblies are connected with desk body and support respectively, and the lifting assembly can adjust the vertical height of desk body and support between the two.This hand-operated lifting table has the advantages that simple in construction, easy to use.

Classifications

- A47B13/02 Underframes

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CN107048695A

China

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Other languages: Chinese

Inventor: [redacted]

Current Assignee : Ningbo Huiwuzhou Intelligent Technology Co Ltd

Worldwide applications

2017 CN

Application CN201710240036.0A events

2017-04-13	Application filed by Ningbo Huiwuzhou Intelligent Technology Co Ltd
2017-04-13	Priority to CN201710240036.0A
2017-08-18	Publication of CN107048695A
Status	Pending

Info: Cited by (3), Legal events, Similar documents, Priority and Related Applications

External links: Espacenet, Global Dossier, Discuss

Claims (10)

Hide Dependent

1. a kind of hand-operated lifting table, it is characterised in that including：

Support；

Desk body, it is installed on support；

Lifting assembly, the quantity of the lifting assembly is the both sides that two groups and two groups of lifting assemblies are respectively arranged at desk body, two groups The two ends of lifting assembly are connected with desk body and support respectively, and the lifting assembly can adjust desk body and support between the two vertical Highly.

2. a kind of hand-operated lifting table according to claim 1, it is characterised in that the lifting assembly includes mounting bracket, peace The two ends shelved are hingedly connected in desk body and support, and locating part corresponding with mounting bracket is provided with desk body, described spacing Part can be such that mounting bracket is moved along desk body and can adjust desk body and the vertical height of support between the two.

3. a kind of hand-operated lifting table according to claim 2, it is characterised in that the mounting bracket includes arranged in a crossed manner the One mounting bracket and the second mounting bracket, the first mounting bracket two ends are hingedly connected in desk body and support, the first mounting bracket and The middle part of two mounting brackets is hinged setting by jointed shaft.

4. a kind of hand-operated lifting table according to claim 3, it is characterised in that the locating part include the first limiting plate and Rotating shaft, first limiting plate is arranged at the first mounting bracket and desk body between the two, and first limiting plate is fixedly arranged on the first peace The upper end and first limiting plate for filling plate can be horizontally set on the lower surface of desk body along desk body transverse shifting, the rotating shaft And projection is formed with limiting section in rotating shaft, the rotating shaft can drive limiting section synchronous axial system and limiting section is inserted in the first limit The first limiting plate is set to keep geo-stationary with desk body on the plate of position.

5. a kind of hand-operated lifting table according to claim 4, it is characterised in that the lower surface of desk body is provided with fixation Plate, offers fixing groove in fixed plate, and first limiting plate and rotating shaft are located in fixing groove, opened up on the first limiting plate There are multiple spacing breach, the rotating shaft can drive limiting section to be inserted in spacing breach.

6. a kind of hand-operated lifting table according to claim 5, it is characterised in that handle and connection are installed with rotating shaft Portion, the surface in desk body is provided with connecting seat, and link slot corresponding with connecting portion, described are offered in the middle part of connecting seat Hand can drive rotating shaft to circumferentially rotate and connecting portion is inserted or be disconnected groove.

7. a kind of hand-operated lifting table according to claim 6, it is characterised in that the support includes bottom plate and cover plate, institute State cover plate to be covered on bottom plate and be formed with accommodating chamber between the two in cover plate and bottom plate, first mounting bracket is articulated with bottom

plate On, the second limiting plate is provided with the lower end of the second mounting bracket, second limiting plate is movably set in accommodating chamber.

8. a kind of hand-operated lifting table according to claim 7, it is characterised in that multiple first spacing holes are opened up on bottom plate, The second spacing hole corresponding with the first spacing hole is offered on the second limiting plate and the first spacing hole axial line and second spacing The axial line in hole is in same level position.

9. a kind of hand-operated lifting table according to claim 8, it is characterised in that set flexible on the second mounting bracket Part, one end that piston rod and piston rod are provided with elastic component extends downwardly from elastic component and is connected with bottom plate.

10. a kind of hand-operated lifting table according to claim 1, it is characterised in that be arranged in parallel on the lower surface of desk body There is the second desk body.

Description

A kind of hand-operated lifting table

Technical field

The invention belongs to field of mechanical technique, it is related to a kind of hand-operated lifting table.

Background technology

Same table refers in the desk with elevating function, real life, as office worker is seated office in an office Time is increasingly longer, and people gradually recognize that sitting is unfavorable for improving operating efficiency, thus people begin attempt to be seated office and Two kinds of working ways of office stand alternately, same table, which just can meet office worker and carry out alternately sitting and standing formula in the course of the work, to be done Public affairs, but there is complicated, inconvenient problem with use in same table of the prior art, in summary, to solve existing liter Deficiency on table structure drops, it is necessary to design a kind of hand-operated lifting table simple in construction, easy to use.

The content of the invention

The purpose of the present invention is there is above mentioned problem for existing technology, it is proposed that a kind of simple in construction, easy to use Hand-operated lifting table.

The purpose of the present invention can be realized by following technical proposal：A kind of hand-operated lifting table, including：

Support；

Desk body, it is installed on support；

Lifting assembly, the quantity of the lifting assembly is the both sides that two groups and two groups of lifting assemblies are respectively arranged at desk body, The two ends of two groups of lifting assemblies are connected with desk body and support respectively, and the lifting assembly can adjust desk body and support between the two Vertical height.

In a kind of above-mentioned hand-operated lifting table, the lifting assembly includes mounting bracket, and the two ends of mounting bracket are respectively articulated with in in desk body and support, being provided with locating part corresponding with mounting bracket in desk body, the locating part can make mounting bracket along table Body moves and can adjust desk body and the vertical height of support between the two.

In a kind of above-mentioned hand-operated lifting table, the mounting bracket includes the first mounting bracket arranged in a crossed manner and second and installed Frame, the first mounting bracket two ends are hingedly connected in desk body and support, are passed through in the middle part of the first mounting bracket and the second mounting bracket Jointed shaft is hinged setting.

In a kind of above-mentioned hand-operated lifting table, the locating part includes the first limiting plate and rotating shaft, and described first is spacing Plate is arranged at the first mounting bracket and desk body between the two, and first limiting plate is fixedly arranged on the upper end of the first installing plate and described One limiting plate can be horizontally set on the lower surface of desk body along desk body transverse shifting, the rotating shaft and be convexed to form in rotating shaft Limited location portion, the rotating shaft can drive limiting section synchronous axial system and limiting section is inserted on the first limiting plate and make first spacing Plate keeps geo-stationary with desk body.

In a kind of above-mentioned hand-operated lifting table, the lower surface of desk body is provided with fixed plate, offered in fixed plate Fixing groove, first limiting plate and rotating shaft are located in fixing groove, and multiple spacing breach are offered on the first limiting plate, described Rotating shaft can drive limiting section to be inserted in spacing breach.

In a kind of above-mentioned hand-operated lifting table, handle and connecting portion are installed with rotating shaft, the surface in desk body is set Connecting seat is equipped with, link slot corresponding with connecting portion is offered in the middle part of connecting seat, the handle can drive rotating shaft circumferentially to turn Move and connecting portion is inserted or be disconnected groove.

In a kind of above-mentioned hand-operated lifting table, the support includes bottom plate and cover plate, and the cover plate is covered on bottom plate And accommodating chamber is formed between the two in cover plate and bottom plate, first mounting bracket is articulated with bottom plate, in the second mounting bracket Lower end is provided with the second limiting plate, and second limiting plate is movably set in accommodating chamber.

In a kind of above-mentioned hand-operated lifting table, multiple first spacing holes are opened up on bottom plate, are opened up on the second limiting plate The axial line for having the second spacing hole corresponding with the first spacing hole and the first spacing hole axial line and the second spacing hole is in same Horizontal level.

In a kind of above-mentioned hand-operated lifting table, elastic component is provided with the second mounting bracket, is provided with elastic component One end of piston rod and piston rod extends downwardly from elastic component and is connected with bottom plate.

In a kind of above-mentioned hand-operated lifting table, the second desk body is arranged with parallel on the lower surface of desk body.

Compared with prior art, the present invention at least has the advantages that：

1st, the present invention includes support and desk body, lifting assembly is provided between the two in support and desk body, in the course of work in, user can adjust the vertical height of support and desk body between the two according to itself practical needs by lifting assembly, side User use, improve the comfortableness that user uses.

2nd, the quantity of lifting assembly is two groups, and two groups of lifting assemblies are respectively arranged at the both sides of desk body, two groups of lifting assemblies Two ends be connected respectively with desk body and support, user can be respectively adjusted between desk body both sides and support by two groups of lifting assemblies Spacing, facilitate the use of user.

Brief description of the drawings

Fig. 1 is the structural representation of the present invention.

Fig. 2 is the structural representation of omission desk body in Fig. 1.

Fig. 3 is Fig. 2 side view.

Fig. 4 is Fig. 2 top view.

Fig. 5 is the part-structure schematic diagram of the present invention.

In figure, 100, desk body; 110th, the second desk body; 111st, fixed mount; 120th, fixed plate; 121st, slide plate; 200th, bottom plate; 201st, the first spacing hole; 210th, cover plate; 220th, the second limiting plate; 221st, the second spacing hole; 300th, the first mounting bracket; 310th, second Mounting bracket; 400th, the first limiting plate; 401st, spacing breach; 410th, rotating shaft; 411st, limiting section; 412nd, handle; 413rd, connecting portion; 414th, connecting seat; 415th, link slot; 420th, hinged seat; 500th, elastic component; 510th, piston rod.

Embodiment

The following is specific embodiment of the invention and with reference to accompanying drawing, technical scheme is further described, But the present invention is not limited to these embodiments.

As shown in Figure 1 and Figure 5, this hand-operated lifting table includes support, is arranged on support in desk body 100 and in desk body 100 and support be provided with lifting assembly between the two, in the course of the work, lifting assembly can adjust both desk body 100 and support Between vertical range.

The quantity of above-mentioned lifting assembly is two groups, and two groups of lifting assemblies are respectively arranged at the both sides of desk body 100 and two groups of liters The come down to a lower group two ends of part are connected with desk body 100 and support respectively, so that user can adjust desk body respectively by two groups of lifting assemblies 100 and the vertical interval at support two ends, facilitate the use of user.

Above-mentioned lifting assembly includes mounting bracket, and the two ends of mounting bracket are connected with desk body 100 and support respectively, in desk body 100 On be provided with locating part corresponding with mounting bracket, the locating part can be such that mounting bracket is moved along desk body 100 and can adjust desk body 100 With the vertical height of support between the two.

Preferably, above-mentioned mounting bracket includes the first mounting bracket 300 and the second mounting bracket 310 arranged in a crossed manner, and first installs One end of frame 300 is connected with locating part, and the other end of the first mounting bracket 300 is connected with support, the two ends point of the second mounting bracket 310 It is not connected with desk body 100 and support, and the middle part of the first mounting bracket 300 and the second mounting bracket 310 is hinged by jointed shaft and set Put, the first mounting bracket 300 and the second mounting bracket 310 are arranged at desk body 100 and support and can play support to desk body 100 between the two Effect, when locating part drives the first mounting bracket 300 along 100 transverse shifting of desk body, the first mounting bracket 300 and the second mounting bracket 310 can circumferentially rotate around jointed shaft so that the vertical interval of desk body 100 and support between the two carries out accommodation.

Further, above-mentioned locating part includes the first limiting plate 400 and rotating shaft 410, and the first limiting plate 400 is fixedly arranged on first The upper end of mounting bracket 300 and the first limiting plate 400 is resisted against on the lower surface of desk body 100, rotating shaft 410 is horizontally set at desk body Projection is formed with limiting section 411 on 100 lower surface and in rotating shaft 410, and above-mentioned rotating shaft 410 can drive limiting section 411 circumferential Rotate and limiting section 411 is inserted on the first limiting plate 400 and make both holdings of the first limiting plate 400 and desk body 100 relative It is static.

Fixed plate 120 is installed with the lower surface of desk body 100, fixing groove, above-mentioned first are offered in fixed plate 120 Limiting plate 400 and rotating shaft 410 are mounted in fixing groove, specifically, and two hinged seats 420, rotating shaft are provided with fixed plate 120 410 two ends are inserted on two hinged seats 420 respectively and the rotating shaft 410 can be circumferentially rotated.

Include transition part, installation portion and plug division, wherein transition part and the first mounting bracket 300 in the first limiting plate 400 Be connected, installation portion be arranged at transition part and plug division between the two and installation portion two ends respectively with both transition part and plug division It is connected, the upper end of installation portion is resisted against in fixed plate 120, and both installation portion and plug division are parallel to each other, on plug division Multiple spacing breach 401 corresponding with connecting portion 413 are offered, during the above-mentioned drive of rotating shaft 410 limiting section 411 is circumferentially rotated Limiting section 411 can be made to be arranged in spacing breach 401 so that rotating shaft 410 and the portion of plugging remains stationary state between the two, so that Ensure the remains stationary state of desk body 100.

Slide plate 121 is additionally provided with fixing groove, the side wall of above-mentioned installation portion is resisted against on the outer surface of slide plate 121, slide plate 121 setting, which is avoided during installation portion slides in fixing groove, there is the generation of catching phenomenon, improves installation portion cunning The stationarity of shifting.

It is installed with handle 412 on the outer surface of rotating shaft 410, handle 412 drives rotating shaft 410 around two hinged seat 420 weeks To rotation, connecting portion 413 is additionally provided with the outer surface of rotating shaft 410, sets corresponding with connecting portion 413 in desk body 100 Connecting seat 414, link slot 415 corresponding with connecting portion 413 is offered at the middle part of the connecting seat 414, in an initial condition, Connecting portion 413 is arranged in link slot 415, while limiting section 411 is arranged in spacing breach 401, when rotating shaft 410 is with rotation connection 413 circumferentially rotate and can make limiting section 411 away from spacing breach 401, so that user can be moved by installation portion along slide plate 121 And the vertical interval of desk body 100 and support between the two is adjusted, and above-mentioned rotating shaft 410 can only be with rotation connection 413 to connection The inner side of groove 415 is rotated, so that connecting portion 413 is arranged in link slot 415 always, it is ensured that rotating shaft 410 is in a lateral direction not It can be subjected to displacement and influence the normal generation using phenomenon of the invention.

Above-mentioned support includes bottom plate 200 and cover plate 210, and cover plate 210 is covered on bottom plate 200 and in cover plate 210 and bottom plate 200 are formed with accommodating chamber between the two, and above-mentioned first mounting bracket 300 is articulated with bottom plate 200, under the second mounting bracket 310 End is provided with the second limiting plate 220, and the second limiting plate 220 is movably set in accommodating chamber, and second limiting plate 220 can accommodated intracavitary slides along bottom plate 200, so that user can be by adjusting the second mounting bracket 310 and the first mounting bracket 300 between the two Angle so as to adjusting the vertical interval of desktop and bottom plate 200 between the two.

Preferably, on bottom plate 200 on offer multiple first spacing holes 201, offered on the second limiting plate 220 many It is individual with corresponding second spacing hole 221 of the first spacing hole 201, and the axial line of the first spacing hole 201 and the second spacing hole 221 Axial line be in same horizontal line on, when the second limiting plate 220 is slid onto predeterminated position by user, user can pass through Screw sequentially passes through the first spacing hole 201 and the second spacing hole 221 and both the second limiting plate 220 and bottom plate 200 is kept Geo-stationary, while user can adjust the vertical height of desk body 100 and bottom plate 200 between the two by the first limiting plate 400.

It is hinged on the second mounting bracket 310 and is provided with elastic component 500, piston rod 510 and piston is set in elastic component 500 The lower end elasticity of extension part 500 of bar 510 is simultaneously articulated with bottom plate 200, and the corresponding peace of piston rod 510 is arranged on bottom plate 200 Fill seat, the piston rod 510 is articulated with mounting seat, elastic component 500 is in compressive state and the elastic component 500 can act in Elastic force on second mounting bracket 310 and mounting seat, elastic force can reduce user's required application during manual regulation Active force, so as to facilitate the use of user.

The second desk body 110 is arranged with parallel in the lower surface of desk body 100, is provided with the both sides of the second desk body 110 solid Determine frame 110, one end of fixed mount 110 is arranged in desk body 100, and the other end of fixed mount 110 is connected with the second desk body 110, have Body, mounting groove is offered on fixed mount 110, mounting screw is provided with fixed mount 110, one end of mounting screw is passed through Mounting groove is simultaneously threadedly connected in fixed plate 120, and the other end of mounting screw is resisted against on fixed mount 110, so as to ensure that solid Determine the steadiness that frame 110 is connected between the two with regulation plate, and ensure the steadiness that the desk body 110 of desk body 100 and second is installed, carry The security that high user uses.

Specific embodiment described herein is only to spirit explanation for example of the invention.Technology neck belonging to of the invention The technical staff in domain can be made various modifications or supplement to described specific embodiment or be replaced using similar mode Generation, but without departing from the spiritual of the present invention or surmount scope defined in appended claims.

Cited By (3)

Publication number	Priority date	Publication date	Assignee	Title
CN108851583A *	2018-09-13	2018-11-23	江苏天泽教育咨询有限公司	A kind of liftable student desk
WO2019041579A1 *	2017-08-31	2019-03-07	嘉兴海虹新电科技有限公司	Folding height-adjustable desk workstation
US11160367B1 *	2015-01-24	2021-11-02	Office Kick, Inc.	Desktop workspace that adjusts vertically
Family To Family Citations				

* Cited by examiner, † Cited by third party, ‡ Family to family citation

Similar Documents

Publication	Publication Date	Title
CN107048695A	2017-08-18	A kind of hand-operated lifting table
CN202536740U	2012-11-21	Dual-purpose chair for sitting and lying
CN105078681A	2015-11-25	Electric bed
CN104840030B	2018-03-13	A kind of seat back of the body linkage chair
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CN108887881A	2018-11-27	A kind of multi-purpose computer table arrangement
CN207519837U	2018-06-22	A kind of hand-operated lifting table
CN204906701U	2015-12-30	Electric bed
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CN103271578A	2013-09-04	Sleeping head rack
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CN207444666U	2018-06-05	A kind of multifunctional office leisure chaise longue
CN207253073U	2018-04-20	A kind of electric motor protecting structure of same table
CN206036552U	2017-03-22	Television support
CN205821278U	2016-08-31	Fitting work platform of single cylinder diesel
CN205180959U	2016-04-27	Adjustable pillow structure
CN205460664U	2016-08-17	Multifunctional fitness equipment
CN104223872B	2015-07-08	Automatic lifting pillow
CN216616873U	2022-05-27	Fixing support for template based on constructional engineering
CN204573495U	2015-08-19	Camera support angle demodulator
CN209547376U	2019-10-29	A kind of liftable desk
CN210948981U	2020-07-07	Magnetic suspension vertical shaft wind driven generator

Priority And Related Applications

Priority Applications (1)

Application	Priority date	Filing date	Title
CN201710240036.0A	2017-04-13	2017-04-13	A kind of hand-operated lifting table

Applications Claiming Priority (1)

Application	Filing date	Title
CN201710240036.0A	2017-04-13	A kind of hand-operated lifting table

Legal Events

Date	Code	Title	Description
2017-08-18	PB01	Publication	
2017-08-18	PB01	Publication	
2017-09-12	SE01	Entry into force of request for substantive examination	
2017-09-12	SE01	Entry into force of request for substantive examination	

Concepts

machine-extracted

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Name	Image	Sections	Count	Query match
assembly		claims,abstract,description	10	0.000
corresponding		claims,description	12	0.000
synchronised		claims,description	2	0.000
construction		abstract,description	3	0.000
method		abstract,description	2	0.000

Show all concepts from the description section

Patents

Positioning mechanism, lifting-positioning device and lifting desk

Abstract

The utility model relates to positioning mechanism, lifting-positioning device and lifting desk, positioning mechanism has sliding panel, locating piece, and spaced apart location hole is equipped on sliding panel; Locating piece is hingedly arranged on guide bracket, and guide bracket is equipped with guide hole, and locating piece is equipped with fastening screw, and locating piece is grasped bar by hand and driven, and realizes that fastening screw passes through the location hole on guide hole guiding insertion sliding panel with this.Lifting-positioning device has bearing seat, and bearing seat is connected and fixed seat by crane, and crane drives the relatively fixed seat of bearing seat to rise or fall; The relatively fixed seat of bearing seat, which rises or introduce when falling above-mentioned positioning mechanism cooperation crane, realizes the above adjustable height positioning of two-stage; Lifting-positioning device can be used for computer desk, dining table, work top, article and bear the liftings such as face, keyboard support use.Lifting positioning is firm, realizes the multistage lifting positioning of both forward and reverse directions, meets the adaptive adjustment of user of different heights.Easy to operate and production cost is relatively low, long service life.

CN208403596U

China

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Other languages: Chinese

Inventor: [redacted]

Current Assignee : Dongguan City Dalingshan Kang Hui Hardware Products Factory

Worldwide applications

2017 CN

Application CN201721544282.7U events

2017-11-18	Application filed by Dongguan City Dalingshan Kang Hui Hardware Products Factory
2017-11-18	Priority to CN201721544282.7U
2019-01-22	Application granted
2019-01-22	Publication of CN208403596U
Status	Active
2027-11-18	Anticipated expiration

Info: Cited by (1), Legal events, Similar documents, Priority and Related Applications

External links: Espacenet, Global Dossier, Discuss

Claims (10)

Hide Dependent

1. positioning mechanism, it is characterised in that: the positioning mechanism (5) has sliding panel (51), locating piece (52), in sliding panel (51) it is equipped with spaced apart location hole (511); Locating piece (52) in respective carrier, is positioned by reciprocating hinged setting Block (52) is equipped with fastening screw (521), and locating piece (52) is driven by hand behaviour bar (53), realizes fastening screw (521) with this The location hole (511) for being inserted into or exiting on sliding panel (51).

2. positioning mechanism according to claim 1, it is characterised in that: the locating piece (52) is hingedly arranged in guide bracket (57) On, guide bracket (57) is equipped with guide hole (571), and fastening screw (521) passes through the positioning in guide hole (571) guiding insertion sliding panel (51) Hole (511).

3. positioning mechanism according to claim 1 or 2, it is characterised in that: the locating piece (52) and hand behaviour bar (53) it Between connected by connecting rod (54), hand grasps bar (53) and is equipped with eccentric block (55), the eccentric block (55) bias articulated linkage (54) One end, another end of connecting rod (54) are then articulated and connected locating piece (52); Locating piece (52) is stuck up in the case where connecting rod (54) drive One tilting end of seesaw type tectonic movement, locating piece (52) is fastening screw (521), and another tilting end of locating piece (52) is by compressing Spring (56) support top, compressed spring (56) support top locating piece (52) and realize locating piece (52) fastening screw (521) insertion slide Location hole (511) on movable plate (51).

4. lifting-positioning device, it is characterised in that: the device has bearing seat (1), and bearing seat (1) is connected by crane (2) Fixing seat (3), crane (2) drive bearing seat (1) relatively fixed seat (3) to rise or fall; The relatively fixed seat of bearing seat (1) (3) positioning mechanism (5) cooperation crane (2) is introduced when rising or fall realizes the above adjustable height positioning of two-stage; Whereby, it carries Seat (1) rises or falls and can be located in corresponding height by positioning mechanism (5) realization, reaches height adjustment use; This is fixed Position mechanism (5) has sliding panel (51), locating piece (52), is equipped with spaced apart location hole (511) on sliding panel (51), sliding Movable plate (61) connection crane (2) is simultaneously assembled on bearing seat (1) as slideable; Locating piece (52) hingedly setting with carrying On the connected guide bracket (57) of seat (1), locating piece (52) is equipped with fastening screw (521), and locating piece (52) grasps bar (53) by hand Driving realizes fastening screw (521) insertion with this or exits the location hole (511) on sliding panel (51); Guide bracket (57) is equipped with and leads Hole (571), fastening screw (521) pass through the location hole (511) in guide hole (571) guiding insertion sliding panel (51).

5. lifting-positioning device according to claim 4, it is characterised in that: the locating piece (52) and hand behaviour bar (53) it Between connected by connecting rod (54), hand grasps bar (53) and is equipped with eccentric block (55), the eccentric block (55) bias articulated linkage (54) One end, another end of connecting rod (54) are then articulated and connected locating piece (52); Locating piece (52) is stuck up in the case where connecting rod (54) drive One tilting end of seesaw type tectonic movement, locating piece (52) is fastening screw (521), and another tilting end of locating piece (52) is by compressing Spring (56) support top, compressed spring (56) support top locating piece (52) and realize locating piece (52) fastening screw (521) insertion slide Location hole (511) on movable plate (51).

6. lifting-positioning device according to claim 4 or 5, it is characterised in that: the crane (2) is intersected by two struts it is hinged to constitute, wherein the upper end and bearing seat (1) of the first strut (21) are articulated and connected, and the lower end of first strut (21) is then it is assembled on fixing seat (3) by slideable; Upper

end connection sliding panel (51) of second strut (22) is assembled in as slideable On bearing seat (1), and the lower end of second strut (22) and fixing seat (3) are articulated and connected; The lower end of first strut (21) it is pulled and supported by elastomer (4) and the lower extreme direction towards the second strut (22) is drawn close, fixing seat (3) is equipped with booster (6), the power-assisted Device (6) drives the hinge joint of the second strut (22) relative to its lower end to rotate.

7. lifting-positioning device according to claim 4 or 5, it is characterised in that: the crane (2) is by two parallel pendulum Bar (23) and upper connecting rod (24), lower pull rod (25) are constituted, and hingedly, and two is flat for the upper end and bearing seat (1) of two parallel swing rods (23) The lower end and fixing seat (3) of row swing rod (23) hingedly, are achieved in two parallel swing rods (23) and bearing seat (1), fixing seat (3) shape At movable quadrangle; The hinged one swing rod (23) in upper connecting rod (24) one end, the then tiltedly upper hinged sliding of the other end of upper connecting rod (24) Plate (51), sliding panel (51) are assembled on bearing seat (1) as slideable; The hinged another swing rod (23) in lower pull rod (25) one end, The lower end of lower pull rod (25) is then assembled on fixing seat (3) as slideable obliquely downward, and the lower end of lower pull rod (25) is by elastomer (4) It pulls and supports and is drawn close towards swing rod (23) direction hinged with fixing seat (3), fixing seat (3) is equipped with booster (6), the booster (6) driving one swing rod (23) is rotated relative to it with the hinged hinge joint of fixing seat (3).

8. lifting desk, it is characterised in that: the desk has desktop (100), is assembled with bearing seat in desktop (100) downside (1), bearing seat (1) is connected and fixed seat (3) by crane (2), and crane (2) drives bearing seat (1) relatively fixed seat (3) to rise It rises or falls, realize desktop (100) lifting; Bearing seat (1) relatively fixed seat (3) introduces positioning mechanism (5) when rising or falling Crane (2) are cooperated to realize the above adjustable height positioning of two-stage; Whereby, bearing seat (1), which rises or falls, can pass through localization machine Structure (5) realization is located in corresponding height, reaches height adjustment use; The positioning mechanism (5) has sliding panel (51), locating piece (52), spaced apart location hole (511) are equipped on sliding panel (51), sliding panel (51) connection crane (2) and by can slide Dynamic formula is assembled on bearing seat (1); Hingedly setting is on the guide bracket (57) being connected with bearing seat (1) for locating piece (52), locating piece (52) fastening screw (521) are equipped with, locating piece (52) is driven by hand behaviour bar (53), realizes that fastening screw (521) are inserted with this Enter or exit the location hole (511) on sliding panel (51); Guide bracket (57) is equipped with guide hole (571), and fastening screw (521) passes through guide hole (571) location hole (511) in guiding insertion sliding panel (51); Whereby, bearing seat (1), which rises or falls, can pass through localization machine Structure (5) realization is located in corresponding height, reaches the use of desktop (100) height adjustment.

9. lifting desk according to claim 8, it is characterised in that: desktop (100) downside is assembled with left and right pair The crane (2) of title has support beam (8) connection between left and right crane (2); Crane (2) is by two strut cross-articulation structures At, wherein the upper end and bearing seat (1) of the first strut (21) are articulated and connected, and the lower end of first strut (21) is then pressed and can be slided Dynamic formula is assembled on fixing seat (3); Upper end connection sliding panel (51) of second strut (22) is assembled in bearing seat by slideable (1) on, and the lower end of second strut (22) and fixing seat (3) are articulated and connected; The lower end of first strut (21) is by elasticity Body (4) pulls and supports and the lower extreme direction towards the second strut (22) is drawn close, and fixing seat (3) is equipped with booster (6), the booster (6) Hinge joint of the second strut (22) relative to its lower end is driven to rotate.

10. lifting desk according to claim 8, it is characterised in that: desktop (100) downside is assembled with left and right pair The crane (2) of title has support beam (8) connection between left and right crane (2); Crane (2) is by two parallel swing rods (23) And upper connecting rod (24), lower pull rod (25) are constituted, the upper ends of two parallel swing rods (23) and bearing seat (1) hingedly, and two parallel swing rods (23) lower end and fixing seat (3) hingedly, is achieved in two parallel swing rods (23) and bearing seat (1), fixing seat (3) formation activity Quadrangle; The hinged one swing rod (23) in upper connecting rod (24) one end, the other end of upper connecting rod (24) then tiltedly go up hinged sliding panel (51), Sliding panel (51) is assembled on bearing seat (1) as slideable; The hinged another swing rod (23) in lower pull rod (25) one end, lower pull rod (25) lower end is then assembled on fixing seat (3) as slideable obliquely downward, the lower end of lower pull rod (25) pulled and supported by elastomer (4) and The direction hinged with fixing seat (3) towards swing rod (23) is drawn close, and fixing seat (3) is equipped with booster (6), the booster (6) driving One swing rod (23) is rotated relative to it with the hinged hinge joint of fixing seat (3).

Description

Positioning mechanism, lifting-positioning device and lifting desk

Technical field

The utility model relates to elevating mechanism technical fields, more particularly, to the mechanism for realizing loading end lifting.

Background technique

Loading end is the commonly-used area of user's life, work and study, such as desktop, work top, article bear face, But the height of existing this kind of loading end is mostly fixed, and different user's height is variant, and fixed height can be to practical The user of different heights makes troubles.Therefore it is required that loading end has elevating function, current existing loading end lifting structure one As a lifting heights can only be provided, straight up and down, height adjustment is insufficient, and the user for not still being able to satisfy different heights is adaptive Adjustment.All it is unidirectionally to position although some obtains multilevel by pawl mode and adjusts, realizes and rise direction positioning, and Descent direction cannot position, and rise again after needing to be returned to minimum point, operate relatively complicated.

Summary of the invention

The purpose of the utility model is to overcome prior art defects, provide positioning mechanism, lifting-positioning device and utilization The lifting desk of the lifting-positioning device, structure is simple, and cost of investment is low, easy to operate, realizes the multistage lifting of both forward and reverse directions Positioning, meets the adaptive adjustment of user of different heights.

In order to achieve the above objectives, the utility model adopts the following technical solution:

Positioning mechanism, the positioning mechanism have sliding panel, locating piece, and spaced apart location hole is equipped on sliding panel; For locating piece by reciprocating hinged setting in respective carrier, locating piece is equipped with fastening screw, and locating piece passes through hand and grasps Bar driving realizes fastening screw insertion with this or exits the location hole on sliding panel.

Above scheme is further, and the locating piece is hingedly arranged on guide bracket, and guide bracket is equipped with guide hole, and fastening screw passes through Location hole on guide hole guiding insertion sliding panel.

Above scheme is further, is connected between the locating piece and hand behaviour's bar by connecting rod, hand grasps bar and is equipped with bias Block, an end of the eccentric block bias articulated linkage, another end of connecting rod are then articulated and connected locating piece; Locating piece is in connecting rod band Make seesaw-type movement under dynamic, wherein a tilting end of locating piece is fastening screw, and another tilting end of locating piece is by compressing Spring support top, compressed spring support top locating piece and realize locating piece fastening screw insertion sliding panel on location hole.

Lifting-positioning device, the device have bearing seat, and bearing seat is connected and fixed seat by crane, and crane drive is held The relatively fixed seat of seat is carried to rise or fall; It is real that bearing seat relatively fixed seat introduces positioning mechanism cooperation crane when rising or falling The existing above adjustable height positioning of two-stage; Whereby, bearing seat, which rises or falls, can be located in corresponding height by positioning mechanism realization On degree, reach height adjustment use; The positioning mechanism has sliding panel, locating piece, and it is spaced apart fixed to be equipped on sliding panel Position hole, sliding panel connection crane are simultaneously assembled on bearing seat as slideable; Locating piece is hingedly arranged in be connected with bearing seat Guide bracket on, locating piece be equipped with fastening screw, locating piece by hand grasp bar driving, with this realize fastening screw be inserted into or exit Location hole on sliding panel; Guide bracket is equipped with guide hole, and fastening screw is oriented to the location hole on insertion sliding panel by guide hole.

Above scheme is further, is connected between the locating piece and hand behaviour's bar by connecting rod, hand grasps bar and is equipped with bias Block, an end of the eccentric block bias articulated linkage, another end of connecting rod are then articulated and connected locating piece; Locating piece is in connecting rod band Make seesaw-type movement under dynamic, wherein a tilting end of locating piece is fastening screw, and another tilting end of locating piece is by compressing Spring support top, compressed spring support top locating piece and realize locating piece fastening screw insertion sliding panel on location hole; It is described inclined Heart block is equipped with hook, hook safety pin when bearing seat falls gathering, and safety pin is arranged in crane or fixing seat On.

Above scheme is further, and the crane is made of two strut cross-articulations, wherein the upper end of the first strut with Bearing seat articulated connection, and the lower end of first strut is then assembled in fixing seat as slideable; The upper end of second strut connects Sliding panel is connect to be assembled on bearing seat by slideable, and the lower end of second strut and fixing seat are articulated and connected; Described first The lower end of strut is pulled and supported by elastomer and the lower extreme direction towards the second strut is drawn close, and fixing seat is equipped with booster, the booster Hinge joint of second strut relative to its lower end is driven to rotate.

Above scheme is further, and the crane is made of two parallel swing rods and upper connecting rod, lower pull rod, two parallel pendulum The upper end of bar and bearing seat are hinged, and the lower end of two parallel swing rods and fixing seat are hinged, are achieved in two parallel swing rods and carrying Seat, fixing seat form movable quadrangle; The hinged one swing rod in upper connecting rod one end, the then tiltedly upper hinged sliding of the other end of upper connecting rod Plate, sliding panel are assembled on bearing seat as slideable; Hingedly another swing rod, the lower end of lower pull rod are then pressed obliquely downward for lower pull rod one end Slideable to be assembled in fixing seat, the lower end of lower pull rod is pulled and supported by elastomer and is leaned on towards the swing rod direction hinged with fixing seat Hold together, fixing seat is equipped with booster, which drives one swing rod to rotate relative to it with the hinged hinge joint of fixing seat.

Lifting desk, the desk have desktop, are assembled with bearing seat in desktop downside, bearing seat is connected by crane Fixing seat, crane drive the relatively fixed seat of bearing seat to rise or fall, realize desktop lifting; The relatively fixed seat of bearing seat rises Or positioning mechanism cooperation crane is introduced when falling and realizes the above adjustable height positioning of two-stage; Whereby, bearing seat rises or falls it can be realized and be located in corresponding height by positioning mechanism, reach height adjustment use; The positioning mechanism has sliding panel, determines Position block, is equipped with spaced apart location hole on sliding panel, and sliding panel connection crane is simultaneously assembled in bearing seat by slideable On; Locating piece is hingedly arranged on the guide bracket being connected with bearing seat, and locating piece is equipped with fastening screw, and locating piece grasps bar by hand Driving realizes fastening screw insertion with this or exits the location hole on sliding panel; Guide bracket is equipped with guide hole, and fastening screw passes through guide hole Location hole on guiding insertion sliding panel; Whereby, bearing seat rises or falls and can be located in accordingly by positioning mechanism realization in height, reach the use of desktop height adjustment.

Above scheme is further, and the desktop downside is assembled with symmetrical crane, between the crane of left and right There is support beam connection; Crane is made of two strut cross-articulations, wherein the upper end of the first strut hingedly connects with bearing seat It connects, and the lower end of first strut is then assembled in fixing seat as slideable; The upper end connection sliding panel of second strut is pressed can Slidingtype is assembled on bearing seat, and the lower end of second strut and fixing seat are articulated and connected; The lower end of first strut by Elastomer pulls and supports and the lower extreme direction towards the second strut is drawn close, and fixing seat is equipped with booster, which drives the second strut Hinge joint relative to its lower end rotates.

Above scheme is further, and the desktop downside is assembled with symmetrical crane, between the crane of left and right There is support beam connection; Crane is made of two parallel swing rods and upper connecting rod, lower pull rod, the upper end of two parallel swing rods and carrying Seat is hinged, and the lower end of two parallel swing rods and fixing seat are hinged, is achieved in two parallel swing rods and bearing seat, fixing seat form work Dynamic quadrangle; The hinged one swing rod in upper connecting rod one end, the other end of upper connecting rod then tiltedly press slidably by upper hinged sliding panel, sliding panel Formula is assembled on bearing seat; Hingedly another swing rod, the lower end of lower pull rod are then assembled in admittedly as slideable obliquely downward for lower pull rod one end In reservation, the lower end of lower pull rod is pulled and supported by elastomer and is drawn close towards the swing rod direction hinged with fixing seat, and fixing seat is equipped with and helps Power device, the booster drive one swing rod to rotate relative to it with the hinged hinge joint of fixing seat.
It is compared with the prior art, the utility model has the advantage that

1, lifting positioning is firm, realizes the multistage lifting positioning of both forward and reverse directions, meets the adaptive tune of user of different heights it is whole.

2, pure mechanic structure can realize the height adjustment of loading end, and structure designs advantages of simple, easy to operate and raw Advantage of lower cost is produced, long service life is easy to maintain.

Detailed description of the invention:

Attached drawing 1 is the positioning mechanism schematic diagram of the utility model one embodiment;

Attached drawing 2 is the lifting desk one example structure schematic diagram of the utility model;

Attached drawing 3 is the lifting-positioning device structural schematic diagram of another form of the utility model;

Attached drawing 4 is that the unilateral crane of Fig. 3 embodiment falls structural schematic diagram;

Attached drawing 5 is the lifting-positioning device structural schematic diagram of the another form of the utility model;

Attached drawing 6 is that the unilateral crane of Fig. 5 embodiment falls structural schematic diagram.

Specific embodiment:

Make furtherly below with reference to technical effect of the attached drawing to the design of the utility model, specific structure and generation it is bright, to be fully understood from the purpose of this utility model, feature and effect.

As shown in fig.1, positioning mechanism 5 provided by the utility model has sliding panel 51, locating piece 52, in sliding panel 51 It is equipped with spaced apart location hole 511; Locating piece 52 is hingedly arranged in respective carrier, and locating piece 52 is equipped with fastening screw 521, locating piece 52 is grasped

bar 53 by hand and is driven, and realizes the insertion of fastening screw 521 with this or exits the location hole on sliding panel 51 511.Shown in Fig. 1, in the present embodiment, by reciprocating hinged setting on guide bracket 57, guide bracket 57 is equipped with and leads locating piece 52 Hole 571, fastening screw 521 pass through the location hole 511 on the guiding insertion sliding panel 51 of guide hole 571.In figure, guide bracket 57 is horizontal cloth The U-shaped body set, locating piece 52 is located at 57 upside of guide bracket, and sliding panel 51 moves in the U slot of guide bracket 57, and fastening screw 521 is logical The location hole 511 on the guiding insertion sliding panel 51 of guide hole 571 is crossed, realizes accurate grafting positioning.The locating piece 52 grasps bar with hand it being connected between 53 by connecting rod 54, hand grasps bar 53 and is equipped with eccentric block 55, an end of the eccentric articulated linkage 54 of the eccentric block 55, Another end of connecting rod 54 is then articulated and connected locating piece 52.Locating piece 52 makees seesaw-type movement under the drive of connecting rod 54, wherein One tilting end of locating piece 52 is fastening screw 521, and bullet is compressed by 56 support top of compressed spring in another tilting end of locating piece 52 56 support top locating piece 52 of spring and realize locating piece 52 fastening screw 521 be inserted into sliding panel 51 on location hole 511.Structure letter Single, easy to operate, fastening screw 521 is inserted into location hole 511, and positioning stability is not easy positioning.

Shown in Fig. 1,2,3,4, lifting-positioning device provided by the utility model, the device has bearing seat 1, bearing seat 1 it is connected and fixed seat 3 by crane 2, crane 2 drives the relatively fixed seat 3 of bearing seat 1 to rise or fall.Bearing seat 1 is relatively solid Positioning mechanism 5 is introduced when reservation 3 is risen or fallen cooperates crane 2 to realize the above adjustable height positioning of two-stage, whereby, bearing seat 1 rise or fall can by positioning mechanism 5 realize be located in corresponding height, reach height adjustment use.The positioning mechanism 5 With sliding panel 51, locating piece 52, spaced apart location hole 511 is equipped on sliding panel 51, sliding panel 51 connects crane 2 And it is assembled on bearing seat 1 by slideable; Locating piece 52 is hingedly arranged on the guide bracket 57 being connected with bearing seat 1, locating piece 52 are equipped with fastening screw 521, and locating piece 52 is grasped bar 53 by hand and driven, and realize the insertion of fastening screw 521 with this or exit cunning Location hole 511 on movable plate 51.Guide bracket 57 is equipped with guide hole 571, and fastening screw 521 passes through the guiding insertion sliding panel 51 of guide hole 571 On location hole 511.It is connected between the locating piece 52 and hand behaviour's bar 53 by connecting rod 54, hand grasps bar 53 and is equipped with eccentric block 55, an end of the eccentric articulated linkage 54 of the eccentric block 55, another end of connecting rod 54 is then articulated and connected locating piece 52.Locating piece 52 make seesaw-type movement under the drive of connecting rod 54, and wherein a tilting end of locating piece 52 is fastening screw 521, and locating piece 52 Another tilting end by 56 support top of compressed spring, 56 support top locating piece 52 of compressed spring and the fastening screw for realizing locating piece 52 Location hole 511 on 521 insertion sliding panels 51, cooperation

crane 2 realize the above adjustable height positioning of two-stage.Whereby, bearing seat 1 Rising or falling can be located in corresponding height by the realization of positioning mechanism 5, reach height adjustment use.

In the present embodiment, it is additionally provided with hook 551 on the eccentric block 55, the hook 551 extension when bearing seat 1 falls gathering Safety pin 7 is connect, safety pin 7 is arranged on crane 2 or fixing seat 3.Shown in Fig. 2, safety pin 7 is arranged on crane 2, carrying When seat 1 declines, eccentric block 55 follows decline, and when bearing seat 1 declines completely, the hook 551 on eccentric block 55 can mount peace Full pin 7, reaching prevents bearing seat 1 from bouncing automatically, further promotes safety in utilization; And when unlocking, it need to only rotate hand behaviour's bar 53, it is easy to operate.

Shown in Fig. 2, the crane 2 is made of two strut cross-articulations, wherein the upper end of the first strut 21 and bearing seat 1 articulated connection, and the lower end of first strut 21 is then assembled in fixing seat 3 as slideable; The upper end of second strut 22 connects Sliding panel 51 is connect to be assembled on bearing seat 1 by slideable, and the lower end of second strut 22 and fixing seat 3 are articulated and connected.Institute The lower end for stating the first strut 21 is pulled and supported by elastomer 4 and the lower extreme direction towards the second strut 22 is drawn close, and fixing seat 3 is equipped with power-assisted Device 6, the booster 6 drive hinge joint of second strut 22 relative to its lower end to rotate.In figure, elastomer 4 is extension spring, power-assisted Device 6 is torsional spring.When specifically used, the lower extreme direction that elastomer 4 pulls and supports lower end towards the second strut 22 of the first strut 21 is drawn close, and is helped Power device 6 drives hinge joint of second strut 22 relative to its lower end to rotate, and is achieved in the phase of the first strut 21 and the second strut 22 Sliding should be held, support bearing seat 1 is opposite to be risen, and is at this moment inserted on sliding panel 51 and is determined by the fastening screw 521 of locating piece 52 again Position hole 511, that is, can reach bearing seat 1 and be located in corresponding height, realize that height adjustment uses.Structure designs advantages of simple, behaviour Facilitate.And when needing to rise or fall bearing seat 1 again, releasing fastening screw 521 positions, and elastomer 4 and the effect of booster 6 make Bearing seat 1 rises, or firmly pushes bearing seat 1, overcomes the active force of elastomer 4 and booster 6, can decline bearing seat 1, lifting positioning is firm, realizes the multistage lifting positioning of both forward and reverse directions.

Fig. 3, shown in 4, the crane 2 can also be made of two parallel swing rods 23 and upper connecting rod 24, lower pull rod 25, two The upper end of parallel swing rod 23 and bearing seat 1 are hinged, and the lower end of two parallel swing rods 23 and fixing seat 3 are hinged, and it is flat to be achieved in two Row swing rod 23 and bearing seat 1,3 formation activity quadrangle of fixing seat.The hinged one swing rod 23 in 24 one end of upper connecting rod, upper connecting rod 24 Then titedly upper hinged sliding panel 51, sliding panel 51 are assembled on bearing seat 1 other end as slideable.Lower 25 one end of pull rod is hingedly another One swing rod 23, the lower end of lower pull rod 25 are then assembled in fixing seat 3 as slideable obliquely downward, and the lower end of lower pull rod 25 is by elastomer 4 pull and support and draw close towards the direction hinged with fixing seat 3 of swing rod 23, and fixing seat 3 is equipped with booster 6, which drives one Swing rod 23 is rotated relative to it with the hinged hinge joint of fixing seat 3.Upper connecting rod 24 and swing rod 23, bearing seat 1 constitute moving trihedral; Lower pull rod 25 constitutes moving trihedral with swing rod 23, fixing seat 3.Above structure equally reaches: pulling and supporting lower pull rod using elastomer 4 25 lower end is drawn close towards the direction hinged with fixing seat 3 of swing rod 23, and booster 6 drives the hinged of its opposite lower end of corresponding swing rod 23 Point rotation is achieved in the two parallel swings of swing rods 23 and the respective end sliding of upper connecting rod 24, lower pull rod 25, realizes support bearing Seat 1 is opposite to be risen, and is at this moment inserted into the location hole 511 on sliding panel 51 by the fastening screw 521 of locating piece 52 again, that is, be can reach and hold it carries seat 1 to be located in corresponding height, realizes that height adjustment uses.Structure designs advantages of simple, easy to operate.And it needs to rise again Or when decline bearing seat 1, release fastening screw 521 and position, elastomer 4 and the effect of booster 6 rise bearing seat 1, either Bearing seat 1 is firmly pushed, the active force of elastomer 4 and booster 6 is overcome, bearing seat 1 can be declined, lifting positioning is firm, real The multistage lifting positioning of existing both forward and reverse directions.

Shown in Fig. 2, lifting desk provided by the utility model has desktop 100, is assembled with carrying in 100 downside of desktop Seat 1, bearing seat 1 are connected and fixed seat 3 by crane 2, and crane 2 drives the relatively fixed seat 3 of bearing seat 1 to rise or fall, real Existing desktop 100 is gone up and down; The relatively fixed seat 3 of bearing seat 1 introduces positioning mechanism 5 when rising or falling and crane 2 is cooperated to realize two-stage The above adjustable height positioning.Whereby, bearing seat 1 rises or falls and can be located in corresponding height by the realization of positioning mechanism 5, Reach the use of 100 height adjustment of desktop.Shown in Fig. 1, which has sliding panel 51, locating piece 52, on sliding panel 51 Equipped with spaced apart location hole 511, sliding panel 51 connects crane 2 and is assembled on bearing seat 1 by slideable; Locating piece 52 hinged settings are on bearing seat 1, and locating piece 52 is equipped with fastening screw 521, and locating piece 52 is grasped bar 53 by hand and driven, with this it realizes the insertion of fastening screw 521 or exits the location hole 511 on sliding panel 51; Whereby, bearing seat 1 rises or falls and can pass through The realization of positioning mechanism 5 is located in corresponding height, reaches the use of 100 height adjustment of desktop.Show described in Fig. 2, under the desktop 100 Side assembling has symmetrical crane 2, there is the connection of support beam 8 between left and right crane 2; Crane 2 is handed over by two struts Fork is hinged to be constituted, wherein the upper end of the first strut 21 and bearing seat 1 are articulated and connected, and then press can for the lower end of first strut 21 Slidingtype is assembled in fixing seat 3.Bearing seat 1 is assembled in by slideable after the upper end connection sliding panel 51 of second strut 22 On, and the lower end of second strut 22 and fixing seat 3 are articulated and connected; The lower end of first strut 21 pulled and supported by elastomer 4 and Lower extreme direction towards the second strut 22 is drawn close, and fixing seat 3 is equipped with

booster 6, and the booster 6 driving the second strut 22 is with respect to it The hinge joint of lower end rotates.Specific movement such as above-mentioned lifting-positioning device.

As shown in Figure 3,4,100 downside of desktop of the utility model is composable symmetrical crane 2, and left and right rises There is the connection of support beam 8 between drop frame 2.The crane 2 is made of two parallel swing rods 23 and upper connecting rod 24, lower pull rod 25, and two The upper end of parallel swing rod 23 and bearing seat 1 are hinged, and the lower end of two parallel swing rods 23 and fixing seat 3 are hinged, and it is flat to be achieved in two Row swing rod 23 and bearing seat 1,3 formation activity quadrangle of fixing seat; The hinged one swing rod 23 in 24 one end of upper connecting rod, upper connecting rod 24 Then tiltedly upper hinged sliding panel 51, sliding panel 51 are assembled on bearing seat 1 other end as slideable.Lower 25 one end of pull rod is hingedly another One swing rod 23, the lower end of lower pull rod 25 are then assembled in fixing seat 3 as slideable obliquely downward, and the lower end of lower pull rod 25 is by elastomer 4 pull and support and draw close towards the direction hinged with fixing seat 3 of swing rod 23, and fixing seat 3 is equipped with booster 6, which drives one Swing rod 23 is rotated relative to it with the hinged hinge joint of fixing seat 3.Specific movement such as above-mentioned lifting-positioning device.

Fig. 5, be another embodiment of the utility model shown in 6, under embodiment basis shown in Fig. 3, crane 2 by Two parallel swing rods 23 and upper connecting rod 24, lower pull rod 25 are constituted, and the upper end of two parallel swing rods 23 and bearing seat 1 are hinged, and two is flat The lower end of row swing rod 23 and fixing seat 3 are hinged, are achieved in two parallel swing rods 23 and bearing seat 1,3 formation activity of fixing seat, four side Shape; The hinged one swing rod 23 in 24 one end of upper connecting rod, the other end of upper connecting rod 24 then tiltedly go up hinged sliding panel 51, and sliding panel 51 is pressed can Slidingtype is assembled on bearing seat 1.Hingedly another swing rod 23, the lower end of lower pull rod 25 are then pressed slidably obliquely downward for lower 25 one end of pull rod Formula is assembled in fixing seat 3, and the lower end of lower pull rod 25 is pulled and supported by elastomer 4 and leaned on towards the direction hinged with fixing seat 3 of swing rod 23 Hold together, fixing seat 3 is equipped with booster 6, which is an extension spring, and 6 one end of booster is connected in fixing seat 3, power-assisted 6 other end of device is connected to one swing rod 23, realizes and the swing rod 23 is driven to rotate relative to it with the hinged hinge joint of fixing seat 3, real Existing crane 2 rises power-assisted.

Lifting-positioning device provided by the utility model can also be used in computer desk, dining table, work top, article bear face, The liftings such as keyboard support use.

Certainly, the figures above only depicts the preferred embodiments of the present invention, to the technology of the art For personnel, pass through logical analysis, reasoning, or a limited experiment without departing from the utility model conception and scope Can also to above-described embodiment number of improvements could be made and variation, such modifications and variations all should belong to the requires of the utility model protection Range.

Cited By (1)

Publication number	Priority date	Publication date	Assignee	Title
US10575630B1 *	2015-01-24	2020-03-03	Nathan Mark Poniatowski	Desktop workspace that adjusts vertically
Family To Family Citations				

* Cited by examiner, † Cited by third party, ‡ Family to family citation

Similar Documents

Publication	Publication Date	Title
CN208403596U	2019-01-22	Positioning mechanism, lifting-positioning device and lifting desk
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CN2882450Y	2007-03-28	Clothes hanger
CN208922703U	2019-05-31	A kind of human resource performance exhibition booth
CN102715728A	2012-10-10	Table with lifting table top
CN206324434U	2017-07-14	A kind of liftable workbench
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CN208265352U	2018-12-21	A kind of material-pouring device for industrial plant
CN202698231U	2013-01-30	Table with lifting table top

CN208877534U	2019-05-21	It is a kind of to facilitate the infusion support for adjusting height
CN109498886A	2019-03-22	A kind of new-type Multifunctional medical dead point auxiliary device
CN108903264A	2018-11-30	It is ultrashort to turn over drop fusion all-in-one machine
CN103479069A	2014-01-01	Simple folding table
CN208863727U	2019-05-17	A kind of dedicated drawing table of Art Design of adjustable drawing board angle
CN208957121U	2019-06-11	A kind of lifting desk table leg and desktop are stably connected with framework
CN209185957U	2019-08-02	Anion plate multifunctional movable wardrobe
CN208658151U	2019-03-29	A kind of electric foldable table
CN215015381U	2021-12-07	Novel chair

Priority And Related Applications

Priority Applications (1)

Application	Priority date	Filing date	Title
CN201721544282.7U	2017-11-18	2017-11-18	Positioning mechanism, lifting-positioning device and lifting desk

Applications Claiming Priority (1)

Application	Filing date	Title
CN201721544282.7U	2017-11-18	Positioning mechanism, lifting-positioning device and lifting desk

Legal Events

Date	Code	Title	Description
2019-01-22	GR01	Patent grant	
2019-01-22	GR01	Patent grant	

Concepts

machine-extracted

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Name	Image	Sections	Count	Query match
insertion		claims,abstract,description	21	0.000
elastomer		claims,description	19	0.000
elastomer		claims,description	19	0.000
corresponding		claims,description	12	0.000
effects		claims,description	8	0.000
rising		claims,description	5	0.000
biosynthetic process		claims,description	4	0.000
formation reaction		claims,description	4	0.000
carrier		claims,description	3	0.000
localization		claims	2	0.000
adaptive		abstract,description	4	0.000
manufacturing process		abstract	1	0.000

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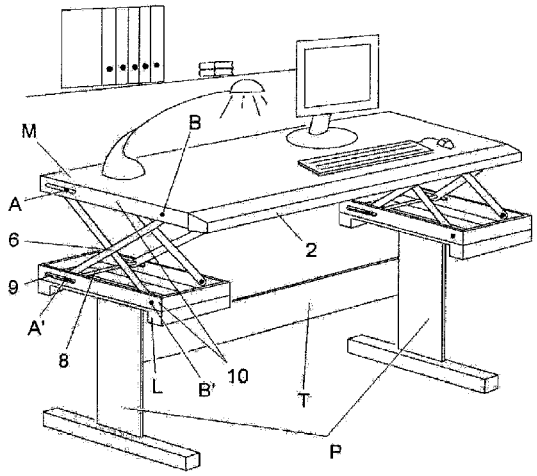
Patents

Desk with pad on the edge of the board and height regulation of said board

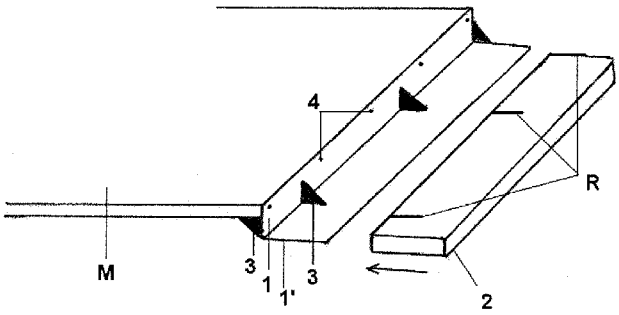
Abstract

The table is characterized mainly to have a seat incorporated on the edge of the board table and in the controller mechanism of height of the item mentioned before. The characteristics of this table have as purpose to improve the comfortably and the postural health in the position of sitting. The comfortably is essential for this space that we are used to spending a lot of time seated for working, studying or leisure reasons.

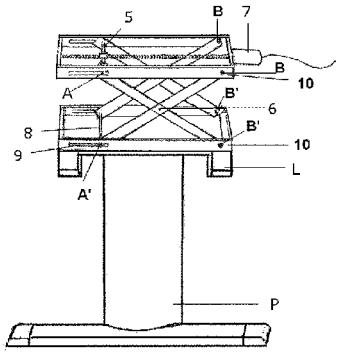
The stability of the table keeps from a metallic chassis made by two feet put in a side of the broad and joined between them in a half height by a bolster which is welded or screwed together, appearing the broad independently and with the function of going up or going down to get the suitable height, for that, between the top part of each foot, the broad is located a scissors lift put in a frame in two symmetric rectangles, in charge of regulating the height of the broad. This regulation system is designed to realize the action of going up or going down the height of the support in the forearms in a fast, comfortable and easy way according to user convenience.



DRAWING 1



DRAWING 2



DRAWING 3

EP2745733A1

European Patent Office

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Other languages: German, French

Inventor: Manuel Nieves Barea

Worldwide applications

2012 ES 2013 EP

Application EP13382389.8A events

2012-10-04 Priority to ES201231623U

2013-10-04 Application filed by Manuel Nieves Barea

2014-06-25 Publication of EP2745733A1

Status Withdrawn

Info: Patent citations (4), Cited by (9), Legal events, Similar documents, Priority and Related Applications

External links: Espacenet, EPO GPI, EP Register, Global Dossier, Discuss

Images (4)



Classifications

A47B9/16 Tables with tops of variable height with means for, or adapted for, inclining the legs of the table for varying the height of the top, e.g. with adjustable cross legs

View 2 more classifications

Claims (4) Hide Dependent

1. Working, desktop or study table with a seat on the edge of the board and height regulation which consists of a metallic chassis made of two feet (P) joined between them in a middle height by a wooden or metallic bolster(T) in the way the broad in independent, so it has the function of going up and down to get the right height which places our backbone in an upright shape. In front of the board, the metallic, plastic or wooden bracket(1) is screwed and it has one vertical wing (1') screwed of the edge of the broad (1) and another wing(1") which sets up a 90° angle in relation to the previous vertical wing and with a high width forming a plane extended area and positioned in an horizontal sense supplied by internal and external consoles(3).
Over the bracket, it is held by a piece made of elastic birdlime and/ or polyurethane (2) in a high quality, this piece has a rectangular prism shape, has the same length than the bracket and it must have the thickness enough. This piece will get some slop (R) ready for putting together the consoles (3).

2. Working, desktop or study table with a seat on the edge of the board and height regulation already said it, according to the first claim, the bracket and the seat will go hidden with a clothing piece preferably with elastic clothing, ventilated and easy to clean and with low thermal conductivity. The seat as a whole is incorporated on the table of the broad without standing out over the vertical plane

3. Working, desktop or study table with a seat on the edge of the board and height regulation, according to the claims mentioned before, it is located in the end side of the broad over every foot(P), a metallic structure in a scissor shape (6) and with a screwed spindle(5) which traverses all the structure longitudinally, so that, by means of this and moving by electrical driving force (7), the scissors is opened or closed and, as a result, the broad goes up and down. The legs of the scissors have a fixed (B) and mobile side (A) joined between them by a shaft (8) which is slid all through a slot (9) positioned in the base structure(10) lateral side.
The scissors is put together in the central point (6) where both arms take across themselves and, as well, in the beginning of previous arms points (A and B).

4. Working, desktop or study table with a seat on the edge of the board and height regulation, according to the claims mentioned before, the scissors is driven by traction through a wire (C) which is screwed or unscrewed following the axis movement of the driving force (7')
The joint of the scissors keeps in a framed metallic structure in two symmetric metallic rectangles (10) in which the superior sheet-metal pieces(L) of the feet are supported.

Description

Aim of the creation

[0001] This invention is referred to a working, desktop or study table with a seat on the edge of the board and height regulation with some new technique characteristics which have been conceived and made in order to obtain some large and prominent advantages in relation to other existing ways of analogous purposes.

[0002] It is made up with a metallic chassis formed by two bases in the shape of I with 30 cm bolster piece about width in an half height connected by welding and a wood (or similar material) broad, preferably. The bolster which joins the bases could be made of wood or similar material in which case it would go screwed.

[0003] This creation has as purpose of improving the comfortably and the postural hygienic seated

[0004] The present creation belongs to the furniture area to work or study.

Precedents of the conditions of the previous techniques to the creation

[0005] It is known other devices responsible for padding different areas, but few for the edge of the working, desktop or study table. The owner of the present creation Mr. Manuel Nieves Sares realized a seat for the edge of the table which is aim of the patent with application number P200300576 based on clothing pieces submit to tautness thanks to a rigid piece, this device has an inconvenient because the stretched pieces have been tasted and, after using, loss the tautness and so that their effectiveness.

[0006] Another inconvenient is that the structure is not built on the board in such way that this one creates a staggering in relation to the table board making an important change in the relief and this is the item which impedes the realization of diverse activities attainable on a table, such as the use of documents, the use of drawing rules or the use of clothing, among others. it is not obey the area of working of the user and is an obstacle when it is time to realize different activities.

[0007] With regards to the ergonomics, this dispositive lacks some characteristics which improve the ergonomics which is detailed in this text forward.

[0008] Nevertheless, the experience has shown it is possible to get better the characteristics of the patent with application number P200300576 and in consequence a new seat has been invented and its characteristics are the aim of this creation.

[0009] The applicant does not know any invention that by means of the support of the forearms on the edge of the table and the regulation of the height of this support gets the upright and healthy posture in our backbone, although it is known a lot of devices responsible for adjusting the height in the working, living-room or desk table and so on.

Description of the invention

[0010] The table is characterized mainly by consisting of a seat incorporated on the edge of the board table and of the controller mechanism of height of the item mentioned before. The characteristics of this table have as purpose to improve the comfortably and the postural health in the position of sitting. The comfortably is essential for this space that we get used to spend a lot of time seated for working, studying or leisure reasons.

[0011] The stability of the table keeps from a metallic chassis made by two feet put in a side of the broad and joined between them in a half height by a bolster which is welded or screwed together, appearing the broad independently and with function of going up or going down to get the suitable height, for that between the top part of each foot, the broad is located a scissors lift put in a frame in two symmetric rectangles, in charge of regulating the height of the broad. This regulation system is designed to realize the action of going up or going down the height of the support in the forearms in a fast, comfortable and easy way according to user's convenience.

Advantages of the creation

[0012] We expose below the main advantages which are obtained with this invention in an informative not limitative way, to know:

This table includes a seat added to the edge of the board of the foretell table to support the forearms doing more comfortable this support. Thanks to this, noticeable improvements are achieved regarding these types of seats known so far.

[0013] The seat has a new structure in order to get to stretch on shelf life of the advice, improve the ergonomic and respect the user working area.

[0014] This seat kept on the front edge of the board of the table is specially designed to get the forearms on a computer, working and study table providing an extraordinary sensation of comfortably in a key point but not only about it, but correct in height. A good computer, study or working table should allow positioning properly the user's body, stabilizing to do activities in comfortable, safe and functional postures. Moreover, it includes a regulation height system of the board which has the aim of regulating the height of the support point set up by the seat so in this way to keep our backbone upright and healthy, improving the postural hygienic and avoiding back and neck pains. It is possible to look for the height of the forearms' support in a fast, comfortable and easy way positioning our backbone upright and graduating in children the height of this support according to the growth of their body so that this is a good contribution to the right development of the backbone in children during the growth time.

[0015] The characteristics of this table have as purpose to improve the comfortably and the postural hygienic on a seat position. The comfortably is essential for this space in which we get used to be seated and spend a lot of time in this same position for reasons of working, leisure or study.

[0016] We have to stand out that everybody are not the same in height terms so we are not good for the same table for everybody, above all if children are included because they needs the table grows up at the same time than them to have a upright and healthy back posture.

[0017] Having said which, the applicant has thought about the importance and benefits of the support of the forearms on the edge of the table and the regulation of the height on the seated way in front of a computer, working or study table.

Description of the drawings

[0018] Completing this description and to have a better comprehension of this report, it has been carried out the drawings enclosed which show an example of priority realization, not limitative, of the object of the invention in which we have:

The figure 1 is a sight in a perspective of the table with the broad raised

The figure 2 is a sight of the broad with the screwed basis and the separated seated in details.

The figure 3 is a detail of the elevator mechanism of the broad.

The figure 4 presents a possible variation of the elevator mechanism of the broad.

Description of the priority realization of the invention

[0019] The table aim of this creation is characterized mainly by having a seat(2) incorporated on the edge of the broad of the table(M) and a regulator mechanism of height of the previous mentioned broad.

[0020] The seat in question is put together by three pieces: the bracket (1) which can be made of plastic, wood and metal and it has one vertical wing (1^1) screwed of the edge of the broad (M) and another wing(1^1) which sets up a 90° angle in relation to the previous vertical wing and with a high width forming a plane extended area and positioned in an horizontal sense. This piece will be which supports the weight of the user and so that it is provided with interior and exterior consoles (3) in the right angle which give rigidity to this component.

[0021] Over the bracket, it is held by a piece made of elastic birdlime and/ or polyurethane (2) in a high quality, this piece has a rectangular prism shape, has the same length than the bracket and it must have the thickness enough to achieve perfectly with the function of seating, improving the circulation blood thanks to the qualities of these materials. This piece will get some slop (R) ready for putting together the consoles (3).

[0022] This piece will have a clothing cover preferably with elastic clothing, ventilated and easy to clean and with low thermal conductivity. This cover covers up the two pieces mentioned before and it is the visible part of the seat.

[0023] The seat is an extension of the broad and formed a plane and spongy area which doesn't stand out in the vertical plane of the table, having a special respect to working area of the user, without having the seat an obstacle to manage documents, drawing rules, clothing or any activity viable on a table.

[0024] It is advisable to the person who will be seated in front of a table for working, leisure or study reasons, who support the forearms on the edge of the table and it has the suitable height for the user in order to avoid postural bad habits or possible back and neck pains.

[0025] If the support of the forearms on the edge of the table makes the proper height of the user positioned in an healthy way, his/ her body keeping the upright backbone releasing its weight when we support the forearms allowing relaxing the musculature which let us balanced thanks to the stability which supplies the forearms' support and in the end, improving the postural hygienic because not everybody has the same height and also children haven't finished to build up their body, at the moment, they start to study or use the desktop. This creation makes a commitment to be complemented by the regulation of the height of the support with the intent to contribute the right development and growth of the backbone. The applicant has thought about the importance and benefits of the support of the forearms on the edge of the table and also the height gives the support.

[0026] It should be noted that the regulation of the height only affects the broad of the table without affecting at all neither the legs not the rest of the structure of the table. The stability of the table is built from the joining together the two feet (P) the bolster (T) and in this way the stability of the table is complete. (See fig. 1) staying the broad independently and this does the function of going up and down to get the desired height. This regulation's system is designed to do in a comfort, fast and easy way, the action of going up and down the height of the support of the forearms in the advisable way of the user.

[0027] For that, this table counts on the top part of each foot on a metallic structure in a scissors(6) way made with two sheet metal sides with some fixed(B-B') and mobiles sides(A-A') joined by a shaft(8) whose sides sliding by two slots(9) located in the sheet metal(10) sides in both rectangles which frame the scissors. The whole mechanism makes through a thread spindle(5) moving by an electric driving force(7) which open or close the scissors, so therefore, the broad goes up and down too.

[0028] The top side of the foot has an I shape with two sheet metal pieces(L) in the sides over which the scissors 'base is supported. The feet join between then in a mid-height by a metallic or wooden bolster(T) about 30 cm of width.

[0029] The metal structure of the scissors is framed in both symmetric metallic rectangles which are supported on the superior sheet-metal pieces of the feet.

[0030] The scissors will be able to be started up by means of the spindle (5) in which the turntable action over it by the fraction with a wire(C) in which it wreathe or unscrew following the movement of the driving force(7).

[0031] The driving force(7) gets used to hitch to the metallic structure of the scissors lift (10), or the inferior side of the broad. The mechanism's button hitches in the front inferior side of the broad.

Patent Citations (4)

Publication number	Priority date	Publication date	Assignee	Title

US6523486B1 *	2001-06-22	2003-02-25	Bay View Industries, Inc.	Removable edge system for a work surface
US20050150431A1 *	2004-01-08	2005-07-14	Jiang Lijian	Table mounting assembly
FR2901981A1 *	2006-06-13	2007-12-14	C O P Check Out Production Sa	Customer e.g. handicapped person, accommodating cabin e.g. superstore checkout counter, has box including base with unit varying height of cabin, and structures actuated by expanding and folding across motor acting on cabin, unit and frames
US20090200437A1 *	2008-02-11	2009-08-13	Ole Falk Smed	Adjustable Height Keyboard Support

Family To Family Citations

* Cited by examiner, † Cited by third party

Cited By (9)

Publication number	Priority date	Publication date	Assignee	Title
CN105212523A *	2015-10-20	2016-01-06	常州工学院	A kind of multifunctional platform for multimedia teaching
US9668572B2	2014-04-14	2017-06-06	Ergotron, Inc.	Height adjustable desktop work surface
WO2017181569A1 *	2016-04-21	2017-10-26	杭州速达工艺制品有限公司	Dual-powered raising/lowering desktop
JP2019022806A *	2018-11-19	2019-02-14	株式会社オカムラ	Top board lift-type desk
US10244861B1 *	2015-01-24	2019-04-02	Nathan Mark Poniatowski	Desktop workspace that adjusts vertically
US10542817B2	2015-09-24	2020-01-28	Ergotron, Inc.	Height adjustable device
US10602840B2	2015-10-08	2020-03-31	Ergotron, Inc.	Height adjustable table
US10893748B1	2017-07-08	2021-01-19	Office Kick, Inc.	Height adjustable desktop
CN112890421A *	2021-02-20	2021-06-04	江西阳光安全设备集团有限公司	Multi-functional reading table in library

Family To Family Citations

* Cited by examiner, † Cited by third party, ‡ Family to family citation

Similar Documents

Publication	Publication Date	Title
EP2745733A1	2014-06-25	Desk with pad on the edge of the board and height regulation of said board
US8864233B2	2014-10-21	Tattoo chair
KR101674286B1	2016-11-22	A bed for patients
CN203433957U	2014-02-19	Computer chair combined with chair computer desk flat display support
CN103315536A	2013-09-25	Computer chair associated with chair, computer desk and flat-panel display bracket
US20140028067A1	2014-01-30	Seat pad adjustable chair
US9955788B1	2018-05-01	Rope rocking chair
CN202950219U	2013-05-29	Tabletop-adjustable bed table
CN204169336U	2015-02-25	Comfortable desk and chair
CN211048875U	2020-07-21	Novel chair
CN206714437U	2017-12-08	A kind of multi-functional lecture theater row chair
CN207870637U	2018-09-18	A kind of integrated office seat
US20190110602A1	2019-04-18	Back support including armpit support parts
CN204764390U	2015-11-18	Leisure official working seat
CN201452143U	2010-05-12	Seat capable of facilitating students to nap

KR101480285B1	2015-01-14	Moving chairs for disabled
CN203776472U	2014-08-20	Novel multi-functional computer chair
CN201986956U	2011-09-28	Computer desk with adjustable height
CN206499196U	2017-09-19	A kind of height of seat and adjustable back students' dormitory seat
CN214905264U	2021-11-30	Adjustable office chair with waist support
Caglar	2008	Next generation.
CN216316518U	2022-04-19	Integral type desk chair
GB2530580A	2016-03-30	Sunlounger
CN210158354U	2020-03-20	Multifunctional changeable seat
CN211092875U	2020-07-28	Seat unit and seat

Priority And Related Applications

Priority Applications (1)

Application	Priority date	Filing date	Title
ES201231023U	2012-10-04	2012-10-04	WORK TABLE, COMPUTER OR STUDY WITH PAD ON THE EDGE OF THE BOARD AND HEIGHT REGULATION OF SUCH BOARD

Legal Events

Date	Code	Title	Description
2014-06-24	PUAI	Public reference made under article 153(3) epc to a published international application that has entered the european phase	**Free format text:** ORIGINAL CODE: 0009012
2014-06-25	17P	Request for examination filed	**Effective date:** 20131004
2014-06-25	AK	Designated contracting states	**Kind code of ref document:** A1 **Designated state(s):** AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR
2014-06-25	AX	Request for extension of the european patent	**Extension state:** BA ME
2015-07-10	STAA	Information on the status of an ep patent application or granted ep patent	**Free format text:** STATUS: THE APPLICATION IS DEEMED TO BE WITHDRAWN
2015-08-12	18D	Application deemed to be withdrawn	**Effective date:** 20150106

Concepts

machine-extracted

Download Filter table

Name	Image	Sections	Count	Query match
metal		claims,description	7	0.000
easy-to-clean		claims,description	2	0.000
plastic		claims,description	2	0.000
polyurethane		claims,description	2	0.000

polyurethane	claims,description	2	0.000
plastic	claims	1	0.000
Forearm	abstract,description	13	0.000
postural	abstract,description	7	0.000
regulatory	abstract,description	3	0.000

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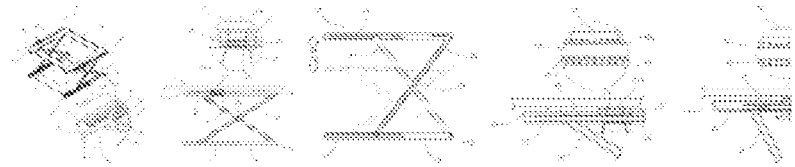
Patents

Stand for adjusting height

Abstract

The present invention relates to a height-adjustable stand including: a pair of leg units with a guide hole in one side in a longitudinal direction; a supporter unit having guide holes corresponding to the guide holes of the pair of the leg units and supporting members in both lateral surfaces; supports having a first support with one end connected and installed in the guide holes of the pair of the leg units and the other end fixated to the supporter unit, a second support formed into a form in an X shape with the first support and having one end connected and installed in the pair of the leg units and the other end connected and installed in the guide holes of the supporter unit, and additionally a connection shaft connecting the first and second support; rod members connected and installed in one end of the second support, covering the supporting member of the supporter unit, and installed to slide; and fixating units formed in one side of the rod member and formed to fixate and release the rod members after adjusting the height according to the operation of the supporters. According to this, the present invention provides a structure capable of adjusting the height of the stand by simply pressing the stand with a user's hand, thereby enabling the user to use a desk, a monitor, a laptop, and the like after adjusting the height of the object. In addition, the user is capable of precisely adjusting the height of the stand according to a height of the user such as a worker, a student, and the like, thereby efficiently working and studying. At the same time, an effect of preventing scoliosis by enabling the user to relax the tension on a waist is obtained.

Images (7)



KR20160074221A

South Korea

Download PDF Find Prior Art Similar

Other languages: Korean

Inventor: 정대훈

Worldwide applications

2014 KR

Application KR1020140183275A events

2014-12-18 Application filed by 정대훈

2014-12-18 Priority to KR1020140183275A

2016-06-28 Publication of KR20160074221A

2017-02-15 Application granted

2017-02-15 Publication of KR101707711B1

Info: Patent citations (4), Cited by (8), Legal events, Similar documents, Priority and Related Applications

External links: Espacenet, Global Dossier, Discuss

Classifications

≋ A47B9/16 Tables with tops of variable height with means for, or adapted for, inclining the legs of the table for varying the height of the top, e.g. with adjustable cross legs

View 6 more classifications

Claims (4)

Hide Dependent translated from Korean

A pair of leg portions 10 formed with guide holes 11 in one longitudinal direction,

A pedestal 20 having guide holes 21 at positions corresponding to the guide holes 11 of the pair of legs 10 and having support members 22 formed on both sides thereof,
The first end is connected to the guide hole 11 of the pair of leg portions 10 and the other end is fixed to the receiving portion 20. The first end 31 is connected to the first end 31 and the X- A second support base 32 having one end connected to the pair of legs 10 and the other end connected to the guide hole 21 of the support unit 20, And a connection shaft 33 connecting the second support table 32 and the second support table 32,
A rod member 40 connected to one end of the second support base 32 and slidably mounted on the support member 22 of the support base 20,
Wherein the fixing part is provided at one side of the rod member and is provided with a fixing part for fixing and releasing the rod member after adjusting the height according to the action of the supporting part. Possible pedestal. The method according to claim 1,
The fixing portion 50 is formed on one side of the rod member 40 and has a through hole 51a formed on one surface thereof for allowing the support member 22 to pass therethrough and a stopper 51b having a space portion 51b formed on the upper surface thereof A through hole 52a is formed in the stopper 51 so that the support member 22 can be inserted therethrough and an upper portion of the through hole 52a is located in the space 51b of the stopper 51, A pair of fixing pieces 52 including a pair of fixing pieces 52b and an elastic member 53 disposed between the pair of fixing pieces 52 and surrounding the supporting member 22. [Height adjustable pedestal. 3. The method of claim 2,
And a toothed portion (22-1) is formed on an outer circumferential surface of the support member (22) to fix the fixing piece (52). The method according to claim 1,
Further comprising a tension member (60) connected to one end of the support member (22) and the other end of the second support base (32).

Description

translated from Korean

{Stand for adjusting height}

The present invention relates to a height adjustable pedestal, and more particularly, it relates to a pedestal which is adjustable in height according to the height of a user, such as an office worker or a student, by simply using a pedestal as a pedestal for a desk desk, a monitor, So that the company can work more efficiently, and at the same time, in processing various kinds of tasks, it is possible to relieve the tension of the waist by treating it by standing or sitting, The present invention relates to a pedestal capable of height adjustment.

Generally, a desk is widely used in daily life for business, study, or work. Especially, in case of business use or work use, it has various forms and functions according to the needs of users.

Usually, the desk is provided at a fixed height without regard to the user's body shape. Therefore, the desk is inconvenient for a person with a small or large height, and inconvenience due to the height of a fixed desk when using a computer or other office work .

When using a desk having a fixed height as described above, it is necessary to adjust the height to a suitable height by using a chair. In the case of a tall user, the sitting position is not easy due to the length of the leg. When the user is sitting in a chair and living for a long time due to learning using a top plate, there is a problem that a student in the growing stage experiences considerable difficulty in developing the body including the spine.

However, recently introduced desks are equipped with a height adjusting device for the upper plate so that a user having different body shapes can adjust the height of the upper plate according to his / her body shape so that the user can adjust the height of the upper plate to the height of the chair So that it can be used.

In the prior art, the patent document 10-2009-0028042 "height adjustable multifunction desk" was introduced.

The structure of the desk will be briefly described.

The elevating bar having a plurality of fixing grooves inserted into the fixing bars of the support legs is vertically movable up and down and is inserted into the fixing grooves of the elevating bars to adjust the height of the elevating bars. So that the height of the upper plate is adjusted according to the height of the user, and then the elevating bar and the fixing bar are fixed using the fixing pins.

However, in the desk having the above-described structure, there is a problem that it is troublesome to insert or release the fixing pins every time when adjusting the height of the upper plate. In addition, a fixing pin is inserted into the fixing groove The height of the portion between the fixing grooves can not be adjusted. Therefore, there is a limit in adjusting the height precisely.

Patent document 10-2009-0028042 "Height-adjustable multifunction desk"

The object of the present invention to solve the above-mentioned problems of the prior art is to more easily adjust the height of the user and to adjust the height precisely to the height of the user so that the worker can work more effectively in a comfortable posture If you are a fast-paced student, you can adjust the height to suit your physical condition and adjust your height to prevent your spine from flexing, scraping or slowing growth. To provide a pedestal.

According to an aspect of the present invention,

A pair of leg portions formed with a guide hole in a longitudinal direction of one side thereof, a support portion formed with guide holes at positions mutually corresponding to the pair of leg portion guide holes and having support members formed on both sides thereof, The first support is connected to the guide hole and the other end is fixed to the support portion. The first support is connected to the pair of legs at one end, and the other end is connected to the guide hole of the support portion. And a connection shaft connected to the first support and the second support. The first support is connected to one end of the second support, and the support member of the support is enclosed and slidably installed. And a fixing unit provided at one side of the rod member and provided for fixing and releasing the rod member after adjusting the height according to the action of the support member And a gong.

In addition, the fixing portion may include a rod member connected to the other end of the second support member, the rod member being surrounded by a support member of the support portion, a through hole connected to the rod member, A pair of fixing pieces provided on the inner side of the stopper and having a through hole to allow the supporting member to pass therethrough and an upper portion having a tight contact portion located in a space portion of the stopper, And an elastic member which is located between the fixing pieces and which surrounds and supports the supporting member.

Further, the outer peripheral surface of the support member is characterized in that a toothed portion is formed to fix the fixed piece.

The apparatus may further include a tension member connected to one end of the support member and the other end of the second support.

As described above, the present invention provides a structure in which the height of the pedestal can be adjusted by a user's simple pressing by hand so that the height of each article such as a desk, a monitor, and a notebook is adjusted and used, Therefore, it is possible to more efficiently perform the work and study of the company, and at the same time, relieve the tension of the lower back and prevent scoliosis.

1 is a perspective view illustrating a pedestal capable of height adjustment according to the present invention;
Fig. 2 is an exploded view of the fixing part according to the present invention; Fig.
3 is a side view illustrating a height adjustment process of the pedestal according to the present invention.
4 is a process diagram showing a process 1 in which the height of the pedestal according to the present invention is adjusted by the fixing unit after the height adjustment.
FIG. 5 is a process diagram showing a process 2 in which the height of the pedestal according to the present invention is adjusted by the fixing unit. FIG.
6 is a side view showing the action of the tension member according to the present invention.
7 is a view for use as a monitor or a notebook stand according to the present invention.

Hereinafter, preferred embodiments of the present invention will be described with reference to the accompanying drawings.

The present invention is characterized in that a pair of leg portions 10 formed with guide holes 11 in one longitudinal direction and guide holes 21 at positions corresponding to the pair of leg portions 10 And the other end of which is fixed to the receiving portion 20 and the other end of which is fixed to the receiving portion 20 The first support 31 and the first support 31 are formed in an X shape and one end is connected to the pair of legs 10 and the other end is connected to the guide hole 21 And a connection shaft 33 connecting the first support 31 and the second support 32. The second support 32 is connected to the first support 31 and the second support 32, A rod member 40 connected to one end of the rod member 40 and being slidably mounted on the support member 22 of the support member 20;) On the action of After adjusting the height referred to, it consists of the rod member 40 to the fixing section 50 designed to secure and release.

Hereinafter, the constituent elements and the operation of the present invention will be described in detail.

As shown in Figs. 1 to 3,

The present invention largely comprises a pair of leg portions 10, a receiving portion 20, a supporting member 30, a rod member 40, and a fixing portion 50.

The pair of legs 10 are formed with space portions on both sides with respect to the partition wall 14 and guide holes 11 are formed in the longitudinal direction from both ends of the partition walls 14 and the longitudinal direction, A pivot hole 15 is formed in the other end of each of the side surfaces and the barrier ribs 14 so that the second support table 32 can rotate.

The support portion 20 is located above the pair of leg portions 10 and has a guide hole 11 and a partition wall 14 formed on both sides of the pair of leg portions 10 on both sides, A guide hole 21 and a partition wall 24 are formed and a support member 22 having a bar shape is connected to both sides.

The support 30 includes a first support 31 and a second support 31. The support 31 includes a first support 31 and a second support 31. The first support 31 is rotatably supported by the support 20, And one end of which is rotatably mounted on the pivot hole 15 formed at the other end of the pair of legs 10 and the other end of which is rotatably supported by the support portion 20 A second support base 32 provided at a center of the first support base 31 and the second support base 32 so as to be rotatable in an X shape between the ends of the respective support bases 30, And a connecting shaft 33 installed to provide a function of opening or closing the connecting shaft 33.

The rod member 50 is provided in the form of a circular pipe around a support member 22 provided on both sides of the support portion 20. The rod member 50 rides on the outer peripheral surface of the support member 22 in accordance with the action of the second support base 32, Horizontally and horizontally.

The fixing portion 50 is integrally formed or detachably connected to one end of the rod member 40. A through hole 51a is formed at one side of the fixing member 50 so that the supporting member 22 can pass therethrough. The stopper 51 is formed inside the stopper 51 and has a through hole 52a so that the support member 22 can be inserted or fixed. A pair of fixing pieces 52 which are further provided at the upper portion and which are in close contact with the inner surface of the space portion 51b of the stopper 51 to fix the supporting member 22, And an elastic member 53 provided between the pair of fixing pieces 52 and adapted to restore the mutual action of the pair of fixing pieces 52. [

On the other hand, when the fixing piece 52 is provided,

The through hole 52a formed in the fixing piece 52 is formed to be larger than the outer diameter of the supporting member 22 and the pair of fixing pieces 52 are provided symmetrically with each other, The elastic member 53 provided between the pair of fixing pieces 52 has a shape in which the distance between the pair of fixing pieces 52 is larger than that of the upper portion, that is, A pair of fixing pieces 52 are provided in such a manner that upper and lower portions of the through hole 52a formed in the pair of fixing pieces 52 are fixed tightly to the outer diameter of the supporting member 22 by a tensile force.

The operation of the present invention will now be described.

As shown in Figs. 4 to 5,

First, in moving the pedestal 1 upward,

A pair of fixing pieces 52 spreading downward from the upper side are held in parallel with the action of the user to press the pair of fixing pieces 52 to contract the elastic member 53, The upper and lower portions of the through hole 52a of the fixing piece 52 which are tightly fixed to the outer peripheral surface of the support member 22 are released.

In this state, when the user moves the pedestal 1 upward,

The rod member 40 and the stopper 51 are horizontally moved to the right along the outer circumferential surface of the support member 22 and the support portion 20 and the pair of leg portions 10 are inserted into the guide holes 11, One end of the first support 31 and the second support 32 installed in the guide hole 11 and 21 move from one end to the other end of the guide hole 31. That is, The upper and lower supports 30 of the pedestal 1 are narrowed and the pedestal 1 is moved vertically upward. The height of the pedestal 1 is adjusted to the height of the user by the above-mentioned operation.

In this state,

When the pair of fixing pieces 52, which the user was pressing, are released,

The elastic member 53 contracted between the pair of fixing pieces 52 is restored,

The upper and lower portions of the through hole 52a formed in the pair of fixing pieces 52 are tightly fixed to the support member 22 to stop the stopper 51 connected to the rod member 40, The second support base 32 connected to the second support base 32 is fixed, so that the support base 20 can be held in a fixed state.

On the other hand, in moving the pedestal 1 downward,

A pair of fixing pieces 52 spreading downward from the upper side are held in parallel with the action of the user to press the pair of fixing pieces 52 to contract the elastic member 53, The upper and lower portions of the through hole 52a of the fixing piece 52 which are tightly fixed to the outer peripheral surface of the support member 22 are released.

In this state, when the user moves the pedestal 1 downward,

The rod member 40 and the stopper 51 are horizontally moved to the left along the outer circumferential surface of the support member 22 and the support portion 20 and the pair of leg portions 10 are inserted into the guide holes 11, One end of the first support 31 and the second support 32 installed in the guide hole 11 and 21 move from one end to the other end of the guide hole 31. That is, The upper and the lower portions of the support bar 30 are widened and the support bar is moved vertically downward. The height of the support bar is adjusted according to the height of the user.

In this state,

When the pair of fixing pieces 52, which the user was pressing, are released,

The elastic member 53 contracted between the pair of fixing pieces 52 is restored,

The upper and lower portions of the through hole 52a formed in the pair of fixing pieces 52 are tightly fixed to the support member 22 to stop the stopper 51 connected to the rod member 40, The second support base 32 connected to the second support base 32 is fixed, so that the support base 20 can be held in a fixed state.

On the other hand, as shown in Fig. 6,

The temporary supporting portion 20 is lowered by the load of a plurality of objects placed on the upper portion of the pedestal 1 by connecting the tension member 60 to one end of the supporting member 22 and the other end of the second supporting frame 32 , A phenomenon in which various objects are destroyed, and a safety accident caused by falling objects can be prevented.

On the other hand, as shown in Fig. 7,

The use of the height-adjustable pedestal of the present invention is not limited, and it is advantageous that various objects such as a desk, a monitor, and the like can be set and used for height adjustment.

It will be apparent to those skilled in the art that various modifications and variations can be made in the present invention without departing from the spirit or scope of the invention as defined by the appended claims and their equivalents. It will be understood by those of ordinary skill in the art that various changes and modifications may be made without departing from the scope of the present invention.

1: pedestal
10: a pair of legs
11, 21: guide rail
20:
22: Support member
30: Support
31: first support
32: second support
40: rod member
50:
51: Stopper
52: a pair of fixing pieces
51a, 52a: through hole
53: elastic member
60: Tension member

Patent Citations (4)

Publication number	Priority date	Publication date	Assignee	Title
JPH08140746A *	1994-11-24	1996-06-04	France Bed Co Ltd	Table device
KR200191510Y1 *	2000-03-16	2000-08-16	정남규	Supporter of cabinet
KR20090028042A	2007-09-13	2009-03-18	박종윤	Height-adjustable desk with multiple function
KR20120000589U *	2010-07-15	2012-01-25	정희성	Worktable for farm produce
Family To Family Citations				

* Cited by examiner, † Cited by third party

Cited By (8)

Publication number	Priority date	Publication date	Assignee	Title
CN105901924A *	2016-06-29	2016-08-31	浙江嘉宜实业有限公司	Linkage mechanism for lift table
CN106165968A *	2016-09-07	2016-11-30	宁波澳成进出口有限公司	A kind of liftable workbench
KR20180005353A *	2016-07-06	2018-01-16	주식회사 비체클	Stand for adjusting height
KR20190120870A *	2018-04-17	2019-10-25	유지열	Notebook computer support
KR20190121266A *	2019-06-04	2019-10-25	유지열	Notebook computer support
KR102084384981 *	2019-03-19	2020-03-03	최수연	Notebook stand
KR102125664881 *	2020-02-11	2020-06-24	최수연	Notebook stand
Family To Family Citations				
US10827827B1	2019-06-10	2020-11-10	John R. Failing	Adjustable height stand and case

* Cited by examiner, † Cited by third party, ‡ Family to family citation

Similar Documents

Publication	Publication Date	Title
KR101707110B1	2017-02-15	Stand for adjusting height
US9403049B2	2016-08-02	Exercise device
WO2005076746A3	2005-10-27	Back traction and muscle stretching bench
JP2018520740A	2018-08-02	Height-adjustable table

KR101929234B1	2019-03-14	Stand for adjusting height
KR20120056056A	2012-06-01	An apparatus for supporting feet
KR101611388B1	2016-04-11	Inversion table
KR101706892B1	2017-02-16	Leg stretching apparatus
KR101929233B1	2018-12-17	Support with adjustable height and angle
RU166673U1	2016-12-10	MECHANICAL DEVICE FOR HOLDING THE HAND
KR20160096358A	2016-08-16	Apprutus switchable desk and chair
WO2014074014A1	2014-05-15	Spinal unloading device
WO2019040457A1	2019-02-28	Foot swing
US9638939B2	2017-05-02	Covered sliding operator
KR101721147B1	2017-03-30	Table adjustable its height
RU126934U1	2013-04-20	DEVICE FOR UNLOADING A SPINE
KR20110042547A	2011-04-27	A foot pillow
KR20120136991A	2012-12-20	Athletic apparatus
KR20170135258A	2017-12-08	Multi-leg strap device
JP3195018U	2014-12-25	Multifunctional health equipment
AU2018100618A4	2018-06-14	The present invention relates to a device that facilitates activation of a person's leg and trunk muscles. More specifically, the present invention relates to a therapeutic device that facilitates the correct sequence of muscle activation required for a safe transition between sitting and standing for a person with limited mobility.
KR100964277B1	2010-06-16	Surrort leg device for experimenting and exercising stand
KR20160088657A	2016-07-26	exercising apparatus for sphincteral muscles
KR20130137286A	2013-12-17	Chair including waist supporter capable of adjusting height
KR20130078895A	2013-07-10	Universal chair

Priority And Related Applications

Priority Applications (1)

Application	Priority date	Filing date	Title
KR1020140183275A	2014-12-18	2014-12-18	Stand for adjusting height

Applications Claiming Priority (1)

Application	Filing date	Title
KR1020140183275A	2014-12-18	Stand for adjusting height

Legal Events

Date	Code	Title	Description
2014-12-18	A201	Request for examination	
2016-07-29	E902	Notification of reason for refusal	
2017-01-19	E701	Decision to grant or registration of patent right	
2017-02-09	GRNT	Written decision to grant	
2020-02-04	FPAY	Annual fee payment	Payment date: 20200204 Year of fee payment: 4

Concepts

machine-extracted

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Name	Image	Sections	Count	Query match
corresponding		claims,abstract,description	4	0.000
Hip		abstract,description	2	0.000
Scoliosis		abstract,description	2	0.000
effects		abstract	1	0.000

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Patents

Crossed-strut lifting table

Abstract

The table has a base (1) and a platform (2), crossing shear arms (4,5) pivoted to each other on a shear axis (3) as inner and outer shears, each with one end fixed in a turning bearing (6,7), and the other attached movably to the base and the platform. The shear arms are drive by a motor spindle drive (10), via connecting rods (11). The connecting rods are in the form of rigid angled levers (11). The are pivoted at the apex to two axes (12) in the shear arms so that the height can be altered. Both these levers are coupled, via an axis (13), to a spindle nut (14) of the spindle drive.

Classifications

B66F7/065 Scissor linkages, i.e. X-configuration

View 2 more classifications

DE19526596A1

Germany

Find Prior Art Similar

Other languages: German

Inventor: Reinhard Clamor, Karl-Heinz Schmezer

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Worldwide applications

1995 DE

Application DE1995126596 events

1995-07-21	Application filed by SCHMEZER KARL HEINZ
1995-07-21	Priority to DE1995126596
1997-01-23	Publication of DE19526596A1
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2015-07-22	Anticipated expiration
Status	Expired - Fee Related

Info: Patent citations (4), Cited by (8), Legal events, Similar documents, Priority and Related Applications

External links: Espacenet, Global Dossier, DPMA, Discuss

Claims (7)

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1. Scissor lifting table with scissor arms arranged between a base frame and a platform, crossing and articulated in a scissor axis, as inner and outer scissors, which are fixed to the base frame and the platform with one end in a swivel bearing and with the other end guided in a sliding manner are and can be moved apart and moved together by a motorized spindle drive via handlebars for lifting and lowering the platform,
characterized in that

- The handlebars are two rigid angle levers (11),
- The two angle levers (11) are vertically pivotable at their apex around an axis (12) held in two scissor arms (5),
- The two angle levers (11) with an angle leg (11 a) via a hinge axis (13) with a spindle nut (14) of the spindle drive (10) are coupled in terms of movement and
- the two angle levers (11) each have a have at the other angle leg (11 b) ends at a partial stroke of the scissor arms (4, 5) frictionally co-operating with the other two scissor arms (4) pressure point (15).

2. Scissor lift table according to claim 1, characterized in that the angle legs (11 a, 11 b) of the two angle levers (11) are at right angles to one another and are of different lengths, and the shorter angle leg (11 a) with the spindle nut (14) is articulated and the longer angle leg (11 b) has the pressure point (15) at the free end. 3. scissor lift table according to claim 1 or 2, characterized in that the pressure point (15) of the two angle levers (11 b) is formed by a roller, which provided with an adjacent inner scissor arm (4) rectilinear and / or arcuate control path (16) interacts. 4. scissor lifting table according to one of claims 1 to 3, characterized in that the spindle drive (10) with a pivot bearing (17) oscillates between the two inner scissor arms (4) and with its threaded spindle (18) and the gimbal-mounted spindle nut (14) lies in the middle between the scissor arms (4 , 5). 5. scissor lifting table according to one of claims 1 to 4, characterized in that the spindle drive (10) with its pivot bearing (17) between the fixed scissor arm mounting (6 , 7) and the scissor axis (3) is arranged. 6. Scissor lift table according to one of claims 1 to 5, characterized in that the axis (12) extending at the angular apex of the two angle levers (11) is mounted in the two outer scissor arms (5) and the two inner scissor arms (4) with its recess (20) grasp this axis (12) in the retracted position. 7. Scissor lifting table according to one of claims 1 to 6, characterized in that the axis (12) extending at the angular apex of the two angle levers (11) is arranged between the scissor axis (3) and the loose scissor arm end (8) and their distance from the scissor axis (3) is smaller than the shift-guided scissor arm end (8).

Description

translated from German

The invention relates to a scissor lift table arranged between a base and a platform, crossing and articulated in a scissors axis connected scissor arms as inner and outer scissors, which with one end each in a swivel bearing and with the at the other end guided on the base and the Are held and by a motor platform Spindle drive via

handlebars to raise and lower the platform can be moved apart and moved together.

Such a scissor lift table is such. B. from the DE 91 08 825 U1, DE-PS 35 02 641 and US-PS 3 034 765 known. Here are for together and Moving the scissor arms relatively many articulated with each other and on the scissor arms as well as on the Spindle drive articulated handlebars required what the Construction of the scissor lift table complicated and therefore more expensive.

In addition, these handlebars and their articulation points must be related on the scissor arms and the spindle drive in a certain Distance ratio can be arranged to be favorable To achieve balance of power.

The object of the invention is one after the beginning mentioned type built scissor lift table to that effect improve that the pulling force for the spreading of the Scissor arms for lifting the platform only on the one hand two favorable to the spindle drive and the scissors Handlebar and on the other hand directly into the scissors system what is introduced in simple, inexpensive and should be done safely.

This object is achieved by the characterizing Features of claim 1 solved.

The subsequent sub-claims contain Design features, which are advantageous and beneficial Represent further training in task solving.

The scissor lift table according to the invention is for the Lifting movement of the platform by moving the Scissor arms with only two rigid angle levers equipped as a handlebar, on the one hand with the threaded spindle the spindle drive are coupled in terms of movement and on the other hand, grip two scissor arms.

These two angle legs form upright, which at initial spreading of the scissor arms press these scissor arms apart and then the power connection with the scissor arms over a certain stroke release, and then the traction for the further Spread the scissor arms directly from the spindle drive introduced into the scissors system.

When the scissors are moved apart the two angle levers due to the tensile force of the spindle drive is operated and the scissors are raised while lifting the Platform spread. After sufficient spread of the Scissor arms, d. H. after a certain stroke of the platform then the flow of force directly into the scissors system in which the Angle lever no longer has a frictional connection with the Scissor arms go in, but with their joint axis on two Scissor arms via the spindle drive the further spreading of the Result in scissor arms.

The two angle levers are on a common axis with the outer scissor arms connected and act on one Pressure point on the inner scissor arms for the initial area the lifting movement and after interrupting the The connection with the inner scissor arms then pulls the spindle drive over the angle lever axis the scissors further in the lifting movement of the platform.

For this lifting movement, only two are rigid in themselves Angle levers required, which are simple and inexpensive Way with optimal force application between spindle drive and Scissors system are used.

This scissor lift table is for the powerful lifting movement the platform in a simple, inexpensive and secure way only with one spindle drive, two angle levers and two Control lanes equipped that an introductory, d. H. initial spreading of the scissor arms in Allow frictional connection on a favorable stroke and then the further stroke directly into the scissor system initiate so that the total force for the Lift movement of the platform in the scissor lift table with optimal simple and durable means is solved.

In the drawing is an embodiment of the invention shown, which is explained in more detail below. It shows:

Fig. 1 is a side view of the assembled driven scissors arms of a scissor lift with a spindle drive, and coupled thereto angle levers as Aufstellenker for the scissor arms,

Fig. 2 is a plan view of FIG. 1,

Fig. 3 is a side view of the scissor lift table in the extended scissor arm position with the platform raised.

The scissor lift table has, between an underframe (1) and a platform (2) - table top - four intersecting scissor arms (4 , 5) which are articulated in a scissor axis (3) as internal and external scissors; these scissor arms (4 , 5) are fixed at one end in a swivel bearing (6 , 7) and at the other end are guided by rollers (8 , 9) on the base frame (1) and the platform (2).

The scissor arms (4 , 5) are moved apart and moved together by a spindle drive (10) via handlebars (11) for lifting and lowering the platform (2).

The handlebars (11) are two rigid angle levers (11) which are mounted so as to be vertically pivotable at their angular apex around an axis (12) held in two scissor arms (5) forming the outer scissors.

These two angle levers (11) are coupled in terms of movement with an angle leg (11 a) via an articulated axis (13) with a spindle nut (14) of the spindle drive (10).

The two angle levers (11) have, at their other angle leg (11 b) ends a respective on to a partial stroke of the scissor arms (4, 5) frictionally co-operating with the other two scissor arms (4) pressure point (15).

The angle legs (11 a, 11 b) of the two angle levers (11) are at right angles to each other and are of different lengths; the shorter angle leg (11 a) is articulated to the spindle nut (14) and the longer angle leg (11 b) has the pressure point (15) at the free end.

The pressure point (15) of the two angle levers (11) is each formed by a roller (15) which interacts with a rectilinear and / or curved control track (16) provided on the adjacent inner scissor arm (4). This control track (16) is formed by a strip attached to the inside of the scissor arms (4).

The spindle drive (10) with a swivel bearing (17) oscillates between the two inner scissor arms (4) and lies with its threaded spindle (18) and the cardanic spindle nut (14) in the center between the scissor arms (4 , 5).

The spindle drive (10) has a geared motor (19) driving the threaded spindle (18) and flanged to the swivel bearing (17) and is connected to the swivel bearing (17) - crossbar with bearing journal - between the fixed scissor arm bearing (6 , 7) and the scissor axis (3) arranged.

The axis (12) extending at the angle apex of the two angle levers (11) is supported at the end in the two outer scissor arms (5) and the two inner scissor arms (4) have a recess (20) over this axis (12) in the closed position, as shown in Fig. 1.

The axis (12) extending at the angle apex of the two angle levers (11) lies between the scissor axis (3) and the loose scissor arm end (8) and its distance from the scissor axis (3) is smaller than the shift-guided scissor arm end (8).

The two running rollers (15) of the angle lever (11) seated on a common angular limb (11 b) through barrel axis (21).

In the lowered platform position according to FIG. 1, the scissor arms (4 , 5) are moved together, lie one inside the other in a horizontal plane and the inner scissor arms (4) engage with their recesses (20) over the hinge axis (12). The angle lever (11) with its longer angle leg (11 b) is also horizontal and the shorter angle leg (11 a) is vertical.

To raise the platform (2), the spindle drive (10) pulls via its rotating threaded spindle (18) towards the pivot bearing in the direction of the arrow "A" and the two coupled angle levers (11) are pivoted about the axis (12) in which its angle leg (11 b) is pivoted up about the axis (12). The two highly pivoting angle leg (11 b) acting on the control path (16) of the respective inner scissor arm (4) with its end roller (15), which then necessarily pivots entraining the outer scissor arm (5) upwards and all intersecting scissor arms (4 , 5) move apart and raise the platform (2).

After a certain stroke of the platform (2), ie, spreading the scissors arms (4, 5) of the longer angle leg passes (11 b) of the angle lever (11) in a vertical position and then leaves the control path (16).

When the spindle nut (14) is pulled further, the scissor arms (4 , 5) then continue via the shorter angle leg (11 a) running in the pulling direction of the threaded spindle (18) and the axle (12) in the outer scissor arms (5) while raising the platform spread apart as shown in Fig. 3.

The platform is lowered in reverse.

It is within the scope of the invention to design the two angle legs (11 a, 11 b) of the angle lever (11) to be of the same length or to make the angle leg (11 a) longer than the angle leg (11 b), that is to say in reverse aspect ratios.

Patent Citations (4)

Publication number	Priority date	Publication date	Assignee	Title
DE3442940A1 *	1984-11-24	1986-06-05	Gewerkschaft Eisenhütte Westfalia, 4670 Lünen	Lifting table
US4858888A *	1988-07-11	1989-08-22	Onelio Cruz	Platform lifting mechanism
DD284657A5 *	1989-06-06	1990-11-21	Veb Hebezeugwerk Koenigsbrueck,Dd	LIFTING TREAD WITH SCREW RAIL AND HYDRAULIC DRIVE
Family To Family Citations				
DE3436782A1 *	1984-10-06	1986-06-12	Brockerhoff, Heinrich, Ing (grad.), 4000 Düsseldorf	Lifting device having a supporting frame and shear-rod linkage

* Cited by examiner, † Cited by third party

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Publication number	Priority date	Publication date	Assignee	Title
EP1044923A2 *	1999-04-13	2000-10-18	Langewellpott, Eva-Maria	Scissor type lifting table for lifting objects
DE20209407U1 *	2002-06-17	2003-07-31	Remech Systemtechnik Gmbh & Co	Lifting device, preferably for skid conveyors
EP1661490A1 *	2004-11-25	2006-05-31	Ernst Langewellpott	Height adjustable table with cross-legs
EP1772417A3 *	2005-10-04	2009-01-21	EISENMANN Fördertechnik GmbH & Co. KG	Lifting table
CN101431916B *	2006-03-08	2012-07-04	迪安·卡门	Improvements in and relating to computer tables
US10244861B1 *	2015-01-24	2019-04-02	Nathan Mark Poniatowski	Desktop workspace that adjusts vertically
US10893748B1	2017-07-08	2021-01-19	Office Kick, Inc.	Height adjustable desktop
Family To Family Citations				
WO2019000161A1 *	2017-06-26	2019-01-03	江苏大塚智能科技有限公司	Combined elevating platform and mobile robot

* Cited by examiner, † Cited by third party, ‡ Family to family citation

Similar Documents

Publication	Publication Date	Title
DE19748949C2	1999-06-02	Chassis of a lifting device
EP1915316B1	2010-09-15	Folding boom
EP0320591A2	1989-06-21	Hinged slidable door for vehicles
WO1986006053A1	1986-10-23	Lifting device
EP0601284B1	1995-12-13	Scissor type lifting table
DE2255092A1	1973-06-07	DEVICE FOR VERTICAL AND LATERAL MOVEMENT OF A SECTION OF TRACK

DE19526596A1	1997-01-23	Crossed-strut lifting table
DD159187A5	1983-02-23	RUNWAY MACHINE WITH RAILWAY CORRECTION DEVICE
EP0936119A1	1999-08-18	Pivotable sliding door for vehicles
DE2825596C3	1979-03-15	
DE19604074B4	2007-03-15	Lifting device for care beds
DE2633683C2	1982-10-14	Transport vehicle for prefabricated garages and the like
DE3619677C1	1987-06-19	Device for lifting and lowering the head and foot sections of a bed frame
DE472610C	1929-03-11	Device for guiding the steering axis, especially on trams
DE490825C	1930-02-04	Carriages for railways, trams, rapid transit trains, etc. Like., In particular for articulated car trains
DE102012001377A1	2013-06-06	Ballast wagon for a derrick crane
DE2638566C3	1978-10-19	Outdoor conveyor with a closed track for multiple trolleys
DE3442940A1	1986-06-05	Lifting table
EP1268337B1	2005-08-31	Jack
DE2918646C3	1982-01-07	Lifting platform or platform
EP0886100A1	1998-12-23	Height adjustable chassis for a pipe system maintenance device
DE19648607C2	2001-07-12	Scissor lift table
EP1510152B1	2010-03-17	Mattress base with articulated backrest and headrest portions
DE957449C	1957-01-31	Three-axle motor vehicle for transporting railroad cars on ordinary roads
DE3519787A1	1986-12-11	Scissor lifting table

Priority And Related Applications

Priority Applications (1)

Application	Priority date	Filing date	Title
DE19951265961	1995-07-21	1995-07-21	Scissor

Applications Claiming Priority (1)

Application	Filing date	Title
DE19951265961	1995-07-21	Scissor

Legal Events

Date	Code	Title	Description
1997-01-23	OP8	Request for examination as to paragraph 44 patent law	
2003-07-17	8127	New person/name/address of the applicant	**Owner name:** PRO HUB HEBETECHNIK GMBH, 31603 DIEPENAU, DE
2005-06-09	8364	No opposition during term of opposition	
2008-05-15	8339	Ceased/non-payment of the annual fee	

Concepts

machine-extracted

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Patents

Height adjustable work table with base and table top

Abstract

The connecting arrangement (18) has a first column (20) connected to the base (12), and a second column (22) connected to the table-top (16). The columns are pivotally interconnected by a system of parallel rods (24) using connecting axles (30,32,34,36). At least one spring arrangement (42) is mounted at one end (58) to one of the columns, and by its second end (44) to the system of parallel rods. The system of parallel rods consists of two laterally spaced part lower rods (26), and two parallel, laterally spaced apart top rods (28). The two lower rods have fixture strips (38) for the second end of the spring arrangement.

Classifications

- A47B17/02 Writing-tables with vertically-adjustable parts

View 3 more classifications

DE4424564A1
Germany

Find Prior Art Similar

Other languages: German

Inventor: Volker Kluegl, Gernot Meyer

Current Assignee : ZALIUKAS PRANAS 90489 NUERNBERG DE

Worldwide applications

1994 DE

Application DE19944424564 events

1994-07-13	Application filed by ZALIUKAS PRANAS 90489 NUERNBERG DE
1994-07-13	Priority to DE19944424564
1996-01-18	Publication of DE4424564A1
Status	Withdrawn

Info: Cited by (5), Legal events, Similar documents, Priority and Related Applications

External links: Espacenet, Global Dossier, DPMA, Discuss

Claims (9)

Hide Dependent
translated from German

1. Height-adjustable work table with a base means (12) and a table top (16), which are interconnected by means of a variable in their height dimension connecting means (18), characterized in that the connecting device (18) connected to the base means (12) first Has column element (20) and a second column element (22) connected to the table top (16), which are pivotably connected to one another by means of a parallel linkage (24) through connecting axes (30 , 32 , 34 , 36), and that at least one spring device (42) is provided which is supported at one end (58) on one of the column elements and at its second end (44) on the parallel linkage (24) such that the direction of action of the spring device (42) with the parallel linkage (24) intersects in an area within the connecting axes (30 , 32 , 34 , 36). 2. Table according to claim 1, characterized in that the two column elements (20 , 22) have a small width dimension compared to the width dimension of the table top (16) or the basic device (12) and that the connecting device (18) centrally between the basic device (12) and the table top (16) is provided. 3. Table according to claim 1, characterized in that the parallel linkage (24) has two laterally spaced lower link elements (26) and two parallel, laterally spaced upper link elements (28), the two lower link elements (26) with fastening tabs (38) for the second end (44) of the spring device (42) are formed. 4. Table according to claim 3, characterized in that between the two fastening tabs (38) extends an axis (40) which is provided for mounting the second end (44) of the spring device (42). 5. Table according to one of the preceding claims, characterized in that the spring device (42) has at least one gas spring (46 , 48). 6. Table according to claim 5, characterized in that the at least one gas spring (46 , 48) by means of an associated Bowden cable (50) is connected to an actuating member (52). 7. Table according to claim 6, characterized in that the actuating member (52) on the table top (16) is provided. 8. Table according to claim 1, characterized in that the second column element (22) with a the lowest table top position defining stop member (56) is provided. 9. Table according to claim 8, characterized in that the stop member (56) is elastically resilient for end position damping.

Description

translated from German

The invention relates to a height-adjustable work table with basic equipment and a table top that with each other by means of a height dimension that can be changed Connection device are connected.

A desk or drawing table with adjustable height Worktop that is supported by four screw spindles known from DE-PS 64 229, for example. Insert the screw spindles in vertical, with female thread and with gears Tubes, the latter by horizontal drive shafts in offset simultaneous rotation and thereby the spindles be raised. To tilt the worktop are the Gears of the front tubes down through collars slidable so that only the rear screw spindles increase. This well-known writing or drawing table has So a number of screw spindles and a number of associated Gears on, which is a considerable effort. The same applies to that known from US Pat. No. 1,927,598 Table, which is a movable work table can act, as well as that known from US Pat. No. 2,857,225 Table.

The invention has for its object a height-adjustable work table of the type mentioned at the beginning create the comparatively easy to train infinitely variable height adjustment is suitable.

This object is achieved in that the Connection device connected to the basic device first column element and one connected to the table top has second column element which are connected to one another by means of a Parallel linkage can be pivoted through connecting axes are connected, and that at least one spring device is provided

with one end at one of the Column elements and those with their second end on the Parallel linkage is mounted such that the Direction of action of the spring device with the Parallelogram linkage in an area within the intersects connecting axes.

By appropriate dimensioning or assignment between the Parallel linkage and the spring device, it is possible, for example. Table loads in the order of 30 kp as caused by a Screen, a keyboard and other work items is given, can be lifted easily and in one desired height position locked state an additional Table load of the order of 90 kp, the Tabletop due to this additional burden of a human being drops, d. H. remains in the locked state. Of the Working table according to the invention is suitable for. B. as Computer work table, as work table of an overhead Projector, as a height-adjustable lectern or the like

A good aesthetic effect is in the invention height adjustable work table accessible when the two Column elements one compared to the width dimension of the Table top or basic equipment small width dimension have and if the connecting device in width or Table cross direction in the middle between the basic device and the Tabletop is provided. The connection device forms here is a so-called mono foot. This mono foot is against Vertical, for example, by at least approximately 10 degrees inclined, whereby the aesthetic effect can be further improved is.

Another advantage of the height adjustable according to the invention Working table consists of the fact that it consists of a few construction or Assemblies, namely the basic equipment, the table top, the first and the second column element, the Parallelogram linkage and the spring device, so that he for transportation purposes in relatively small volume and lightweight units can be dismantled.

For reasons of stability, it is useful if the work table according to the invention the parallel linkage two laterally spaced lower link elements and two upper ones parallel to each other and laterally spaced apart Has linkage elements, the two lower Linkage elements with fastening tabs for the second end the spring device can be formed. The bottom and the upper link elements are of equal length. Between two fastening tabs of the two lower link elements can extend one axis, which is used to support the second End of the spring device is provided. The spring device preferably has at least one gas spring. In the at least one gas spring is expediently a lockable gas spring. Such gas springs are also included height-adjustable office chairs for use. The extension force the at least one lockable gas spring is for the Generation of the lifting movement sufficient. Should the table top be lowered, so it is necessary the insertion forces the at least one gas spring by loading the table top overcome. The insertion forces of the at least one gas spring are greater than those mentioned by the amount of frictional force Extension forces.

The insertion and extension forces of the at least one are used arriving gas springs are linearly dependent on their stroke. By corresponding positioning of the at least one gas spring between the first column element of the connecting device and the parallel linkage is a balance of the inputs and Extension forces can be realized in such a way that one is possible uniform lifting and lowering movement of the table top achieved becomes. In addition, by at least a suitable arrangement a gas spring between the first column member and the Parallel linkage the difference in lifting forces between the top and bottom of the table top on Minimum reducible.

To actuate the at least one gas spring, it has proven to be Proven useful when using a Bowden cable an actuator is connected. The actuator is Expediently provided on the table top because of this the ease of use for the actuator and thus the Ease of use for height adjustment of the table top of the work table according to the invention is optimal.

The second column element can be the lowest Be provided tabletop position determining stop member. This stop element can be elastic for cushioning the end position be compliant, d. H. it can, for example, from a Made of rubber material.

According to the invention it is of course also possible that first column element not on the table top but on the Basic device and the second column element not on the Basic setup but on the table top, d. H. these Components of the work table, as it were, rotated by 180 ° to be provided without this leading to a Functional Impairment of the work table comes.

Further details, features and advantages result from the following description of one in the drawing illustrated embodiment of the invention height-adjustable work table, esp. Computer workbench. Show it:

Fig. 1 shows a section through the work table in its highest position along the section line I in Fig. 2,

Fig. 2 is a front view of the worktable of Fig. 1 viewed in the direction of the arrow II,

Fig. 3 is a FIG. 1, similar sectional view showing the work table at the most lowered position of the table plate,

Fig. 4 is a view of the two upper link members of the parallel linkage in sections in a view from above,

Fig. 5 is a view of the upper link members of the parallel linkage according to Fig. 4 in the direction of the arrow V, ie in the direction from the front,

Fig. 6 is a side view of the upper linkage members in the direction of the arrow VI in Fig. 4, wherein the upper linkage elements as in Fig. 4 marked only in sections in Fig. 6,

Fig. 7 is a Fig. 4 similar sections showing the lower link of said parallel linkage elements, wherein the cooperating with the lower link members pair of gas springs of the spring means are only illustrated in sections,

Fig. 8 is a side view of the partially drawn lower link members of the parallel linkage and the two sections of gas springs of the spring device illustrated in the direction of the arrow VIII in Fig. 7, and

Fig. 9 is a front view of the lower linkage elements of the parallel linkage in the direction of arrow IX in Fig. 8, wherein the two gas springs of the spring device are only shown in sections here.

Fig. 1 shows a longitudinal section of an embodiment of the height-adjustable work table 10 , which is z. B. is a computer work table. The work table 10 has a basic device 12 with height-adjustable feet 14 which serve to compensate for unevenness in a footprint. The work table 10 also has a height-adjustable table top 16 which is connected to the basic device 12 by means of a connecting device 18 . The height of the connecting device 18 can be changed for this purpose; it has a first column element 20 and a second column element 22 . The first column element 20 protrudes upward from the basic device 12 , for example it encloses an angle of the order of 80 degrees. The second column element 22 projects downward from the table top 16 ; it forms the same angle with the table top 16 as the first column element 20 with the basic device 12 . The two column elements 20 and 22 are pivotally connected to one another by means of a parallel linkage 24 . The parallel linkage 24 has two laterally spaced lower link elements 26 and two parallel and equally long, laterally spaced upper link elements 28 , of which only one link element is visible in FIG. 1. Each of the two lower linkage elements 26 is pivotally mounted on the first column element 20 by means of an axis 30 and on the second column element 22 by means of an axis 32 . Accordingly, each upper linkage element 28 is pivotally mounted on the first column element 20 by means of an axis 34 and on the second column element 22 by means of an axis 36 . The two lower linkage elements 26 are formed with fastening tabs 38 , as can also be clearly seen from FIGS. 7, 8 and 9. An axis 40 extends between the two fastening tabs 38 , on which a spring device 42 is arranged with its second end 44 . From FIGS. 7 and 9 it can be seen that the spring means 42 comprises two side by side and provided parallel to each other arranged gas springs 46 and 48, marked 7 to 9 only in sections in Figs.. The gas springs 46 , 48 are operatively connected by means of a Bowden cable 50 to an actuating member 52 which is arranged on the underside 54 of the table top 16 .

The second column element 22 of the connecting device 18 is provided with an elastically resilient stop member 58 which, in the lowest position of the table top 16, bears against the upper linkage elements 28 (see FIG. 3) and thereby defines the lowest table top position.

The spring device 42 , that is to say the two gas springs 46 and 48, are fixed at their one end 58 to a fastening element 60 so as to be pivotable by means of an axis 62 . The fastening member 60 is provided on the first column element 20 .

The axes 30 and 62 and the axes 32 and 40 are provided on the work table 10 in such a way that a uniform lifting and lowering movement of the table top 16 in relation to the basic device 12 is made possible. At the same time, this ensures that the difference in lifting forces in the uppermost and in the lowest position of the table top 16 relative to the base device 12 is as small as possible.

In FIGS. 1 to 9 identical details are respectively denoted by the same reference numerals, so that it is unnecessary to describe in detail each of all the details in connection with all these figures.

As has already been mentioned, it is also possible not to arrange the height adjustment mechanism without impairing the function of the work table as shown in the drawing figures, but rather upside down, ie to interchange the two column elements 20 and 22 . It is only important that the direction of action of the spring device 42 intersects with the direction of the parallel linkage 24 in the area within the connecting axes 30 , 32 , 34 and 36 .

Cited By (5)

Publication number	Priority date	Publication date	Assignee	Title
WO1999035936A1 *	1998-01-13	1999-07-22	Techinnovation Gmbh	Height-adjustable table or the like
EP0963716A1	1998-06-10	1999-12-15	Charlie Karlo Larsen	Height adjustable workstand or -table construction
US9668572B2	2014-04-14	2017-06-06	Ergotron, Inc.	Height adjustable desktop work surface
US10542817B2	2015-09-24	2020-01-28	Ergotron, Inc.	Height adjustable device
US10602840B2	2015-10-08	2020-03-31	Ergotron, Inc.	Height adjustable table
Family To Family Citations				

* Cited by examiner, † Cited by third party, ‡ Family to family citation

Similar Documents

Publication	Publication Date	Title
DE19700582A1	1997-07-24	Table with lifting plate, lifting table and a combination thereof
EP2260229A1	2010-12-15	Height-adjustable equipment stand
WO1992000690A1	1992-01-23	Kit for making office desks
DE4424564A1	1996-01-18	Height adjustable work table with base and table top
EP1074127A2	2001-02-07	Adjustable table for edp system
EP0070422B1	1986-04-23	Table, in particular writing table
DE4230433A1	1993-04-22	Height adjustable office desk on telescopic supports - has surface that may be slid or tilted for access to cable duct and crank handle
EP0870443A2	1998-10-14	Chair, particularly office-chair
DE4112223C2	1994-01-20	Worktop adjustment device
EP0702916B1	2002-11-13	Fitting for adjustable setting of a front panel
DE4112180A1	1992-10-15	Pivoting arm structure for writing desk - has console support mounted on two swivel arms with friction bearing links, funnel shaped trough and pivot pin
DE102013006139B4	2015-10-08	Music stand for a grand piano
DE4219875A1	1993-12-23	Folding underneath frame for table, especially in caravan - has uprights each consisting of top, middle and bottom part, with sleeves, locking pins, stop, and two hinges.
DE102018203414B3	2019-07-11	Adjustable table
DE3037375A1	1982-05-19	Height adjustable viewing screen carrying platform - has scissor linkage between top and bottom frames with rack and pinion drives
DE102009011564A1	2010-09-09	Table furniture for use as e.g. school desk, has foot rollers attached to horizontal running transverse element between horizontally running leg elements, where rollers are pivotable around vertical axis
DE4437337C1	1995-11-02	Height adjustable work table
AT524052B1	2022-02-15	KITCHEN FURNITURE
DE2638924A1	1978-03-02	WORK TABLE WITH INTEGRATED CHAIR

EP0880077B1	1998-04-29	Table with movable worktop
WO1997017868A2	1997-05-15	Height-adjustable supporting device for video screens
EP0270558B1	1990-07-25	Office desk
DE102006062284	2009-08-13	Lectern with an adjustable speaker's desk
DE3642945A1	1988-06-30	Stand
DE4403299C1	1995-03-16	Seating arrangement comprising corner bench and table

Priority And Related Applications

Priority Applications (1)

Application	Priority date	Filing date	Title
DE19944424564	1994-07-13	1994-07-13	Height adjustable work table with base and table top

Applications Claiming Priority (1)

Application	Filing date	Title
DE19944424564	1994-07-13	Height adjustable work table with base and table top

Legal Events

Date	Code	Title	Description
2000-09-07	8139	Disposal/non-payment of the annual fee	

Concepts

machine-extracted

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Name	Image	Sections	Count	Query match
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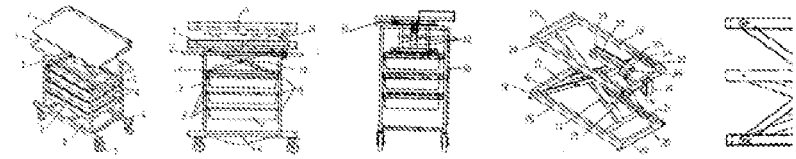
Patents jp2012030022

Elevating table

Abstract

PROBLEM TO BE SOLVED: To provide a safe elevating table which has a neat designed pantographic elevating mechanism, has no vertical play or backlash when a top plate is lifted, prevents acceleration of the elevating speed, controls it at the top plate and prevents finger pinch.SOLUTION: Pantographs 16, 19 comprise three pieces and the middle pantograph 19 is a thick pipe. A movable side gas cylinder 30 is installed near an elevating frame 13, not installed with a base frame 15. A slide fitting 28, a movable part 25 of the pantographs, the fixed side gas cylinder and a gas cylinder driving fitting 14 of the elevating frame 13 are connected with pins each other, and the slide fitting 28 sticks and always keeps parallel to the top plate. The gaps between the crossing pantographs 16, 19 are made the dimension preventing finger pinch, and the gaps between the base frame 15, the elevating frame 13 and the respective pantographs 16, 19 are made safe dimension too.

Images (11)



JP2012030022A
Japan

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Other languages: Japanese

Inventor: Shinji Fukuhara, 伸治 福原

Worldwide applications

2010 JP

Application JP2010182616A events

2010-07-30 Application filed by Fuji Kogyo Kk, 富士工業株式会社

2010-07-30 Priority to JP2010182616A

2012-02-16 Publication of JP2012030022A

Status Pending

Info: Cited by (6), Similar documents, Priority and Related Applications

External links: Espacenet, Global Dossier, Discuss

Claims (3)

Hide Dependent
translated from Japanese

It has a pantograph type lifting mechanism for the top plate that moves up and down, a base frame on the lower side of the pantograph type lifting mechanism, a lifting frame on the upper side, and a drive source for driving the pantograph type lifting mechanism as the back of the top plate The fixed side of the drive source is coupled to the drive source drive fitting provided on the lift frame, and a lift lever is provided in the vicinity thereof on the fixed side of the drive source. The movable side of the source is connected to one end of a slide fitting that slides horizontally on the back of the top plate to be the movable side of the drive source, and the slide fitting is joined to the movable portion of the pantograph type lifting mechanism to raise and lower the top plate up and down table. 2. The lifting table according to claim 1, wherein an end portion of the slide fitting is extended from a movable shaft of the pantograph lifting mechanism in a fixed direction of the drive source. The pantograph type lifting mechanism is provided with a clearance of about 25 mm between the struts crossing each other and the base frame and the lifting frame so that the movable part stops without contacting the inner end of the lifting frame. The lifting table according to claim 1, wherein a stopper is provided on the rail.

Description

translated from Japanese

The present invention relates to a structure of a pantograph type lifting mechanism for a lifting table.

As a table top / bottom lift mechanism, there is one that lifts and lowers by supporting it with one column or two columnar columns (Patent Document 1), and another that lifts the table with a pantograph lift mechanism (Patent Document 1). 2). Since one top supports the top plate in a cantilevered manner, the end of the top plate tends to tilt due to insufficient strength. With two struts, it is necessary to synchronize the lifting of the left and right struts, and the mechanism is expensive. Many of the pantograph type lifting mechanisms have a lifting gas cylinder sandwiched between the base frame on the fixed side and the lifting frame, which has problems such as not being refreshed in appearance and being difficult to organize. Moreover, there was a danger of finger scissors, etc., because the crossing struts were narrow.

JP-A-11-253239

JP-A-2005-89052

The table lift mechanism with a wide top plate adopts a pantograph type lift mechanism that can be lifted stably without tilting the top plate even in uneven load, but the pantograph type lift mechanism has a design that makes the appearance refreshing To do.

There is a lift mechanism that is fixed to the top plate where the lift lever can be operated so that it can be controlled by hand without play and lifting when the top plate is lifted by the pantograph type lift mechanism, and the lifting speed is not accelerated. .

The object is an elevating table equipped with a pantograph type elevating mechanism that is safe without finger scissors during elevating.

The present invention includes a pantograph type lifting mechanism for a top plate that moves up and down, a base frame on the lower side of the pantograph type lifting mechanism, and a lifting frame on the upper side, and a drive source that drives the pantograph type lifting mechanism is installed on the elevating frame side of the back of the top plate, the fixed side of the drive source is coupled to the driving source driving bracket provided on the elevating frame, and the elevating lever is located in the vicinity of the fixed side of the drive source. The movable side of the drive source is coupled to one end of a slide fitting that slides horizontally on the back

of the top plate to be a movable side of the drive source, and the slide fitting is joined to the movable portion of the pantograph type lifting mechanism to attach the top plate Move up and down.

Preferably, an end portion of the slide fitting is extended from a movable shaft of the pantograph type lifting mechanism in a fixed side direction of the drive source.

More preferably, the pantograph type lifting mechanism is provided with a clearance of about 25 mm between the crossing struts and the base frame and the lifting frame, and the movable part is in close contact with the inner end of the lifting frame. Provide a stopper on the rail so that it stops without stopping.

By attaching the lifting gas cylinder of the pantograph lifting mechanism according to the present invention to the lifting frame, the appearance of the mechanism can be refreshed. Further, since the table is moved up and down by adopting a pantograph type lifting mechanism, the support is not cantilevered even if the top plate has a wide size, and it is strong and stable against uneven loads. There is always close contact between the back of the top plate and the upper surface of the slider bracket, so there is no play and play when the top plate is lifted by hand. When the top plate moves up and down, it moves left and right while rubbing with the sliding material on the top surface of the slider bracket, so the lifting is not accelerated only by the movement of the gas cylinder, but it can be controlled by hand, so the precision equipment on the top plate Safe against.

Cart perspective view with lifting table Front and elevation view of cart with lift table Side view of cart with lifting table Perspective view of gas cylinder type lifting mechanism Front view of lift mechanism, lift view Top view of lifting mechanism Front BB cross section of lifting mechanism Detailed front sectional view of the lifting mechanism BB Perspective view of slide bracket Lifting pantograph strut assembly diagram without finger scissors Perspective view of lifting mechanism with drive spring as tension spring

1 to 4 show an embodiment in which the present invention is suitable for a lift table, in which FIG. 1 is a perspective view of a cart with a lift table, FIG. 2 is a front view thereof, and a lift view, and FIG. 3 is a side view thereof. Indicates. The cart body with the lifting table is provided with four moving casters 7 on the main body base frame 6 and a vertical frame 4a at the bottom so that a plurality of battery trays 8 on which personal computer batteries are mounted can be installed. . The four struts 3 are provided with several horizontal rails 4 symmetrically in the vertical direction between the struts on both sides, and rails 5 are installed in left and right pairs inside the cart body with the lifting table, and each tray 9 is stored. However, the structure can be taken in and out. A space for installing a device having a pantograph type lifting mechanism 12 capable of moving up and down the top table 1 of a wide table is provided at the uppermost stage.

At the top of the four columns, a handle pipe 2 is provided between the lifting table for easy operation of the lifting table. The handle pipe has a shape that protrudes outward from the top width to make it easier to handle and carry the handle. In addition, a wiring molding 10 can be installed on the two rear support columns so that the wiring can be stored. An elevating frame 13 of a pantograph type elevating mechanism is provided on the back of the top plate so that the gas cylinder elevating lever 11 can easily elevate and lower the top plate on the gas cylinder driving bracket 14 provided on the right outer side of the elevating frame. Is provided. The pantograph type lifting mechanism has a structure in which the base frame 15 is fixed to the uppermost stage of the column of the cart body with the lifting table on the fixed side.

FIG. 4 shows details of a pantograph type lifting mechanism in which the drive source is a gas cylinder. FIG. 5 is a front view and an elevation view thereof, FIG. 6 is a plan view thereof, FIG. 7 is a front sectional view taken along line AA, FIG. 8 is a front sectional view taken along line BB, and FIG. Indicates. 4, the base frame 15 fixed to the main body has a hole 18 for attaching a fixed shaft 17 of a pantograph A16 and a lower guide rail 21 for guiding a lateral slide of a movable shaft 20 of a pantograph B19, it is provided on both sides of the direction. Similarly, the elevating frame 13 installed on the back of the top plate is provided with holes 24 for attaching the fixed shaft 23 of the pan tag lug B19 and upper guide rails 26 on which both sides of the movable shaft 25 of the pantograph A slide in the longitudinal direction. . Bearing rollers 36 are attached to both end portions of the pantograph movable shafts 20 and 25, respectively. The upper guide rail 26 on the lifting frame 13 side is provided with a movable shaft stopper 27 for raising and lowering initial height that determines the minimum height of the top plate. The movable shaft 25 of the pantograph A is joined from the upper side as shown in FIG. 9 to the slide metal fitting 28 that slides in the horizontal direction, and is in close contact with the back side of the top plate via a slide tape 29 such as a resin material and can be slid horizontally. It has become. The sliding tape made of this resin material makes the friction with the top plate smooth, and the stability of the top plate is maintained by appropriately controlling the acceleration of the gas cylinder. 7 and 8 are sectional views of the pantograph type lifting mechanism taken along the line BB. The end of the slide fitting 28 opposite to the pantograph movable shaft side is rotationally coupled 32 to the movable side 30 of the gas cylinder. Further, in order to keep the slide fitting 28 in a horizontal direction with the top plate 1 at all times, the slide fitting 28 has an extension portion 34 that extends from the movable shaft 25 of the pantograph A16 by about 40 mm in the direction of the gas cylinder fixing side 35. In addition, a resin sliding material 29 is bonded to the upper surface of the slide fitting 28 between the slide fitting and the back side of the top plate. A fixed side 35 of the gas cylinder is rotationally coupled 31 to a gas cylinder driving bracket 14 provided at an end of the elevating frame 13 for fixing the top plate.

FIG. 10 shows a support structure of a safe pantograph lift mechanism without finger scissors. The pantograph struts of the pantograph A16 and the pantograph B19 are divided into two blocks, the dimensions of the pantograph are maintained so that there is no finger scissors between the struts, and the base frame 15 and the lift frame 13 of FIG. The pantograph's struts and finger scissors are provided with sufficient dimensions so that there is no finger scissors between each strut and the initial angle of the pantograph in FIG. 5 is movable from about 20 degrees to the final angle of around 38 degrees. There is no. As shown in FIG. 6, the distance between the finger and the base frame 15 and between the finger and the lifting frame 13 is 25 mm or more, which is sufficiently safe.
In FIG. 5, the gas cylinder is set so that the initial position is extended by 25 mm or more so that the finger is not caught even in the contracted state. In FIG. 7, the initial position of the movable pipe of the pantograph is also 25 mm or more away from the ends of the base frame 15 and the lifting frame 13, so that the problem of finger scissors does not occur. The initial position of the slide fitting 28 is also provided so as not to pinch the gap with the lifting frame. In order to make the design refreshing in appearance as shown in FIG. 10, the pantograph supports are not four, but the center portion is formed by a thick pipe with a gap of three. Further, as shown in FIG. 4, the gas cylinder is installed on the slide metal fitting 28 on the back side of the top plate and the gas cylinder driving metal fitting 14 provided at the end of the lifting frame 13 so as not to touch the eyes.

FIG. 11 shows an embodiment in which a tension spring is used instead of a gas cylinder as a driving source of the present invention.
The stopper mechanism has a structure in which the stopper lever 40 engages the hole portion of the slide fitting 28 and the stopper hole 39 of the stopper lever receiver 38 to lock the slide fitting.

DESCRIPTION OF SYMBOLS 1 Top plate 2 Handle pipe 3 Support | pillar 4 Horizontal rail 4a Vertical frame 5 Rail 6 Main body base frame 7 Caster 8 Battery tray 9 Tray 10 Wiring mall 11 Lifting lever 12 Pantograph type lifting mechanism 13 Lifting frame 14 Gas cylinder drive bracket 15 Base Frame 16 Pantograph A
17 Pantograph A fixed shaft 18 Pantograph A fixed shaft mounting hole 19 Pantograph B
20 Pantograph B movable shaft 21 Lower guide rail 23 Pantograph B fixed shaft 24 Pantograph B fixed shaft mounting hole 25 Pantograph A movable shaft 26 Upper guide rail 27 Stopper 28 Slide bracket 29 Slide tape 30 Gas cylinder movable side 31 Gas cylinder fixed side coupling portion 32 Gas cylinder movable side coupling portion 33 Slide fitting joint portion 34 Slide fitting extension portion 35 Gas cylinder fixed side 36 Bearing roller 37 Tension spring 38 Stopper lever receiver 39 Stopper hole 40 Stopper lever

Cited By (6)

Publication number	Priority date	Publication date	Assignee	Title
CN104013203A *	2013-03-01	2014-09-03	于庆璨	Tea table
CN104887098A *	2015-06-18	2015-09-09	苏州塔可盛电子科技有限公司	Lifting mechanism for self-heating device for milk heater
CN107323943A *	2017-08-04	2017-11-07	潘丽华	A kind of portable transmission conveying arrangement
JP2018525086A *	2015-09-18	2018-09-06	桑歐人体工学科技股▲分▼有限公司 Loctek Ergonomic Technology Corp.	Lifting platform
CN109717619A *	2019-01-07	2019-05-07	广东楹圆建设工程有限公司	A kind of new ceramics composite wood board
CN110844834A *	2019-11-12	2020-02-28	武汉万杰光电有限公司	Lifting platform for machining
Family To Family Citations				

* Cited by examiner, † Cited by third party, ‡ Family to family citation

Similar Documents

Publication	Publication Date	Title
JP2012030022A	2012-02-16	Elevating table
US11140977B1	2021-10-12	Desktop workspace that adjusts vertically
US8424983B1	2013-04-23	Motorized upper and lower storage shelves
JP5144668B2	2013-02-13	Drawable guide assembly for drawer
JP5983752B2	2016-09-06	Stacker crane
US9644884B2	2017-05-09	Refrigerator
JP5644213B2	2014-12-24	lift device
JP2017118906A	2017-07-06	Vertically movable storage device
JP2006020866A	2006-01-26	Elevating device of installation table
CN201297482Y	2009-08-26	Sliding base of display bracket
JP5362417B2	2013-12-11	Pantograph lifter
CN110482445B	2021-01-29	Carrying supporting mechanism and carrying vehicle
US8499378B2	2013-08-06	Pedestal end for patients bed
JP2013202054A	2013-10-07	Nurse cart
JPH0713544Y2	1995-04-05	Table with side rack lifting device
CN201719374U	2011-01-26	Anesthesia machine bearing device for medical crane tower
JPH11139785A	1999-05-25	Lifting traveling device
CN209253472U	2019-08-16	Medical trolley and Medical trolley pedestal
CN214759779U	2021-11-19	Movable bedside table for ward
CN105877202A	2016-08-24	Liftable cabinet
JP6818370B2	2021-01-20	Vehicle maintenance lift
JP6362213B2	2018-07-25	Side plate angle variable type desk
JP2015211845A	2015-11-26	Nurse cart
JPWO2015052998A1	2017-03-09	Loading and unloading the stocker and the drawer shelf unit from the stocker
JP6415064B2	2018-10-31	Caster table

Priority And Related Applications

Priority Applications (1)

Priority Applications (1)

Application	Priority date	Filing date	Title
JP2010182616A	2010-07-30	2010-07-30	Elevating table

Applications Claiming Priority (1)

Application	Filing date	Title
JP2010182616A	2010-07-30	Elevating table

Concepts

machine-extracted

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Name	Image	Sections	Count	Query match
elevating		title,abstract,description	19	0.000
Clearance		claims,description	2	0.000
clearance		claims,description	2	0.000
acceleration		abstract,description	2	0.000

Show all concepts from the description section

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Patents

Bed or working surface of variable height using scissor jack with air spring of constant force but adjustable moment to match load weight

Abstract

The scissor jack is activated by the adjustable spring (15), preferably an air spring. The force exerted to raise a load is varied by moving the foot of the spring along a track (16) using the adjuster (17). The table is locked at the required height by a locking jack (18) or a lock integral with the spring (15).

Classifications

A47B9/16 Tables with tops of variable height with means for, or adapted for, inclining the legs of the table for varying the height of the top, e.g. with adjustable cross legs

View 1 more classifications

NL1011051C2

Netherlands

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Other languages: Dutch

Inventor: Cornelis Jacobus Van Klaveren

Worldwide applications

1999 NL

Application NL1011051A events

1999-01-18 Application filed by Unispace A G

1999-01-18 Priority to NL1011051A

1999-01-18 Priority to NL1011051

2000-07-19 Application granted

2000-07-19 Publication of NL1011051C2

Info: Patent citations (4), Cited by (2), Legal events, Similar documents, Priority and Related Applications

External links: Espacenet, Global Dossier, Discuss

Claims (13)

Hide Dependent translated from Dutch

1. Method for height adjustment of a support frame, comprising the steps: A) setting the effective spring pressure of at least one adjusting spring depending on the load of the support frame, B) deactivating the height locking of the support frame, C) changing the height of the support frame, D) activating the height locking of the support frame, and E) repeating steps B) to D) until a changed load of the support frame resets the spring pressure of needs at least one adjusting spring according to step A). 2. Method as claimed in claim 1, wherein the effective spring pressure according to step A) is adjusted such that a substantially equilibrium situation arises between the gravity acting on the support frame and the adjusting force exerted by the at least one adjusting spring. A method according to claim 1 or 2, wherein the height of the supporting frame according to step C) is changed manually. 20 A method according to any one of the preceding claims, wherein the height of the support frame according to step C) is changed by changing the position of at least one scissor mechanism forming part of the support frame. A method according to any one of the preceding claims, wherein the adjustment of the effective spring pressure of at least one adjusting spring according to step A) is effected by changing at least one engaging position of the adjusting spring on the supporting frame. 6. A method according to any one of the preceding claims, wherein the adjustment of the effective spring pressure of at least one adjusting spring according to step A) takes place by changing the spring constant of the adjusting spring. 1 I I u: I -9- 7. Height-adjustable device comprising a carrying frame provided with a scissor mechanism with locking means for locking the scissor mechanism in different positions, the device also comprising at least one adjusting spring engaging the scissor mechanism with an adjustable effective spring pressure. Height-adjustable device according to claim 7, wherein the adjusting spring is provided with adjusting means for changing the spring constant. Height adjustable device according to claim 7 or 8, wherein at least one engagement position of the adjusting spring on the scissor mechanism is adjustable. The height-adjustable device according to any one of claims 7-9, wherein at least one adjusting spring is lockable. 15 The height adjustable device according to any one of claims 7-10, wherein the adjusting spring is a gas spring. 12. Height-adjustable device according to any one of claims 7-11, wherein the device comprises operating means for adjusting the effective spring pressure of the adjusting spring and for activating and deactivating the locking means. Height-adjustable device according to any one of claims 7-12, wherein the blocking means comprise at least one clampable spring. 1011051

Description

translated from Dutch

Method for height adjustment of a support frame and height-adjustable device

The invention relates to a method for height adjustment of a support frame. The invention also relates to a height-adjustable device comprising a support frame provided with a scissor mechanism with locking means for locking the scissor mechanism in different positions.

Many solutions are known for adjusting objects in height, such as, for example, tables, beds, tools, etc. Frequently used constructions comprise one or more telescopic legs, the length of which is adjustable using, for example, a screw spindle or timing belt. Scissor mechanisms are also known. A drawback of the existing height-adjusting means is that they usually have a very limited control range. In addition, a considerable force is required for adjustment so that they are provided with transmissions (think for example of a control wheel or crank) or drive means (electric motor, etc.). The height adjustment is therefore laborious and time consuming or the height adjustment means are expensive.

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The object of the present invention is to provide a method and device for the height adjustment of a support frame with which a relatively large control range can be combined with a substantially powerless operation.

The invention provides for this purpose a method for height adjustment of a supporting frame, comprising the steps: A) setting the effective spring pressure of at least one adjusting spring depending on the load of the supporting frame, B) deactivating the height locking of the supporting frame , C) changing the height of the support frame, D) activating the height locking of the support frame, and E) repeating steps B) to D) until a changed load on the support frame is reset. of the spring pressure of at least one adjusting spring in accordance with step A). Preferably, the effective spring pressure according to step A) is adjusted such that a substantially equilibrium situation arises between the gravity acting on the supporting frame and the adjusting force exerted by the 101 10 51 -2- at least one adjusting spring. By setting the effective spring pressure, depending on the load on the support frame, it is possible to vary the force required to change the height of the support frame and to adjust it to match the user's wishes. In addition, the force required for adjustment is no longer dependent on the load on the support frame; even a heavily loaded support frame can be adjusted in height with little force using this method. Operating means in the form of a transmission or separate drive means can thus also be made superfluous. In the preferred situation that there is a balance between the gravity acting on the support frame 10 and the adjusting force exerted by the adjusting spring, it is even possible with a very limited force (ideally only the force required to overcome the inertia) of the height of the support frame to change. After unlocking the carrying frame, it is then sufficient to engage the carrying frame, or an element coupled thereto, and to exert a limited force thereon in the direction of the desired height change. Height adjustment is therefore very simple and can also be implemented by people who have only limited physical strength (elderly, disabled). Even for such persons it is possible according to a preferred embodiment of the method to carry out a height change of the carrying frame manually or with the aid of another body part.

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In another preferred embodiment of the method, the height of the support frame according to step C) is changed by changing the position of at least one scissor mechanism forming part of the support frame. The use of a scissor mechanism has the important advantage that the control range is relatively large compared to the length of the spring (s) used. With a limited construction height of a support frame in the lowest position, it is still possible to realize a high extreme position.

In yet another preferred application of the method, the adjustment of the effective spring pressure of at least one adjusting spring according to step A) takes place by changing at least one engaging position of the adjusting spring on the supporting frame. It is also possible to set the effective spring pressure of at least one adjusting spring according to step A) by changing the spring constant of the adjusting spring. This means that the spring itself can be adjustable; an example of this is an adjustable gas spring. By varying the gripping position or the gripping direction of the spring force, the effective spring force can also be changed without the spring constant having to be changeable.

The invention also provides a height-adjustable device comprising a supporting frame provided with a scissor mechanism with locking means for locking the scissor mechanism in different positions, the device 10 also comprising at least one adjusting spring engaging the scissor mechanism with an adjustable effective spring pressure. The adjusting spring is preferably provided with adjusting means for changing the spring constant and / or at least one engagement position of the adjusting spring or the scissor mechanism is adjustable. Such a device is simple in construction, can be equipped with cheaper springs and can be provided with a large control range. For example, it appears possible to manufacture a substructure for a table, with which the working height of the table is variable between, for example, 0.68 m and 1.28 m. Such a large control range provides many possibilities of use. Examples are tables that can be used for sitting, but which can also be converted to a standing table and are therefore very desirable in so-called "call centers". Other examples are: 20 hospital beds, roller conveyors, packing and other work tables, loading bridges, etc.

In another preferred embodiment of the device, at least one adjusting spring is lockable. The locking means are thus integrated with the adjusting spring and separate locking means have become superfluous. This simplifies the arrangement. Good results are obtained when the adjusting spring is formed by a gas spring. Gas springs have the advantage that the spring constant remains substantially unchanged over a large part of their stroke length. This is particularly desirable because a certain set spring pressure in a preferred situation is always the same, regardless of the actual height of the device.

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For simple operation of the device, it is provided with operating means for setting the effective spring pressure of the adjusting spring and for activating and deactivating the locking means.

In yet another preferred embodiment the blocking means of the height-adjustable device comprise at least one blockable spring. Lockable springs are widely available and the combination of the two functions in one element makes the device easy to construct. In addition, the height-adjustable device can be made compact, so that a user of the device is at least hindered by the adjusting mechanism.

The present invention will be further elucidated on the basis of the non-limitative exemplary embodiments shown in the following figures. Herein: figure 1 shows a side view of a device according to the invention in a low-set position, figure 2 a side view of the device shown in figure 1 in a high-set position, and figure 3 a perspective view of a work table provided with a height-adjustable device according to the invention.

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Figure 1 shows a side view of a supporting frame 1. The supporting frame 1 comprises two scissor arms 2, 3 which are pivotally connected to each other in a rotation point 4. The scissor arms 2, 3 rotatably engage on a lower beam 5 and at rotation points 6, 7, respectively. The rotation point 7 is not in a fixed position relative to the lower beam 5, but a support arm 8 of the rotation point 7 is slidable in a guide 9 which is assembled with the lower beam 5. In a similar manner, the scissor arms 2, 3 to an upper beam 10 in rotation points 11, 12 respectively. The rotation point 12 is movable relative to the upper beam 10 in that a support arm 13 of the rotation point 12 is movable in a guide 14 which is assembled with the upper beam 10.

1 G 1 1 0 · j 1 -5-

An adjusting spring 15 is placed between the scissor arms 2, 3, which pivots engages on the arms 2,3. in order to vary the force exerted by the adjusting spring 15 on the arms 2, 3, depending on the load on the upper beam 10, it is possible in this embodiment to change the engaging position of the adjusting spring 15 on the scissor arm 3. A guide 16 is arranged on the scissor arm 3 for the desired change of position of the adjusting spring 15 relative to the arm 3. The engaging position of the spring 15 on the arm 3 can be adjusted discreetly or continuously by means of a rotary knob 17. The effective spring force exerted by the adjusting spring 15 on the arms 2, 3 will increase as the engagement position of the spring 15 on the arm 3 increases with respect to the rotation point 10 of the arms 2, 3. With increasing load on the top beam 10, the adjusting spring 15 will thus be moved to a more vertical position, while with decreasing load on the top beam 10 the spring 15 will be moved to a more horizontal position. For a simple adjustment of the engaging position of the spring 15 on the arm 3, it is also possible to replace the rotary knob 17 with a transfer mechanism, so that the engaging position can be changed near the upper beam 10.

The double-bent shape of the two scissor arms 2, 3 has the advantage that such an engagement of the spring 15 on the arms 2, 3 is possible that the adjusting spring 15 still exerts an effective spring force even in a low position of the support frame 1. Thus, there is no "dead" position where the force exerted by the spring 15 passes

through the rotation point 4.

This figure also shows a blockable spring 18, the operation of which will be further elucidated with reference to Figure 2.

Figure 2 shows the support frame 1 of Figure 1 on which a blade 19 is fixed and with a changed position of the support frame 1. It is clearly visible that the distance between the lower beam 5 and the upper beam 10 has increased compared to the figure 1 30 displayed mode. Moving the beams 5, 10 apart requires little force because the adjusting spring 15 supplies at least a significant part of the force required for this.

Also clearly visible in this figure is that the position of the rotation points 7, 12 at 1011031-5 relative to beams 5, 10 has been changed. The supporting arms 8,13 have moved to the right in respective guides 9,14 when the arms 2, 3 in this figure move apart.

The lockable spring 18 must be activated to fix the support frame 1 in a particular condition. Likewise, for mutual displacement of the scissor arms 2, 3, the blockable spring 18 must be deactivated. An operating handle 20 is provided for this purpose.

The table 21 shown in figure 3 is provided with two co-operating scissor arms, 22, 23 and 24, 25 respectively. Adjusting springs 26, 27 engage in fixed positions on scissor arms 22, 23 and 24, 25 respectively. the effective force exerted by the adjusting springs 26, 27 on the scissor arms 22, 23, 24, 25, the adjusting springs 26, 27 are provided with adjusting means 28, 29. The adjustment of the delivered effective spring force is therefore not effected by changing the engaging position of the adjusting springs 26, 27 but by changing the spring constant of the springs 26, 27. it is also possible to move the adjusting means 28, 29 to the edge of a table top 30, so that the operation is relatively simple. An example of an alternative of the adjustability of the adjusting springs 26, 27 is, for example, that it takes place automatically by means of a built-in balancing mechanism (also to be used for changing the engagement position of springs 26, 27 on scissor arms 23-25), but it is It is also possible to automate the adjustment of the adjusting springs 26, 27 and make it dependent on loads detected by sensors. Many structures are conceivable for those skilled in the art to adjust the effectively delivered resilience.

Attention is also drawn to the arrangement of a blocking spring 31, which has been modified relative to Figures 1, 2, which is pivotally connected to scissors arm 22, at least an extended part 32 of the scissors arm 22, and a fixed position on the table top 30. For activation / deactivation of the blocking spring 31, a push button 33 is provided which is attached to the edge of the table top 30.

1 0 1 1 8 0 1 -7-

The table 21 shown in this figure is particularly suitable for use in call centers and the table top 30 has the shape of a truncated triangle, which makes it possible to arrange the table 21 in combination with similar tables 21 in, for example, a circle segment shape or in a line with alternately placed workplaces.

An additional advantage of the table 21 is that the non-parallel arrangement of the scissor arms 22-25 provides the table with extra stability.

Although the invention has been elucidated on the basis of only a few exemplary embodiments, it will be apparent to everyone that the invention is in no way limited to the exemplary embodiments described and shown. On the contrary, many variations are still possible for the skilled person within the scope of the invention.

; 1 5 | 0 1 1 o *

Patent Citations (4)

Publication number	Priority date	Publication date	Assignee	Title
US5588377A *	1995-04-25	1996-12-31	Fleetwood Enterprises, Inc.	Convertible table configurable between expanded and compressed positions
US5632209A *	1993-09-02	1997-05-27	Bisharnon Industries Corporation	Lift table
WO1997038604A1 *	1996-04-18	1997-10-23	Hon Technology Inc.	Adjustable height load bearing support structure
WO1998016134A1 *	1996-10-11	1998-04-23	Hon Technology, Inc.	Adjustable height load bearing support structure
Family To Family Citations				

* Cited by examiner, † Cited by third party

Cited By (2)

Publication number	Priority date	Publication date	Assignee	Title
ITUD20100063A1 *	2010-04-07	2011-10-08	F & F S R L	ADJUSTABLE TABLE IN HEIGHT
CN108024625A *	2015-09-24	2018-05-11	爱格升公司	height-adjustable device
Family To Family Citations				

* Cited by examiner, † Cited by third party, ‡ Family to family citation

Similar Documents

Publication	Publication Date	Title
US7185377B2	2007-03-06	Height adjustable bed and automatic leg stabilizer system therefor
US7347410B2	2008-03-25	Lifting apparatus

US5374102A	1994-12-20	Chair assembly for vehicle
US5165129A	1992-11-24	Adjustable bed frame with inclined guide and drive elements
US5647602A	1997-07-15	Hemi-wheeled walker
US6839918B1	2005-01-11	Collapsible wheel chair with displaceable seat panels
JP2005517614A	2005-06-16	Lifting mechanism and medical equipment incorporating the lifting mechanism
US5402543A	1995-04-04	Patient support apparatus including stabilizing mechanism
US20150028643A1	2015-01-29	Universal Chair Lift Apparatus
CA2488552A1	2005-06-08	Adjustable musical instrument stand
CA2418491C	2006-05-09	A wheelchair seat having adjustable telescoping assembly
US6332232B1	2001-12-25	Portable easy lifting device
NL1011051C2	2000-07-19	Bed or working surface of variable height using scissor jack with air spring of constant force but adjustable moment to match load weight
US20100096900A1	2010-04-22	Lever and wheel attachment device for chairs
US3314384A	1967-04-18	Over-bed table
US20050087957A1	2005-04-28	Riser seat and wheelchairs with same
NL1024909C2	2005-06-02	Device and method for moving people from a sitting to a standing position.
AU2004235713A1	2004-11-18	Calf rest for patient chair
US7931288B1	2011-04-26	Medical wheelchair whose seat having a height adjustable function
FI74396C	1988-02-08	REGLERBAR BAEDD ELLER STOL.
CA2093072C	2003-05-06	Chair assembly for vehicle
EP3650000A1	2020-05-13	Apparatus for lifting people associable with the seat of a chair or an armchair
EP3354160B1	2019-10-16	Height-adjustable platform
NL2005387C2	2012-03-26	TOOLS TO BE ADDED TO A WHEELCHAIR WITH OPTABLE AID, A WHEELCHAIR INTEGRATED WITH SUCH AUXILIARY DEVICE AND A METHOD OF MANUFACTURING IT.
WO2021191787A1	2021-09-30	Table assembly with reversible leg assemblies

Priority And Related Applications

Priority Applications (2)

Application	Priority date	Filing date	Title
NL1011051A	1999-01-18	1999-01-18	Bed or working surface of variable height using scissor jack with air spring of constant force but adjustable moment to match load weight
NL1011051		1999-01-18	

Applications Claiming Priority (1)

Application	Filing date	Title
NL1011051A	1999-01-18	Bed or working surface of variable height using scissor jack with air spring of constant force but adjustable moment to match load weight

Legal Events

Date	Code	Title	Description
2000-09-01	PD2B	A search report has been drawn up	
2012-08-15	V1	Lapsed because of non-payment of the annual fee	Effective date: 20120801

Concepts

machine-extracted

Download Filter table

Name	Image	Sections	Count	Query match
activating		claims,description	4	0.000
blocking		claims,description	4	0.000
gravity		claims,description	3	0.000

Show all concepts from the description section

Data provided by IFI CLAIMS Patent Services

Patents

A kind of workbench of liftable synchronous rotary

Abstract

The invention discloses a kind of workbench of liftable synchronous rotary, belong to mechanical equipment technical field, it is therefore intended that solve the problems, such as that work on hand platform can not flexible modulation.It includes base, platform, front and rear inner surface on the right side of base has been respectively articulated with connecting rod one, connecting rod two, connecting rod one, the other end of connecting rod two is hinged with the front and rear inner surface of platform sinistral respectively, the middle part of connecting rod one is hinged with connecting rod three, the middle part of connecting rod two is hinged with connecting rod four, one end of connecting rod three is articulated with the preceding inner surface of platform dextral, one end of connecting rod four is articulated with the rear inner surface of platform dextral, inner surface offers groove before and after chassis left side, the connecting rod that can be moved along grooved rail mark is provided with groove, connecting rod three, the other end of connecting rod four is sheathed in connecting rod, contiguous block is arranged with the middle part of connecting rod, driving hydraulic cylinder is provided with base, revolving support is also associated with the platform, rotary table top is connected with the revolving support.The present invention is applied to workbench.

Classifications

- A47B17/02 Writing-tables with vertically-adjustable parts

View 5 more classifications

CN107756350A

China

Download PDF Find Prior Art Similar

Other languages: Chinese

Inventor: [redacted]

Current Assignee : Chengdu Yuanshi Information Technology Co Ltd

Worldwide applications

2017 CN

Application CN201711280795.6A events

2017-12-06	Application filed by Chengdu Yuanshi Information Technology Co Ltd
2017-12-06	Priority to CN201711280795.6A
2018-03-06	Publication of CN107756350A
Status	Withdrawn

Info: Cited by (1), Legal events, Similar documents, Priority and Related Applications

External links: Espacenet, Global Dossier, Discuss

Claims (3)

Hide Dependent

1. a kind of workbench of liftable synchronous rotary, it is characterised in that including base (1), platform (2), base (1) right side Front and rear inner surface be respectively articulated with connecting rod one (3), connecting rod two (4), connecting rod one (3), connecting rod two (4) the other end respectively with it is flat Front and rear inner surface on the left of platform (2) is hinged, and connecting rod three (5) is hinged with the middle part of connecting rod one (3), and the middle part of connecting rod two (4) is hinged There is connecting rod four (6), one end of connecting rod three (5) is articulated with the preceding inner surface on the right side of platform (2), and one end of connecting rod four (6) is articulated with Rear inner surface on the right side of platform (2), on the left of base (1) before and after inner surface offer groove, being provided with groove can move along grooved rail mark Connecting rod (7), connecting rod three (5), the other end of connecting rod four (6) be sheathed in connecting rod (7), is arranged in the middle part of connecting rod (7) There is contiguous block (8), driving hydraulic cylinder (9) is provided with base (1), the driving hydraulic cylinder (9) includes fixing end, movable end, The fixing end is connected with contiguous block (8) one end, pedestal (10) connection that the movable end is connected with base (1), is also set up There is controller, the controller is electrically connected with driving hydraulic cylinder (9), and revolving support (12), institute are also associated with the platform (2) State and rotary table top (13) is connected with revolving support (12), be additionally provided with by the revolving support (12) for driving revolving support (12) drive device of gyration is done in horizontal plane.

2. according to a kind of workbench of liftable synchronous rotary described in claim 1, it is characterised in that connecting rod one (3) with Synchronizing bar (11) is also associated between the hinged place of the hinged place of connecting rod three (5), connecting rod two (4) and connecting rod four (6).

3. according to a kind of workbench of liftable synchronous rotary described in claim 1, it is characterised in that the rotary table top (13) it is provided with skid resistant course.

Description

A kind of workbench of liftable synchronous rotary

Technical field

The invention belongs to mechanical equipment technical field, and in particular to a kind of workbench of liftable synchronous rotary.

Background technology

Workbench be widely used in constructing, fit up, the equipment in the field such as art, family expenses, for placing construction, finishing When instrument, or put drawing, the utensil of calligraphy, also or household goods etc..

Existing workbench is mostly fixed structure, and people often refer to high-rise working, mobile work in construction, finishing industry, therefore fetching tool is inconvenient up and down, draw, calligraphy when because pigment is more, be usually covered with whole table top, but work Make platform and can not adjust, it is

necessary to the pigment disk for being moved to needs dips pigment, so indirectly to increase the workload of people, shadow The operating efficiency of people is rung.

The content of the invention

It is an object of the invention to: A kind of workbench of liftable synchronous rotary is provided, solve work on hand platform without The problem of method flexible modulation.

The technical solution adopted by the present invention is as follows:

A kind of workbench of liftable synchronous rotary, including base, platform, the front and rear inner surface on the right side of base are cut with scissors respectively Connecting rod one, connecting rod two are connected to, the front and rear inner surface of connecting rod one, the other end of connecting rod two respectively with platform sinistral is hinged, connecting rod one Middle part be hinged with connecting rod three, the middle part of connecting rod two is hinged with connecting rod four, one end of connecting rod three be articulated with platform dextral it is preceding in Surface, one end of connecting rod four are articulated with the rear inner surface of platform dextral, and inner surface offers groove before and after chassis left side, is set in groove There is the connecting rod that can be moved along grooved rail mark, connecting rod three, the other end of connecting rod four are sheathed in connecting rod, are arranged in the middle part of connecting rod Have contiguous block, be provided with driving hydraulic cylinder on base, the driving hydraulic cylinder includes fixing end, movable end, the fixing end with Contiguous block one end connects, and the pedestal connection that the movable end is connected with base, is additionally provided with controller, the controller is with driving Hydrodynamic cylinder pressure electrically connects, and is also associated with revolving support on the platform, is connected with rotary table top on the revolving support, described time Turn the other drive device being additionally provided with for driving revolving support to do in horizontal plane gyration of support.

Further, the hinged place of connecting rod one and connecting rod three, it is also associated between connecting rod two and the hinged place of connecting rod four same Walk bar.

Further, the rotary table top is provided with skid resistant course.

In summary, by adopting the above-described technical solution, the beneficial effects of the invention are as follows:

1st, in the present invention, including base, platform, the front and rear inner surface on the right side of base have been respectively articulated with connecting rod one, connecting rod two, The front and rear inner surface of connecting rod one, the other end of connecting rod two respectively with platform sinistral is hinged, and the middle part of connecting rod one is hinged with connecting rod three, The middle part of connecting rod two is hinged with connecting rod four, and one end of connecting rod three is articulated with the preceding inner surface of platform dextral, one end hinge of connecting rod four The rear inner surface of platform dextral is connected to, inner surface offers groove before and after chassis left side, is provided with what can be moved along grooved rail mark in groove Connecting rod, connecting rod three, the other end of connecting rod four are sheathed in connecting rod, are arranged with contiguous block in the middle part of connecting rod, are set on base Driving hydraulic cylinder is equipped with, the driving hydraulic cylinder includes fixing end, movable end, and the fixing end is connected with contiguous block one end, institute The pedestal connection that movable end is connected with base is stated, is additionally provided with controller, the controller electrically connects with driving hydraulic cylinder, institute State and revolving support is also associated with platform, rotary table top is connected with the revolving support, is additionally provided with by the revolving support For driving revolving support to do in horizontal plane the drive device of gyration.Pass through the setting, controller control driving hydraulic cylinder it is flexible, drive connecting rod to be moved in chute, can rise when connecting rod moves right with moving platform, the revolution connected on platform Supporting drive rotary table top rises, and can decline when connecting rod is moved to the left with moving platform, the revolving support band connected on platform Dynamic rotary table top declines, and drive device drives revolving support to do gyration in horizontal plane, and revolving support drives rotary table top to do Rotary motion, solve the problems, such as that work on hand platform can not flexible modulation.

2nd, in the present invention, the hinged place of connecting rod one and connecting rod three, it is also associated between connecting rod two and the hinged place of connecting rod four Synchronizing bar.By the setting, synchronizing bar makes lifting platform more stable.

3rd, in the present invention, the rotary table top is provided with skid resistant course.By the setting, prevent caused by rotary table top rotates The article placed on rotary table top drops.

Brief description of the drawings

Fig. 1 is the structural representation of the present invention;

Marked in figure: 1- bases, 2- platforms, 3- connecting rods one, 4- connecting rods two, 5- connecting rods three, 6- connecting rods four, 7- connecting rods, 8- contiguous blocks, 9- driving hydraulic cylinders, 10- pedestals, 11- synchronizing bars, 12- revolving supports, 13- rotary table tops.

Embodiment

In order to make the purpose , technical scheme and advantage of the present invention be clearer, it is right below in conjunction with drawings and Examples The present invention is further elaborated.It should be appreciated that specific embodiment described herein is only to explain the present invention, not For limiting the present invention.

A kind of workbench of liftable synchronous rotary, including base, platform, the front and rear inner surface on the right side of base are cut with scissors respectively Connecting rod one, connecting rod two are connected to, the front and rear inner surface of connecting rod one, the other end of connecting rod two respectively with platform sinistral is hinged, connecting rod one Middle part be hinged with connecting rod three, the middle part of connecting rod two is hinged with connecting rod four, one end of connecting rod three be articulated with platform dextral it is preceding in Surface, one end of connecting rod four are articulated with the rear inner surface of platform dextral, and inner surface offers groove before and after chassis left side, is set in groove There is the connecting rod that can be moved along grooved rail mark, connecting rod three, the other end of connecting rod four are sheathed in connecting rod, are arranged in the middle part of connecting rod Have contiguous block, be provided with driving hydraulic cylinder on base, the driving hydraulic cylinder includes fixing end, movable end, the fixing end with Contiguous block one end connects, and the pedestal connection that the movable end is connected with base, is additionally provided with controller, the controller is with driving Hydrodynamic cylinder pressure electrically connects, and is also associated with revolving support on the platform, is connected with rotary table top on the revolving support, described time Turn the other drive device being additionally provided with for driving revolving support to do in horizontal plane gyration of support.

Further, the hinged place of connecting rod one and connecting rod three, it is also associated between connecting rod two and the hinged place of connecting rod four same Walk bar.

Further, the rotary table top is provided with skid resistant course.

The present invention in implementation process, stretch, and drives connecting rod to be moved in chute by controller control driving hydraulic cylinder, when Connecting rod, which moves right, to be risen with moving platform, and the revolving support connected on platform drives rotary table top to rise, and works as connecting rod Being moved to the left can decline with moving platform, and the revolving support connected on platform drives rotary table top to decline, and drive

device drives back Turn to be supported on horizontal plane and do gyration, revolving support drives rotary table top to rotate, solve work on hand platform without The problem of method flexible modulation.The hinged place of connecting rod one and connecting rod three, it is also associated between connecting rod two and the hinged place of connecting rod four same Walk bar.By the setting, synchronizing bar makes lifting platform more stable.The rotary table top is provided with skid resistant course.By the setting, Prevent because the article placed caused by rotary table top rotation on rotary table top drops.

Embodiment 1

A kind of workbench of liftable synchronous rotary, including base, platform, the front and rear inner surface on the right side of base are cut with scissors respectively Connecting rod one, connecting rod two are connected to, the front and rear inner surface of connecting rod one, the other end of connecting rod two respectively with platform sinistral is hinged, connecting rod one Middle part be hinged with connecting rod three, the middle part of connecting rod two is hinged with connecting rod four, one end of connecting rod three be articulated with platform dextral it is preceding in Surface, one end of connecting rod four are articulated with the rear inner surface of platform dextral, and inner surface offers groove before and after chassis left side, is set in groove There is the connecting rod that can be moved along grooved rail mark, connecting rod three, the other end of connecting rod four are sheathed in connecting rod, are arranged in the middle part of connecting rod Have contiguous block, be provided with driving hydraulic cylinder on base, the driving hydraulic cylinder includes fixing end, movable end, the fixing end with Contiguous block one end connects, and the pedestal connection that the movable end is connected with base, is additionally provided with controller, the controller is with driving Hydrodynamic cylinder pressure electrically connects, and is also associated with revolving support on the platform, is connected with rotary table top on the revolving support, described time Turn the other drive device being additionally provided with for driving revolving support to do in horizontal plane gyration of support.Pass through the setting, control Device control driving hydraulic cylinder is stretched, and is driven connecting rod to be moved in chute, can be risen when connecting rod moves right with moving platform, The revolving support connected on platform drives rotary table top to rise, and can decline when connecting rod is moved to the left with moving platform, on platform The revolving support of connection drives rotary table top to decline, and drive device drives revolving support to do gyration, revolution branch in horizontal plane Support drives rotary table top to rotate, and solves the problems, such as that work on hand platform can not flexible modulation.

Embodiment 2

On the basis of embodiment 1, the hinged place of connecting rod one and connecting rod three, between connecting rod two and the hinged place of connecting rod four also it is connected with synchronizing bar.By the setting, synchronizing bar makes lifting platform more stable.

Embodiment 3

On the basis of above-described embodiment, the rotary table top is provided with skid resistant course.By the setting, prevent because of turntable The article that face rotation causes to place on rotary table top drops.

The foregoing is merely illustrative of the preferred embodiments of the present invention, is not intended to limit the invention, all essences in the present invention All any modification, equivalent and improvement made within refreshing and principle etc., should be included in the scope of the protection.

Cited By (1)

Publication number	Priority date	Publication date	Assignee	Title
CN108908237A *	2018-07-16	2018-11-30	芜湖辉林奥远自动化科技有限公司	One kind being convenient for generator assembling recruitment assembling platform

Family To Family Citations

* Cited by examiner, † Cited by third party, ‡ Family to family citation

Similar Documents

Publication	Publication Date	Title
CN107838891A	2018-03-27	It is a kind of can synchronous rotary Multifunctional working platform
CN107756350A	2018-03-06	A kind of workbench of liftable synchronous rotary
CN206856686U	2018-01-09	A kind of hydraulic leg automatic telescopic backing plate
CN205855849U	2017-01-04	A kind of power equipment elevator
CN207824832U	2018-09-07	It is a kind of can synchronous rotary Multifunctional working platform
CN107836827A	2018-03-27	A kind of Multifunctional working platform of synchronous rotary capable of reversing
CN107381329A	2017-11-24	Automatic hook block
CN208200130U	2018-12-07	A kind of auxiliary agent bucket lifting device of forming machine
CN207594619U	2018-07-10	Pinch-roller type engraving machine
CN207710738U	2018-08-10	A kind of workbench of liftable synchronous rotary
CN107838892A	2018-03-27	A kind of workbench of stable liftable synchronous rotary
CN107840268A	2018-03-27	It is a kind of it is stable can synchronous rotary Multifunctional working platform

CN207696486U	2018-08-07	A kind of workbench of stable liftable synchronous rotary
CN207792577U	2018-08-31	It is a kind of it is stable can synchronous rotary Multifunctional working platform
CN107840083A	2018-03-27	A kind of Multifunctional working platform capable of reversing
CN208485517U	2019-02-12	It is a kind of for boring the handling device of fluted disc
CN205855895U	2017-01-04	A kind of power equipment hoisting mechanism
CN205772880U	2016-12-07	A kind of hanging balancing formula hoist crab
CN208532122U	2019-02-22	Decorative panel mobile lifting device
CN205180885U	2016-04-27	Beautifying bed hydraulic pressure elevation structure
CN206484414U	2017-09-12	A kind of automatic polishing equipment for being easy to disk stone mill secure loading
CN204689546U	2015-10-07	The large-scale bell jar planer-type that hangs moves lifting machine
CN205222628U	2016-05-11	Hoisting apparatus convenient to operation
CN204689580U	2015-10-07	High-power transformer bell jar indoor vertical lifting device on the spot
CN107840269A	2018-03-27	A kind of workbench of synchronous rotary lifting capable of reversing

Priority And Related Applications

Priority Applications (1)

Application	Priority date	Filing date	Title
CN201711280795.6A	2017-12-06	2017-12-06	A kind of workbench of liftable synchronous rotary

Applications Claiming Priority (1)

Application	Filing date	Title
CN201711280795.6A	2017-12-06	A kind of workbench of liftable synchronous rotary

Legal Events

Date	Code	Title	Description
2018-03-06	PB01	Publication	
2018-03-06	PB01	Publication	
2018-03-30	SE01	Entry into force of request for substantive examination	
2018-03-30	SE01	Entry into force of request for substantive examination	
2019-02-01	WW01	Invention patent application withdrawn after publication	
2019-02-01	WW01	Invention patent application withdrawn after publication	~~Application publication date~~: 20180306

Concepts

machine-extracted

Download Filter table

Name	Image	Sections	Count	Query match
synchronised		title,claims,abstract,description	11	0.000
modifying		abstract,description	5	0.000

Show all concepts from the description section

Patents

Table raising device for e.g. water sport, has lower and upper frames overlapped with respect to each other and articulated by two knuckles without axles permitting frames to pivot with respect to each other, and cord fixed on lower frame

Abstract

The device has a plate, and lower and upper frames (1, 2) overlapped with respect to each other. The two frames are articulated by two knuckles (3) without axles permitting the frames to pivot with respect to each other. The knuckles comprise two disks which are assembled by a squared section ring made of friction polymer, and a cord is fixed on the frame (1). One of the frames is fixed to the ground by two fixation plates (6) at its lower end and is in sliding connection with respect to the plate by its upper end.

Classifications

A47B9/16 Tables with tops of variable height with means for, or adapted for, inclining the legs of the table for varying the height of the top, e.g. with adjustable cross legs

FR2894794A1

France

Download PDF Find Prior Art Similar

Other languages: French

Inventor: Christian Robert Roger Hoh

Worldwide applications

2005 FR

Application FR0512916A events

2005-12-20 Application filed by Christian Robert Roger Hoh

2005-12-20 Priority to FR0512916A

2007-06-22 Publication of FR2894794A1

Status Withdrawn

Info: Patent citations (3), Cited by (2), Legal events, Similar documents, Priority and Related Applications

External links: Espacenet, Global Dossier, Discuss

Claims (5)

Hide Dependent translated from French

claims 1) Device characterized by the fact that one can raise a table at any height, this device is constituted of a plate and 2 frames (1) and (2) imbrics run in ratite and articulated by 2 kneecaps without axes (3) allowing the 2 frames to rotate run relative to each other. 2) Device according to claim 1) characterized in that these 2 ball joints, have no axis and are each constituted by 2 disks with 2 half-hollow milling, the assembly of these two disks being made by a section ring square friction polymer, the two discs rotate run relative to each other. 3) Device according to claims 1) and 2) characterized in that a frame is fixed to the ground at its lower end and is slidably connected relative to the plate by its upper end, the second frame is slidably connected to the ground by its lower end and is fixed to the plate by its upper end, two wheels on each of the frames allowing the sliding of the parts not fixed. 4) Device according to claim 3) characterized by the fact that ('the lifting force is found halved by (' use of a pulley diverting 5) Device according to claim 4) characterized in that a cord allows positioning at any height of the table top, the cord being stopped by a fixed stop cleat on run frames. 2

Description

translated from French

The present invention relates to a device for raising a table a

several heights. the device according to the invention has several features for lifting a table. A cord through a pulley multiplying multiplier effort 2 allows at the same time a pull up the table to engage the lifting of the table. The table can thus be positioned from coffee table to high table with all possible intermediate positions. The lifting rope hangs in a jam cleat. A second safety cord 10 slides in a blocker to avoid a sudden descent. The accompanying drawings illustrate the invention, the plane 1 represents in section the device The plane 2 represents the top view, closed system, showing the 2 frames interlocking run in ratite Each frame being composed of four aluminum tubes of rectangular section, assembled by means of squares in aluminum foundry (planes 4 and 5) These squares by their design are reversible left right, two machining are necessary to accommodate a common axis to a roulette (8) or a mounting plate (8) With reference to these drawings the device comprises 2 frames (1) and (2) These 2 frames are connected by 2 ball joints (3) see details plan 3. These 2 ball joints, which make! The object of the invention does not have an axis and consist of each of two disks having two semi-hollow millings, the assembly of these two disks being made by a ring of square section made of friction polymer, with enough game so that both discs can rotate run in relation to each other. The frame is fixed on the ground by means of two plates (6) articulated at the end of the frame (1). The fixing under the table is done by two plates (6) articulated at the end of the frame (2). At the raising of the table (see plan 1), 30 I X of the mechanism is on the floor on two wheels fixed at the end of the frame (1) and under the table by two other wheels fixed at the end of the frame (2). To raise the table, a cord fixed on the frame (1) in the middle of the width of are located the plates (6) joins the deflection pulley (4) located on the frame (2) and then returns to the point of attachment passing in a camming cleat (9). An unrepresented safety cord doubles the safety of the jam cleat, fixing itself in a jam next to the jam cleat.

Patent Citations (3)

Publication number	Priority date	Publication date	Assignee	Title

FR2448572A1 *	1978-12-26	1980-07-25	Kobayashi Itaru	GUITARIST FOOTREST
US4585212A *	1984-12-07	1986-04-29	International Business Machines Corporation	Lift device of the scissor-jack type
DE10024075A1 *	2000-05-17	2001-11-29	Gotthard Heide	Lifting device for shear legs has traction member which can be drawn in by drive wheel of drive, round which traction member runs
Family To Family Citations				

* Cited by examiner, † Cited by third party

Cited By (2)

Publication number	Priority date	Publication date	Assignee	Title
US10244861B1	2015-01-24	2019-04-02	Nathan Mark Poniatowski	Desktop workspace that adjusts vertically
US10893748B1	2017-07-08	2021-01-19	Office Kick, Inc.	Height adjustable desktop
Family To Family Citations				

* Cited by examiner, † Cited by third party, ‡ Family to family citation

Similar Documents

Publication	Publication Date	Title
US20090078921A1	2009-03-26	Cable puller with pivot adjuster for converting between upward and downward cable pulling
US6004064A	1999-12-21	Retrofittable quick release mechanism
FR2894794A1	2007-06-22	Table raising device for e.g. water sport, has lower and upper frames overlapped with respect to each other and articulated by two knuckles without axles permitting frames to pivot with respect to each other, and cord fixed on lower frame
FR2767778A1	1999-03-05	Door system, especially for passenger aircraft
US10421653B2	2019-09-24	Portable manhole cover moving assembly and method for moving a manhole cover
EP1728962A3	2009-04-15	Fastening of a closure member of a roller shutter and roller shutter with such a fastening
CA2070786A1	1991-06-08	Trailer with combined towing and centering means
EP0856621B1	2001-10-10	Apparatus for positioning ceiling panels
FR2606361A1	1988-05-13	CURSOR SYSTEM WITH REMOVABLE PULLEY FOR SAILBOAT
EP2629993A1	2013-08-28	Load carrier
EP1883600A1	2008-02-06	Push bar for pushing a stuck vehicle
DE202008006887U1	2009-08-20	Heavy vehicle axle with integrated brake
CA2825614A1	2014-04-04	Towing system
US4268058A	1981-05-19	Coupler for snowplow
FR2464845A1	1981-03-20	VEHICLE COMPONENT, ESPECIALLY FOR COACHES
FR2607460A1	1988-06-03	BUS FORMED IN THE FORM OF AN ARTICULATED TRAIN WITH A TRACTOR VEHICLE
DE522459C	1931-04-09	Lever lock for lids, especially milk cans, blood cans and the like. like
EP0158833A1	1985-10-23	Device for retrieving balls or other round articles
DE2311111C		
EP1805008B1	2006-12-20	Refuse collecting container
FR2873093A1	2006-01-20	Direction and incidence controlling device for power kite, has outhaul lines passing in pulleys and pulled towards inhaul lines, where outhaul lines are fixed to inhaul lines at height equal to/greater than height at which bar is fixed
EP3230532B1	2019-07-03	Assembly for roadway manhole comprising a frame, a cover and a kit allowing the cover to be hingedly mounted on the frame
FR2764573A1	1998-12-18	TRANSITION HITCH FOR RAIL VEHICLES
FR2696147A1	1994-04-01	Articulation device at the bottom of a side panel of a vehicle tipper.
US274749A	1883-03-27	Car-coupling

Priority And Related Applications

Priority Applications (1)

Application	Priority date	Filing date	Title
FR0512916A	2005-12-20	2005-12-20	Table raising device for e.g. water sport, has lower and upper frames overlapped with respect to each other and articulated by two knuckles without axles permitting frames to pivot with respect to each other, and cord fixed on lower frame

Applications Claiming Priority (1)

Application	Filing date	Title
FR0512916A	2005-12-20	Table raising device for e.g. water sport, has lower and upper frames overlapped with respect to each other and articulated by two knuckles without axles permitting frames to pivot with respect to each other, and cord fixed on lower frame

Legal Events

Date	Code	Title	Description
2010-03-26	CA	Change of address	
2012-09-07	ST	Notification of lapse	**Effective date:** 20120831

Concepts

machine-extracted

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Name	Image	Sections	Count	Query match
water		title	1	0.000
polymer		claims,abstract,description	3	0.000
Joints		claims,description	3	0.000
Patella		claims	1	0.000
milling		claims	1	0.000

Show all concepts from the description section

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Patents

Folding table

Abstract

translated from German

A folding table comprising: a base (10), a lifting device (20) fixed to the base (10) and having a top, an adjustment assembly (30) pivotally connected to the lifting device (20), comprising An adjustment plate (32) pivotally connected to the top of the elevator (20), an adjustment rack (326) attached to the adjustment plate (32) and an engagement side formed with a plurality of teeth (328) and opposite to the engaging side has a smooth side, an adjusting slider (34) movably mounted on the adjusting plate (32) and a bottom, an engaging block (36) pivotally attached to the underside of the adjusting slider (34) and an engaging pin (362) formed on the engaging block (36) and selectively engaging one of the teeth (328) on the adjusting rack (326), two spring members (37) mounted on the underside of the adjusting slide (34), are mounted and in each case with two sides of the engagement block (36) in communication, and a connecting arm (38) having an upper end and a lower end, said lower end pivotally connected to the adjusting slide (36), a support plate (40) pivotally connected to the adjusting plate (32), pivotally connected to the upper end of the connecting arm (38), and a pivoting edge pivotally connected to the adjusting plate (32) and a supporting block (42) which is pivotally attached to the pivotal edge of the carrier plate (40).

Images (15)



DE202016101126U1

Germany

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Other languages: German

Worldwide applications

2016 DE

Application DE202016101126.4U events

2016-03-02 Application filed by Yao-Chuan Wu

2016-03-02 Priority to DE202016101126.4U

2016-06-21 Publication of DE202016101126U1

Status Active

2026-03-03 Anticipated expiration

Info: Cited by (9), Legal events, Similar documents, Priority and Related Applications

External links: Espacenet, Global Dossier, DPMA, Discuss

Classifications

A47B9/16 Tables with tops of variable height with means for, or adapted for, inclining the legs of the table for varying the height of the top, e.g. with adjustable cross legs

View 4 more classifications

Claims (10)

Hide Dependent

translated from German

Folding table comprising: a base (10), a lifting device (20) at the base (10) and has an upper side, an adjustment assembly (30) pivoting with the lifting device (20), comprising an adjustment plate (32) pivotally connected to the top of the lifting device (20), an adjustment rack (326) attached to the adjustment plate (32) and an engaging side, which has a plurality of teeth (328) is formed, and opposite the engagement side has a smooth side, an adjusting slide (34), which is movable on the adjusting plate (32) and a bottom, an intervention block (36), which is pivotally mounted on the underside of the adjusting slide (34) and an engagement pin (362) attached to the engaging block (36) and selectively with one of the teeth (328) on the adjusting rack (326) interlocks, two spring elements (37) located at the bottom of the adjustment slide (34) and each with two sides of the engaging block (36) and a connection arm (38), which has an upper end and a lower end, wherein the lower end pivotally connected to the adjustment slide (36), a carrier plate (40) pivoting with the adjusting plate (32) is pivotally connected to the upper end of the connecting arm (38) and a pivoting edge which is pivotable with the adjusting plate (32), and a support block (42), which is pivotally mounted on the pivot edge of the carrier plate (40) is attached. Folding table according to claim 1, in which the lifting device (20) a drive device (22) at the base (10), a threaded rod (24), which rotates at the base (10) and with the drive device (22) is connected and driven by this, a movable lower part (26), which is movable at the base (10) and a threaded hole (262), which with the threaded rod (24) and several lifting rods (28), which are divided into several pairs, each pair of lifting rods (28) a first lifting bar (282) and a second lifting bar (284) pivoting with the first lifting bar (282), the first lifting bar (282) of each pair of lifting bars (28) pivotable with the base (10), and wherein the second lifting bar (284) of each pair of lifting bars (28) pivotable with the movable lower part (26), wherein the adjusting plate (32) pivotable with the upper ends of the lifting rods (28), and wherein the first lifting bar (282) of each pair of lifting bars (28) displaceable with the adjusting plate (32). Folding table according to claim 2, in which the base (10) a base well (12), which in an upper side of the base (10), wherein the movable lower part (26) movable in the base recess (12) and wherein the threaded rod (24) into the base well (12). Folding table according to claim 3, wherein the base recess (12) has two opposite sides, with two rails (14) in each case on the two opposite sides of the base depression (12) and are parallel to each other, the threaded rod (24) parallel to the rails (14), and the movable lower part (26) movable with the rails (14). Folding table according to claim 4, in which the adjusting plate (32) an upper side and a sliding recess (322), which in the top of the adjusting plate (32) is formed and has a bottom, a rack recess (324) in the bottom of the sliding recess (322) is provided, which has a bottom and two opposite sides, the Einstellzahnstange (326) at the bottom of the rack recess (324), and the engagement side and the smooth side of the adjustment rack (326) each from the opposite sides of the rack recess (324) are spaced, so that two sliding channels between the rack recess (324) and the Einstellzahnstange (326) are formed. Folding table according to claim 1, in which the lifting device (20A) several lifting racks (21) at the base (10A) and are parallel to each other, each lifting rack (21) an engagement side on which a plurality of teeth (212) are provided, and a smooth side, which the engaging side of the lifting rack (21), a plurality of lifting sliders (23), which are movable at the base (10A) and in each case with respect to the lifting racks (21) are movable, each lifting slider (23) an underside, an intervention block (25), which is pivotally mounted on the underside of the adjusting slide (23) and an engagement pin (252), which on the engagement block (25) of the lifting slider (23) and selectively with one of the teeth (212) on a corresponding lifting rack (21) and two spring elements (27), which at the bottom of the adjusting slide (23) and each with two sides of the engaging block (25) of the lifting slider (23) and several lifting bars (28A), which are divided into several pairs, each pair of lifting rods (28A) a first lifting bar (282A) and a second lifting bar (284A) pivoting with the first lifting bar (282A), wherein the first lifting bar (282A) of each pair of lifting bars (28A) pivotable with the base (10A), and wherein the second lifting bar (284A) of each pair of lifting bars (28A)

pivotable with one of the lifting sliders (23), wherein the adjustment plate (32) pivotable with the upper ends of the lifting rods (28A), and wherein the first lifting bar (282A) of each pair of lifting bars (28A) displaceable with the adjusting plate (32) connected is. Folding table according to claim 6, in which the base (10A) several slide recesses (12A), which in an upper side of the base (10A) are formed, wherein the lifting slide (23) in each case movable in the slide recesses (12A) are mounted, and wherein the lifting racks (21) in each case in the slide recesses (12A) are mounted. Folding table according to claim 7, wherein each slide recess (12A) has a bottom and a rack recess which in the bottom of the slide recess (122) and a bottom and two opposite sides, wherein the lifting racks (21) at the bottoms of the rack recesses (122) in the slide recesses (12A) and wherein the engaging side and the smooth side of each lifting rack (21) respectively from the opposite sides of the associated one of the rack recesses (122) are spaced around two sliding channels between the lifting rack (21) and the associated rack recess (122) define. Folding table according to claim 8, wherein each slide recess (12A) two opposite sides and two rails (14A), which each at the two opposite sides of the slide recess (12A) and are parallel to each other, each lifting rack (21) parallel to the rails (14A) in the respective associated slide recess (12A), and each lifting slider (23) movable with the rails (14A) in the respective associated slide recess (12A). Folding table according to claim 9, in which the adjusting plate (32) an upper side and a sliding recess (322), which in the top of the adjusting plate (32) is formed and has a bottom, a rack recess (324) in the bottom of the sliding recess (322) is provided, which has a bottom and two opposite sides, the Einstellzahnstange (326) at the bottom of the rack recess (324), and the engagement side and the smooth side of the adjustment rack (326) each from the opposite sides of the rack recess (324) are spaced around two sliding channels between the rack recess (324) and the Einstellzahnstange (326) define.

Description

translated from German

1. Area of utility model

The present utility model relates to a table, and in particular a folding table.

2. Description of the Related Art

A conventional office table always has a fixed height and is not adjustable in height for adaptation to different users. Therefore, a conventional office table for a tall or short-lived user is not comfortable and convenient in use. In addition, the conventional office table is not according to a portable device, which is stored on the table, such as a notebook or a tablet computer, adjustable to an inclined angle, so that the conventional office table is not convenient to use.

To remedy the deficiencies, the present utility aims to provide a folding table that can reduce or avoid the aforementioned problems.

The main purpose of the utility model is to provide a folding table that is adjustable so that it can be raised to different heights and stretched at different angles and is convenient and versatile in use.

The folding table has a base, a lifting device, an adjustment assembly and a support plate. The lifting device is mounted on the base and has a top. The adjustment assembly is pivotally connected to the elevator and includes an adjustment plate, an adjustment rack, an adjustment slider, and a linkage arm. The adjustment plate is pivotally connected to the top of the lifting device. The adjusting rack is attached to the adjusting plate and has an engaging side formed with a plurality of teeth and a smooth side opposite to the engaging side. The adjustment slide is movably mounted on the adjustment plate and has a bottom, an engagement block and two spring elements. The engagement block is pivotally mounted to the underside of the adjustment slide and includes an engagement pin formed on the engagement block and selectively engaged with one of the teeth on the adjustment rack. The two spring elements are attached to the underside of the adjusting slide and are each connected to two sides of the engaging block. The connecting arm has an upper end and a lower end, the lower end being pivotally connected to the adjusting slider. The support plate is pivotally connected to the adjustment plate, is pivotally connected to the upper end of the connecting arm and has a pivoting edge and a support block. The pivot edge is pivotally connected to the adjustment plate. The support block is pivotally attached to the pivotal edge of the support plate.

Other objects, advantages and novel features of the utility model will become more apparent from the following detailed description with reference to the accompanying drawings.

IN THE DRAWINGS

1 FIG. 1 is a perspective view of a first embodiment of a folding table according to the present invention in an unfolded state; FIG.

2 is a perspective view of the folding table 1 in a folded state,

3 is a perspective partially exploded view of the folding table 1 .

4 is another perspective partially exploded view of the folding table 1 .

5 is a plan view of the folding table 1 in cross section,

6 is another plan view of the folding table 1 in cross section,

7 is an enlarged perspective exploded view of the adjustment slide of the folding table 4 .

8th is a working side view of the folding table 1 in partial section,

9 is an enlarged operational plan view of the adjustment slide of the folding table 4 in partial section,

10 is another enlarged operational top view of the adjustment slide of the folding table 4 in partial section,

11 is a perspective view of a second embodiment of a folding table according to the present utility model in an unfolded state,

12 is a perspective partially exploded view of the folding table 11 .

13 is an enlarged exploded perspective view of the lifting slider of the folding table 12 .

14 is a working side view of the folding table 11 in partial section, and

15 is an operational top view of the folding table in partial section along the line 15-15 14 ,

Referring to 1 , 3 and 4 For example, a first embodiment of a folding table according to the present invention comprises a base 10 , a lifting device 20 , an adjustment assembly 30 and a carrier plate 40 , The base 10 may be a square plate and has a top and a base recess 12 which is formed in the top. The base well 12 has two opposite sides, with two rails 14 each on the two opposite sides of the base recess 12 are attached and parallel to each other.

Referring to 3 and 5 is the lifting device 20 at the base 10 mounted, has a top and includes a drive device 22 , a threaded rod 24 , a movable lower part 26 and several lifting rods 28 , The drive device 22 is at the base 10 mounted and may include an engine and a transmission. The threaded rod 24 is rotatable at the base 10 attached and is with the drive device 22 connected and is driven by this. Preferably, the threaded rod extends 24 into the base well 12 and is parallel to the rails 14 in the base recess 12 , The movable lower part 26 is movable at the base 10 attached and has a threaded hole 262 on, on the threaded rod 24 is screwed. Preferably, the movable lower part is in the base recess 12 movably mounted, with the two sides of the movable base 26 movable with the rails 14 keep in touch. Accordingly, the threaded rod 24 rotated and the movable lower part 26 will be in the base well 12 along the rails 14 moves when the drive device 22 is turned on. The lifting bars 28 are divided into several pairs, each pair of lifting rods 28 a first lifting bar 282 and a second lifting bar 284 includes, which pivotally with the first lifting bar 282 connected is. The first lifting bar 282 from each pair of lifting bars 28 is hinged to the base 10 connected and the second lifting bar 284 from each pair of lifting bars 28 is pivotable with the movable lower part 26 connected. In addition, the movable lower part has 26 Furthermore, several pivoting eyelets 264 on, on the movable lower part 26 are formed and projecting from this and pivotally connected to the second lifting rods 284 the pair of lifting bars 28 are connected. Preferably, the plurality of lifting rods 28 so realized that their number is four. In addition, the base points 10 further, a top cover 16 on top of the base 10 is attached and the base recess 12 closes to the threaded rod 24 and the movable lower part 26 cover.

Referring to 4 , 6 and 7 is the adjustment assembly 30 swiveling with the lifting device 20 Connected by the lifting device 20 driven to move up and down and includes an adjustment plate 32 , an adjustment rack 326 , an adjustment slide 34 and a connecting arm 38 , The adjustment plate 32 is pivotable with the top of the lifting device 20 connected and is preferably pivotally connected to the upper ends of the lifting rods 28 connected. The first lifting bar 282 from each pair of lifting bars 28 is displaceable with the adjustment plate 32 connected. The adjustment plate 32 has a top and a sliding recess 322 in the top of the adjustment plate 32 is formed and has a bottom. A rack recess 324 is in the bottom of the sliding recess 322 provided and has a bottom and two opposite sides. The adjustment rack 326 is on the adjustment plate 32 mounted and is preferably at the bottom of the rack recess 324 appropriate. The adjustment rack 326 has an engaging side, with several teeth 328 is formed, and a smooth side, which opposes the engagement side. The engaging side and the smooth side of the adjusting rack 326 are each from the two opposite sides of the rack recess 324 spaced, creating two sliding channels between the rack recess 324 and the adjustment rack 326 be formed. Preferably, the Einstellzahnstange 326 two curved ends.

The adjusting slide 34 is movable on the adjusting plate 32 attached and is preferably movable in the Gleitvertiefung 322 appropriate. The adjusting slide 34 has a bottom, an intervention block 36 and two spring elements 37 , The intervention block 36 is pivotable at the bottom of the adjustment slide 34 attached and has an engagement pin 362 on that at the engagement block 36 is formed and selectively with one of the teeth 328 at the adjusting rack 326 comes together. The spring elements 37 are at the bottom of the adjustment slide 34 attached and are each with two sides of the engaging block 36 connected. Preferably, each spring element 37 be a spring or an elastic block. The connecting arm 38 has an upper end and a lower end, the lower end pivotally with the adjustment slide 34 connected is.

The carrier plate 40 is pivotable with the adjustment plate 32 connected, is pivotally connected to the upper end of the connecting arm 38 connected and has a pivot edge and a support block 42 on. The swivel edge is pivotable with the adjustment plate 32 connected. The support block 42 is pivotable on the pivot edge of the carrier plate 40 attached.

Referring to 5 and 8th becomes the threaded rod 24 rotated and the movable lower part 26 will be in terms of the base 10 along the rail 14 moves when the engine of the drive device 22 is turned on. By the movement of the movable lower part 26 become the lifting rods 28 moved and pivoted so that the adjustment plate 32 and the carrier plate 40 be raised up to a desired height. When the engine is off, the adjustment plate can 32 be moved and positioned at the desired height. The carrier plate 40 is then in relation to the adjustment plate 32 pivoted. According to 9 becomes the adjustment slide 34 by means of the transmission through the connecting arm 38 with the pivoting movement of the support plate 40 along the adjustment rack 326 emotional. While the adjustment slide 34 along the adjustment rack 326 Moves, the engagement pin becomes 362 at the intervention block 36 with the through the spring elements 37 provided restoring force over the teeth 328 on the engagement side of the Einstellzahnstange 326 move. If the carrier plate 40 in terms of the adjustment plate 32 has been pivoted to a desired angle and the pivoting is completed, the engagement pin 362 at the intervention block 36 with the through the spring elements 37 provided restoring force with one of the teeth 328 engaged. Accordingly, the carrier plate 40 at the desired angle with respect to the adjustment plate 32 positioned. Because the support block 42 relative to the carrier plate 40 is pivoted, a portable device, such as a notebook or a tablet computer, on the inclined support plate 40 be turned off, thereby allowing the user, the portable device on the inclined support plate 40 to use and operate. By the arrangement of the support block 42 can be prevented that the portable device from the inclined support plate 40 falling.

When the table is not in use, the support plate becomes 40 according to 4 , 8th and 10 up to a maximum angle relative to the adjustment plate 32 swung upwards. At this time, the engagement pin 362 at the intervention block 36 over one of the curved ends of the adjustment rack 326 emotional. Thereafter, the carrier plate 40 pivoted down, with the engagement pin 362 along the smooth side of the adjustment rack 326 to the other end of the adjustment rack 326 and beyond this to the side of engagement with the teeth 328 is moved. At this time, the carrier plate 40 with the adjustment plate 32 stacked. The engine of the drive device 22 is then turned on to rotate in a reverse direction, the movable lower part 26 in the direction of the drive device 22 is moved. Through the movements and the pivoting movements of the lifting rods 28 , be the adjustment plate 32 and the carrier plate 40 flush with each other moves down to a stack with the base 10 to form, as in 2 is shown. As a result, the table can be folded to a minimum volume so that the folded table can be easily transported and stored.

By such an arrangement, the height of the adjustment plate 32 and the carrier plate 40 and the angle of the carrier plate 40 relative to the adjustment plate 32 adjusted to meet the different needs of different users. Accordingly, the folding table according to the present utility model is comfortable and convenient in use.

Referring to 11 to 13 includes the lifting device 20A in the second embodiment, several lifting racks 21 , several lifting sliders 23 and several lifting rods 28A , The base 10A has several slide recesses 12A on that in the top of the base 10A are formed. Each slide recess 12A has a bottom and a rack recess 122 which are in the bottom of the slide recess 12A is formed and has a bottom and two opposite sides.

The several lifting racks 21 are at the base 10A attached, are preferably in each case in the rack recesses 122 attached and are parallel to each other. Each lifting rack 21 has an engaging side on which several teeth 212 are provided, and a smooth side opposite the engagement side. The engaging side and the smooth side of each lifting rack 21 are each from the opposite sides of an associated rack recess 122 spaced to form two sliding channels between the lifting rack and the corresponding rack recess. Each lifting rack 21 has two curved ends. The lifting sliders 23 are movable at the base 10A attached, are respectively relative to the lifting racks 21 movable and are preferably each movable in the slide recesses 12A assembled. Every lift slider 23 has a bottom, an intervention block 25 and two spring elements 27 , The intervention block 25 is pivotable at the bottom of the adjustment slide 23 attached and has an engagement pin 252 which is attached to the engaging block 25 is formed and selectively with one of the teeth 212 at the corresponding lifting rack 21 engaged. The spring elements 27 are at the bottom of the adjustment slide 23 attached and each with two sides of the engaging block 25 in connection. In addition, each slide recess has 12A two opposite sides and two rails 14A on, each on the sides of the slide recess 12A are mounted and parallel to each other. Each lifting rack 21 is parallel to the rails 14A in an associated slide recess 12A , Every lift slider 23 is movable with the rails 14A in the associated slide recess 12A connected. The base 10A also includes a top cover 16A at the top of the base 10A is attached and the slide recesses 12A closes.

The lifting bars 28A are divided into several pairs. Every pair of lifting bars 28A includes a first lifting bar 282A and a second lifting bar 284A , which is pivotable with the first lifting bar 282A connected is. The first lifting bar 282A from each pair of lifting bars 28A is hinged to the base 10A connected and the second lifting bar 284A from each pair of lifting bars 28A is pivotable with one of the lifting sliders 23 connected. In addition, each lifting slider has 23 several swivel eyes 232 on that at the lift slider 23 are formed and pivotally connected to the second lifting rods 284A the pair of lifting bars 28A keep in touch.

To open the table, the adjustment plate 32 according to 12 . 14 and 15 moved upwards so that the lifting slide 23 by means of transmission through the lifting bars 28A along the rails 14A relative to the base 10A and the lifting racks 21 be moved. While the lifting sliders 23 along the lifting racks 21 be moved, the engagement pin 252 at the intervention block 25 from every lift slider 23 with the through the spring elements 27 provided restoring force over the teeth 212 on the engagement side of the corresponding lifting rack 21 emotional. If the carrier plate 32 has been brought to a desired height and the movement is completed, the engagement pin 252 at the intervention block 25 from every lift slider 23 through the by the spring elements 27 provided restoring force with one of the teeth 212 the associated lifting rack 21 engaged. Accordingly, the adjustment plate 32 and the carrier plate 40 positioned at the desired height. After the carrier plate 40 relative to the adjustment plate 32 pivoted, a user can a portable device on the inclined support plate 40 serve.

The procedure for unfolding and folding the lifting device 20A of the second embodiment is the same as that of the adjustment assembly 30 so that the details of the procedure for unfolding and folding the elevator of the second embodiment are omitted.

Cited By (9)

Publication number	Priority date	Publication date	Assignee	Title
CN106235631A *	2016-09-23	2016-12-21	姜良成	Electric lifting computer desk and desk thereof
WO2018057751A1 *	2016-09-23	2018-03-29	Varidesk, Llc	Electrically-lifted computer desk and office desk thereof
GB2554438A *	2016-09-28	2018-04-04	Jaguar Land Rover Ltd	Portable table
GB2554437A *	2016-09-28	2018-04-04	Jaguar Land Rover Ltd	Portable table
CN108851529A *	2018-07-26	2018-11-23	邵媛玲	A kind of new intelligent desk
US10244861B1	2015-01-24	2019-04-02	Nathan Mark Poniatowski	Desktop workspace that adjusts vertically
US10893748B1	2017-07-08	2021-01-19	Office Kick, Inc.	Height adjustable desktop
US10981482B2	2016-09-28	2021-04-20	Jaguar Land Rover Limited	Portable table attachable and detachable from the interior trim of a vehicle
US11019920B2	2016-09-23	2021-06-01	Varidesk, Llc	Electrically-lifted computer desk and office desk thereof
Family To Family Citations				

* Cited by examiner, † Cited by third party, ‡ Family to family citation

Similar Documents

Publication	Publication Date	Title
DE202016101126U1	2016-06-21	Folding table
DE202016102015U1	2016-05-03	Lifting mechanism of a desk
EP2260229B1	2011-11-09	Height-adjustable equipment stand
DE202015100891U1	2015-03-26	Receiving device for fixing objects
DE3705330A1	1988-09-01	TABLE
DE202018002383U1	2018-05-23	folding table
AT503736B1	2008-07-15	TABLE WIRING DOOR
DE4021248A1	1992-01-09	KIT FOR THE PRODUCTION OF OFFICE WORK TABLES
DE202012004584U1	2012-05-29	Support for tablet display
DE202013002333U1	2013-04-15	Magnification mechanism for tables
DE818306C	1951-10-25	Sewing machine table
DE202008013987U1	2010-03-04	Table furniture with cable duct device
EP1580383B1	2008-07-02	Cabinet, especially safety cabinet, laboratory cabinet or the like
DE102011018212A1	2012-10-25	Desk, has tabletop connected with frame element by pivotal lever and connected with cross-member element by another pivotal lever, and another tabletop connected with cross-member element by third pivotal lever
EP2856915B1	2016-04-27	Folding mechanism with parallelogramm-type lifting arrangement for a folding bed
EP2215927B1	2012-10-31	Table furniture
DE2401839C3	1979-08-30	Extending table with a fixed central plate, at least one extending plate and two carriages
EP0270558B1	1990-07-25	Office desk

DE202009010646U1	2010-12-23	table furniture
DE2338158A1	1974-03-07	SEWING MACHINE FURNITURE
DE10120106B4	2004-11-04	worktable
DE102012000492A1	2013-07-18	Table has connector that is articulately connected with underside of second insert plate, and tabletop base over sliding guide
DE1963852C		
DE102017122763A1	2019-04-04	Lift mechanism of a shelf
EP3586674A1	2020-01-01	Tabletop unit with folding insert of an extendable table

Priority And Related Applications

Priority Applications (1)

Application	Priority date	Filing date	Title
DE202016101126.4U	2016-03-02	2016-03-02	Folding table

Applications Claiming Priority (1)

Application	Filing date	Title
DE202016101126.4U	2016-03-02	Folding table

Legal Events

Date	Code	Title	Description
2016-07-28	R207	Utility model specification	
2019-03-22	R150	Utility model maintained after payment of first maintenance fee after three years	
2021-11-09	R151	Utility model maintained after payment of second maintenance fee after six years	

Concepts

machine-extracted

Download Filter table

Name	Image	Sections	Count	Query match
carrier		claims,abstract,description	19	0.000
corresponding		claims,description	4	0.000

Show all concepts from the description section

Data provided by IFI CLAIMS Patent Services

Patents

Height adjustable table

Classifications

⊛ A47B9/16 Tables with tops of variable height with means for, or adapted for, inclining the legs of the table for varying the height of the top, e.g. with adjustable cross legs

DE29515642U1

Germany

Find Prior Art Similar

Other languages: German

Current Assignee : OTM MOEBELWERKE HELMUT SEIDEL

Worldwide applications

1995 DE

Application DE29515642U events

1995-09-26	Priority to DE29515371
1995-09-30	Application filed by OTM MOEBELWERKE HELMUT SEIDEL
1995-09-30	Priority to DE29515642U
1996-01-18	Publication of DE29515642U1
2005-10-01	Anticipated expiration
Status	Expired - Lifetime

Info: Cited by (1), Legal events, Similar documents, Priority and Related Applications

External links: Espacenet, Global Dossier, DPMA, Discuss

Cited By (1)

Publication number	Priority date	Publication date	Assignee	Title
US11134773B1 *	2015-01-24	2021-10-05	Office Kick, Inc.	Desktop workspace that adjusts vertically
Family To Family Citations				

* Cited by examiner, † Cited by third party, ‡ Family to family citation

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DE29614295U1	1996-09-26	Height adjustable table
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DE9310664U1	1993-09-16	Height adjustable table
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DE29503917U1	1995-07-27	Multifunctional table
DE69608815D1	2000-07-13	TABLE TOP
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DE59501344D1	1998-03-05	Height adjustable work table
DE9406773U1	1994-09-08	Height adjustable table
DE9404622U1	1994-05-19	Height adjustable table
DE9416693U1	1994-12-08	Height adjustable table
DE29509834U1	1995-08-24	Height adjustable table base
DE29501401U1	1995-06-01	Extendable table
DE29516061U1	1995-12-14	Table / table frame
DE29710565U1	1997-08-14	Height adjustable table
KR970011969U	1997-04-25	Table height adjuster
DE29907619U1	1999-07-29	Height adjustable table
DE9407987U1	1994-07-21	Height adjustable table base

Priority And Related Applications

Priority Applications (2)

Application	Priority date	Filing date	Title
DE29515371		1995-09-26	
DE29515642U	1995-09-26	1995-09-30	Height adjustable table

Applications Claiming Priority (1)

Application	Filing date	Title
DE29515642U	1995-09-30	Height adjustable table

Legal Events

Date	Code	Title	Description
1996-02-29	R207	Utility model specification	~~Effective date:~~ 19960229
1999-11-11	R156	Lapse of ip right after 3 years	~~Effective date:~~ 19990701

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DESCRIPTION DE8606822U1

[0001]

13 Gustav vVeritz Düsseldorf, 6.3.1986

[0002]

17 Quick seak and lifting device g

[0003]

21 for devices to be used in small furniture

[0004]

25 description

[0005]

29 Under a lifting device for equipment is known to mean a motor, hydraulic or counterweight mechanics, which is usually too expensive in relation to the task or too great a weight or weight.

31 Requires flat space and requires too much force to operate.

[0006]

35 The invention allows a piece of furniture to be placed in a piece of furniture, after the top sheet has been unfolded, to be lowered with a minimum of technical and spatial effort and without any particular force for setting it down.

38 The device can also be released from the lock in viewing or viewing mode after a short push down.

40 Possibly raise the working height slowed down by the pressure brake.

41 According to the invention, this object is achieved in that between the upper pairs of legs of the scissor-like rectangular tubes, an intermediate bracket is arranged so that it can rotate longitudinally and consists of 2 oval tubes, each with 5 double holes for 5 interchangeable tension springs, with which 9 different weight levels can be set according to the device to be set; the device is brought into balance with little buoyancy, which enables rapid lowering and lifting up to a lift difference of ^o-;+5 cm.

47 With a possibly built-in pressure compensation brake, the gluing process can be carried out almost automatically and at a slower rate.

[0007]

52 An embodiment of the innovation is shown in the drawings and is described in more detail below.

[0008]

57 It shows

[0009]

61 Fig. 1 is a view of a rapid lowering and lifting device in the highest position for the step weight with 3 tension springs.

[0010]

66 2 shows a partial view of an intermediate bracket.

[0011]

70 3 shows the three-dimensional view of a rapid lowering and lifting device in the lowest position.

[0012]

74 The rapid lowering and lifting device consists of 2 rectangular tubes ABCD1 mounted scissor-like in the middle g, which are connected in pairs to the traverses e, of which a buffer i is attached to the upper one, and at their ends on one side with V.'inkel b rotatable on the false bottom m and lower floor k are attached and on the other side with rollers a the floors m and k touch rollable and the upper pairs of legs are connected to each other via the intermediate bracket c with axis of rotation h and tension springs d.

80 When pressure is applied to the device set on the false bottom m, the pairs of legs of the rectangular tubes ABCD swing in the direction of the arrow, the tension springs d are tensioned and are intercepted in the dead center position by the buffer i in the lowest position.

83 After briefly pressing down on the device, the lock is released and the false floor m with the device can reliably move up.

85 If necessary, a pressure brake f between the lower pairs of legs can slow down the lifting process.

[0013]

90 Dusseldorf, March 6th1986

91 Rapid lowering and lifting device

[0014]

95 for devices for use in small furniture

[0015]

99 .1 View in Highest!

100 lung

[0016]

104 f. Step weight with 3 tension springs

[0017]

108 Fig.2 Partial view of an intermediate bracket

[0018]

112 Fig.3 Room view in the lowest position without weight load

[0019]

116 ABCD = rectangular tube a = rolls b = V. incl

[0020]

120 c = intermediate bracket d = tension springs e = traverses f = pressure break g = scissor pivot point h = axis of rotation of the intermediate bracket i = buffer k = base 1 = double perforation

m = false base

Patents

X-type single-motor-driven lifting workbench

Abstract

The invention relates to the field of office furniture, in particular to an X-shaped single-motor-driven lifting workbench, which belongs to the field of intelligent office and is characterized by comprising a panel, an X-shaped cross connecting rod mechanism, a base, a control system and the like. The invention changes the operation mode of manual lifting of the conventional lifting workbench, realizes electric control by adopting the electric push rod, the control box and the hand controller, provides the X-type single-motor-driven lifting workbench, can realize a large-range working lifting area, is beneficial to people with different heights, improves the working conditions of users by utilizing the motor-driven mode, is beneficial to the health of the users, and simultaneously improves the working efficiency, thereby improving the user experience of the intelligent office equipment.

Classifications

- A47B9/00 Tables with tops of variable height

View 2 more classifications

CN110840072A

China

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Other languages: Chinese

Inventor: 不公告发明人

Current Assignee : Jiaxing Smart Technology Co Ltd

Worldwide applications

2018 CN

Application CN201810993790.6A events

2018-08-20	Application filed by Jiaxing Smart Technology Co Ltd
2018-08-20	Priority to CN201810993790.6A
2020-02-28	Publication of CN110840072A
Status	Pending

Info: Legal events, Similar documents, Priority and Related Applications

External links: Espacenet, Global Dossier, Discuss

Claims (10)

Hide Dependent

1. An X-type single motor driven lifting workbench is characterized by comprising a mechanical structure part of the lifting workbench and an electrical control part.

2. An X-type single motor driven lift table according to claim 1, consisting of two sections of tubing, each section consisting of two identical tubes. Wherein the upper ends of the two pipes at the inner side are fixed, and the lower ends are connected with the bearing nylon small pulleys to realize movement. The upper ends of the two outer pipes are connected with a bearing nylon small pulley to realize movement, and the lower ends of the two outer pipes are fixed.

3. The X-type single motor driven lifting workbench according to claim 1, wherein the power source of the lifting workbench is an electric push rod, and the movement of the bearing nylon small pulley is realized by the extension and contraction of the push rod. The electric push rod converts rotary motion into linear motion through the direct current motor, the worm gear and the screw rod, and has a self-locking function.

4. The X-type single motor driven lifting workbench according to claim 1, wherein four foot pads are arranged below the base, so as to achieve the effects of skid resistance and stability enhancement.

5. The single motor driven elevating table as set forth in claim 1, wherein the control system consists of hand controller and control box or Y line, switch power supply and hand controller.

6. The X-type single motor driven elevating table as claimed in claim 1, wherein the elevating table is raised and lowered by operating the raising and lowering keys of the hand controller by cooperation of the control system and the hand controller.

7. An X-type single motor driven lifting workbench according to claim 1, wherein the lifting structure of the lifting workbench is composed of X-type cross connecting rods. The crossed connecting rods are separated by a certain distance through the shaft sleeves, and the function of preventing hands from being clamped is achieved.

8. The X-type single motor driven lifting workbench according to claim 1, wherein a USB interface is arranged on the hand controller.

9. An X-type single motor driven elevating table as claimed in claim 1, wherein a life monitoring sensor is installed between the panel and the base when the control system of the hand controller and the control box is used. Can detect the organism, feed back to control box, elevating platform and make a response in real time.

10. An X-type single motor driven elevating table as claimed in claim 1, wherein a voice function is attached when a control system of a hand controller and a control box is used. The user can control the lifting of the lifting platform in a voice mode.

Description

X-type single-motor-driven lifting workbench

Technical Field

The invention belongs to the field of intelligent office, and particularly relates to an X-type single-motor-driven lifting workbench.

Background

At present, a large number of lifting workbenches are used in European and American countries, the most common is manual lifting workbenches, and domestic application is gradually accepted and started. Its main function is that help official working or study crowd do not stand for a long time and sit, realize sitting and standing and do office in turn. Especially, the lifting workbench can be adjusted according to human engineering, and is suitable for people with different heights. With the fact that people sit for working for longer time and are aware of the fact that sitting for a long time is unfavorable to work efficiency, people start trying to work in a sitting-standing alternative mode, and the sitting-standing alternative mode becomes a popular healthy working mode. The workbench can be used as a desk, a bed computer desk and the like. Can be used independently or placed on the original table for height adjustment. Can be folded at any time, and the placing space is reduced. The existing lifting workbench is mainly manual, and the lifting of the workbench is realized through the extension and retraction of a gas spring. Manual formula elevating platform, the resistance of overcoming the air spring is great, and under some occasions, local crowd all is very difficult to compress it, is unfavorable for very much drawing in of workstation. Compared with the manual mode, the motor-driven lifting workbench is more beneficial to automatic lifting, so that the requirement of a consumer on product use experience cannot be met in the prior art, the urgent need of the market is met, and the defects of the prior art are overcome.

Disclosure of invention

The invention avoids the defects in the prior art, so that the workbench can be lifted more conveniently and is simpler and more labor-saving to use. And provides an X-type single motor driven elevating table. This workstation utilizes motor drive's mode, has improved user of service's operating condition, has improved work efficiency when being favorable to user of service healthy to improve the user experience of wisdom office equipment.

In order to achieve the purpose, the invention provides the following technical scheme:

the driving device is an electric push rod, and an executing mechanism with a self-locking function is driven by a direct current motor.

The X-type single motor driven elevating worktable includes panel, base and X-type cross link mechanism. The X-shaped cross link mechanism is positioned between the panel and the base, one part of the upper end surface of the X-shaped scissor mechanism is hinged with the panel, the other part of the upper end surface of the X-shaped scissor mechanism is connected with the panel in a sliding mode, one part of the lower end of the X-shaped scissor mechanism is hinged with the base, and the other part of the lower end of the X-shaped scissor mechanism is connected with the base in a sliding mode. The sliding connection part is connected by a small nylon pulley which moves in a corresponding track groove.

The X-shaped cross connecting rod mechanism comprises four pipes and connecting fittings, and two middle parts close to the outside are hinged with two middle parts in the inside respectively. The upper ends of the two pipes inside are hinged with the driving end of the driving device, the lower ends of the two pipes are hinged with equal-edge angle steel on the base, the two upper ends close to the outside are hinged with a panel mounting support on the panel, and the lower ends are restrained in a groove of a pulley mounting plate of the base.

The hand controller is arranged below the panel, and a display screen and an indicator lamp are arranged on the hand controller, so that the height of the current panel relative to the base can be displayed at any time. The indicator light can display different colors for different conditions of the lifting table.

Preferably, the hand controller is provided with a USB interface, and data exchange or charging function is carried out on any product which can be connected with the USB.

Preferably, a life monitoring sensor is arranged between the panel and the base, an unknown object or an object with life breath can be detected, and once the object is detected, the lifting motion is stopped and an alarm is given.

Preferably, the control box is provided with a voice function, and a user can control the lifting of the lifting platform through voice.

X type elevating platform mainly solve current elevating platform and pass through the problem that manual control workstation lift operation is not convenient. Mainly comprises two processes of ascending and descending. The ascending and descending of the workbench are realized by operating the keys on the hand controller.

Compared with the prior art, the lifting device is simple in structure, convenient to use, capable of achieving a large lifting range and wide in application range.

Drawings

Fig. 1 is a schematic three-dimensional structure diagram of an X-type single motor driven lifting workbench according to the present invention.

Fig. 2 is a front view of an X-type single motor driven elevating table of the present invention.

Fig. 3 is a wiring diagram of an electric appliance of a first embodiment of the X-type single motor driven elevating table of the present invention.

Fig. 4 is a wiring diagram of an electric appliance of a second embodiment of the X-type single motor driven elevating table of the present invention.

In the figure: 1. the novel multifunctional desk comprises a base, 2 parts of equilateral angle steel, 3 parts of a pipe, 4 parts of a polished rod, 5 parts of an electric push rod, 6 parts of a panel, 7 parts of a panel mounting support, 8 parts of a pipe, 9 parts of a ball cap-shaped nut, 10 parts of a connecting rod, 11 parts of a pulley mounting plate, 12 parts of a pulley mounting plate, 13 parts of a control box, 14 parts of a rod, 15 parts of a bearing nylon small pulley, 16 parts of a reinforcing rib, 17 parts of a desk mat, 18 parts of a pulley mounting plate, 19 parts of a foot mat, 20 parts of a panel mounting support, 30 parts of a power line, 31 parts of a switching power.

Detailed Description

The invention will be further explained and supplemented with reference to the drawings, without being restricted thereto.

Example 1

As shown in fig. 1, four foot pads 19 are installed at the bottom of the base 1, and play a role in preventing skidding and enhancing stability. Two equilateral angle steels 2 and two pulley mounting plates 18 are welded on the base 1. The lower ends of the two pipes 3 are connected to the base 1 through the matching of the internal threads of the polished rod 4 and the bolts. The lower ends of the two pipes 8 are connected with a bearing nylon small pulley 15 which is restrained in a groove of a pulley mounting seat 18. Both pipes 3 and 8 are connected by a connecting rod 10. The upper end of the pipe 8 is hinged with the panel mounting support 20 through a bolt, the upper end of the pipe 3 is connected with a small nylon pulley 15, and the pulley 15 is restrained in a groove of the pulley mounting plate 11. The tail ends of the two pipes 3 are provided with a rod 14, the panel mounting support 7 is connected with the panel 6, a motor mounting tail seat 20 is further arranged below the panel 6, and the motor mounting tail seat 20 is provided with an electric push rod 5. The lever 14 is connected to the slider of the electric putter 5. Four table pads 17 are arranged at the

four edges under the panel 6. When the desk is lowered to the lowest, the upper part and the lower part are prevented from colliding, and the desk mat plays a role in protection. A hand controller 12 and a control box 13 are arranged below the panel 6. One end of the control box 13 is connected with alternating current, the other end is connected with the hand controller and the electric push rod, and the upward and downward keys of the hand controller 12 are operated to realize the lifting of the workbench through a chip arranged in the control box. The specific wiring is shown in fig. 3.

When the workbench is required to descend, the descending button is pressed, the electric push rod extends outwards to push the small nylon pulley 15 at the upper end of the pipe 3, and meanwhile, the small nylon pulley 15 at the lower end of the pipe 8 also moves in the same direction. The pipe rotates around the connecting rod 10.

When the workbench is required to ascend, the upward button is pressed, the electric push rod retracts inwards, the nylon small pulley 15 at the upper end of the pipe 3 is pulled back, and meanwhile, the nylon small pulley 15 at the lower end of the pipe 8 also moves in the same direction. The pipe rotates around the connecting rod 10.

When this embodiment is selected, the control box has the following functions.

A slow start function: when the height of the table top is adjusted, the process of the table top from the static state to the running state is a slow process. The running speed of the desktop is changed from slow to fast.

A slow stop function: when the height of the desktop is not adjusted, the process of the desktop from the running state to the static state is a slow process. The running speed of the desktop is from high to low to stop.

The anti-pinch function is as follows: in the process of adjusting the height of the desktop, when the desktop descends, the desktop meets an obstacle, and at the moment, the desktop can automatically rebound upwards to run. When the desktop is lifted, a barrier is pressed on the desktop instantly, and the desktop can automatically rebound to move downwards.

The learning function is as follows: the controller can memorize the lowest position and the highest position through key operation.

Limiting function: when the height of the table top is adjusted, the table top can automatically stop when running to the highest or lowest mechanical zero point so as to avoid mechanical impact.

A position memory function: the power failure at any position can be realized by adjusting the height of the desktop, and the controller can know the current position height.

Energy-saving power-down function: after stopping adjusting the desktop, the controller will automatically turn off the power at 15S. The key is automatically turned on when the desktop is adjusted next time.

The panel function of the hand controller: 3-digit digital tube status information display, 4 groups of position memory function keys, ascending/descending function key, M function key.

And (4) voice function: the user can control the lifting of the lifting platform through voice.

A sensor is arranged between the panel 6 and the base 1, when the lifting workbench is in the process of ascending or descending, once an obstacle or a living being with life breath occurs between the panel 6 and the base 1, the workbench stops moving at once. The hand controller displays red color, and when the obstacle is eliminated, the color is restored to green. When it returns to green, it can operate normally.

Example 2

As shown in fig. 1, four foot pads 19 are installed at the bottom of the base 1, and play a role in preventing skidding and enhancing stability. Two equilateral angle steels 2 and two pulley mounting plates 18 are welded on the base 1. The lower ends of the two pipes 3 are connected to the base 1 through the matching of the internal threads of the polished rod 4 and the bolts. The lower ends of the two pipes 8 are connected with a bearing nylon small pulley 15 which is restrained in a groove of a pulley mounting seat 18. Both pipes 3 and 8 are connected by a connecting rod 10. The upper end of the pipe 8 is hinged with the panel mounting support 20 through a bolt, the upper end of the pipe 3 is connected with a small nylon pulley 15, and the pulley 15 is restrained in a groove of the pulley mounting plate 11. The tail ends of the two pipes 3 are provided with a rod 14, the panel mounting support 7 is connected with the panel 6, a motor mounting tail seat 20 is further arranged below the panel 6, and the motor mounting tail seat 20 is provided with an electric push rod 5. The lever 14 is connected to the slider of the electric putter 5. Four table pads 17 are arranged at the four edges under the panel 6. When the desk is lowered to the lowest, the upper part and the lower part are prevented from colliding, and the desk mat plays a role in protection. The hand controller 12 and the switching power supply 31 are arranged below the panel 6. One end of the switch power supply 31 is connected with alternating current, the other end is connected with a Y line, the other line of the Y line on the same side of the switch power supply 31 is connected with the hand controller, the other end is connected with the electric push rod 5, and the lifting of the workbench is realized by operating the upward and downward keys of the hand controller 12. The specific wiring is shown in fig. 4.

When the workbench is required to descend, the descending button is pressed, the electric push rod extends outwards to push the small nylon pulley 15 at the upper end of the pipe 3, and meanwhile, the small nylon pulley 15 at the lower end of the pipe 8 also moves in the same direction. The pipe rotates around the connecting rod 10.

When the workbench is required to ascend, the upward button is pressed, the electric push rod retracts inwards, the nylon small pulley 15 at the upper end of the pipe 3 is pulled back, and meanwhile, the nylon small pulley 15 at the lower end of the pipe 8 also moves in the same direction. The pipe rotates around the connecting rod 10.

Similar Documents

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CN215014446U	2021-12-07	Automatic lifting table
CN209403996U	2019-09-20	A kind of multifunctional dress design work platform
CN211984294U	2020-11-24	Electric lifting table
KR101947612B1	2019-05-21	Moving position desk equipment

Priority And Related Applications

Priority Applications (1)

Application	Priority date	Filing date	Title
CN201810993790.6A	2018-08-20	2018-08-20	X-type single-motor-driven lifting workbench

Applications Claiming Priority (1)

Application	Filing date	Title
CN201810993790.6A	2018-08-20	X-type single-motor-driven lifting workbench

Legal Events

Date	Code	Title	Description
2020-02-28	PB01	Publication	
2020-02-28	PB01	Publication	
2022-02-25	WD01	Invention patent application deemed withdrawn after publication	**Application publication date:** 20200228
2022-02-25	WD01	Invention patent application deemed withdrawn after publication	

Concepts

machine-extracted

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Name	Image	Sections	Count	Query match
Nylon		claims,description	17	0.000

nylon	claims,description	17	0.000
elevating	claims,description	14	0.000
effects	claims	1	0.000

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Patents CN 2781893

Controllable elevator

Abstract

The utility model relates to a controllable elevator belonging to the technical field of beds, tables or floors. The back of a table top is connected with two upper slide ways mutually paralleled. An upper fixed rotating shaft is arranged between the two upper slide ways. Both ends of the upper fixed rotating shaft are respectively connected with the two upper slide ways in a rotating mode. An upper sliding shaft is arranged between the two upper slide ways in a sliding mode. Both ends of the upper fixed rotating shaft are respectively hinged with one connecting plate. Both ends of the upper sliding shaft are respectively hinged with the other connecting plate. The middle parts of the two connecting plates are mutually hinged with each other. The lower ends of the two connecting plates are connected by a lower sliding shaft. Both ends of the lower sliding shafts are respectively arranged in a couple of mutually parallel lower slide ways in a sliding mode. The lower ends of the other two connecting rods are connected to the lower slide way in a rotating mode. A lower fixed shaft is hinged between the lower ends of the two connecting rods. A locking gas spring is arranged between the upper slide way and the lower slide way. The height of the table top can be adjusted at will by the locking gas spring. The utility model can improve the existing single sleeping function of a sleeping berth and increase comfort for long-distance travel.

CN2781893Y

China

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Other languages: Chinese

Inventor: [redacted]

Worldwide applications

2005 CN

Application CN 200520068394 events

2005-01-19 Application filed by [redacted]

2005-01-19 Priority to CN 200520068394

2006-05-24 Application granted

2006-05-24 Publication of CN2781893Y

2015-01-19 Anticipated expiration

Status Expired - Fee Related

Info: Cited by (7), Legal events, Similar documents, Priority and Related Applications

External links: Espacenet, Global Dossier, Discuss

Claims (6)

Hide Dependent

1, the controllable type lifting platform comprises table top, it is characterized in that the back of table top connects two upper hopper chutes that are parallel to each other, and fixed axis on is being set between two upper hopper chutes, and two ends of fixed axis are connected respectively on two upper hopper chutes turnably on this; Movable axis on one of also slideable layout between two upper hopper chutes; Link a connecting plate one respectively at the two ends of last fixed axis, at the hinged connecting plate two of the two ends of last sliding axle difference, two connecting plates, one, two middle parts near same upper hopper chute are hinged, the lower end of two connecting plates one is by movable axis connection down, the two ends of following movable axis are slideable respectively to be arranged in a pair of gliding groove that is parallel to each other, the lower end of two connecting rods two is connected on the gliding groove turnably, is hinged down fixed axis between the lower end of two connecting rods two; Be provided with the lockable air spring between upper and lower chute, the two ends of described lockable air spring are hinged and connected to respectively on the upper and lower chute.

2, controllable type lifting platform according to claim 1 is characterized in that movable axis is connected on the upper hopper chute by roller.

3, controllable type lifting platform according to claim 1 is characterized in that movable axis is connected on the gliding groove by roller down.

4, controllable type lifting platform according to claim 1 is characterized in that connecting by movable axis between the upper plate one, two.

5, according to claim 1 or 2 or 3 or 4 described controllable type lifting platforms, it is characterized in that on two gliding grooves fixing feet being set respectively.

6, controllable type lifting platform according to claim 1 is characterized in that the table top back is provided with the supplemental support pin.

Description

The controllable type lifting platform

Technical field

The utility model relates to bed, table or ground plate technique, the technical pattern that particularly can regulate its height.

Background technology

Jubilee wagen driver's cabin and rear are furnished with the lobby, though the space is bigger in the existing lobby, have only a highly fixing bed, and bed surface is fixed on the car body by the pin of its below, only has unique function of bedding.Truck man is because the body and mind of driving over a long distance is all very tired out, and this lobby can't provide comfortable has a meal, have tea, the leisure condition, very inconvenience concerning the long-distance driver of long-term race, even also influential safe driving.

The utility model content

The utility model purpose is to the driver provides a kind of controllable type Lifting platform, by regulating the table top height, can change the function of use of table top, for the multiple demand of driver is provided convenience.

The utility model comprises table top, and characteristics are that the back of table top connects two upper hopper chutes that are parallel to each other, and fixed axis on is being set between two upper hopper chutes, and two ends of fixed axis are connected respectively on two upper hopper chutes turnably on this; Movable axis on one of also slideable layout between two upper hopper chutes; Link a connecting plate one respectively at the two ends of last fixed axis, at the hinged connecting plate two of the two ends of last sliding axle difference, two connecting plates, one, two middle parts near same upper hopper chute are hinged, the lower end of two connecting plates one is by movable axis connection down, the two ends of following movable axis are slideable respectively to be arranged in a pair of gliding groove that is parallel to each other, the lower end of two connecting rods two is connected on the gliding groove turnably, is hinged down fixed axis between the lower end of two connecting rods two; Be provided with the lockable air spring between upper and lower chute, the two ends of described lockable air spring are hinged and connected to respectively on the upper and lower chute.

The utility model is by the lockable air spring, can regulate table surface height as required arbitrarily, apply on the sleeping berth of medium-sized, large truck, can improve the function that consistent sleeping berth can only be slept, this product can make the appliance crew who drives in the way can sleep, can sit, can have a meal, eat tea etc., increased the long-distance comfortableness of taking greatly, made these commodity of truck have more hommization.The utility model also can apply to various chesses and understand club, and Japanese tatami.

Regulate for convenient, last movable axis is connected on the upper hopper chute by roller; Following movable axis is connected on the gliding groove by roller.

For increasing the stability of product, connect by movable axis between the upper plate one, two of the present utility model.

For increasing product and the stability that ground is installed, on two gliding grooves fixing feet is set respectively.

Improper for preventing from, make table top low excessively, influence or damage the essential parts in table top back by pressure, the table top back is provided with the supplemental support pin.

Description of drawings

Fig. 1 is the utility model structural representation.

Fig. 2 be among Fig. 1 A-A to cut-away view.

Specific embodiment

As shown in Figure 1, the back fixation of table top 1 connects two upper hopper chutes 2 that are parallel to each other, and fixed axis 3 on is being set between two upper hopper chutes 2, and the two ends of last fixed axis 3 are connected respectively on two upper hopper chutes 2 turnably.Movable axis 4 on one of slideable layout between two upper hopper chutes 2, last movable axis 4 two ends connect a roller 5 respectively, and roller 5 is engaged in the track of upper hopper chute 2.

As shown in Figure 1, 2, link a connecting plate 1 respectively at the two ends of last fixed axis 3, at the hinged connecting plate 27 of the two ends of last movable axis 4 difference, two connecting plates, one 6,27 middle parts of close same upper hopper chute intersect and are set in respectively on the movable axis 8, the lower end of two connecting plates 1 is by movable axis 9 connections down, the two ends of following movable axis 9 are slideable respectively to be arranged in a pair of gliding groove that is parallel to each other 10, the two ends of following movable axis 9 connect a roller 11 respectively, are engaged in by roller 11 in the track of gliding groove 10.

The lower end of two connecting rods 27 is connected on the gliding groove 10 turnably, and the lower end of two connecting rods 27 is hinged and connected to down the two ends of fixed axis 12 respectively.

Be provided with lockable air spring 13 between upper and lower chute 2,10, the upper/lower terminal of lockable air spring 13 is hinged and connected to respectively on the upper and lower chute 2,10.

Be arranged with supplemental support pin 15 at the back of table top 1.

On two gliding grooves 10, weld a pair of fixing feet 14 respectively, to increase product and the stability that ground is installed.

Supporting special switch is connected with the steel wire button, and rigidity press button 16 is installed to place, desktop limit, makes the gas pressure of the optimum efficiency of oscillation and supporting desktop to air spring for making same table, and fulcrum is installed, and designs rational manufacturing data.

When using this,, just gently carry up or down, press with have gentle hands and can realize its elevating function as long as press the desktop switch.

Cited By (7)

Publication number	Priority date	Publication date	Assignee	Title
CN101934756A *	2010-07-14	2011-01-05	重庆迪马工业有限责任公司	Scissor type motor-caravan lifting bed
CN102715728A *	2012-07-05	2012-10-10	陈剑锋	Table with lifting table top
CN103481221A *	2013-09-27	2014-01-01	苏州凯歌机械科技有限公司	Novel multipurpose lifting and positioning worktable
CN103754151A *	2014-01-02	2014-04-30	常熟华东汽车有限公司	Vehicle compartment top space extension device
CN105124920A *	2015-09-18	2015-12-09	宁波乐歌机械科技股份有限公司	Lifting workbench
CN106671039A *	2016-12-26	2017-05-17	力帆实业(集团)股份有限公司	Motorcycle supporting frame
CN112026611A *	2020-08-31	2020-12-04	一汽解放汽车有限公司	Sleeping berth device and using method thereof

Family To Family Citations

* Cited by examiner, † Cited by third party, ‡ Family to family citation

Similar Documents

Publication	Publication Date	Title
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CN202136513U	2012-02-08	Medical nursing bed
CN103796556B	2017-05-17	Three-in-one sofa bed
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CN209629191U	2019-11-15	Bedstead structure
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CN208864671U	2019-05-17	A kind of rise-and-fall hospital bed
CN2416813Y	2001-01-31	Folding bed
CN208755288U	2019-04-19	Can sitting be used alternatingly hydraulic foldable lifting computer desk

Priority And Related Applications

Priority Applications (1)

Application	Priority date	Filing date	Title
CN 200520068394	2005-01-19	2005-01-19	Controllable elevator

Applications Claiming Priority (1)

Application	Filing date	Title
CN 200520068394	2005-01-19	Controllable elevator

Legal Events

Date	Code	Title	Description

2006-05-24	C14	Grant of patent or utility model
2006-05-24	GR01	Patent grant
2009-04-15	C19	Lapse of patent right due to non-payment of the annual fee
2009-04-15	CF01	Termination of patent right due to non-payment of annual fee

Concepts

machine-extracted

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Name	Image	Sections	Count	Query match
supplemental		claims,description	3	0.000

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[19]中华人民共和国专利局

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A47C 3/20
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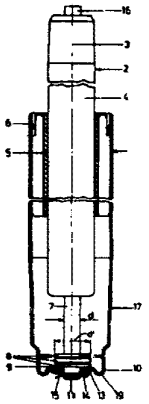
代理人 刘志平

权利要求书 2 页 说明书 4 页 附图页数 1 页

[54]发明名称 用于椅子、桌子或同类物体的可调长度的柱管和直立导管

[57]摘要

一种用于椅子、桌子或同类物体的可调长度的柱管由一个直立导管(1)和一个固定在其中的长度调节部件(2)组成。这个长度调节部件(2)的活塞连杆(7)被固定到直立导管(1)的底部(9)上。底部(9)包括一个凹槽(19)和一个环形部分(20)，该凹槽(19)的开口朝向直立导管(1)的内部，并在半径方向上被包含于直立导管(1)之中，该环形部分(20)和凹槽(19)连在一起，且活塞连杆(7)被安装在环形部分(20)上。凹槽(19)及环形部分(20)是和直立导管(1)一体形成的。



(BJ)第 1456 号

权　利　要　求　书

1. 一种用于椅子、桌子或同类物体的可调长度的柱管，它是由一个直立导管（1）和一个气动或液压气动的长度调节部件组成，而直立导管（1）和长度调节部件是通过一个共同的中心纵轴线（3）安装在一起的，在直立导管（1）中，长度调节部件的外套（4）是沿径向被支撑，并可经引导沿着轴线（3）方向上下移动，长度调节部件的活塞连杆（7）在它的自由端附近沿着辆线（3）的方向被固定到直立导管（1）的底部（9）上，在远离外套（4）离开直立导管（1）处的直立导管（1）的端部（10）附近，底部（9）包括一个凹槽（19）和一个环形部分（20），该凹槽（19）的开口是朝向直立导管（1）的内部，并在半径方向上被包含于直立导管（1）之中，该环形部分（20）和凹槽（19）连在一起，且活塞连杆（7）被安装在环形部分（20）上，其特征在于：凹槽（19）及环形部分（20）是和直立导管（1）一体形成的。

2.如权利要求1所述的柱管，其特征在于：所述凹槽（19）有一个向着环形部分（20）偏离的外侧（22）。

3.如权利要求1或2所述的柱管，其特征在于：凹槽（19）和环形部分（20）的结合部是圆形的。

4.如权利要求1至3其中之一所述的柱管，在底部（19）上，由一个轴向滚柱轴承（8）支撑活塞连杆（7），其特征在于：环形部分（20）的直径（D'）大于滚柱轴承（8）的直径（d'）。

5.一种用于椅子、桌子或同类物体的可调长度的柱管中的直立导管，其中气动的或液压气动的长度调节部件的轴线与中心纵向轴线（3）可同轴地任意活动，在直立导管（1）中长度调节部件的外套（4）沿径向被支撑，而且可经引导沿轴线（3）方向上下移动，长度调节部件的活塞连杆（7）在它的自由端附近沿着轴线（3）方向被固定到直立导管（1）的底部（9）上，在远离外套（4）离开直立导管（1）外的、直立导管（1）的端部（10）附近，底部（9）包括一个凹槽（19）和一个环形部分（20），该凹槽（19）的开口是朝向直立导管（1）的内部，并在半径方向上被包含于直立导管（1）之中，该环形部分（20）和凹槽（19）连在一起，且活塞连杆（7）被安装在环形部分（20）上，其特征在于：凹槽（19）及环形部分（20）是和直立导管（1）一体形成的。

6.如权利要求5所述的直立导管，其特征在于：凹槽（19）有一个向着环形部分（20）偏离的外侧（22）。

7.如权利要求5或6所述的直立导管，其特征在于：凹槽（19）和环形部分（20）的结合部是圆形的。

8.如权利要求5至7其中之一所述的直立导管，该直立导管用于柱管中，在该直立导管中活塞连杆（7）是由底部（9）上的轴向滚柱轴承支撑的，其特征在于：环形部分（20）的直径（D'）大于滚柱轴承（8）的直径（d'）。

说　明　书

用于椅子、桌子或同类物体的可调长度的柱管和直立导管

本发明涉及一种可调长度的柱管和一种直立导管。

众所周知这种可调长度的柱管源于欧洲专利 EP 0 366 889 B1（对应于美国第 4 969 619 号专利）。在这些熟知的柱管中，直立导管较低的边缘向内弯曲，具有一个近似半圆的截面区域，该半圆截面区域形成一个凹槽，该凹槽的开口是朝着通过中心的纵向轴线方向并向直立导管内部张开。底盘是由直立导管边缘的前部来支撑的。边缘的前部与直立导管的内壁隔开。用直立导管上的一个卷边，一个凹槽或类似的东西以朝向直立导管的上端部固定底盘。这种方法本身已法经在实践中得到了很好的说明。

另外，本文中所述的可调长度的柱管基本上类似于美国第 4245 826 号专利（对应于德国专利 DE － U 76 23 238）所描述的可调长度的柱管，在那里，直立导管较低的边缘是沿半径方向向内弯曲的。这样，底盘就可以放在这个边上。在直立导管中形成的卷边部分可以作为朝着底盘上侧的保护装置。

本发明的目的就是分别地提供一种一般类型的柱管和直立导管，这种柱管和直立导管具有高稳定性，而且结构特别简单并非常容易生产。

按照本发明，这个目的可以通过这样一种一般类型的可调长

度的柱管和直立导管来达到。而这种可调长度的柱管具有权利要求1中特征部分所描述的特征，直立导管为权利要求5前序部分所述直立导管并具有权利要求5特征部分中所描述的特征。

根据这项发明所使用的方法，没有必要进行其它独立操作以借助于一个卷边或类似的东西来固定一个专门的底盘。底部结构的稳定性非常之高以至和活塞连杆相比，即使在底部附近或在被连接到底部的轴承附近直立导管非常大，长度调节部件的活塞连杆也会保持相当稳定。

进一步的优点将从从属权利要求中明显地体现出来。

通过根据附图对实施例进行描述，这项发明的详细内容可显而易见。

其附图是：

图1是这项发明中一个柱管的纵向局部剖视图。

图2是柱管的直立导管的部分视图的纵向剖视图。

图中所示的椅子柱管有一个直立导管1，在直立导管2中安装了一个可调长度的气体弹簧2，它是一个以气动或液压气动方式来工作的活塞柱体调节部件。直立导管1和气体弹簧2有一个公共的通过中心的纵轴线3。

气体弹簧2的一个外套4，被支撑在导轨轴套5中，并可沿轴线3方向移动。导轨轴套5被安装在图中所示一个端部6，即直立导管1的靠上边的端部。气体弹簧2的外套4是弹簧本身的外套或者是那个外套的保护套。

从气体弹簧的外套4突出的部分是一个活塞连杆7，它由一个轴向滚柱轴承8沿着轴线3方向相对直立导管1的底盘9支撑。

底盘 9 被设置在直立导管 1 的端部 10 上，端部 10 相反的另一端部是第一端部 6；在图中，端部 10 设在底部。穿过轴向滚柱轴承 8 的活塞连杆 7 的突出部分 11 延伸通过底盘 9 的开口部份 12，而开口部分 12 是和轴线 3 同心的。一个薄垫片 13 和一个弹簧锁定环 14 防止突出部分 11 向底盘下部方向脱落。开口部分 12 的直径大于突出部分 11 的直径。用这种固定方法，气体弹簧 2 可相对于直立导管 1 旋转。由于突出部分 11 和开口部分 12 之间有径向间隙 15，所以气体弹簧 2 能够在导轨轴套 5 中正常运动，换句话说，不偏离直立导管 1。最后借助活塞连杆 7，气体弹簧 2 沿着轴线 3 方向被固定在直立导管 1 中。这样，当驱动销子 16 驱动气体弹簧作纵向调整时，气体弹簧 2 的外套 4 就会伸出或缩进导管 1。驱动销子 16 放在气体弹簧 2 的外套 4 的一端，与它相反的一端是活塞连杆 7。椅子面或桌子顶部就被固定在驱动销子 16 处。

邻近端部 10，直立导管 1 有一个朝向端部 10 稍微收缩的锥形部，通过它完全可在相应的一个多腿椅子或类似物体的锥形轴套中固定直立导管 1。

到目前为止所描述的柱管是公知的而且在市场上也可以见到。它主要作为一种椅子的支撑柱管，也可作为桌子或类似物体的支撑柱管。例如，在德国第 19 31 012 号专利（对应于美国第 3 711 054 号专利）和欧洲专利 EP 0 133 524 B1（对应于美国第 4 979 718 号专利）或欧洲专利 EP 0 366 889 B1（对应于美国第 4 969 619 号专利）中就做了描述和说明。

直立导管 1 的整个底盘 9 是和直立导管 1 整体形成在一起的，即它是由直立导管的变形而形成的。锥形部分 17 下面是下部 18，

它是相对锥形部分压缩而成，而且底盘9也是在它上面形成的。底盘9有一个朝着直立导管1内侧开口的凹槽19，在轴线3方向和凹槽19相连的是一个大体上为平面的环形部分20。这个环形部20沿径向向轴线3延伸，同时作为轴向滚柱轴承8的支撑平面，而且开口12穿过其中。

由图中可见，凹槽19近似地是一个半圆，没有尖的边缘，凹槽19和环形部分20之间的结合部21也是圆形的，即它不是尖角。为在凹槽19和环形部分20之间形成一个平滑的连接，朝向环形部分20的、凹槽19的外侧22朝着环形部分20明显地偏置，偏离半圆截面区域。

由图中可见，直立导管1的部分18的内径D比活塞连杆7的直径大几倍。而且滚柱轴承8的直径d'明显地小于内径D。凹槽19沿半径方向到轴线3的平均宽度是30毫米到50毫米。活塞连杆7的直径d大约是10毫米。直径d'的半径是20毫米到30毫米。

如图1所示，由薄垫片13和弹簧锁定环14所组成的由底部9向下凸出的突出部分11，在底部9中，好象是埋头的，因为凹槽19向下凸出超出了环形部分20。因此弹簧锁定环14是被保护在凹槽19内。它不可能由于地上有多层地毯而脱落。而且当一个使用者的脚碰到这个直立导管的下部时没有受伤的危险。

说　明　书　附　图

图. 1

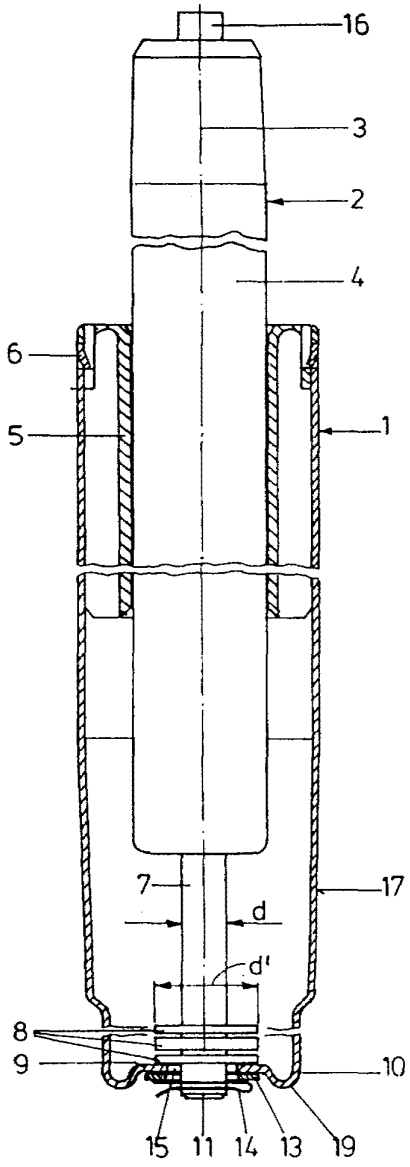
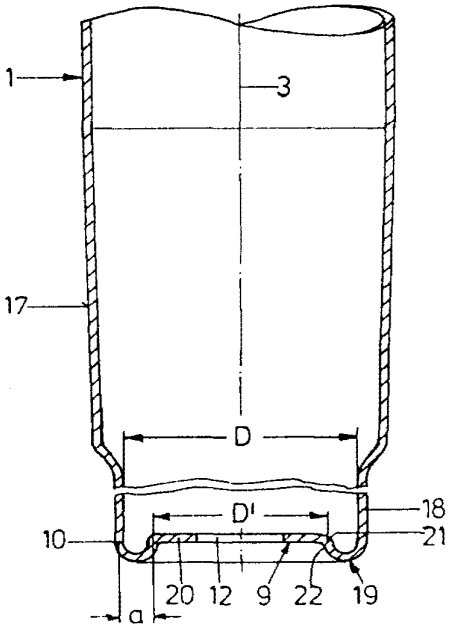


图. 2



Patents 201657970

Magic pet grooming table

Abstract

The utility model discloses a magic pet grooming table which is characterized in that the table comprises a table top, an air pressure rod device, a sliding rail device and a plurality of table legs, wherein the air pressure rod device is arranged at the bottom of the table top and comprises an air pressure rod body and a control handle; the control handle is used for adjusting the length of the air pressure rod body and is fixedly arranged at the bottom surface edge of the table top; the sliding rail device is arranged at the bottom of the table top and comprises a first sliding rail rack, a second sliding rail rack and an X-shaped connecting rod; the first sliding rail rack is fixedly arranged at the bottom surface of the table top; two ends at the same side of the X-shaped connecting rod are respectively pivoted on the first sliding rail rack and the second sliding rail rack; the other two ends are respectively pivoted on the first sliding rail rack and the second sliding rail rack and slide on the first sliding rail rack and the second sliding rail rack; furthermore, the X-shaped connecting rod is connected with the air pressure rod body; and the table legs are fixedly arranged on the second sliding rail rack. In the utility model, the height of the table top is adjusted through the linkage of the air pressure rod device and the sliding rail device, and the height of the table top can be easily adjusted by only pushing the control handle of the air pressure rod device by the user, thereby being time and labor saving.

CN201657970U

China

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Other languages: Chinese

Inventor: [redacted]

Worldwide applications

2010 CN

Application CN2010201161652U events

2010-02-10	Application filed by [redacted]
2010-02-10	Priority to CN2010201161652U
2010-12-01	Application granted
2010-12-01	Publication of CN201657970U
2020-02-10	Anticipated expiration
Status	Expired - Fee Related

Info: Legal events, Similar documents, Priority and Related Applications

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Claims (2)

Hide Dependent

1. magic pet grooming table is characterized in that comprising:

One desktop;

One air pressure rod device is located at the bottom of this desktop, comprises an air pressure rod body and a control handle, and this control handle is in order to adjusting the length of this air pressure rod body, and this control handle is fixedly arranged on the bottom edge of this desktop;

One railroad, be located at the bottom of this desktop, comprise first sliding rail frame, second sliding rail frame and an X-shaped connecting rod, this first sliding rail frame is fixedly arranged on the bottom surface of this desktop, the wherein homonymy two ends of this X-shaped connecting rod are hubbed at respectively on this first sliding rail frame and this second sliding rail frame, two ends then are hubbed on this first sliding rail frame and this second sliding rail frame respectively and are able to and slide on this first sliding rail frame and this second sliding rail frame in addition, and again, this X-shaped connecting rod is linked to this air pressure rod body; And most table pin, be fixedly arranged on this second sliding rail frame.

2. magic pet grooming table as claimed in claim 1 is characterized in that the gas of being filled in this air pressure rod body is high pressure nitrogen.

Description

Magic pet grooming table

Technical field

The utility model relates to a kind of pet supplies, refers to a kind of magic pet grooming table of adjusting height of table top especially.

Background technology

People often raise various pet and increase the joy of life, by the company of pet, also can give birth to a kind of spiritual consolation to raising main product, because the main moulding of more and more paying attention to pet is raised in the lifting of material life, therefore, the general mood of pet grooming is in vogue gradually; So, the build size of various pet is all slightly variant, when the beautician when pet is carried out shape-designing, need pet is placed on the height adjustable desk, and the position of pruning according to desire and desktop is adjusted to suitable height, could more efficiently carry out the pet grooming operation; The pet grooming table of general traditional habit formula, mainly formed by desktop and base, the outer bar that links a hollow on the base, the desktop bottom then links the interior bar of a hollow, the external diameter of bar is slightly less than the internal diameter of this outer bar in being somebody's turn to do, and bar in this is inserted in by the middle vacancy of this outer bar, and the bar upper end is provided with a fixed knob outside this, when the user is adjusted to desktop suitable height and screws this fixed knob, the fixing height of desktop.

The pet grooming table of above-mentioned traditional habit formula, the user must bend over according to actual operating position or squat down voluntarily, in manual mode desktop is adjusted to suitable height, screw fixed knob under the desktop again with the fixing height of desktop, if the build of pet is big and desire is pruned most positions, the adjustment height of table top that the pet grooming teacher must be repeatedly then, very inconvenience on using, and between desktop and the base, only reach and be somebody's turn to do interior binding that bar supports by this outer bar, desktop edge when carrying out pet grooming, will cause the puzzlement of desktop inclination shake more built on the sand.

The utility model content

The purpose of this utility model provides a kind of magic pet grooming table, must adjust the not convenient of the height of table top of habit formula pet grooming table and the manual mode of bending over the manual mode of bending over to solve the user.

The purpose of this utility model is achieved in that a kind of magic pet grooming table, it is characterized in that comprising: a desktop; One air pressure rod device is arranged at the bottom of this desktop, comprises an air pressure rod body and a control handle, and this control handle is in order to adjusting the length of this air pressure rod body, and this control handle is fixedly arranged on the bottom edge of this desktop; One railroad, be located at the bottom of this desktop, comprise first sliding rail frame, second sliding rail frame and an X-shaped connecting rod, this first sliding rail frame is fixedly arranged on the bottom surface of this desktop, the wherein homonymy two ends of this X-shaped connecting rod are hubbed at respectively on this first sliding rail frame and this second sliding rail frame, two ends then are hubbed on this first sliding rail frame and this second sliding rail frame respectively and are able to and slide on this first sliding rail frame and this second sliding rail frame in addition, and again, this X-shaped connecting rod is linked to this air pressure rod body; And most table pin, be fixedly arranged on this second sliding rail frame.

Above-described magic pet grooming table, when the user stirs this control handle, this air pressure rod body is promptly as the same gas spring, the power of desktop being executed by the user, this X-shaped connecting rod is slided on this first sliding rail frame and this second sliding rail frame, drive the length of adjusting this air pressure rod body, and then regulate height of table top, when the user decontrols this control handle, can fix the length and the height of table top of this air pressure rod body.

The utility model has the advantages that, utilize the interlock of this air pressure rod device and this railroad to adjust this height of table top, the user need only stir this control handle, can adjust height of table top easily, save time and laborsaving, must adjust height in the manual mode of bending over compared to known pet grooming table, the utility model has preferable convenience and practicality.

Description of drawings

Fig. 1 is the stereoscopic-state figure of the utility model desktop when higher.

Fig. 2 is a STRUCTURE DECOMPOSITION schematic diagram of the present utility model.

Fig. 3 is the stereoscopic-state figure of the utility model desktop when low.

Fig. 4 is an enforcement illustration of the present utility model ().

Fig. 5 is that the utility model is implemented illustration (two).

The diagrammatical symbol explanation

Desktop 1

Air pressure rod body 21

Control handle 22

First sliding rail frame 31

Second sliding rail frame 32

X-shaped connecting rod 33

Stiff end 34

Slide rail road 35

Table pin 4

The specific embodiment

Below sincerely with a specific embodiment, and assistant elaborates with graphic, understands so that the juror can have further for technical characterictic of the present utility model.

Please refer to Fig. 1 to Fig. 5, be a kind of magic pet grooming table, it is characterized in that comprising: a desktop 1, in order to carrying pet and relative article; One air pressure rod device, be located at the bottom of this desktop 1, comprise an air pressure rod body 21 and a control handle 22, this air pressure rod body 21 is to be formed by two steel pipe fits, inside is high pressure nitrogen abrim, just as a gas type spring, and nitrogen has more stable physical property with respect to air, more be not subjected to the influence of rising-heat contracting-cold, also there are not moisture contained in the air and impurity, have preferable security, this control handle 22 is in order to adjust the length of this air pressure rod body 21, controls the unlatching of these air pressure rod body 21 inner control valves and closes, when control valve is closed, this air pressure rod body 21 promptly can't start, and this control handle 22 is fixedly arranged on the bottom edge of this desktop, so that the user stirs;

One railroad, be located at the bottom of this desktop 1, comprise first sliding rail frame 31, second sliding rail frame 32 and an X-shaped connecting rod 33, this first sliding rail frame 31 and this second sliding rail frame 32 all are provided with stiff end 34 and slide rail road 35, this first sliding rail frame 31 is fixedly arranged on the bottom surface of this desktop 1, this X-shaped connecting rod 33 is formed the X-shaped shape by two supports intersection pivot, the wherein homonymy two ends of this X-shaped connecting rod 33 are hubbed at respectively on the stiff end 34 of this first slide rail 31 and this second sliding rail frame 32, two ends then are hubbed at respectively on the slide rail road 35 of this first sliding rail frame 31 and this second sliding rail frame 32 in addition, make it be able on this slide rail road 35, slide, again, this X-shaped connecting rod 33 is linked to this air pressure rod body 21;

Most table pin 4 are fixedly arranged on this second sliding rail frame 32, form firm table body structure.

By above-described magic pet grooming table, when pet places on this desktop 1, the user only must spread the edge that both hands are supporting this desktop 1 out, and stir this control handle 22, this air pressure rod body 21 is promptly spring-like as same gas type, can be according to stressed and variation that produce length, at this moment, the user adds a little strength that desktop 1 is executed by the weight of itself, and this X-shaped connecting rod 33 is slided on this slide rail road 35, drive the length of adjusting this air pressure rod body 21, and then regulating the height of this desktop 1, person to be used decontrols this control handle 22 after this desktop 1 is adjusted to suitable height, make this air pressure rod body 21 stop start, this moment, this first sliding rail frame 31 and this second sliding rail frame 32 can't slide, and can fix the height of this desktop 1, again, when the user stirs this control handle 22 and during not to this desktop 1 application of force, this air pressure rod body 21 automatically returns to the length of uncompressed just as no stressed spring-like, and this desktop 1 also rises to the highest height.

The foregoing description only is the principle and the effect thereof of this creation of explanation, and unrestricted creation.Therefore practise in the personage of this technology and the foregoing description is made amendment and change, still do not take off the spirit of this creation.This creation has possessed usability on the industry, novelty and progressive, and meets novel patent requirement, and application is mentioned in the whence in accordance with the law.

Similar Documents

Publication	Publication Date	Title
CN208766191U	2019-04-19	A kind of Biochemical Analyzer pedestal
CN201657970U	2010-12-01	Magic pet grooming table
CN202158321U	2012-03-07	Novel portable moving workbench
CN202211411U	2012-05-09	Novel stool
CN107348870A	2017-11-17	A kind of secondary same table
CN203853949U	2013-12-25	Pneumatic lifting desk
CN201836617U	2011-05-18	Foldable on-bed notebook computer tray
CN203074866U	2013-07-24	Leg support for lower extremity surgery
CN206079773U	2017-04-12	Liftable rotatory manual regulation table chair
CN2779981Y	2006-05-17	Manager chair
CN209370123U	2019-09-10	It blows height-adjustable vertical-column-type fan
CN2851044Y	2006-12-27	Foldable train desk
CN2783832Y	2006-05-31	Convenient desk
CN206560876U	2017-10-17	A kind of hand pounding medicine mortar
CN1582819A	2005-02-23	Pneumatic regulating bed
CN102269170A	2011-12-07	Foot-controlled electric fan for people with disabled hands
CN205086713U	2016-03-16	Locomotive, Vehicle operation seat elevation mechanism
CN201192186Y	2009-02-11	Bedside book support
CN101756586B	2011-05-04	Winter-summer pillow with adjustable elasticity
CN107581778A	2018-01-16	A kind of adjustable smart home dining table
CN201861186U	2011-06-15	Multifunctional musical instrument stool
CN210611418U	2020-05-26	Multifunctional notebook support table with height-adjustable desktop
CN202184468U	2012-04-11	Folding bed
CN208403612U	2019-01-22	A kind of secondary lifting study table
CN206145380U	2017-05-03	Folding over -and -under type computer bracket

Priority And Related Applications

Priority Applications (1)

Application	Priority date	Filing date	Title
CN2010201161652U	2010-02-10	2010-02-10	Magic pet grooming table

Applications Claiming Priority (1)

Application	Filing date	Title
CN201020116165.2U	2010-02-10	Magic pet grooming table

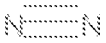
Legal Events

Date	Code	Title	Description
2010-12-01	C14	Grant of patent or utility model	
2010-12-01	GR01	Patent grant	
2013-04-03	C17	Cessation of patent right	
2013-04-03	CF01	Termination of patent right due to non-payment of annual fee	**Granted publication date**: 20101201 **Termination date**: 20120210

Concepts

machine-extracted

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Name	Image	Sections	Count	Query match
grooming		title,claims,abstract,description	19	0.000
nitrogen		claims,description	5	0.000
gas		claims,description	4	0.000
nitrogen		claims,description	3	0.000

Show all concepts from the description section

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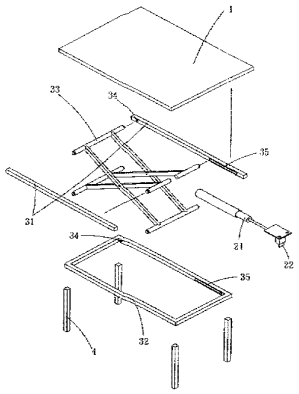
权利要求书 1 页 说明书 3 页 附图 5 页

(54)实用新型名称

魔术宠物美容桌

(57)摘要

一种魔术宠物美容桌，其特征在于包括一桌面；一气压棒装置，设于该桌面的底部，包含一气压棒本体及一控制柄，该控制柄用以调整该气压棒本体的长度，且该控制柄固设于该桌面的底面边缘；一滑轨装置，设于该桌面的底部，包含第一滑轨架、第二滑轨架及一X形连杆，该第一滑轨架固设于该桌面的底面，该X形连杆的其中同侧两端分别枢设于该第一滑轨架及该第二滑轨架上，另两端则分别枢设于该第一滑轨架及该第二滑轨架上并得以在该第一滑轨架及该第二滑轨架上滑动，又，该X形连杆连结至该气压棒本体；以及多数个桌脚，固设于该第二滑轨架。本创作藉由该气压棒装置及该滑轨装置的连动来调整该桌面高度，使用者只须拨动该气压棒装置的控制柄，即可轻易的调整该桌面高度，既省时又省力。



CN 201657970 U

1. 一种魔术宠物美容桌，其特征在于包括：

一桌面；

一气压棒装置，设于该桌面的底部，包含一气压棒本体及一控制柄，该控制柄用以调整该气压棒本体的长度，且该控制柄固设于该桌面的底面边缘；

一滑轨装置，设于该桌面的底部，包含第一滑轨架、第二滑轨架及一 X 形连杆，该第一滑轨架固设于该桌面的底面，该 X 形连杆的其中同侧两端分别枢设于该第一滑轨架及该第二滑轨架上，另两端则分别枢设于该第一滑轨架及该第二滑轨架上并得以在该第一滑轨架及该第二滑轨架上滑动，又，该 X 形连杆连结至该气压棒本体；以及多数个桌脚，固设于该第二滑轨架。

2. 如权利要求 1 所述的魔术宠物美容桌，其特征在于该气压棒本体内所填充的气体为高压氮气。

魔术宠物美容桌

技术领域

[0001] 本实用新型涉及一种宠物用品，尤指一种可调整桌面高度的魔术宠物美容桌。

背景技术

[0002] 人们经常饲养各式宠物来增添生活乐趣，藉由宠物的陪伴，亦能对饲主产生一种精神上的慰藉，由于物质生活的提升，饲主越来越重视宠物的造型，因此，宠物美容的风气逐渐盛行；然，各式宠物的体型大小皆略有差异，当美容师在对宠物进行造型设计的时候，需将宠物置于可调整高度的桌子上，并依照欲修剪的部位而将桌面调整至合适的高度，才能较有效率的进行宠物美容作业；一般传统习式的宠物美容桌，主要是由桌面及底座所组成，底座上连结一中空的外杆，桌面底部则连结一中空的内杆，该内杆的外径略小于该外杆的内径，将该内杆由该外杆的中空处套入，并于该外杆上端设置一固定旋钮，当使用者将桌面调整至适当的高度且旋紧该固定旋钮，即可固定桌面的高度。

[0003] 上述传统习式的宠物美容桌，使用者须依实际使用情况而自行弯腰或下蹲，以手动的方式将桌面调整至合适的高度，再旋紧桌面下的固定旋钮以固定桌面的高度，若宠物的体型较大且欲修剪多数个部位，则宠物美容师须反复的调整桌面高度，于使用上甚为不便，且桌面与底座之间，仅由该外杆及该内杆所支撑连结，桌面边缘处较不稳固，在进行宠物美容的时候，将造成桌面倾斜抖动的困扰。

实用新型内容

[0004] 本实用新型的目的是提供一种魔术宠物美容桌，以解决使用者须以弯腰手动方式来调整习式宠物美容桌的桌面高度以及弯腰手动方式的不便利。

[0005] 本实用新型的目的是这样实现的，一种魔术宠物美容桌，其特征在于包括：一桌面；一气压棒装置，设置于该桌面的底部，包含一气压棒本体及一控制柄，该控制柄是用以调整该气压棒本体的长度，且该控制柄固设于该桌面的底面边缘；一滑轨装置，设于该桌面的底部，包含第一滑轨架、第二滑轨架及一 X 形连杆，该第一滑轨架固设于该桌面的底面，该 X 形连杆的其中同侧两端分别枢设于该第一滑轨架及该第二滑轨架上，另两端则分别枢设于该第一滑轨架及该第二滑轨架上并得以在该第一滑轨架及该第二滑轨架上滑动，又，该 X 形连杆连结至该气压棒本体；以及多数个桌脚，固设于该第二滑轨架。

[0006] 以上所述的魔术宠物美容桌，当使用者拨动该控制柄时，该气压棒本体即如同一气体弹簧般，藉由使用者对桌面所施之力，使该 X 形连杆于该第一滑轨架及该第二滑轨架上滑动，带动调整该气压棒本体的长度，进而调节桌面高度，当使用者放开该控制柄，即可固定该气压棒本体的长度及桌面高度。

[0007] 本实用新型的优点是，利用该气压棒装置及该滑轨装置的连动来调整该桌面高度，使用者只须拨动该控制柄，即可轻易调整桌面高度，省时又省力，相较于习知宠物美容桌须以弯腰手动的方式来调整高度，本实用新型具有较佳的便利性及实用性。

附图说明

[0008] 图 1 是本实用新型桌面较高时的立体状态图。

[0009] 图 2 是本实用新型的结构分解示意图。

[0010] 图 3 是本实用新型桌面较低时的立体状态图。

[0011] 图 4 是本实用新型的实施例图（一）。

[0012] 图 5 是本实用新型实施例图（二）。

[0013] 图式符号说明

[0014] 桌面 1

[0015] 气压棒本体 21

[0016] 控制柄 22

[0017] 第一滑轨架 31

[0018] 第二滑轨架 32

[0019] X 形连杆 33

[0020] 固定端 34

[0021] 滑轨道 35

[0022] 桌脚 4

具体实施方式

[0023] 以下谨以一具体实施例，且佐以图式作详细说明，以使审查委员能对于本实用新型的技术特征有更进一步的了解。

[0024] 请参照图 1 至图 5，为一种魔术宠物美容桌，其特征在于包括：一桌面 1，用以承载宠物及相关物品；一气压棒装置，设于该桌面 1 的底部，包含一气压棒本体 21 及一控制柄 22，该气压棒本体 21 是由两支钢管套合而成，内部充满着高压氮气，犹如一气体式弹簧，而氮气相对于空气具有较稳定的物理性质，较不受热涨冷缩的影响，亦没有空气中所含的湿气及杂质，具有较佳的安全性，该控制柄 22 用以调整该气压棒本体 21 的长度，控制该气压棒本体 21 内控制阀的开启及关闭，当控制阀关闭时，该气压棒本体 21 即无法作动，而该控制柄 22 固设于该桌面的底面边缘，以便使用者拨动；

[0025] 一滑轨装置，设于该桌面 1 的底部，包含第一滑轨架 31、第二滑轨架 32 及一 X 形连杆 33，该第一滑轨架 31 及该第二滑轨架 32 皆设有固定端 34 及滑轨道 35，该第一滑轨架 31 固设于该桌面 1 的底面，该 X 形连杆 33 是由二支架交叉枢组成 X 形状，该 X 形连杆 33 的其中同侧两端分别枢设于该第一滑轨 31 及该第二滑轨架 32 的固定端 34 上，另两端则分别枢设于该第一滑轨架 31 及该第二滑轨架 32 的滑轨道 35 上，使其得以在该滑轨道 35 上滑动，又，该 X 形连杆 33 连结至该气压棒本体 21；

[0026] 多数个桌脚 4，固设于该第二滑轨架 32，形成稳固的桌体结构。

[0027] 藉由以上所述的魔术宠物美容桌，当宠物置于该桌面 1 上的时候，使用者仅须摊开双手撑着该桌面 1 的边缘，并且拨动该控制柄 22，该气压棒本体 21 即如同一气体式弹簧般，可依照受力而产生长度的变化，此时，使用者藉由本身的重量，加上对桌面 1 所施的少许力量，即可使该 X 形连杆 33 于该滑轨道 35 上滑动，带动调整该气压棒本体 21 的长度，进而调节该桌面 1 的高度，待使用者将该桌面 1 调整至合适的高度后，放开该控制柄 22，使该

气压棒本体 21 停止作动，此时该第一滑轨架 31 及该第二滑轨架 32 无法滑动，即可固定该桌面 1 的高度，又，当使用者拨动该控制柄 22 且未对该桌面 1 施力时，该气压棒本体 21 就如同无受力的弹簧般，自动回复至未经压缩的长度，该桌面 1 亦升至最高的高度。

[0028] 上述实施例仅为说明本创作的原理及其功效，并非限制本创作。因此习于此技术的人士对上述实施例进行修改及变化，仍不脱本创作的精神。本创作已具备产业上利用性、新颖性及进步性，并符合新型专利要件，爰依法提起申请。

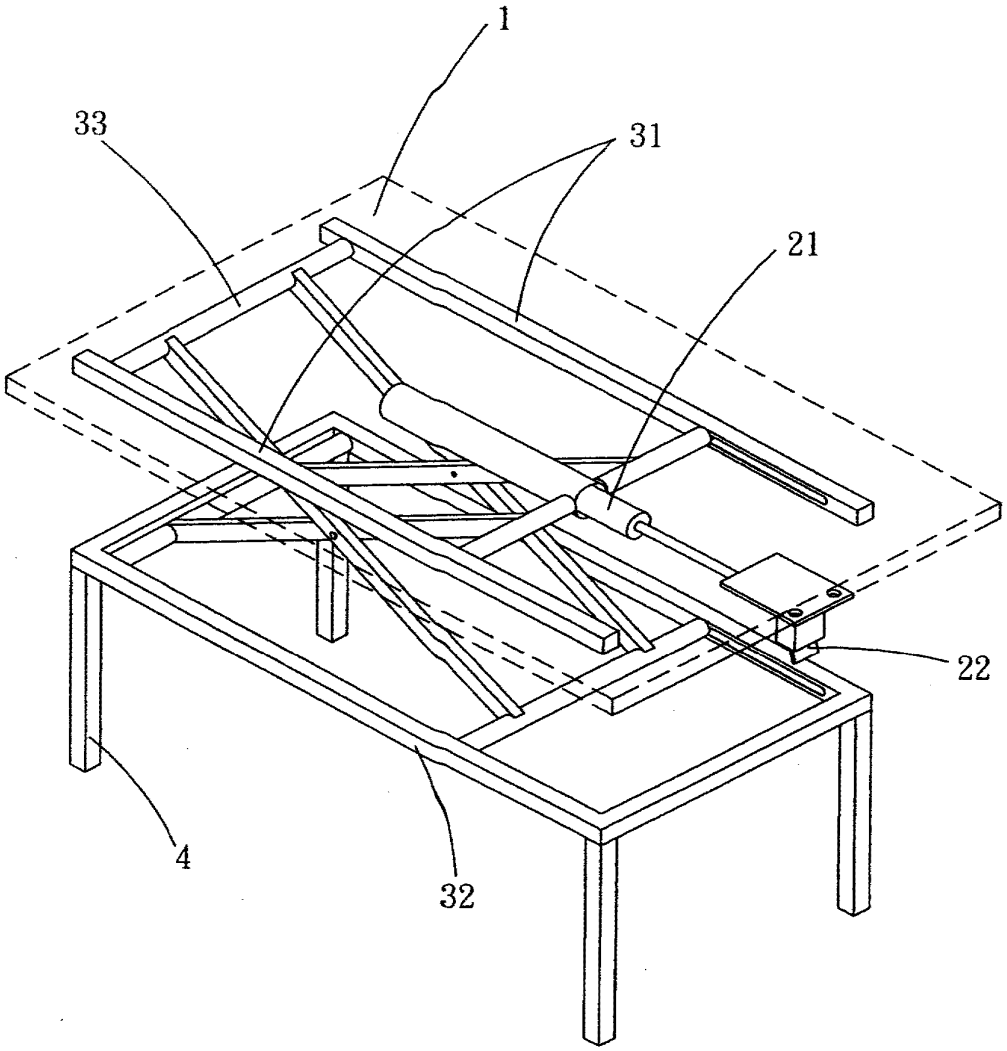


图 1

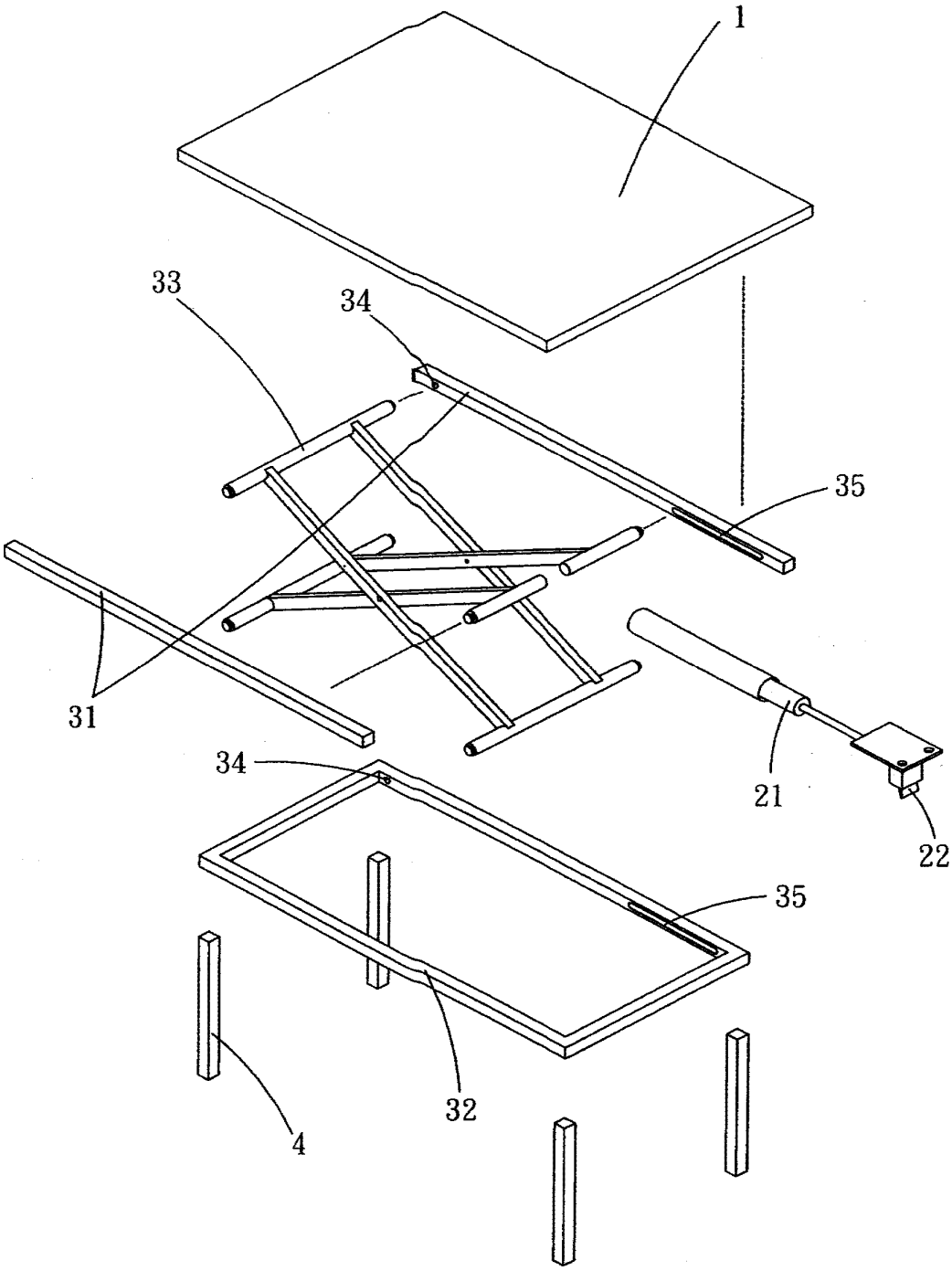


图 2

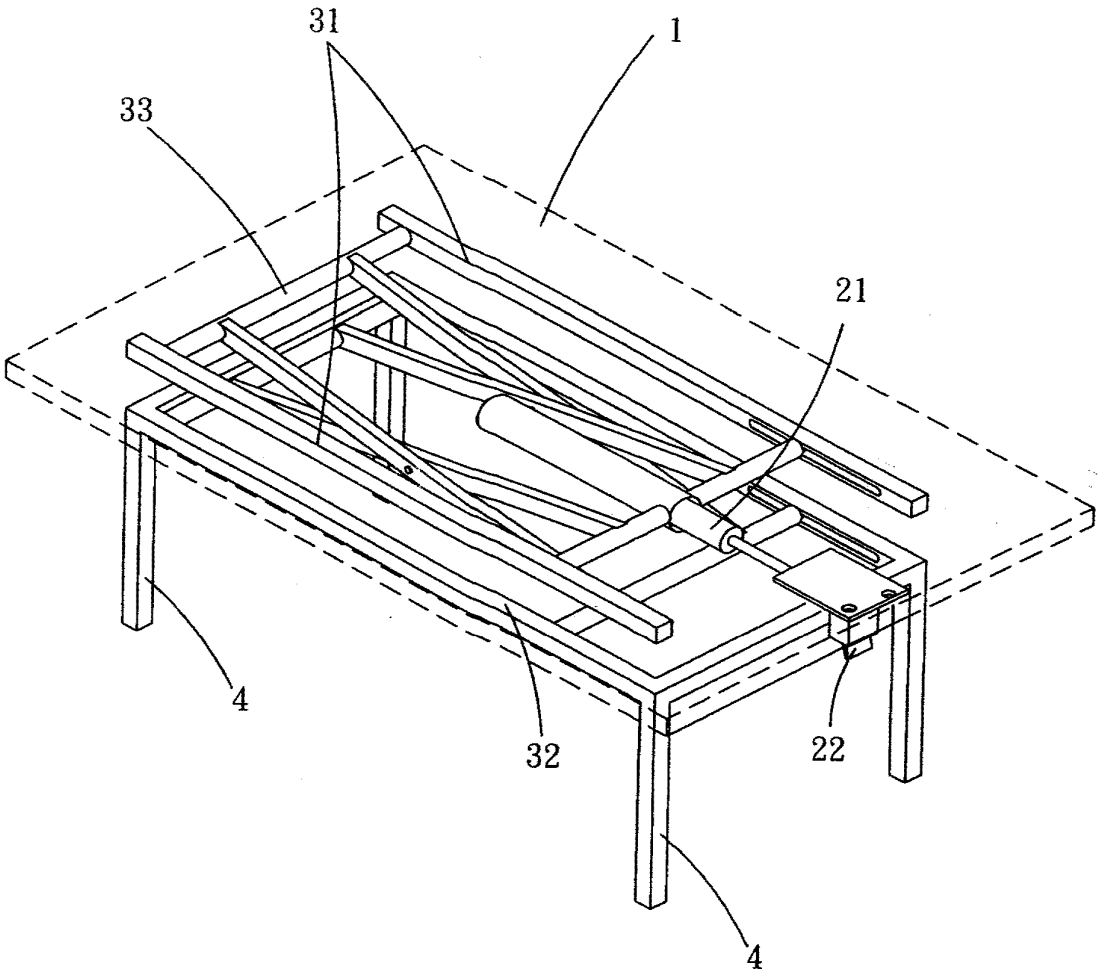


图 3

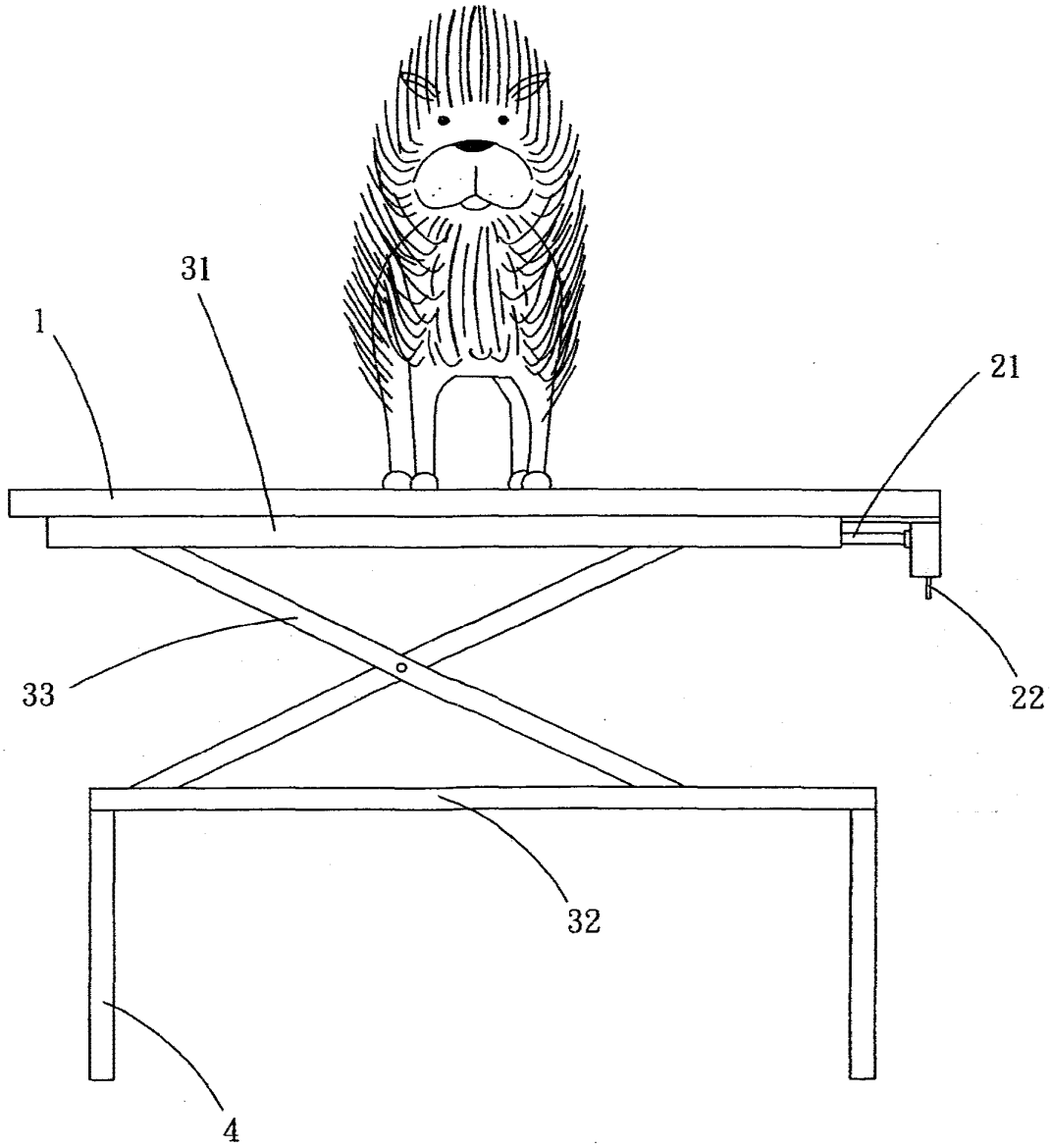


图 4

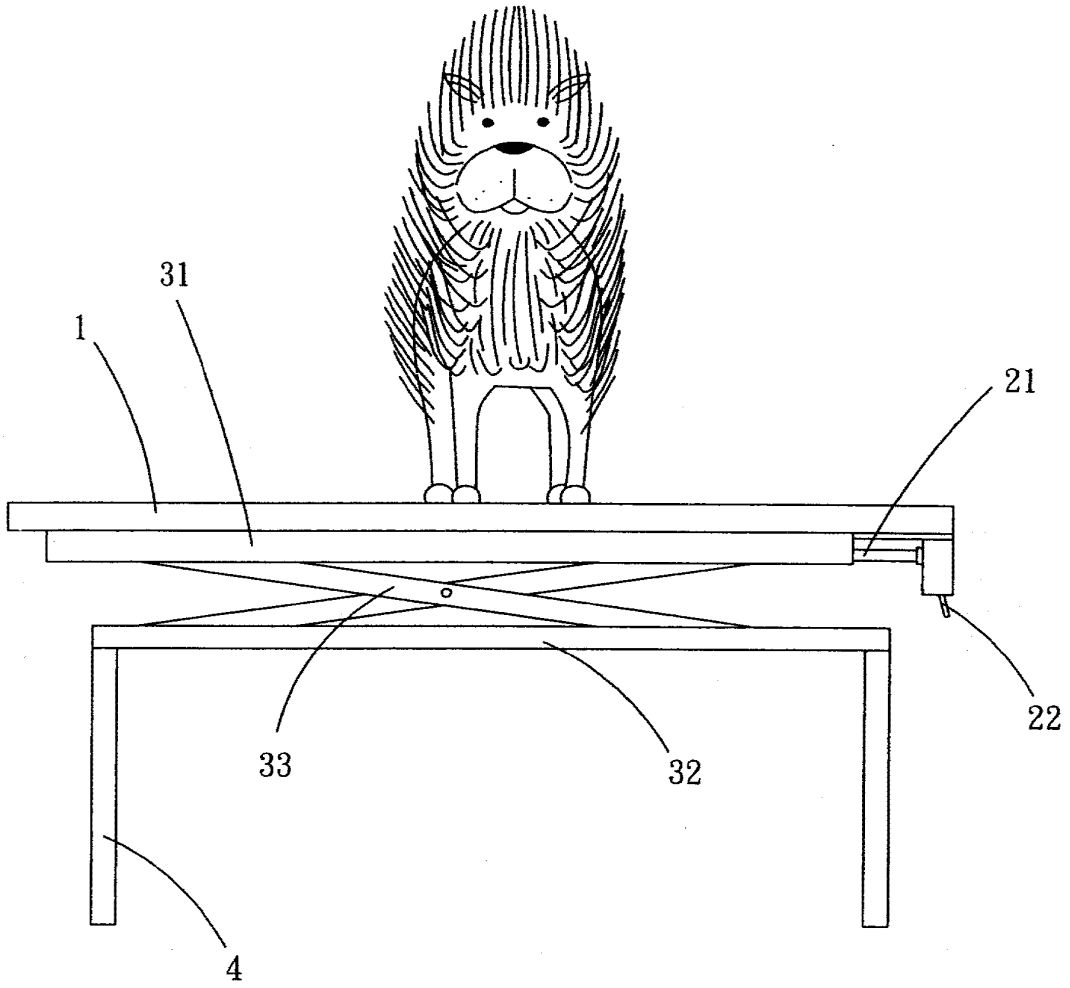


图 5

Electronic Acknowledgement Receipt

EFS ID:	46523742
Application Number:	17493830
International Application Number:	
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Title of Invention:	DESKTOP WORKSPACE THAT ADJUSTS VERTICALLY
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1	Information Disclosure Statement (IDS) Form (SB08)	IDS.pdf	1287136 c2452c3c8b65df7a27648854a15406a6f3376d83	no	5

Warnings:

Information:					
2	Foreign Reference	CN2637251Y.pdf	428767 b88efc85fabf3674077c3b51477e91b0c235819b	no	8
Warnings:					
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3	Non Patent Literature	CN2637251Y_translation.pdf	262168 3a3b5308e2ae9b5390d0795ec6b8d55bc5b0c4c4	no	4
Warnings:					
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4	Foreign Reference	CN201657970U.pdf	312872 2fe9e2dbb9d317cae6e63da28bf005dedb1eae48	no	10
Warnings:					
Information:					
5	Non Patent Literature	CN201657970U_translation.pdf	201143 ada4f07786bd2897d7eb5446e129df7239712a8c	no	4
Warnings:					
Information:					
6	Non Patent Literature	Easylift.pdf	561951 5e579434cfa47dc63ce40b5ff34e6f87b7ef855a	no	6
Warnings:					
Information:					
7	Foreign Reference	EP0531385B1.pdf	432039 2a478613b4bd16837323e1b0f3bcee0f22fb3c7e	no	8
Warnings:					
Information:					
8	Non Patent Literature	Lohr_NYT.pdf	99775 ab4a43ae4dc1e2ff34b1beb082d9d651f6daeab2	no	2
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Rank Xerox (UK) Business Services
(3.10/3.09/3.3.3)

EP 0 531 385 B1

Description

The present invention relates to a table stand intended for use preferably in caravans and motorhomes, wherein the stand supports at the top thereof a frame-like part on which a tabletop is intended to be placed and which can be adjusted vertically so as to position the table-top in different height positions as specified in the preamble of claim 1 and as disclosed, for example, in US-A-4 558 648.

The tables provided in caravans/motorhomes normally have the form of a tabletop which is fitted to the top of a stand. This type of table is normally intended for two different purposes. Firstly, the table is intended for use as a conventional dining table, from which food and coffee can be partaken in the caravan/motorhome. Secondly, the table shall be capable of being raised and lowered, so as to enable the tabletop to be lowered to a position in which it will function as part of a bed in the caravan/motorhome. Lowering and raising of the table has hitherto been a complicated process, and consequently time-consuming.

The object of the present invention is to eliminate this problem and to provide a tabletop stand which can be readily handled and manoeuvred when lowering and raising the same. This object has been achieved with a stand of the aforesaid kind which is characterized by the features specified in the characterizing portion of claim 1.

A preferred embodiment of the invention will now be described in more detail with reference to the accompanying drawings, in which Figure 1 shows the inventive stand in a raised position and provided with a lockable gas-spring and a spring operating or activating means; Figure 2 illustrates the stand of Figure 1 in a lowered position; Figure 3 and Figure 4 show the attachment of the gas-spring to the upper part of the stand, wherein Figure 4 shows the attachment from beneath; and Figure 5 illustrates the construction of the operating means.

Figures 1 and 2 illustrate the inventive stand. The stand includes a frame-like part 1 which is carried by two leg members 2, 3. Each leg member 2, 3 includes two substantially parallel rods or bars 4, 5; 6, 7, wherein the two bars of each pair of bars are spaced from one another and are connected together at both ends thereof by means of a respective transverse rod 8, 9; 10, 11, wherein the lowermost transverse rods 8; 10 function to support the stand against the underlying support surface and wherein the upper, transverse rods 9; 11 are intended to coact with the frame-like part 1. The two leg members 2, 3, i.e. the pairs of bars 4, 5; 6, 7 are mutually connected by means of a hinge means or pivot in the form of a transverse rod 12, which extends through the bars approximately midway therealong the rods, preferably at a location which is slightly above centre. This enables the two ends of respective pairs of bars 4, 5; 6, 7 to be moved towards and away from each other in a scissor-like fashion and therewith move the frame-like part 1 vertically.

The frame-like part 1 and bars of the illustrated embodiment are made of varnished or lacquered steel plate and the frame-like part includes four bars 13-16 disposed in the form of a rectangle. The stand may, of course, be made of some other material and the frame-like part 1 may have the form of a square. At least two of the frame bars, the longitudinally extending bars 14, 15 of the illustrated embodiment have a substantially U-shaped cross-section with the legs of the U facing inwards. The upper transferse rods 9, 11 of the two leg members 2, 3 are intended for coaction with the frame bars 14, 15. The one rod 9 is pivotally mounted in the bars 14, 15, whereas the other transverse rod 11 is provided at both ends with suitable means for sliding in the U-shaped part of the bars in order to achieve the aforesaid scissor-like movement of the leg members.

An essential feature of the invention is that a blockable gas-spring 17, or piston-cylinder device, is provided for enabling the position of the frame-like part 1 to be adjusted vertically in a smooth continuous fashion, both in an upward and in a downward direction. The gas-spring includes a bottom part 18 which is pivotally connected to the leg member 3 beneath the pivot rod 12, and an upper part 19 which is pivotally connected to the transverse frame-bar 15 on the same side of a vertical plane passing through the rod 12 as the lower part 18 (see also Figures 3, 4).

The gas-spring 17 is provided with a centrally positioned pin 20 which protrudes slightly from the upper part 19 of the gas-spring in an axial direction. This pin 20 is intended to activate a release valve provided within the gas-spring.

The pin 20 is intended to coact with a cylindrical bushing 21 which is pivotally connected to a holder means 23, by means of screws 22 or the like, said holder means being mounted on the inside of the frame bar 15. The pin 20 thus extends straight through the bushing 21 in its transverse direction and protrudes slightly beyond the bushing for coaction with an operating means or activator 24 (see also Figure 5). Because the bushing 21 is pivotally connected to the holder means 23 and because the bottom part 18 of the gas-spring 17 is pivotally connected to the leg member 3, the gas-spring will take different angular positions in relation to the frame-like part 1 of the stand and the leg member 3. According to this embodiment, the leg member 3 includes two parallel bars or rods 6,

7. The bottom part 18 of the gas-spring 17 is therewith pivotally connected to a transverse rod 25, which mutually connects the bars or rod 6, 7 and which is positioned beneath the hinge or pivot rod 12.

The operating means 24 has an elongated shape and has a handle 26 provided on the rear thereof and a part 27 which functions to engage the end of the pin 20 on the front thereof. The part 27 is provided with a hole 28 by means of which the operating means is pivotally conencted to the holder means 23 substantially immediately above the pivot 22 for attachment of the bushing 21. The position of the pivot 22 has been referenced x in Figure 5. The forward part 27 of the operating means 24 is also provided with a concave recess 29 which is intended to abut the end of the pin 20 and which includes substantially 90° of a circle. The radii R of the recess 29 are therewith essentially the same, taken from the x. One important advantage afforded hereby is that the force exerted on the pin 20 by the operating means will act substantially in the longitudinal direction of the pin, irrespective of the height position of the stand, i.e. irrespective of the angle between the operating means 24 and the longitudinal axis line of the pin 20. This fact enables the gas-spring 17 to be operated effectively. When the pin 20 is pressed inwardly by means of the operating means 24, the release valve in the gas-spring will open. The gas-spring is thereby compressed with a force which is greater than the resistance exerted by the gas-spring, which takes place when the stand is to be pressed down to a low level. If it is wished to maintain the stand at this low level, the pressure on the pin is removed, thereby causing the pin to return to its starting position. This closes the release valve in the gas-spring and the spring will thereby be blocked and function as a rigid rod. When wishing to raise the stand, the pin 20 is pressed-in by means of the operating means 24, thereby raising the frame part of the stand to the desired position, whereafter the pressure on the pin 20 is removed.

It will be understood that the invention is not restricted to the described embodiment and that modifications can be made within the scope of the following Claims. For instance, each leg member may consist of a single rod instead of two mutually connected rods, as illustrated in the described embodiment.

Claims

1. A table stand preferably for use in caravans, motor homes and the like, comprising an upper frame-like part (1) on which a table top is intended to be placed, at least two leg members (2, 3) which are hinged or pivotally connected together by a hinge or pivot (12) so as to enable the parts of said leg members located on either side of the hinge or pivot to be moved towards and away from one another in a scissor-like fashion, thereby to adjust the height of the upper frame-like part (and the table top), a weight-equalizing means for compensating, among other things, the weight of the table top, and a locking means for locking the leg members in an angular position corresponding to the adjusted height, wherein said weight-equalizing means comprises a gas spring (17) which acts between one of the leg members and said upper frame-like part, **characterized** in that the locking means comprises a gas spring (17) which can be blocked by activation of a valve to a first position at an angular value of the leg members adjusted to a selected height position, so that the position of the upper frame-like part, and therewith the position of the table top, relative to an underlying support surface can be maintained, wherein the valve can be adjusted to a second position in which the gas spring is released for renewed adjustment of the height of the upper frame-like part (1); in that the valve can be switched between said first and said second positions by means of a pin (20) which extends through a bushing (21) connected to said gas spring and pivotally connected to a holder means (23) mounted in the upper frame-like part (1); and in that said pin (20) can be moved axially by means of an operating means (24) pivotally connected to the holder means (23) and having a concave recess (29) for actuable coaction with the pin (20).

2. A stand according to Claim 1, **characterized** in that the cylinder of the gas spring is attached to the upper frame-like part (1) through the intermediary of the bushing (21).

3. A stand according to Claim 1 or 2, **characterized** in that the gas spring cylinder (19) supports said centrally placed pin (20) which is intended to adjust the setting of the valve mounted within the gas spring to either the first valve setting or the second valve setting, in response to rotary movement generated by the operating means (24).

4. A stand according to Claim 1, **characterized** in that the gas spring (17) has an upper part (19) which is pivotally connected to the upper frame-like part (1) on one side of a vertical plane which passes through the pivot (12), and a lower part (18) which is pivotally connected

to the leg member (3) on the same side of said vertical plane as the upper part (19) and beneath the pivot (12).

5. A stand according to Claim 1, **characterized** in that a pivot for pivotal movement of the operating means (24) is mounted in the holder means (23) adjacent the bushing pivot (22).

6. A stand according to Claim 5, **characterized** in that the operating means (24) includes a rear part in the form of a handle (26) and a front part (27) which is intended for coaction with the pin (20) through the intermediary of the concave recess (29).

7. A stand according to Claim 1, **characterized** in that the recess (29) includes generally 90° of a circular arc.

8. A stand according to any one of the preceding Claims, **characterized** in that each of the two leg members (2, 3) includes two generally parallel bars (4, 5; 6, 7) which are mutually connected together at the bottoms thereof by a transverse first rod (8 or 10) and at the tops thereof by a transverse second bar (9 or 11), said second bars (9, 11) being intended to coact with the upper frame-like part (1).

9. A stand according to Claim 8, **characterized** in that the frame-like part (1) comprises four beams (13-16) which are arranged in the form of a rectangle or square, wherein two mutually opposite beams (14, 16) are intended to coact with the second bars (9, 11); and in that said two beams (14, 16) have a U-shaped cross-section, wherein the legs of the one beam are directed towards the legs of the other beam.

10. A stand according to Claim 9, **characterized** in that one of the second bars (9) is pivotally connected to said beams (14, 16) while the second bar (11) is provided with suitable means at its two ends to enable the U-shaped parts to slide in the two beams (14, 16).

11. A stand according to Claim 9, **characterized** in that a beam (15) is intended to connect parallel beams (14, 16) together at one of their two ends, so that the beam (15) extends generally perpendicular to these beams; and in that the holder means (23) is mounted generally opposite said beam (15) and has an extension which is directed inwardly towards the centre of the upper frame-like part.

Patentansprüche

1. Tischgestell, vorzugsweise zur Verwendung in Wohnwagen, Wohnmobilen und dergleichen, das folgendes umfaßt: ein oberes rahmenähnliches Teil (1), auf das eine Tischplatte plaziert werden soll, mindestens zwei Beinglieder (2, 3), die über ein Gelenk oder einen Drehzapfen (12) gelenkig oder schwenkbar miteinander verbunden sind, so daß sich die auf beiden Seiten des Gelenks oder Drehzapfens befindenden Teile der Beinglieder scherenartig aufeinander zu oder voneinander weg bewegen können, wodurch die Höhe des oberen rahmenartigen Teils (und der Tischplatte) eingestellt werden kann, ein Gewichtsausgleichsmittel zum Ausgleich u.a. des Gewichts der Tischplatte und ein Verriegelungsmittel zur Verriegelung der Beinglieder in einer der eingestellten Höhe entsprechenden Winkelposition, wobei das Gewichtsausgleichsmittel eine Gasdruckfeder (17) umfaßt, die zwischen einem der Beinglieder und dem oberen rahmenartigen Teil wirkt, dadurch gekennzeichnet, daß das Verriegelungsmittel eine Gasdruckfeder (17) umfaßt, die durch Betätigung eines Ventils in eine erste Position bei einem Winkelwert der auf eine ausgewählte Höhenposition eingestellten Beinglieder gesperrt werden kann, so daß die Position des oberen rahmenartigen Teils und damit die Position der Tischplatte gegenüber einer darunter liegenden Stützplatte aufrechterhalten werden kann, wobei das Ventil auf eine zweite Position eingestellt werden kann, in der die Gasdruckfeder zur erneuten Einstellung der Höhe des oberen rahmenartigen Teils (1) freigegeben wird; daß das Ventil über einen Stift (20), der sich durch eine mit der Gasdruckfeder verbundene und mit einem im oberen rahmenartigen Teil (1) angebrachten Haltemittel (23) schwenkbar verbundene Durchführung erstreckt, zwischen der ersten und der zweiten Position geschaltet werden kann; und daß der Stift (20) über ein schwenkbar mit dem Haltemittel (23) verbundenes Betätigungsmittel (24), das zur betätigbaren Zusammenwirkung mit dem Stift (20) eine konkave Ausnehmung (29) aufweist, in Längsrichtung bewegt werden kann.

2. Gestell nach Anspruch 1, dadurch gekennzeichnet, daß der Zylinder der Gasdruckfeder mittels der Durchführung (21) am oberen rahmenartigen Teil (1) befestigt ist.

3. Gestell nach Anspruch 1 oder 2, dadurch gekennzeichnet, daß der Gasdruckfederzylinder (19) den mittig positionierten Stift (20) stützt,

der dazu bestimmt ist, das in der Gasdruckfeder angebrachte Ventil entweder auf die erste Ventileinstellung oder die zweite Ventileinstellung als Reaktion auf von dem Betätigungsmittel (24) erzeugte Drehbewegung zu verstellen.

4. Gestell nach Anspruch 1, dadurch gekennzeichnet, daß die Gasdruckfeder (17) ein oberes Teil (19), das auf einer Seite einer vertikalen Ebene, die durch den Drehzapfen (12) geht, schwenkbar mit dem oberen rahmenartigen Teil (1) verbunden ist, und ein unteres Teil (18), das auf der gleichen Seite der vertikalen Ebene wie das obere Teil (19) und unterhalb des Drehzapfens (12) schwenkbar mit dem Beinglied (3) verbunden ist, aufweist.

5. Gestell nach Anspruch 1, dadurch gekennzeichnet, daß ein Drehzapfen zur Schwenkbewegung des Betätigungsmittels (24) im Haltemittel (23) neben dem Durchführungsdrehzapfen (22) angebracht ist.

6. Gestell nach Anspruch 5, dadurch gekennzeichnet, daß das Betätigungsmittel (24) ein rückwärtiges Teil in Form eines Griffs (26) und ein vorderes Teil (27), das zur Zusammenwirkung mit dem Stift (20) über die konkave Ausnehmung (29) bestimmt ist, enthält.

7. Gestell nach Anspruch 1, dadurch gekennzeichnet, daß die Ausnehmung (29) allgemein 90° eines Kreisbogens einschließt.

8. Gestell nach einem der vorhergehenden Ansprüche, dadurch gekennzeichnet, daß jedes der beiden Beinglieder (2, 3) zwei allgemein parallele Stäbe (4, 5; 6, 7) enthält, die beide an ihren unteren Teilen über eine erste Querstange (8 oder 10) und an ihren oberen Teilen über eine zweite Querstange (9 oder 11) miteinander verbunden sind, wobei die zweiten Stangen (9, 11) dazu bestimmt sind, mit dem oberen rahmenartigen Teil (1) zusammenzuwirken.

9. Gestell nach Anspruch 8, dadurch gekennzeichnet, daß das rahmenartige Teil (1) vier Balken (13 - 16) umfaßt, die in Form eines Rechtecks oder Quadrats angeordnet sind, wobei die einander gegenüberliegenden Balken (14, 16) dazu bestimmt sind, mit den zweiten Stangen (9, 11) zusammenzuwirken; und daß die beiden Balken (14, 16) einen U-förmigen Querschnitt aufweisen, wobei die Beine des einen Balkens zu den Beinen des anderen Balkens hin weisen.

10. Gestell nach Anspruch 9, dadurch gekennzeichnet, daß einer der zweiten Stäbe (9) schwenkbar mit den Balken (14, 16) verbunden ist, während der zweite Stab (11) an seinen beiden Enden mit einem geeigneten Mittel versehen ist, um zu ermöglichen, daß die U-förmigen Teile in den beiden Balken (14, 16) gleiten können.

11. Gestell nach Anspruch 9, dadurch gekennzeichnet, daß ein Balken (15) dazu bestimmt ist, parallele Balken (14, 16) an einem ihrer beiden Enden miteinander zu verbinden, so daß sich der Balken (15) allgemein senkrecht zu diesen Balken erstreckt; und daß das Haltemittel (23) allgemein gegenüber dem Balken (15) angebracht ist und eine Verlängerung aufweist, die nach innen zum Mittelpunkt des oberen rahmenartigen Teils weist.

Revendications

1. Support de table pour utilisation de préférence dans les caravanes, les camping-cars et similaire, comprenant une partie supérieure (1) en forme de cadre sur laquelle un dessus de table est destiné à être placé, au moins deux organes de pieds (2, 3) qui sont montés sur charnière ou reliés ensemble pour pivotement par une charnière ou un pivot (12) de manière à permettre aux parties desdits organes de pieds situées de part et d'autre de la charnière ou du pivot d'être approchées et éloignées l'une de l'autre à la manière de ciseaux, pour régler par ce moyen la hauteur de la partie supérieure en forme de cadre (et du dessus de table), un moyen d'égalisation de poids pour compenser, entre autres, le poids du dessus de table, et un moyen de verrouillage pour verrouiller les organes de pieds dans une position angulaire correspondant à la hauteur réglée, dans lequel ledit moyen d'égalisation de poids comprend un amortisseur à gaz (17) qui agit entre un des organes de pieds et ladite partie supérieure en forme de cadre, caractérisé en ce que le moyen de verrouillage comprend un amortisseur à gaz (17) qui peut être bloqué en actionnant un clapet dans une première position à une valeur angulaire des organes de pieds réglée pour une position de hauteur choisie, de sorte que la position de la partie supérieure en forme de cadre, et avec cette dernière la position du dessus de table, par rapport à une surface de support sous-jacente peut être conservée, où le clapet peut être réglé dans une deuxième position dans laquelle l'amortisseur à gaz est libéré pour un réglage renouvelé de la hauteur de la partie supérieure en

forme de cadre (1); en ce que le clapet peut avoir son réglage changé entre ladite première et ladite deuxième positions au moyen d'une goupille (20) qui s'étend à travers une bague (21) reliée audit amortisseur à gaz et reliée pour pivotement à un moyen de support (23) monté dans la partie supérieure en forme de cadre (1); et en ce que ladite goupille (20) peut être déplacée axialement au moyen d'un moyen de fonctionnement (24) relié pour pivotement au moyen de support (23) et comportant un évidement concave (29) pour action commune de mise en action avec la goupille (20).

2. Support selon la revendication 1, caractérisé en ce que le cylindre de l'amortisseur à gaz est fixé à la partie supérieure en forme de cadre (1) par l'intermédiaire de la bague (21).

3. Support selon la revendication 1 ou 2, caractérisé en ce que le cylindre (19) de l'amortisseur à gaz supporte ladite goupille (20) placée centralement qui est destinée à ajuster le réglage du clapet monté à l'intérieur de l'amortisseur à gaz sur le premier réglage du clapet ou le deuxième réglage du clapet, en réponse au mouvement rotatif engendré par le moyen de fonctionnement (24).

4. Support selon la revendication 1, caractérisé en ce que l'amortisseur à gaz (17) comporte une partie supérieure (19) qui est reliée pour pivotement à la partie supérieure en forme de cadre (1) d'un côté d'un plan vertical qui passe à travers le pivot (12), et une partie inférieure (18) qui est reliée pour pivotement à l'organe de pieds (3) du même côté dudit plan vertical que la partie supérieure (19) et en dessous du pivot (12).

5. Support selon la revendication 1, caractérisé en ce qu'un pivot pour le mouvement pivotant du moyen de fonctionnement (24) est monté dans le moyen de support (23) en position adjacente au pivot de bague (22).

6. Support selon la revendication 5, caractérisé en ce que le moyen de fonctionnement (24) inclut une partie arrière de la forme d'une poignée (26) et une partie avant (27) qui est destinée à agir en commun avec la goupille (20) par l'intermédiaire de l'évidement concave (29).

7. Support selon la revendication 1, caractérisé en ce que l'évidement (29) inclut généralement 90° d'un arc circulaire.

8. Support selon l'une quelconque des revendications précédentes, caractérisé en ce que chacun des deux organes de pieds (2, 3) inclut deux barres généralement parallèles (4, 5; 6, 7) qui sont reliées mutuellement ensemble à leurs parties inférieures par une première tige transversale (8 ou 10) et à leurs parties supérieures par une deuxième tige transversale (9 ou 11), lesdites deuxièmes tiges (9, 11) étant destinées à agir en commun avec la partie supérieure en forme de cadre (1).

9. Support selon la revendication 8, caractérisé en ce que la partie en forme de cadre (1) comprend quatre poutrelles (13-16) qui sont agencées sous la forme d'un rectangle ou d'un carré, dans lequel deux poutrelles mutuellement opposées (14, 16) sont destinées à agir en commun avec les deuxièmes tiges (9, 11); et en ce que lesdites deux poutrelles (14, 16) ont une coupe transversale en U, dans lequel les pieds d'une des poutrelles sont dirigés vers les pieds de l'autre poutrelle.

10. Support selon la revendication 9, caractérisé en ce que une des deuxièmes tiges (9) est reliée pour pivotement auxdites poutrelles (14, 16) alors que la deuxième tige (11) est fournie avec un moyen convenable à ses deux extrémités pour permettre aux parties en forme de U de coulisser dans les deux poutrelles (14, 16).

11. Support selon la revendication 9, caractérisé en ce que une poutrelle (15) est destinée à relier les poutrelles parallèles (14, 16) ensemble à l'une de leurs extrémités, de sorte que la poutrelle (15) s'étend généralement perpendiculairement à ces poutrelles; et en ce que le moyen de support (23) est monté généralement en vis-à-vis de ladite poutrelle (15) et comporte une extension qui est dirigée vers l'intérieur vers le centre de la partie supérieure en forme de cadre.

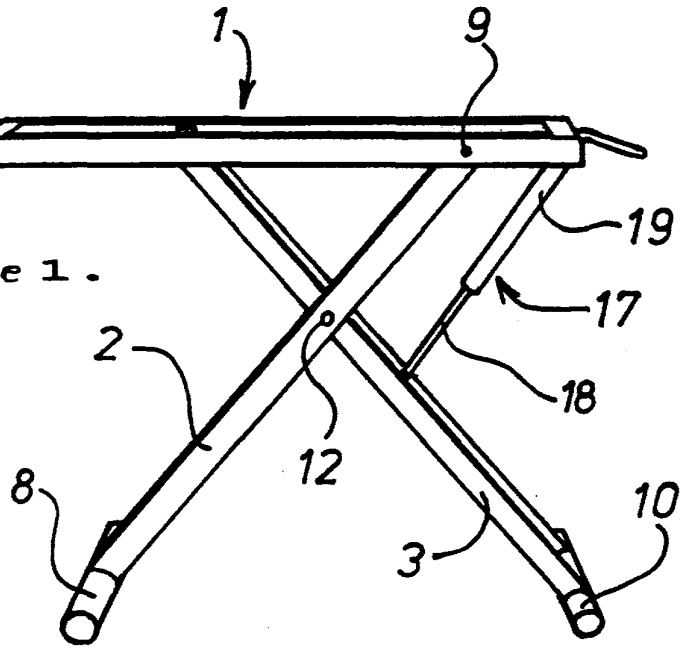
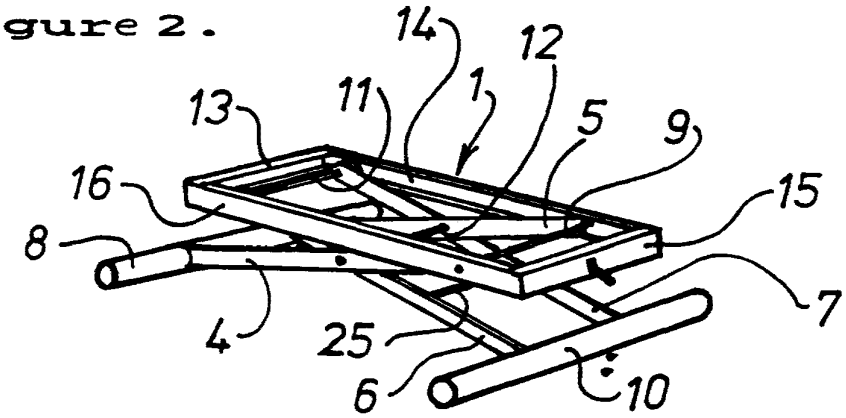


Figure 1.

Figure 2.



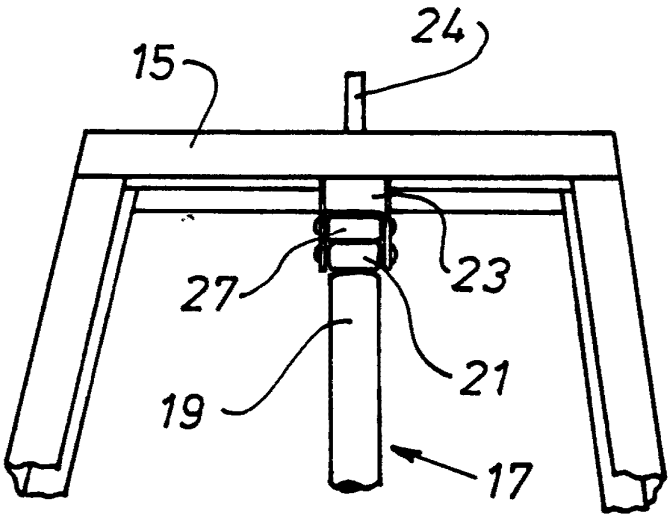
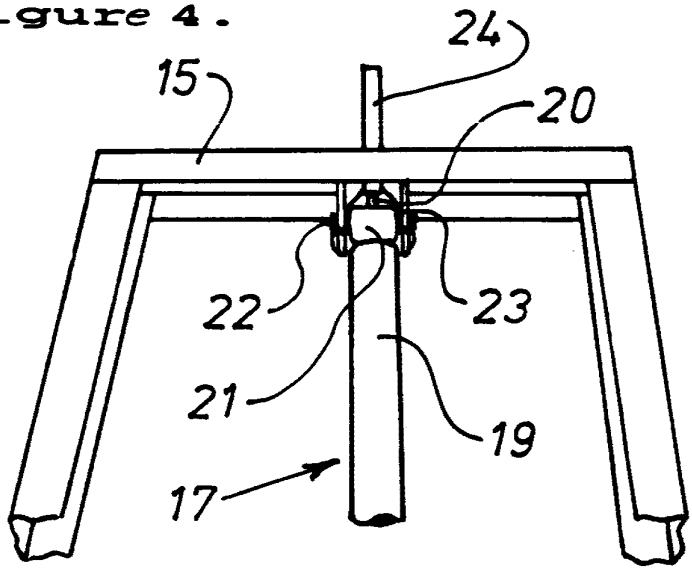


Figure 3.

Figure 4.



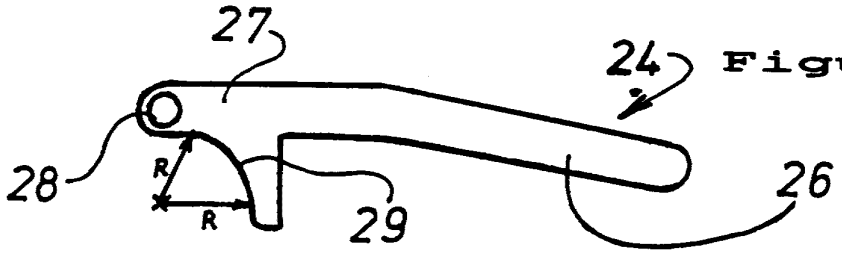


Figure 5.

Patents cn2637251

Vehicle mounted integrated system folding office desk

Abstract

The utility model discloses a vehicle integrated system foldaway desk, comprising a main desktop and a pair of bolster hinge frames, wherein, an upper fast headstock is fixed on the under the main desktop of the desk, while a lower fast headstock is arranged on the ground, the same sides of the upper and the lower fast headstocks are respectively provided with an upper lifting lead rail and a lower lifting lead rail; the upper end of one side column of the bolster hinge frame is fixed on the upper fast headstock, and the bottom end of one side column of the bolster hinge frame is fixedly connected with a lower lifting slider arranged in the lower lifting lead rail; the upper end of the other side column of the bolster hinge frame is fixedly connected with an upper lifting slider arranged in the upper lifting lead rail, and the end lap of one side column of the bolster hinge frame is fixed on the lower fast headstock; and a lifting control locating device is linked with the upper lifting slider. Furthermore, the desk is furnished with a gas spring which is provided with a buffering and an ancillary shorting function, wherein, the proper position of the downside of the lower fast headstock is provided with a removable slider which is arranged in a movable slideway fixed on the ground, and the brink of the main desktop is furnished with a folding accessory desktop. The use efficiency of spaces in vehicles is improved effectively; furthermore, the lifting of the desk is stable and the moving is convenient.

CN2637251Y

China

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Other languages: Chinese

Inventor: [redacted]

Current Assignee : CHINA MOTOR VEHICLE SAFETY APPRAISAL & DETECTION CENTER

Worldwide applications

2003 CN

Application CN 03208536 events

2003-08-27	Application filed by CHINA MOTOR VEHICLE SAFETY APPRAISAL & DETECTION CENTER
2003-08-27	Priority to CN 03208536
2004-09-01	Application granted
2004-09-01	Publication of CN2637251Y
2013-08-27	Anticipated expiration
Status	Expired - Lifetime

Info: Cited by (8), Legal events, Similar documents, Priority and Related Applications

External links: Espacenet, Global Dossier, Discuss

Claims (9)

Hide Dependent

1, the collapsible desk of a kind of vehicle-mounted integrated system, comprise top table face and a pair of bloster hinge frame, it is characterized in that: be consolidated with upper holder below the top table face of this desk, other has lower fixed frame and places on the ground, and the same side of upper and lower fixed mount is respectively equipped with upper and lower riser guide; The upper end of one side row bloster hinge frame is fixed on the upper holder, and its bottom following lifting slider interior with placing down riser guide is affixed. The upper end of the opposite side row bloster hinge frame last lifting slider interior with placing riser guide is affixed, and its bottom is fixed on the lower fixed frame; Upward lifting slider of detent mechanism interlock is handled in one lifting that is fixed on the upper holder.

2, the collapsible desk of vehicle-mounted integrated system according to claim 1, it is characterized in that: the appropriate location of described lower fixed frame bottom side is provided with moving slider, and this moving slider places in the mobile slideway that fixes on the ground.

3, the collapsible desk of vehicle-mounted integrated system according to claim 1 is characterized in that: the gas spring of also being furnished with buffering and supplemental support effect on its bloster hinge frame.

4, the collapsible desk of vehicle-mounted integrated system according to claim 1 is characterized in that: described top table face avris is furnished with collapsible pair of desktop.

5, the collapsible desk of vehicle-mounted integrated system according to claim 1, it is characterized in that: described lifting is handled detent mechanism and is comprised last handle, extension spring, digonal link and the intermediate rod that is coupled to each other, the tail end of intermediate rod is fixed on the upper holder, the head end side is except that linking with digonal link, also with a small rocker loose joint that is fixed on the upper holder, the appropriate location of the intermediate rod central segment lifting locating dowel pin interior with being interspersed in lifting slider connects.

6, the collapsible desk of vehicle-mounted integrated system according to claim 2, it is characterized in that: the lower fixed frame appropriate position is provided with mobile positioning mechanism.

7, the collapsible desk of vehicle-mounted integrated system according to claim 2 is characterized in that: be provided with block at described mobile slideway head, tail end.

8, the collapsible desk of vehicle-mounted integrated system according to claim 6, it is characterized in that: described mobile positioning mechanism comprises that one can pull the mobile pull bar of support arm, support arm tail end and lower fixed frame loose joint, suitable point on the support arm running fix pin interior with being interspersed in lower fixed frame connects, and is with stage clip on the running fix pin.

9, the collapsible desk of vehicle-mounted integrated system according to claim 8, it is characterized in that: the stage clip that is with on the described running fix pin is pushed down it by the stage clip cover plate.

Description

The collapsible desk of vehicle-mounted integrated system

Technical field

The utility model relates to the collapsible desk of a kind of vehicle-mounted integrated system.

Background technology

The interior desk of existing special vehicle car is fixed type or an end is fixed, an end is collapsible, and the former not only takes up room greatly, and the two is all not removable, makes troubles for occupant's activity.

Summary of the invention

The purpose of this utility model provides the collapsible desk of a kind of vehicle-mounted integrated system, and it can improve the service efficiency of interior space.

For achieving the above object, the utility model is taked following design plan: the collapsible desk of a kind of vehicle-mounted integrated system, comprise top table face and a pair of bloster hinge frame, be consolidated with upper holder below the top table face of this desk, other has lower fixed frame and places on the ground, and the same side of upper and lower fixed mount is respectively equipped with upper and lower riser guide; The upper end of one side row bloster hinge frame is fixed on the upper holder, and its bottom following lifting slider interior with placing down riser guide is affixed; The upper end of the opposite side row bloster hinge frame last lifting slider interior with placing riser guide is affixed, and its bottom is fixed on the lower fixed frame; Upward lifting slider of detent mechanism interlock is handled in one lifting that is fixed on the upper holder.

Be the collapsible desk of convenient vehicle-mounted integrated system moving on the ground, the appropriate location of described lower fixed frame bottom side is provided with moving slider, and this moving slider places in the mobile slideway that fixes on the ground.

For making the desktop lifting steady, on the bloster hinge frame of the collapsible desk of vehicle-mounted integrated system, also has been furnished with the gas spring of buffering and supplemental support effect.

For increasing the usable floor area of desktop, can be furnished with collapsible pair of desktop at described top table face avris.

The utility model has the advantages that: can effectively improve the service efficiency of interior space, and the desk lifting is steady, conveniently moving.

Description of drawings

Fig. 1 is the utility model structural representation (front elevation)

Fig. 2 is the utility model structural representation (lateral plan)

Fig. 3 is a local I structural representation among Fig. 1

Fig. 4 is a local II structural representation among Fig. 1

Fig. 5 is a position III place display structure scheme drawing among Fig. 1

Fig. 6 is a local IV structural representation among Fig. 2

Fig. 7 is position IV among Fig. 2, V place structural representation

The specific embodiment

As shown in Figure 1 and Figure 2, the collapsible desk of the vehicle-mounted integrated system of the utility model, comprise top table face 12 and a pair of bloster hinge frame 3, be consolidated with upper holder 2 below the top table face of this desk, other has lower fixed frame 5 and places on the ground, and the same side of upper and lower fixed mount is respectively equipped with upper and lower riser guide 8,8 '; The upper end of one side row bloster hinge frame 3 is fixed on the upper holder 2, and its bottom following lifting slider 7 ' interior with placing down riser guide 8 ' is affixed; The upper end of opposite side row bloster hinge frame 3 ' the last lifting slider 7 interior with placing riser guide 8 is affixed, and its bottom is fixed on the lower fixed frame 5; Upward lifting slider of detent mechanism interlock is handled in one lifting that is fixed on the upper holder.

Described lifting is handled detent mechanism referring to Fig. 3, Fig. 4, it comprises last handle 17, extension spring 18, digonal link 1 and the intermediate rod 6 that is coupled to each other, the tail end of intermediate rod is actively socketed on the connector of installing on the upper holder 2 by small rocker 24, the head end side is except that linking with digonal link, also with small rocker 24 loose joints that are fixed on the upper holder, the appropriate location of the intermediate rod central segment lifting locating dowel pin 26 (it on be with stage clip 25) interior with being interspersed in lifting slider connects.

For making the desktop lifting steady, on the bloster hinge frame of the collapsible desk of vehicle-mounted integrated system, also has been furnished with the gas spring 4 (as shown in fig. 1) of buffering and supplemental support effect.

For increasing the usable floor area of desktop, can be furnished with collapsible pair of desktop 10 at described top table face avris, referring to Fig. 2, paying desktop 10 connects with top table face 12 by folding hinge 11, paying the quantity of desktop and styling design, unrestricted (as: a pair desktop can be set on an avris, dual-side or the four side of top table face as required, and moulding also can be square, semi-circular and other modification type or the like ...).

Be the collapsible desk of convenient vehicle-mounted integrated system moving on the ground, the appropriate location of described lower fixed frame bottom side is provided with moving slider 19, this moving slider combines as a whole by moving slider axis of revolution 20 and lower fixed frame 5, and place in the mobile slideway 15 that fixes on the ground, referring to Fig. 5, it is good that mobile slideway is flats, is fixed in ground.

Referring to shown in Figure 6, be provided with block 16 (this block passes through the firm nail of screw on steel plate at the bottom of the car 13, car bottom lining plate 14) at described mobile slideway head, tail end.

The lower fixed frame appropriate position is provided with mobile positioning mechanism, referring to Fig. 7, described mobile positioning mechanism comprises that one can pull the mobile pull bar 9 of support arm 27, support arm 27 tail ends and lower fixed frame loose joint, suitable point on the support arm running fix pin 22 interior with being interspersed in lower fixed frame connects, be with stage clip 23 on the running fix pin, stage clip is pushed down it by stage clip cover plate 21.

When the utility model uses,, push over folding hinge 11 earlier if want desk is accepted, put down and pay desktop 10, go up handle 17 again, pulling digonal link 1, intermediate rod 6, because the support of small rocker 24 is arranged, intermediate rod is moved down, pulling lifting locating dowel pin 26 moves down, from knock hole, extract, lifting slider 7 moves to right, and bloster hinge frame 3,3 ' is turned up mutually, and desktop descends, become collapsed state, as fine rule institute diagrammatic sketch state among Fig. 1.Last handle 9 is extracted running fix pin 22 from knock hole, promote desk simultaneously and laterally move, and reaches the purpose of vacating central space in the car.Otherwise, if want to make desk to launch to prop, with opposite the getting final product of preceding described control step.

The utility model adopts the combination of master, pair desktop, has increased the usable floor area of desktop, has improved the service efficiency of interior space.It is equipped with air bellow, and is light when desktop is risen, and falls Shi Buhui and forms impact.

The mobile slideway both sides of flats can influence very little to the pedestrian as the press strip of mulching materials such as carpet.

Cited By (8)

Publication number	Priority date	Publication date	Assignee	Title
CN102358216A *	2011-08-14	2012-02-22	苏州中欧汽车有限公司	Bracket of vehicle-mounted folding desk
CN103653780A *	2012-09-24	2014-03-26	勇兴电子(深圳)有限公司	Lifting table
US9924793B2	2012-05-24	2018-03-27	Varidesk, Llc	Adjustable desk platform
CN108143144A *	2017-12-26	2018-06-12	孙海会	A kind of portable Mobile drawing board supporting rack
CN105725517B *	2016-02-29	2018-12-25	博罗县富珍塑胶五金制品有限公司	Foldable shelf
CN110038302A *	2016-12-05	2019-07-19	艾肯运动与健康公司	Running board of running machine weight during compensating operation
CN110843654A *	2019-11-28	2020-02-28	李铮	Type 8 car as a house carriage
CN111407075A *	2020-03-26	2020-07-14	安徽文香信息技术有限公司	Hidden shrink wisdom lectern

Family To Family Citations

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Similar Documents

Publication	Publication Date	Title
CN2637251Y	2004-09-01	Vehicle mounted integrated system folding office desk
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CN208465176U	2019-02-05	Toy car
CN2691969Y	2005-04-13	Operation supporting mechanism of road vehicle of engineering equipment
CN212706435U	2021-03-16	Positioning tool for motorcycle elbow assembly

Priority And Related Applications

Priority Applications (1)

Application	Priority date	Filing date	Title
CN 03208536	2003-08-27	2003-08-27	Vehicle mounted integrated system folding office desk

Applications Claiming Priority (1)

Application	Filing date	Title
CN 03208536	2003-08-27	Vehicle mounted integrated system folding office desk

Legal Events

Date	Code	Title	Description
2004-09-01	C14	Grant of patent or utility model	
2004-09-01	GR01	Patent grant	
2013-11-06	C17	Cessation of patent right	
2013-11-06	CX01	Expiry of patent term	**Expiration termination date**: 20130827 **Granted publication date**: 20040901

Concepts

machine-extracted

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Name	Image	Sections	Count	Query match
buffering		claims,abstract,description	4	0.000
effects		claims,description	4	0.000
supplemental		claims,description	3	0.000

Show all concepts from the description section

[19] 中华人民共和国国家知识产权局

[51] Int. Cl[7]
B60P 3/34
A47B 3/02

[12] 实用新型专利说明书

[21] ZL 专利号 03208536.2

[45] 授权公告日 2004 年 9 月 1 日

[11] 授权公告号 CN 2637251Y

[22] 申请日 2003.8.27 [21] 申请号 03208536.2

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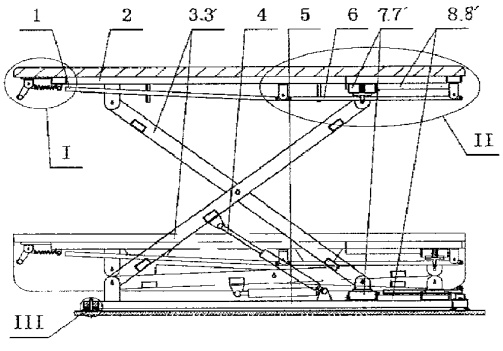
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代理人 朱丽华

权利要求书 1 页 说明书 3 页 附图 3 页

[54] 实用新型名称 车载集成系统折叠式办公桌

[57] 摘要

本实用新型公开了一种车载集成系统折叠式办公桌，包括主桌面及一对支撑铰架，该办公桌的主桌面下面固结有上固定架，另具有下固定架置于地面上，上、下固定架的同侧方分别设有上、下升降导轨；一侧列支撑铰架的上端固定在上固定架上，其底端与置于下升降导轨内的下升降滑块固接；另一侧列支撑铰架的上端与置于上升降导轨内的上升降滑块固接，其底端固定在下固定架上；一升降操纵定位机构联动上升降滑块。办公桌同时还配有起缓冲及辅助支撑作用的气弹簧，下固定架底侧的适当位置上设有移动滑块，该移动滑块置于固定在地面上的移动滑道内，在主桌面边侧可配有折叠式副桌面。其可有效提高车内空间的使用效率，且办公桌升降平稳，移动方便。



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1、一种车载集成系统折叠式办公桌，包括主桌面及一对支撑铰架，其特征在于：该办公桌的主桌面下面固结有上固定架，另具有下固定架置于地面上，上、下固定架的同侧方分别设有上、下升降导轨；一侧列支撑铰架的上端固定在上固定架上，其底端与置于下升降导轨内的下升降滑块固接；另一侧列支撑铰架的上端与置于上升降导轨内的上升降滑块固接，其底端固定在下固定架上；一固定在上固定架上的升降操纵定位机构联动上升降滑块。

2、根据权利要求1所述的车载集成系统折叠式办公桌，其特征在于：所述的下固定架底侧的适当位置上设有移动滑块，该移动滑块置于固定在地面上的移动滑道内。

3、根据权利要求1所述的车载集成系统折叠式办公桌，其特征在于：其支撑铰架上还配有起缓冲及辅助支撑作用的气弹簧。

4、根据权利要求1所述的车载集成系统折叠式办公桌，其特征在于：所述的主桌面边侧配有折叠式付桌面。

5、根据权利要求1所述的车载集成系统折叠式办公桌，其特征在于：所述的升降操纵定位机构包括相互联接的上提手柄、拉簧、斜拉杆及横拉杆，横拉杆的尾端固定在上固定架上，头端侧除与斜拉杆相联外，还与一固定在上固定架上的小摇臂活接，横拉杆中心段的适当处与穿插于上升降滑块内的升降定位销联接。

6、根据权利要求2所述的车载集成系统折叠式办公桌，其特征在于：下固定架适当位置处设有移动定位机构。

7、根据权利要求2所述的车载集成系统折叠式办公桌，其特征在于：在所述的移动滑道头、尾端设有挡块。

8、根据权利要求6所述的车载集成系统折叠式办公桌，其特征在于：所述的移动定位机构包括一可扳动支臂的移动拉杆，支臂尾端与下固定架活接，支臂上的适当点与穿插于下固定架内的移动定位销联接，移动定位销上套有压簧。

9、根据权利要求8所述的车载集成系统折叠式办公桌，其特征在于：所述的移动定位销上套有的压簧由压簧盖板将其压住。

车载集成系统折叠式办公桌

技术领域

本实用新型涉及一种车载集成系统折叠式办公桌。

背景技术

现有特种车辆车内办公桌均为固定式或一端固定、一端折叠式，前者不仅占用空间大，且二者均不可移动，给车内人员的活动带来不便。

发明内容

本实用新型的目的是提供一种车载集成系统折叠式办公桌，其可提高车内空间的使用效率。

为实现上述目的，本实用新型采取以下设计方案：一种车载集成系统折叠式办公桌，包括主桌面及一对支撑铰架，该办公桌的主桌面下面固结有上固定架，另具有下固定架置于地面上，上、下固定架的同侧方分别设有上、下升降导轨；一侧列支撑铰架的上端固定在上固定架上，其底端与置于下升降导轨内的下升降滑块固接；另一侧列支撑铰架的上端与置于上升降导轨内的上升降滑块固接，其底端固定在下固定架上；一固定在上固定架上的升降操纵定位机构联动上升降滑块。

为方便车载集成系统折叠式办公桌在地面上的移动，所述的下固定架底侧的适当位置上设有移动滑块，该移动滑块置于固定在地面上的移动滑道内。

为使桌面升降平稳，在车载集成系统折叠式办公桌的支撑铰架上还配有起缓冲及辅助支撑作用的气弹簧。

为增大桌面的使用面积，在所述的主桌面边侧可配有折叠式付桌面。

本实用新型的优点是：可有效提高车内空间的使用效率，且办公桌升降平稳，移动方便。

附图说明

图 1　为本实用新型结构示意图（前视图）

图 2　为本实用新型结构示意图（侧视图）

图 3 为图 1 中局部Ⅰ结构示意图

图 4 为图 1 中局部Ⅱ结构示意图

图 5 为图 1 中部位Ⅲ处显示结构示意图

图 6 为图 2 中局部Ⅳ结构示意图

图 7 为图 2 中部位Ⅳ、Ⅴ处结构示意图

具体实施方式

如图 1、图 2 所示，本实用新型车载集成系统折叠式办公桌，包括主桌面 12 及一对支撑铰架 3，该办公桌的主桌面下面固结有上固定架 2，另具有下固定架 5 置于地面上，上、下固定架的同侧方分别设有上、下升降导轨 8、8'；一侧列支撑铰架 3 的上端固定在上固定架 2 上，其底端与置于下升降导轨 8'内的下升降滑块 7'固接；另一侧列支撑铰架 3'的上端与置于上升降导轨 8 内的上升降滑块 7 固接，其底端固定在下固定架 5 上；一固定在上固定架上的升降操纵定位机构联动上升降滑块。

所述的升降操纵定位机构参见图 3、图 4，它包括相互联接的上提手柄 17、拉簧 18、斜拉杆 1 及横拉杆 6，横拉杆的尾端通过小摇臂 24 活接在上固定架 2 上安装的联接件上，头端侧除与斜拉杆相联外，还与一固定在上固定架上的小摇臂 24 活接，横拉杆中心段的适当处与穿插于上升降滑块内的升降定位销 26（其上套有压簧 25）联接。

为使桌面升降平稳，在车载集成系统折叠式办公桌的支撑铰架上还配有起缓冲及辅助支撑作用的气弹簧 4（如图 1 中所示）。

为增大桌面的使用面积，在所述的主桌面边侧可配有折叠式付桌面 10，参见图 2，付桌面 10 通过折叠合页 11 与主桌面 12 联接，付桌面的数量及造型设计不受限制（如：按需可在主桌面的一边侧、两侧边或四侧边上设置付桌面，造型亦可为方形、半圆型及其它修饰型等等……）。

为方便车载集成系统折叠式办公桌在地面上的移动，所述的下固定架底侧的适当位置上设有移动滑块 19，该移动滑块通过移动滑块回转轴 20 与下固定架 5 联为一体，并置于固定在地面上的移动滑道 15 内，参见图 5，移动滑道呈扁平状为佳，固定于地面。

参见图 6 所示，在所述的移动滑道头、尾端设有挡块 16（该挡块通过螺钉牢固的钉在车底钢板 13、车底衬板 14 上）。

下固定架适当位置处设有移动定位机构，参见图 7，所述的移动定位机构包括一可扳动支臂 27 的移动拉杆 9，支臂 27 尾端与下固定架活接，支臂上的适当点与穿插于下固定架内的移动定位销 22 联接，移动定位销上套有压簧 23，压簧由压簧盖板 21 将其压住。

本实用新型使用时，若想将桌子收起来，先推倒折叠合页 11，放下付桌面 10，再上提手柄 17，拉动斜拉杆 1、横拉杆 6，由于有小摇臂 24 的支撑，使横拉杆下移，拉动升降定位销 26 下移，从定位孔中拔出，升降滑块 7 右移，支撑铰架 3、3'相互折起，桌面下降，成收起状态，如图 1 中细线所示图状态。上提手柄 9，使移动定位销 22 从定位孔中拔出，同时推动桌子做横向移动，达到空出车内中部空间的目的。反之，若想使桌子展开支起，与前所述的操作步骤相反即可。

本实用新型采用主、付桌面的组合，增加了桌面的使用面积，提高了车内空间的使用效率。其装有空气弹簧，使桌面升起时轻便，降下时不会形成冲击。

扁平状的移动滑道两边可做为地毯等地面覆盖物的压条，对过往行人影响很小。

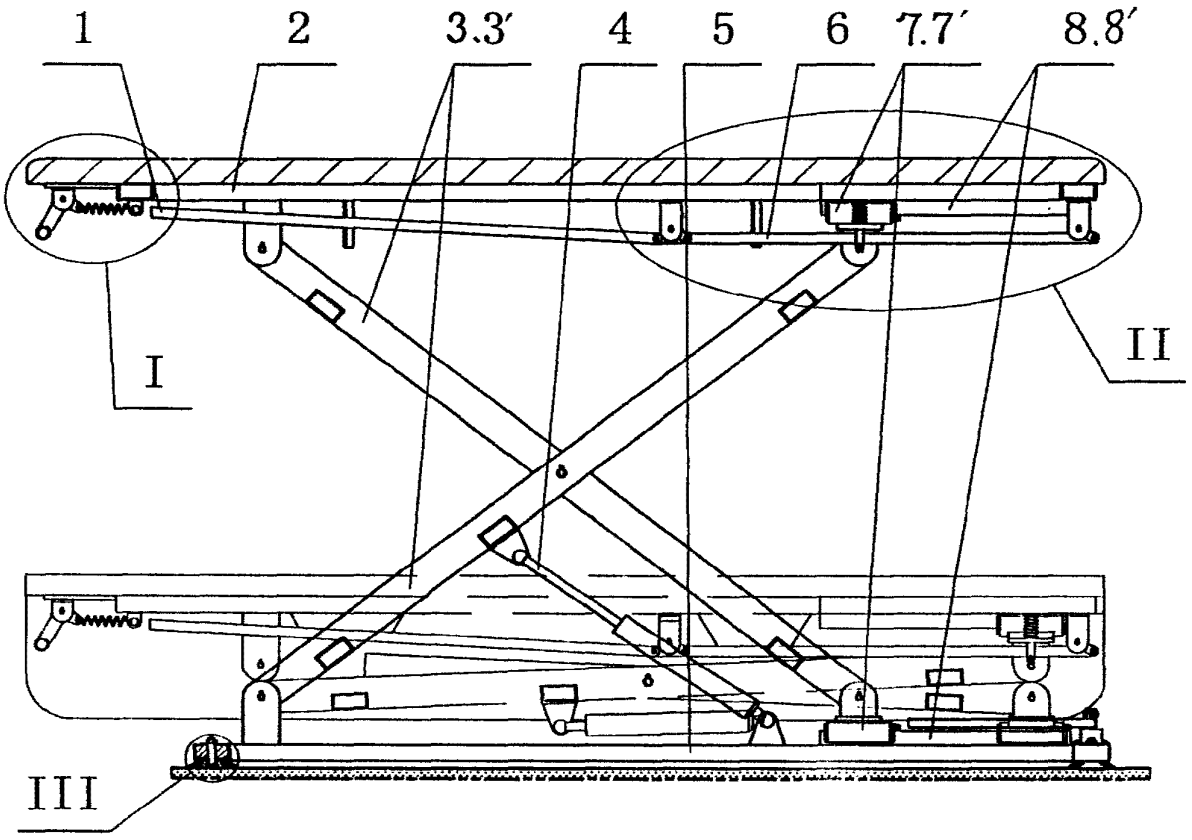


图 1

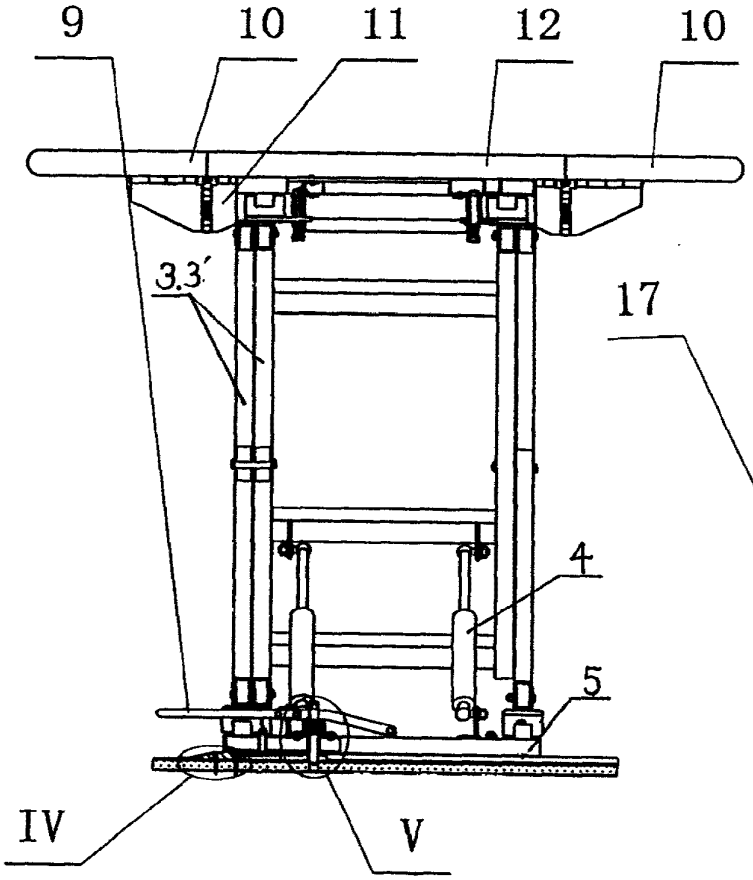


图 2

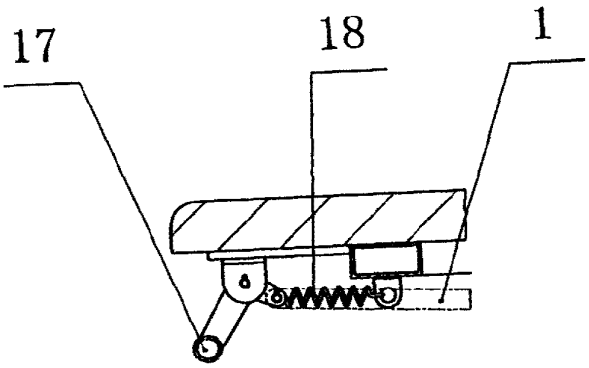


图 3

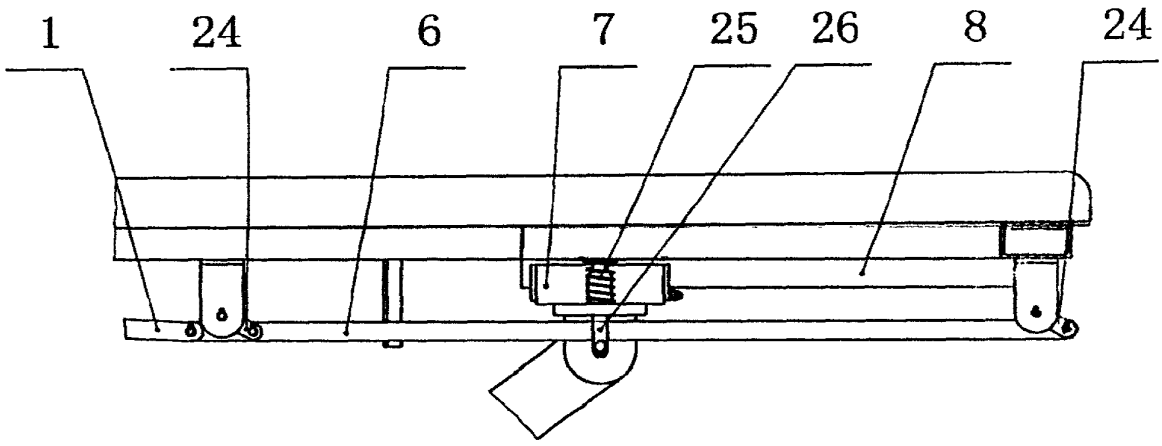


图 4

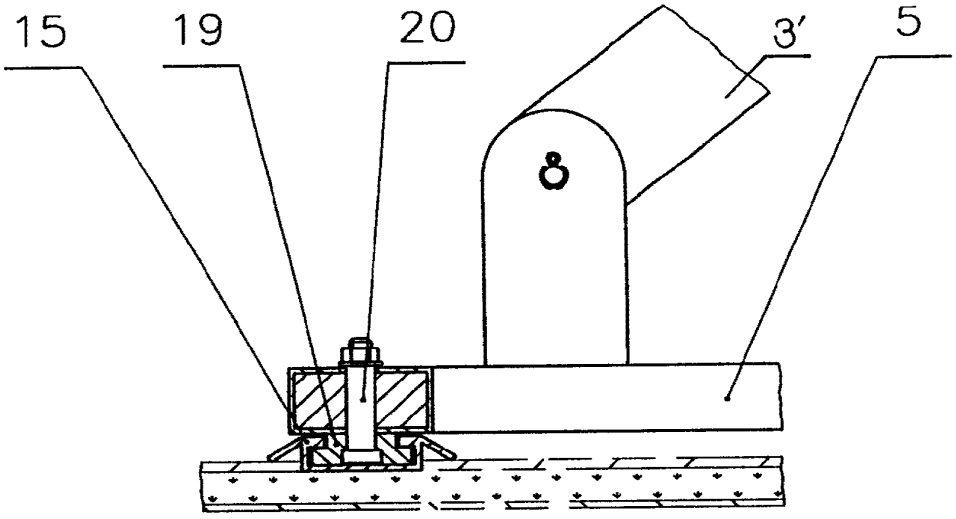


图 5

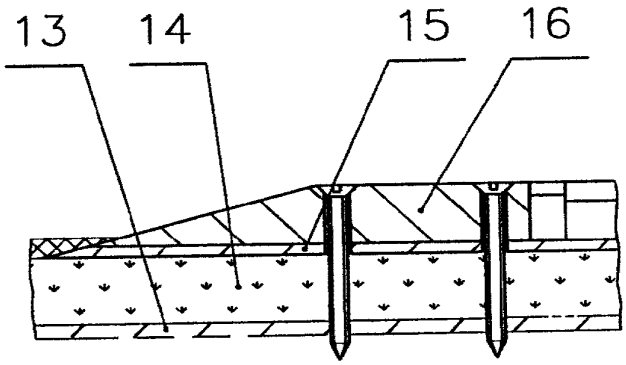


图 6

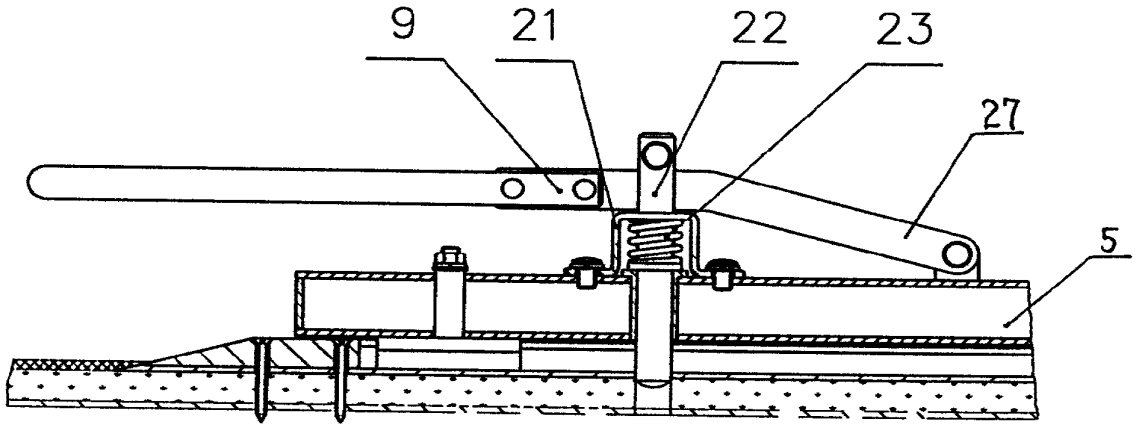


图 7

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(Not for submission under 37 CFR 1.99)

Application Number	17493830
Filing Date	2021-10-04
First Named Inventor	Nathan Mark Poniatowski
Art Unit	3637
Examiner Name	
Attorney Docket Number	1001-001US13

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Examiner Initial*	Cite No	Patent Number	Kind Code[1]	Issue Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear
	1	1217772	A	1917-02-27	Kade	
	2	200057	A	1878-02-05	Hart	
	3	2692807	A	1954-10-26	Cordola	
	4	3444830	A	1969-05-20	Doetsch	
	5	4072288	A	1978-02-07	Wirges et al.	
	6	4433759	A	1984-02-28	Ichinose	
	7	4558648		1985-12-17	Franklin et al.	
	8	606845	A	1898-07-05	Simmons	

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	9	835247	A	1906-11-06	Morgan	
	10	9113703	B2	2015-08-25	Flaherty	

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	1	201657970	CN	U	2010-12-01	黄议绪		☒
	2	2637251	CN		2004-09-01	黄梦侠 et al.		☒
	3	0531385	EP	B1	1995-08-02	Lindahl		☐

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	Examiner Name	
	Attorney Docket Number	1001-001US13

	1	"Easylift Gas Springs: Technical Information," Web page, August 24, 2008, retrieved from Internet Archive Wayback Machine on August 29, 2022.
	2	LOHR, STEVE, Taking a Stand for Office Ergonomics, December 1, 2012, New York Times, United States, retrieved from http://www.nytimes.com/2012/12/02/business/stand-up-desks-gaining-favor-in-the-workplace.html on August 29, 2022.

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A signature of the applicant or representative is required in accordance with CFR 1.33, 10.18. Please see CFR 1.4(d) for the form of the signature.

Signature	/Daniel T. Lund/	Date (YYYY-MM-DD)	2022-08-31
Name/Print	Daniel T. Lund	Registration Number	58614

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Bibliographic Data

Application No: 17/493,830

Foreign Priority claimed: ○ Yes ◉ No

35 USC 119 (a-d) conditions met: ☐ Yes ☑ No ☐ Met After Allowance

Verified and Acknowledged: /JANET M WILKENS/ Examiner's Signature | Initials

Title: DESKTOP WORKSPACE THAT ADJUSTS VERTICALLY

FILING or 371(c) DATE	CLASS	GROUP ART UNIT	ATTORNEY DOCKET NO.
10/04/2021	108	3637	1001-001US13
RULE			

APPLICANTS

INVENTORS

Nathan Mark Poniatowski, Santa Rosa Beach, FL, UNITED STATES

CONTINUING DATA

This application is a CON of 16785647 02/09/2020 PAT 11134773

16785647 is a CON of 16372334 04/01/2019 PAT 10575630

16372334 is a DIV of 15628558 06/20/2017 PAT 10244861

15628558 is a DIV of 15004926 01/23/2016ABN

15004926 has PRO of 62107380 01/24/2015

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	1	6857493	B2	2005-02-22	Shupp et al.	

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	1	20180125227	A1	2018-05-10	Xiang et al.	

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	1	1142343	CN	A	1997-02-12	Herbert et al.		☓
	2	2781893	CN		2006-05-24	赵永东		☒
	3	2012030022	JP	A	2012-02-16	Fukuhara et al.		☒

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Examiner Name	
Attorney Docket Number	1001-001US13

	4	100802663	KR	B1	2008-02-12	김명신		☒
	5	2851555	DE	A1	1980-06-04	Adler et al.		☐
	6	5861051	JP	U	1983-04-25	English name unknown		☐

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☒ A certification statement is not submitted herewith.

SIGNATURE

A signature of the applicant or representative is required in accordance with CFR 1.33, 10.18. Please see CFR 1.4(d) for the form of the signature.

Signature	/Daniel T. Lund/	Date (YYYY-MM-DD)	2022-06-14
Name/Print	Daniel T. Lund	Registration Number	58614

This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 1 hour to complete, including gathering, preparing and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /J.M.W/

Privacy Act Statement

The Privacy Act of 1974 (P.L. 93-579) requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

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7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (i.e., GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.

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9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
17/493,830	10/04/2021	Nathan Mark Poniatowski	1001-001US13	4682

155431 7590 09/30/2022

Lund IP
1125 2nd Ave
Newport, MN 55055

EXAMINER	
WILKENS, JANET MARIE	

ART UNIT	PAPER NUMBER
3637	

NOTIFICATION DATE	DELIVERY MODE
09/30/2022	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

eofficeaction@appcoll.com
info@lundip.com

Office Action Summary	Application No. 17/493,830	Applicant(s) Poniatowski, Nathan Mark	
	Examiner JANET M WILKENS	Art Unit 3637	AIA (FITF) Status Yes

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTHS FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

☐ A declaration(s)/affidavit(s) under **37 CFR 1.130(b)** was/were filed on _____.

2a)☐ This action is **FINAL.** 2b) ☑ This action is non-final.

3)☐ An election was made by the applicant in response to a restriction requirement set forth during the interview on _____; the restriction requirement and election have been incorporated into this action.

4)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims*

5) ☑ Claim(s) 1-30 is/are pending in the application.

5a) Of the above claim(s) _____ is/are withdrawn from consideration.

6) ☐ Claim(s) _____ is/are allowed.

7) ☑ Claim(s) 1-30 is/are rejected.

8) ☐ Claim(s) _____ is/are objected to.

9) ☐ Claim(s) _____ are subject to restriction and/or election requirement

* If any claims have been determined allowable, you may be eligible to benefit from the **Patent Prosecution Highway** program at a participating intellectual property office for the corresponding application. For more information, please see http://www.uspto.gov/patents/init_events/pph/index.jsp or send an inquiry to **PPHfeedback@uspto.gov.**

Application Papers

10)☐ The specification is objected to by the Examiner.

11)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

Certified copies:

a)☐ All b)☐ Some** c)☐ None of the:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

** See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☑ Notice of References Cited (PTO-892)

2) ☑ Information Disclosure Statement(s) (PTO/SB/08a and/or PTO/SB/08b) Paper No(s)/Mail Date 8/31/22;6/14/22 & 4/26/22.

3) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date _____.

4) ☐ Other: _____.

Notice of Pre-AIA or AIA Status

The present application, filed on or after March 16, 2013, is being examined under the first inventor to file provisions of the AIA.

Double Patenting

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on nonstatutory double patenting provided the reference application or patent either is shown to be commonly owned with the examined application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement. See MPEP § 717.02 for applications subject to examination under the first inventor to file

provisions of the AIA as explained in MPEP § 2159. See MPEP § 2146 *et seq.* for applications not subject to examination under the first inventor to file provisions of the AIA. A terminal disclaimer must be signed in compliance with 37 CFR 1.321(b).

The USPTO Internet website contains terminal disclaimer forms which may be used. Please visit www.uspto.gov/patent/patents-forms. The filing date of the application in which the form is filed determines what form (e.g., PTO/SB/25, PTO/SB/26, PTO/AIA/25, or PTO/AIA/26) should be used. A web-based eTerminal Disclaimer may be filled out completely online using web-screens. An eTerminal Disclaimer that meets all requirements is auto-processed and approved immediately upon submission. For more information about eTerminal Disclaimers, refer to www.uspto.gov/patents/process/file/efs/guidance/eTD-info-I.jsp.

Claims 1-30 are rejected on the ground of nonstatutory double patenting as being unpatentable over claims 1-37; 1-21; and 1-23 of U.S. Patent Nos. 10,575,630; 11,464,325; and 11,134,773, respectively, in view of Ross et al (2003/0213415). Although the claims at issue are not identical, they are not patentably distinct from each other because the application and patents teach a desktop workspace that adjusts vertically, comprising: a work surface platform; a base configured to sit on an existing platform; and a height adjustment mechanism connecting the work surface platform and the base, the height adjustment mechanism including: a set of pivot arms that connect at a scissoring pivot point creating a scissoring motion when raising and lowering the work surface platform to various heights; a base pivot point fixed relative to the base and connecting the base and the set of pivot arms; a platform pivot point fixed relative to the work surface platform and connecting the work surface platform and the set of pivot

arms; a sliding mechanism on an end of an arm of the set of pivot arms between the end of the arm and either the work surface platform or the base; and a gas spring attached to one of the set of pivot arms or the scissoring pivot point to assist in elevation of the work surface platform. Wherein the set of pivot arms is a first set of pivot arms, the desktop workspace further comprising: a second set of pivot arms; and an element that connects the first set of pivot arms to the second set of pivot arms. Wherein the gas spring extends between the work surface platform and the one of the set of pivot arms or the scissoring pivot point. Wherein the gas spring is a first spring, the desktop workspace comprising a pair of springs attached to the height adjustment mechanism to assist in the elevation of the work surface platform, the pair of springs including the first spring and a second spring. Wherein the gas spring, the set of pivot arms, the base pivot point, and the platform pivot point align side-by-side when the desktop workspace is in a fully lowered position such that the desktop workspace adjusts vertically. Wherein the sliding mechanism is a first sliding mechanism, the desktop workspace further comprising a second sliding mechanism, wherein either the first sliding mechanism or the second sliding mechanism is attached or slides along the work surface platform, and the other of the first sliding mechanism and the second sliding mechanism is attached to or slides along the base. Wherein the scissoring motion when raising and lowering the work surface platform to various heights of the height adjustment mechanism moves the work surface platform in a straight vertical direction relative to the base. Wherein the gas spring acts as a locking device that holds the work surface platform at various vertical heights above the base. Wherein the gas spring is attached directly to the one of the set of pivot arms. Wherein the gas spring is

attached to the scissoring pivot point. For claims 1 and 16, the patents fail to teach an element sitting on the work surface platform, the element including an elevated platform surface above the work surface platform. Ross teaches an element (10) sitting on a work surface platform (2), the element including an elevated platform surface above the work surface platform (Fig. 5). It would have been obvious to one having ordinary skill in the art before the effective filing date of the claimed invention to modify the workspace of the patents by adding the element of Ross on the platform, to provide an elevated monitor space therewith.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103 which forms the basis for all obviousness rejections set forth in this Office action:

> A patent for a claimed invention may not be obtained, notwithstanding that the claimed invention is not identically disclosed as set forth in section 102, if the differences between the claimed invention and the prior art are such that the claimed invention as a whole would have been obvious before the effective filing date of the claimed invention to a person having ordinary skill in the art to which the claimed invention pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-8, 10, 12, 13, 16-23, 25 and 27 are rejected under 35 U.S.C. 103 as being unpatentable over Li et al (CN105124920) in view of Ross et al (2003/0213415). Li teaches desktop workspace (Fig. 7) that adjusts vertically, comprising: a work surface platform (1.1); a base (2) configured to sit on an existing platform; and a height adjustment mechanism connecting the work surface platform and the base, the height adjustment mechanism including: a set of pivot arms (3,4) that connect at a scissoring pivot point creating a scissoring motion when raising and lowering the work surface platform to various heights; a base pivot point (6) fixed relative to the base and

connecting the base and the set of pivot arms; a platform pivot point (7) fixed relative to the work surface platform and connecting the work surface platform and the set of pivot arms; a sliding mechanism (8,5) on an end of an arm of the set of pivot arms between the end of the arm and either the work surface platform or the base; and a gas spring (9) that assists in elevation of the work surface platform by applying a force to one of the set of pivot arms as part of the scissoring motion. For claims 1 and 16, Li fails to teach an element sitting on the work surface platform, the element including an elevated platform surface above the work surface platform. Ross teaches an element (10) sitting on a work surface platform (2), the element including an elevated platform surface above the work surface platform (Fig. 5). It would have been obvious to one having ordinary skill in the art before the effective filing date of the claimed invention to modify the workspace of Li by adding the element of Ross on the platform, to provide an elevated monitor space therewith. Please note that the gas spring is not disclosed in the provisional application filed 1/24/2015; rather, the gas spring is first presented in the parent application 15/004,926 filed on 1/23/2016. This later date being considered the effective filing date for the current set of claims.

For claims 2 and 17, Li in view of Ross further teaches that the element further includes legs that support the elevated platform surface above the work surface platform (Fig 5 of Ross).

For claims 3 and 18, Li in view of Ross further teaches that the element includes four sides including a bottom side on the work surface platform, a top side forming the elevated platform surface and two sidewalls that support the elevated platform surface above the bottom side and the work surface platform (Fig. 5 of Ross).

For claims 4 and 19, Li in view of Ross further teaches that there is a computer monitor (20 of Ross) sitting on the elevated platform surface.

For claims 5 and 20, Li in view of Ross further teaches that the set of pivot arms is a first set of pivot arms, the desktop workspace further comprising: a second set of pivot arms (3,4 opposing side); and an element (10 of Li) that connects the first set of pivot arms to the second set of pivot arms.

For claims 6 and 21, Li in view of Ross further teaches that the gas spring extends between the work surface platform and the element that connects the first set of pivot arms to the second set of pivot arms (Fig. 7 of Li).

For claims 7 and 22, Li in view of Ross further teaches that one end of the gas spring is fixed to the work surface platform (see Fig. 7 of Li).

For claims 8 and 23, Li in view of Ross further teaches that the gas spring is attached directly to the one of the set of pivot arms (see Fig. 7 of Li).

For claims 10 and 25, Li in view of Ross further teaches that the gas spring is a first spring, the desktop workspace comprising a pair of springs attached to the height adjustment mechanism to assist in the elevation of the work surface platform, the pair of springs including the first spring and a second spring (Figs. 2 and 7 of Li).

For claim 12, Li in view of Ross further teaches that the sliding mechanism is a first sliding mechanism, the desktop workspace further comprising a second sliding mechanism, wherein either the first sliding mechanism or the second sliding mechanism is attached or slides along the work surface platform, and the other of the first sliding mechanism and the second sliding mechanism is attached to or slides along the base (Fig. 7 of Li).

For claims 13 and 27, Li in view of Ross further teaches that the scissoring motion when raising and lowering the work surface platform to various heights of the height adjustment mechanism moves the work surface platform in a straight vertical direction relative to the base/existing platform.

For claim 16, Li in view of Ross also teaches that the height adjustment mechanism is configured raise and lower the work surface platform relative to an existing platform; bottom pivots (6) directly locatable the existing platform (via 2); and a second sliding mechanism (5) on an end of a second arm of the set of pivot arms between the end of the second arm and the existing platform (via 2).

Claims 1-4, 8, 10, 12-19, 23, 25 and 27-30 are rejected under 35 U.S.C. 103 as being unpatentable over Boucher et al (6,672,430) in view of Ross et al (2003/0213415). Boucher teaches desktop workspace (Fig. 6) that adjusts vertically, comprising: a work surface platform (2); a base (16) configured to sit on an existing platform; and a height adjustment mechanism connecting the work surface platform and the base, the height adjustment mechanism including: a set of pivot arms (6,8) that connect at a scissoring pivot point creating a scissoring motion when raising and lowering the work surface platform to various heights; a base pivot point (18) fixed relative to the base and connecting the base and the set of pivot arms; a platform pivot point (12) fixed relative to the work surface platform and connecting the work surface platform and the set of pivot arms; a sliding mechanism (14,20) on an end of an arm of the set of pivot arms between the end of the arm and either the work surface platform or the base; and a gas spring (122,222) that assists in elevation of the work surface platform by applying a force to one of the set of pivot arms as part of the scissoring

motion. For claims 1 and 16, Boucher fails to teach an element sitting on the work surface platform, the element including an elevated platform surface above the work surface platform. Ross teaches an element (10) sitting on a work surface platform (2), the element including an elevated platform surface above the work surface platform (Fig. 5). It would have been obvious to one having ordinary skill in the art before the effective filing date of the claimed invention to modify the workspace of Boucher by adding the element of Ross on the platform, to provide an elevated monitor space therewith.

For claims 2 and 17, Boucher in view of Ross further teaches that the element further includes legs that support the elevated platform surface above the work surface platform (Fig 5 of Ross).

For claims 3 and 18, Boucher in view of Ross further teaches that the element includes four sides including a bottom side on the work surface platform, a top side forming the elevated platform surface and two sidewalls that support the elevated platform surface above the bottom side and the work surface platform (Fig. 5 of Ross).

For claims 4 and 19, Boucher in view of Ross further teaches that there is a computer monitor (20 of Ross) sitting on the elevated platform surface.

For claims 8 and 23, Boucher in view of Ross further teaches that the gas spring is attached directly to the one of the set of pivot arms (see Fig. 7 of Boucher).

For claims 10 and 25, Boucher in view of Ross further teaches that the gas spring is a first spring, the desktop workspace comprising a pair of springs (122,222) attached to the height adjustment mechanism to assist in the elevation of the work

surface platform, the pair of springs including the first spring and a second spring (Fig. 6 of Boucher).

For claim 12, Boucher in view of Ross further teaches that the sliding mechanism is a first sliding mechanism, the desktop workspace further comprising a second sliding mechanism, wherein either the first sliding mechanism or the second sliding mechanism is attached or slides along the work surface platform, and the other of the first sliding mechanism and the second sliding mechanism is attached to or slides along the base (Fig. 6 of Boucher).

For claims 13 and 27, Boucher in view of Ross further teaches that the scissoring motion when raising and lowering the work surface platform to various heights of the height adjustment mechanism moves the work surface platform in a straight vertical direction relative to the base/existing platform.

For claims 14 and 28, Boucher in view of Ross also teaches that the gas spring acts as a locking device that holds the work surface platform at various vertical heights above the base.

For claims 15 and 29, Boucher in view of Ross also teaches that the sliding mechanism includes a wheel (14,20) mounted on the end of the arm of the set of pivot arms.

For claim 16, Boucher in view of Ross also teaches that the height adjustment mechanism is configured raise and lower the work surface platform relative to an existing platform (column 1, lines18-23 of Boucher); bottom pivot (18) directly locatable the existing platform; and a second sliding mechanism (20) on an end of a second arm of the set of pivot arms between the end of the second arm and the existing platform.

There is also a second set of pivot arms as part of height adjustment mechanism (column 4, lines 49-52 of Boucher).

For claim 30, Boucher in view of Ross also teaches that the wheel is a first wheel, wherein the second sliding mechanism includes a second wheel mounted on the end of the second arm.

Claims 9 and 24 are rejected under 35 U.S.C. 103 as being unpatentable over Li et al (CN105124920) in view of Ross et al (2003/0213415) as applied to claims 1-8, 10, 12, 13, 16-23, 25 and 27 above, and further in view of Baudermann (WO 2014/180572 with English translation in 9,815,672). As stated above, Li in view of Ross teaches the limitations of claims 1 and 16, including a gas spring attached between the platform and to the arms. For claims 9 and 24, Li in view of Ross fails to teach that the spring is attached directly to the arms' scissoring pivot point. Baudermann teaches attaching a gas spring (32) between a platform and scissoring pivot point of a pair of arms (Fig. 3). It would have been obvious to one having ordinary skill in the art before the effective filing date of the claimed invention to modify the workspace of Li in view of Ross by moving the arm attachment point of the gas spring to the pivot point, such as is taught by Baudermann, depending on the leverage point desired/required for the height adjustment mechanism.

Claims 9 and 24 are rejected under 35 U.S.C. 103 as being unpatentable over Boucher et al (6,672,430) in view of Ross et al (2003/0213415) as applied to claims 1-4, 8, 10, 12-19, 23, 25 and 27-30 above, and further in view of Baudermann (WO 2014/180572 with English translation in 9,815,672). As stated above, Boucher in view of Ross teaches the limitations of claims 1 and 16, including a gas spring attached

between to the arms. For claims 9 and 24, Boucher in view of Ross fails to teach that the spring is attached directly to the arms' scissoring pivot point. Baudermann teaches attaching a gas spring (32) to a scissoring pivot point of a pair of arms (Fig. 3). It would have been obvious to one having ordinary skill in the art before the effective filing date of the claimed invention to modify the workspace of Boucher in view of Ross by moving the arm attachment point of the gas spring to the pivot point, such as is taught by Baudermann, depending on the leverage point desired/required for the height adjustment mechanism.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JANET M WILKENS whose telephone number is 571-272-6869. The examiner can normally be reached Mon thru Thurs 7am-5:30pm EST.

Examiner interviews are available via telephone, in-person, and video conferencing using a USPTO supplied web-based collaboration tool. To schedule an interview, applicant is encouraged to use the USPTO Automated Interview Request (AIR) at http://www.uspto.gov/interviewpractice.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Daniel Troy can be reached on 571-270-3742. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Wilkens
September 25, 2022

/JANET M WILKENS/
Primary Examiner, Art Unit 3637

			JPO; DERWENT; IBM_TDB)				
L3686	591	A47B2003/025.cpc.	(US-PGPUB; USPAT; USOCR; FIT (AP, AT, AU, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L3687	2630	108/116-118,120,43,138.ccls.	(US-PGPUB; USPAT; USOCR; FIT (AP, AT, AU, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
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L3689	48	(Artificial Intelligence) More like doc: KR-20110006306-U Text: (KR-200416871-Y1 OR KR-20140006320-U OR CN-108813920-A OR TW-201033508-A OR KR-20160002687-U OR CN-110934419-A OR US-20100237666-A1 OR WO-2021226487-A1 OR US-20210345768-A1 OR CN-113812797-A OR CN-110623417-A OR CN-110786639-A OR CN-106165968-B OR AU-2014283918-A1 OR IE-S84540-Y1 OR CN-110115422-A OR GB-2439522-A OR WO-2008028306-A3 OR CN-2473993-Y OR CN-110973828-A).did.	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, BE, BG, BR, BY, CA, CH, CN, CS, CU, CZ, DD, DE, DK, EA, EE, EP, ES, FI, FR, GB, HR, HU, ID, IE, IL, IS, IT, JP, KR, LT, LU, LV, MA, OA, RU, SU, WO, MC, MD, MY, NL, NO, NZ, PH, PL, PT, RO, RS, SE, SG, SI, SK, TH, TN, TR, TW, UA, VN); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L3690	1700	248/421,562,588,585,431,432,439.ccls. AND (gas OR pneumatic OR spring)	(US-PGPUB; USPAT; USOCR; FIT (AP, AT, AU, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU,	OR	ON	ON	2022/09/21 01:52 PM

			SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)				
L3691	948	108/147,145,93,96.ccls. AND (gas OR pneumatic OR spring)	(US-PGPUB; USPAT; USOCR; FIT (AP, AT, AU, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L3692	39	(Artificial Intelligence) More like doc: US-10568416-B1 Text: (US-10244861-B1 OR US-11147366-B1 OR US-10575630-B1 OR US-11140977-B1 OR US-11134773-B1 OR US-11160367-B1 OR US-11388989-B1 OR US-11134774-B1 OR US-10893748-B1 OR US-11388991-B1 OR US-11395544-B1 OR US-9504316-B1 OR WO-2017184206-A1 OR US-20130014674-A1 OR US-20160037909-A1 OR US-20180103752-A1 OR US-10258149-B2 OR EP-3593671-B1 OR US-20140238279-A1 OR US-9681746-B1).did.	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, BE, BG, BR, BY, CA, CH, CN, CS, CU, CZ, DD, DE, DK, EA, EE, EP, ES, FI, FR, GB, HR, HU, ID, IE, IL, IS, IT, JP, KR, LT, LU, LV, MA, OA, RU, SU, WO, MC, MD, MY, NL, NO, NZ, PH, PL, PT, RO, RS, SE, SG, SI, SK, TH, TN, TR, TW, UA, VN); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L3693	14	"201230022"	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L3694	0	"JP201230022"	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L3695	0	"JP2012030022"	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD,	OR	ON	ON	2022/09/21 01:52 PM

			DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)				
L3696	76	fin ADJ reinforcement SAME (tube OR column OR cylinder)	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L3697	61	triangle ADJ reinforcement SAME (tube OR column OR cylinder)	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L3698	16	("20160338486"|"11134773"|"11109671"|"10542817"|"20140041554"). PN.	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L3699	2404	A47B9/10.cpc.	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L3700	49	"6857493"	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L3701	18	"2018125227"	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L3702	9	"20180125227"	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD,	OR	ON	ON	2022/09/21 01:52 PM

			DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)				
L3703	161	("10258148"|"20160249737"|"9815672"|"4448386"|"9681746"|"10869549"|"20170071332"|"4843978"|"5037163"|"6179261"|"7841570"|"8684339"|"9809136"|"D830739"|"D901959"|"10499730"|"20050120922"|"20090145336"|"4659052"|"20030213415"|"4702454"|"10258149"|"1318564"|"20080000393"|"20100242174"|"20200029685"|"20200107633"|"4558648"|"5829948"|"6701853"|"7946551"|"8015638"|"8671853"|"9504316"|"11134773"|"10244861"|"10575630"|"11140977"|"11147366"|"5251864"|"10123613"|"10542817"|"10544019"|"20160353880"|"4221280"|"4449262"|"4549720"|"4717112"|"5211367"|"6076785"|"6176456"|"6269753"|"6516478"|"6792876"|"7207629"|"7575205"|"9854904"|"20140144352"|"20150289641"|"7677518"|"D845037"|"20070001077"|"20180213929"|"4640488"|"4753419"|"9668572"|"10023355"|"10264877"|"10524565"|"20070080564"|"2937003"|"4941641"|"4967672"|"4995130"|"5257767"|"5400720"|"5626323"|"5926876"|"6533229"|"6702372"|"6722618"|"6742768"|"7845665"|"8303062"|"8544391"|"9055810"|"9480332"|"9554644"|"9993068"|"11160367"|"20150028787"|"3823915"|"3826457"|"11083282"|"2843418"|"5957426"|"10413055"|"20070266912"|"20180279770"|"20190269237"|"3295800"|"529408	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2022/09/21 01:52 PM

		7"|"6938866"|"7048236"|"8132518"|"8490933"|"8950343"|"9049923"|"9232855"|"11134774"|"D854775"|"9326598"|"20150216296"|"20190110588"|"20190183239"|"4709972"|"5048784"|"6098961"|"6148739"|"7188813"|"9955780"|"20180125227"|"10893748"|"4741512"|"8931750"|"6857493"|"10114352"|"5722513"|"20030042380"|"20160338486"|"20180177289"|"4625657"|"4826123"|"6273382"|"7204193"|"D870490"|"10517390"|"20170354245"|"D302893"|"5400720"|"10568416"|"20120188302"|"20170196351"|"7246784"|"10018298"|"10306977"|"20120097822"|"20130193392"|"4577821"|"5588377"|"5765797"|"5836562"|"6488248"|"6533479"|"6672430"|"7950338"|"8469152"|"9981571").PN.					
L3704	70	("1318564" | "2937003" | "3295800" | "4221280" | "4558648" | "4577821" | "4843978" | "5588377" | "5626323" | "5829948" | "5957426" | "6098961" | "6269753" | "6516478" | "6533479" | "6722618" | "6742768" | "8132518" | "8671853" | "9049923" | "9055810" | "9326598" | "9480332" | "9504316" | "9554644" | "20030213415" | "20040035332" | "20040040480" | "20070080564" | "20080000393" | "20090090832" | "20090200437" | "20110001033" | "20110024958" | "20120097822" | "20130145972" | "20130193392" | "20140144352" | "20150232005" |	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2022/09/21 01:52 PM

		"20150375896" | "20160338486" | "20170174486" | "20180008037").pn. OR ("10244861").urpn. AND (PGPB | USPT | USOC).dbnm.					
L3705	39	(Artificial Intelligence) More like doc: US-10244861-B1 Text: (US-10568416-B1 OR US-11147366-B1 OR US-10575630-B1 OR US-11388989-B1 OR US-11140977-B1 OR US-11134773-B1 OR US-11160367-B1 OR US-11134774-B1 OR US-10893748-B1 OR US-11388991-B1 OR US-11395544-B1 OR US-9504316-B1 OR WO-2017184206-A1 OR US-20130014674-A1 OR US-20140245932-A1 OR US-20160037909-A1 OR US-20180103752-A1 OR US-10258149-B2 OR US-20140238279-A1 OR US-9681746-B1).did.	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, BE, BG, BR, BY, CA, CH, CN, CS, CU, CZ, DD, DE, DK, EA, EE, EP, ES, FI, FR, GB, HR, HU, ID, IE, IL, IS, IT, JP, KR, LT, LU, LV, MA, OA, RU, SU, WO, MC, MD, MY, NL, NO, NZ, PH, PL, PT, RO, RS, SE, SG, SI, SK, TH, TN, TR, TW, UA, VN); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L3706	26	("4221280" | "4577821" | "4995130" | "5186038" | "5322143" | "5588377" | "9161616" | "D845037" | "10264877" | "10517390" | "20100012909" | "20140041554" | "20160338486" | "20170354245" | "20180055214" | "20180146775").pn. OR ("10869549").urpn. AND (PGPB | USPT | USOC).dbnm.	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2022/09/21 01:52 PM
L3707	36	(Artificial Intelligence) More like doc: US-10869549-B2 Text: (US-11382419-B2 OR US-20210052067-A1 OR US-20220257006-A1 OR US-20180192769-A1 OR	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, BE, BG, BR, BY, CA, CH, CN, CS, CU, CZ, DD, DE, DK, EA, EE, EP, ES, FI, FR, GB, HR, HU, ID, IE, IL, IS, IT, JP, KR, LT, LU, LV, MA, OA, RU, SU, WO,	OR	ON	ON	2022/09/21 01:52 PM

		CN-206338567-U OR US-11324310-B2 OR US-20220218100-A1 OR US-20210015248-A1 OR US-10820688-B2 OR WO-2019119920-A1 OR CN-214855133-U OR CN-210383111-U OR AU-2018388926-A1 OR US-10856651-B2 OR US-10986918-B2 OR CN-110325077-B OR CA-3110698-A1 OR KR-20110018576-A OR CN-110325077-A OR US-11134774-B1).did.	MC, MD, MY, NL, NO, NZ, PH, PL, PT, RO, RS, SE, SG, SI, SK, TH, TN, TR, TW, UA, VN); FPRS; EPO; JPO; DERWENT; IBM_TDB)				
L3708	498714	Zheng.in. AND (desk OR table)	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L3709	96476	Zheng.in. AND (desk OR table) AND gas	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L3710	367	Zheng.in. AND (desk OR table) AND gas ADJ spring	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L3711	1286	(desk OR table) SAME (cross OR X) SAME gas ADJ spring	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L3712	53	(Artificial Intelligence) More like doc: CN-204561316-U Text: (CN-204561320-U OR CN-204561505-U OR CN-206380909-U OR	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, BE, BG, BR, BY, CA, CH, CN, CS, CU, CZ, DD, DE, DK, EA, EE, EP, ES, FI, FR, GB, HR, HU, ID, IE, IL, IS,	OR	ON	ON	2022/09/21 01:52 PM

		CN-206525754-U OR CN-106377063-A OR CN-206565530-U OR CN-206659424-U OR CN-203407686-U OR CN-205106786-U OR CN-105534016-A OR CN-109953482-A OR CN-208573198-U OR CN-107280230-A OR US-10448731-B2 OR US-10188204-B2 OR US-20180199704-A1 OR WO-2018170012-A1 OR CN-108497692-A OR CN-204580308-U OR US-20180199705-A1).did.	IT, JP, KR, LT, LU, LV, MA, OA, RU, SU, WO, MC, MD, MY, NL, NO, NZ, PH, PL, PT, RO, RS, SE, SG, SI, SK, TH, TN, TR, TW, UA, VN); FPRS; EPO; JPO; DERWENT; IBM_TDB)				
L3713	36	ironing ADJ board SAME (gas OR pneumatic) ADJ spring	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L3714	483	D06F AND (gas OR pneumatic) ADJ spring	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L3715	2200	D06F AND three SAME legs	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L3716	774	D06F AND three SAME legs AND pivot$4	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L3717	40	(Artificial Intelligence) More like doc: CN-103422335-A Text: (CN-103541202-A OR CN-103422335-B OR	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, BE, BG, BR, BY, CA, CH, CN, CS, CU, CZ, DD, DE, DK, EA, EE, EP, ES, FI, FR, GB,	OR	ON	ON	2022/09/21 01:52 PM

		CN-103541202-B OR CN-102628210-A OR FR-2990960-A1 OR EP-2666906-A2 OR US-8776410-B2 OR US-20130340301-A1 OR EP-2666906-B1 OR CA-2815319-C OR CA-2815319-A1 OR FR-2990961-A1 OR RU-2619020-C2 OR RU-2013122960-A OR US-20130312297-A1 OR EP-2666905-A2 OR US-8776411-B2 OR ES-2524240-T3 OR CN-104894826-A OR RU-2619021-C2).did.	HR, HU, ID, IE, IL, IS, IT, JP, KR, LT, LU, LV, MA, OA, RU, SU, WO, MC, MD, MY, NL, NO, NZ, PH, PL, PT, RO, RS, SE, SG, SI, SK, TH, TN, TR, TW, UA, VN); FPRS; EPO; JPO; DERWENT; IBM_TDB)				
L3718	4567	A47B AND (gas OR pneumatic) ADJ spring	(US-PGPUB; USPAT; USOCR; FIT (AP, AT, AU, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L3719	252	A47B AND (gas OR pneumatic) ADJ spring AND three SAME legs	(US-PGPUB; USPAT; USOCR; FIT (AP, AT, AU, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L3720	679	108/118,120,43,138,50.01,50.02.ccls. AND spring	(US-PGPUB; USPAT; USOCR; FIT (AP, AT, AU, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L3721	94159	pivot$4 WITH rod WITH sleeve	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L3722	4856	pivot$4 WITH rod WITH sleeve SAME legs	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO;	OR	ON	ON	2022/09/21 01:52 PM

			JPO; DERWENT; IBM_TDB)				
L3723	124	("1318564" | "2937003" | "3295800" | "3826457" | "4221280" | "4449262" | "4549720" | "4558648" | "4577821" | "4702454" | "4741512" | "4753419" | "4843978" | "D302893" | "4941641" | "4967672" | "4995130" | "5037163" | "5211367" | "5251864" | "5257767" | "5294087" | "5400720" | "5588377" | "5626323" | "5765797" | "5829948" | "5926876" | "5957426" | "6076785" | "6098961" | "6269753" | "6516478" | "6533229" | "6533479" | "6672430" | "6701853" | "6702372" | "6722618" | "6742768" | "6792876" | "7048236" | "7204193" | "7207629" | "7575205" | "7677518" | "7841570" | "7845665" | "7950338" | "8015638" | "8132518" | "8303062" | "8469152" | "8490933" | "8544391" | "8671853" | "8684339" | "8931750" | "8950343" | "9049923" | "9055810" | "9232855" | "9326598" | "9480332" | "9504316" | "9554644" | "9681746" | "9809136" | "9815672" | "9955780" | "9981571" | "9993068" | "10018298" | "10023355" | "D830739" | "10123613" | "D845037" | "10244861" | "10258148" | "10258149" | "10306977" | "D854775" | "10413055" | "10499730" | "10517390" | "10524565" | "10542817" | "10544019" | "10568416" | "10575630" | "D901959" | "10869549" | "10893748" | "20030213415" | "20050120922" | "20070080564" |	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2022/09/21 01:52 PM

		"20070266912" | "20080000393" | "20090145336" | "20100242174" | "20110001033" | "20120097822" | "20120188302" | "20130193392" | "20140144352" | "20150216296" | "20150289641" | "20160338486" | "20160353880" | "20170071332" | "20170174486" | "20170196351" | "20170354245" | "20180055214" | "20180177289" | "20200029685" | "20200107633").pn. OR ("11134774").urpn. AND (PGPB | USPT | USOC).dbnm.					
L3724	70	("1318564" | "2937003" | "3295800" | "4221280" | "4558648" | "4577821" | "4843978" | "5588377" | "5626323" | "5829948" | "5957426" | "6098961" | "6269753" | "6516478" | "6533479" | "6722618" | "6742768" | "8132518" | "8671853" | "9049923" | "9055810" | "9326598" | "9480332" | "9504316" | "9554644" | "20030213415" | "20040035332" | "20040040480" | "20070080564" | "20080000393" | "20090090832" | "20090200437" | "20110001033" | "20110024958" | "20120097822" | "20130145972" | "20130193392" | "20140144352" | "20150232005" | "20150375896" | "20160338486" | "20170174486" | "20180008037").pn. OR ("10244861").urpn. AND (PGPB | USPT | USOC).dbnm.	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2022/09/21 01:52 PM

L3725	35	("2003/0213415").urpn. AND (PGPB | USPT | USOC).dbnm.	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2022/09/21 01:52 PM
L3726	38	("2994093" | "3365072" | "3491705" | "3495873" | "3897102" | "4264102" | "4470630" | "4686910" | "5246265" | "5926871" | "5950259").pn. OR ("6213555").urpn. AND (PGPB | USPT | USOC).dbnm.	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2022/09/21 01:52 PM
L3727	8	("3365072").urpn. AND (PGPB | USPT | USOC).dbnm.	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2022/09/21 01:52 PM
L3728	96	("1495991" | "3023063" | "3391960" | "3592144" | "4619386" | "4672898" | "4852499" | "4909159" | "5177665" | "5359349" | "5438936").pn. OR ("5673628").urpn. AND (PGPB | USPT | USOC).dbnm.	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2022/09/21 01:52 PM
L3729	36	("5673628" | "5687945" | "6378829" | "D473562" | "6632170" | "D494183" | "6863252" | "6896231" | "7124755" | "7207537" | "7540457" | "7922137" | "8083196" | "8272604" | "8413943" | "8636257" | "8727290" | "20050006542" | "20050121578" | "20060261227" | "20070040089" | "20100108828" | "20100198052" | "20120175474" | "20120205503" | "20120273630" | "20140091193" | "20140226281").pn. OR ("9133982").urpn. AND (PGPB | USPT | USOC).dbnm.	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2022/09/21 01:52 PM
L3730	51	("1382783" | "1460697" | "2508974" | "2839260" | "3170665" | "3734439" | "3840204" | "3910538" | "4131259" | "4143652" | "4402481" | "4458870" | "4491435" | "4535923" | "4721276" | "4997156" | "5370570" | "5484129"	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2022/09/21 01:52 PM

		| "5609565" | "5723808" | "5964439" | "6170598" | "6325350" | "6431505" | "6457616" | "6575417").pn. OR ("6896231").urpn. AND (PGPB | USPT | USOC).dbnm.					
L3731	1	("1794838").urpn. AND (PGPB | USPT | USOC).dbnm.	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2022/09/21 01:52 PM
L3732	870	A47B1/03.cpc.	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L3733	17703	A47B21/0314,00,02,03.cpc.	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L3734	1350	A47B21/0314,00,02,03.cpc. AND ((pnuematic OR gas) ADJ spring OR actuator)	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L3735	162	("3140894"|"4926760"|"5588377"|"7640869"|"9113703"|"9615655"|"20160120300"|"6974185"|"9161616"|"5649493"|"8544391"|"9055810"|"9480332"|"9554644"|"201 60249737"|"2531856"|"3494662"|"8016305"|"9644378"|"9681746"|"2922685"|"9326598"|"9625929"|"3161161"|"8936306").PN.	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L3736	88	("2156148"|"20040040480"|"20080203865"|"20130139736"|"20140041554"|"20150216296"|"20150289641"|"20160286951"|"20160338486"|"3245366"|"4691888"|"5588377"|"8544391"|"93	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM

		26598"|"9480332"|"9504316").PN.					
L3737	1313	312/208.1,223.3.ccls.	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L3738	0	248/421,562,588, "585,431,432,439".cpc.	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L3739	0	248/421,562,588,585,431,432,439.cpc.	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L3740	3921	248/421,562,588,585,431,432,439.ccls.	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L3741	2881	248/421,562,588,585.ccls.	(US-PGPUB; USPAT; USOCR; FIT (AP, AT, AU, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L3742	1060	248/431,432,439.ccls.	(US-PGPUB; USPAT; USOCR; FIT (AP, AT, AU, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L3743	3035	108/147,144.11,145,93.ccls.	(US-PGPUB; USPAT; USOCR; FIT (AP, AT, AU, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO;	OR	ON	ON	2022/09/21 01:52 PM

			JPO; DERWENT; IBM_TDB)				
L3744	1049	108/96,116.ccls.	(US-PGPUB; USPAT; USOCR; FIT (AP, AT, AU, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L3745	3238	108/118,120,43,138,50.01,50.02.ccls.	(US-PGPUB; USPAT; USOCR; FIT (AP, AT, AU, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L3746	1877	108/118,120,43,138.ccls.	(US-PGPUB; USPAT; USOCR; FIT (AP, AT, AU, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L3747	1396	108/50.01,50.02.ccls.	(US-PGPUB; USPAT; USOCR; FIT (AP, AT, AU, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L3748	550	("7841570"|"8684339"|"5037163"|"10258148"|"8469152"|"9815672"|"10869549"|"10893748"|"20170071332"|"4843978"|"9681746"|"9809136"|"D830739"|"D854775"|"D901959"|"8671853"|"9504316"|"20040040480"|"20050120922"|"20180055214"|"6672430"|"8015638"|"9681746"|"10258148"|"10306977"|"1318564"|"20030213415"|"20050120922"|"20080000393"|"20170354245"|"20200107633"|"4558648"|"4702454"|"5829948"|"6701853"|"8015638"|"D302893"|"10244861"|"7575205"|"10542817"|"20160353880"|"52	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM

		11367"|"10893748"|"4995130"|"9504316"|"D830739"|"10544019"|"10575630"|"4221280"|"4449262"|"4549720"|"5251864"|"6269753"|"6516478"|"6792876"|"7207629"|"10524565"|"4753419"|"4941641"|"8303062"|"8544391"|"9480332"|"9554644"|"20160309889"|"5257767"|"20150289641"|"20180103752"|"10023355"|"20070080564"|"20150289641"|"2937003"|"4995130"|"5400720"|"5626323"|"5926876"|"6533229"|"6702372"|"6722618"|"6742768"|"9055810"|"7845665"|"4967672"|"20100242174"|"9049923"|"10413055"|"20070266912"|"20200029685"|"3295800"|"4741512"|"5294087"|"5957426"|"7048236"|"8490933"|"8950343"|"9232855"|"9993068"|"9326598"|"D854775"|"10123613"|"10258149"|"20140144352"|"20150216296"|"6076785"|"6098961"|"9815672"|"9955780"|"20180177289"|"7677518"|"8931750"|"10499730"|"20160051042"|"6076785"|"4741512"|"20090145336"|"20160338486"|"7204193"|"7950338"|"8132518"|"20070001077"|"5400720"|"D302893"|"10517390"|"10568416"|"20120097822"|"20130193392"|"20170196351"|"3826457"|"4577821"|"5588377"|"5765797"|"6533479"|"6672430"|"8469152"|"10018298"|"9981571").PN.					
L3749	25	("3282566" | "4273306" | "5400720" | "5632209" | "5649493" | "9326598" | "20130340655" | "20140360414" | "20150289641" | "20180055214").pn. OR ("10517390").urpn. AND (PGPB | USPT |	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2022/09/21 01:52 PM

		USOC).dbnm.					
L3750	56	("1453406" | "1581874" | "2013542" | "2563060" | "2928558" | "3094948" | "3203670" | "3282566" | "4531720" | "4577821" | "4685731" | "4705438" | "4723769" | "4760997" | "4767109" | "4796029").pn. OR ("5400720").urpn. AND (PGPB | USPT | USOC).dbnm.	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2022/09/21 01:52 PM
L3751	25	("3219338" | "4558648" | "4741512" | "5400720" | "5695173" | "5823120" | "6672430" | "9326598" | "9504316" | "9815672" | "20030154890" | "20050120922" | "20130341984" | "20170174486" | "20170340104").pn. OR ("10258149").urpn. AND (PGPB | USPT | USOC).dbnm.	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2022/09/21 01:52 PM
L3752	76	("226053" | "4403680" | "4515086" | "4926760" | "5632209" | "5829948" | "6038986" | "6112858" | "6286812" | "6397763" | "6585214" | "6679479" | "6705238" | "6857493" | "7677518" | "7950338" | "8015638" | "8424883" | "8469152" | "9055810" | "9133976" | "20040040480" | "20070034125" | "20130145972" | "20150289641").pn. OR ("9504316").urpn. AND (PGPB | USPT | USOC).dbnm.	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2022/09/21 01:52 PM
L3753	56	("D166377" | "D280478" | "D304112" | "D352845" | "D371687" | "D395969" | "D415910" | "D424828" | "D435368" | "D435986" | "D436268" | "D464212" | "D530939" | "D612643" | "D644046" | "D671338" | "D681979" | "D694044" | "D716074" | "D733476"	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2022/09/21 01:52 PM

		| "D734413" | "D771981" | "D771982" | "9504316" | "D781617" | "D781618" | "D781619" | "D784050" | "20080178779" | "20130139736" | "20150096472" | "20160106205" | "20160278515" | "20170105518" | "20170196351" | "20170290413" | "20170354245").pn. OR ("D830739").urpn. AND (PGPB | USPT | USOC).dbnm.					
L3754	50	("3472183" | "3820631" | "4488326" | "4741512" | "4995130" | "5113972" | "D346254" | "D375602" | "5588377" | "D378155" | "5833198" | "6651775" | "6814188" | "D640030" | "D640440" | "8015638" | "D771982" | "9615655" | "D814736" | "9961991" | "D825131" | "D827241" | "D830739" | "D832623" | "20120034055" | "20130139736" | "20140014886" | "20140027693" | "20150159803" | "20150289641" | "20170049224" | "20170240396" | "20180103752" | "20180177289" | "20180184797" | "20180206630" | "20180255919").pn. OR ("D854775").urpn. AND (PGPB | USPT | USOC).dbnm.	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2022/09/21 01:52 PM
L3755	2518	A47B9/16.cpc.	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L3756	2081	A47B2021/0321,0364.cpc.	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD,	OR	ON	ON	2022/09/21 01:52 PM

			DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)				
L3757	10819	(A47B3/00 OR A47B61/00).cpc.	(US-PGPUB; USPAT; USOCR; FIT (AP, AT, AU, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L3758	182	(A47B3/00 OR A47B61/00).cpc. AND ((pnuematic OR gas) ADJ spring OR actuator)	(US-PGPUB; USPAT; USOCR; FIT (AP, AT, AU, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L3759	3649	A47B3/02,0809,0815.cpc.	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L3760	1712	A47B3/0809,0815.cpc.	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L3761	513	(A47B3/02 AND A47B2003/025).cpc.	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L3762	1267876	(desk$4 OR table$4) AND ((pnuematic OR gas) ADJ spring OR actuator)	(US-PGPUB; USPAT; USOCR; FIT (AP, AT, AU, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L3763	5666298	(desk$4 OR table$4) AND (X OR cross) ADJ (member OR	(US-PGPUB; USPAT; USOCR; FIT (AP, AT, AU, CA, CH, CN, DD,	OR	ON	ON	2022/09/21 01:52 PM

		arm)((pnuematic OR gas) ADJ spring OR actuator)	DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)				
L3764	3703	(desk$4 OR table$4) AND (X OR cross) ADJ (member OR arm) SAME ((pnuematic OR gas) ADJ spring OR actuator)	(US-PGPUB; USPAT; USOCR; FIT (AP, AT, AU, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L3765	869	(desk$4 OR table$4) SAME (X OR cross) ADJ (member OR arm) SAME ((pnuematic OR gas) ADJ spring OR actuator)	(US-PGPUB; USPAT; USOCR; FIT (AP, AT, AU, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L3766	91	(desk$4 OR table$4) SAME (X OR cross) ADJ (member OR arm) SAME ((pnuematic OR gas) ADJ (spring OR actuator))	(US-PGPUB; USPAT; USOCR; FIT (AP, AT, AU, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L3767	305	(desk$4 OR table$4) AND (X OR cross) ADJ (member OR arm) SAME ((pnuematic OR gas) ADJ (spring OR actuator))	(US-PGPUB; USPAT; USOCR; FIT (AP, AT, AU, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L3768	56	"9815672"	(US-PGPUB; USPAT; USOCR; FIT (AP, AT, AU, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L3769	202	("7841570"|"8684339"|"5037163"|"10258148"|"8469152"|"9815672"|"10869549"|"10893748"|"20170071332"|"4843978"|"9681746"|"9809136"|"D830739"|"D854775"|"D901959"|"8671853"|"9504316"|"20040040480"|"20050120922"|"20180055214"|"6672430"|"8	(US-PGPUB; USPAT; USOCR; FIT (AP, AT, AU, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO))	OR	ON	ON	2022/09/21 01:52 PM

		015638"|"9681746"|"10 258148"|"10306977"|"1 318564"|"20030213415 "|"20050120922"|"2008 0000393"|"2017035424 5"|"20200107633"|"455 8648"|"4702454"|"5829 948"|"6701853"|"80156 38"|"D302893"|"102448 61"|"7575205"|"105428 17"|"20160353880"|"52 11367"|"10893748"|"49 95130"|"9504316"|"D83 0739"|"10544019"|"105 75630"|"4221280"|"444 9262"|"4549720"|"5251 864"|"6269753"|"65164 78"|"6792876"|"720762 9"|"10524565"|"475341 9"|"4941641"|"8303062" |"8544391"|"9480332"|" 9554644"|"2016030988 9"|"5257767"|"2015028 9641"|"20180103752"|" 10023355"|"200700805 64"|"20150289641"|"29 37003"|"4995130"|"540 0720"|"5626323"|"5926 876"|"6533229"|"67023 72"|"6722618"|"674276 8"|"9055810"|"7845665" |"4967672"|"201002421 74"|"9049923"|"104130 55"|"20070266912"|"20 200029685"|"3295800"| "4741512"|"5294087"|"5 957426"|"7048236"|"84 90933"|"8950343"|"923 2855"|"9993068"|"9326 598"|"D854775"|"10123 613"|"10258149"|"2014 0144352"|"2015021629 6"|"6076785"|"6098961" |"9815672"|"9955780"|" 20180177289"|"767751 8"|"8931750"|"1049973 0"|"20160051042"|"607 6785"|"4741512"|"2009 0145336"|"2016033848 6"|"7204193"|"7950338" |"8132518"|"200700010 77"|"5400720"|"D30289 3"|"10517390"|"105684 16"|"20120097822"|"20 130193392"|"20170196 351"|"3826457"|"45778 21"|"5588377"|"576579 7"|"6533479"|"6672430"					

		|"8469152"|"10018298"|"9981571").PN.					
L3770	67	"5400720"	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L3771	84	"4577821"	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L3772	24	(Artificial Intelligence) More like doc: US-D854775-S Text: (WO-0068597-A1 OR DE-4336662-A1 OR US-5694864-A OR AT-149474-T OR US-D378155-S OR US-D375602-S OR US-D346254-S OR US-D825131-S OR US-D814736-S OR US-D640440-S OR US-D837970-S OR TW-201522199-A OR TW-I531523-B OR US-20100012909-A1 OR US-D794629-S OR US-D834861-S OR US-D927102-S OR US-D706344-S OR US-D815832-S OR US-D775524-S).did.	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, BE, BG, BR, BY, CA, CH, CN, CS, CU, CZ, DD, DE, DK, EA, EE, EP, ES, FI, FR, GB, HR, HU, ID, IE, IL, IS, IT, JP, KR, LT, LU, LV, MA, OA, RU, SU, WO, MC, MD, MY, NL, NO, NZ, PH, PL, PT, RO, RS, SE, SG, SI, SK, TH, TN, TR, TW, UA, VN); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L3773	50	("3472183" | "3820631" | "4488326" | "4741512" | "4995130" | "5113972" | "D346254" | "D375602" | "5588377" | "D378155" | "5833198" | "6651775" | "6814188" | "D640030" | "D640440" | "8015638" | "D771982" | "9615655" | "D814736" | "9961991" | "D825131" | "D827241" | "D830739" | "D832623" | "20120034055" |	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2022/09/21 01:52 PM

		"20130139736" | "20140014886" | "20140027693" | "20150159803" | "20150289641" | "20170049224" | "20170240396" | "20180103752" | "20180177289" | "20180184797" | "20180206630" | "20180255919").pn. OR ("D854775").urpn. AND (PGPB | USPT | USOC).dbnm.					
L3774	124	("1318564" | "2937003" | "3295800" | "3826457" | "4221280" | "4449262" | "4549720" | "4558648" | "4577821" | "4702454" | "4741512" | "4753419" | "4843978" | "D302893" | "4941641" | "4967672" | "4995130" | "5037163" | "5211367" | "5251864" | "5257767" | "5294087" | "5400720" | "5588377" | "5626323" | "5765797" | "5829948" | "5926876" | "5957426" | "6076785" | "6098961" | "6269753" | "6516478" | "6533229" | "6533479" | "6672430" | "6701853" | "6702372" | "6722618" | "6742768" | "6792876" | "7048236" | "7204193" | "7207629" | "7575205" | "7677518" | "7841570" | "7845665" | "7950338" | "8015638" | "8132518" | "8303062" | "8469152" | "8490933" | "8544391" | "8671853" | "8684339" | "8931750" | "8950343" | "9049923" | "9055810" | "9232855" | "9326598" | "9480332" | "9504316" | "9554644" | "9681746" | "9809136" | "9815672" | "9955780" | "9981571" | "9993068" | "10018298" | "10023355" | "D830739" | "10123613" | "D845037" | "10244861" | "10258148" | "10258149" | "10306977" | "D854775"	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2022/09/21 01:52 PM

		| "10413055" | "10499730" | "10517390" | "10524565" | "10542817" | "10544019" | "10568416" | "10575630" | "D901959" | "10869549" | "10893748" | "20030213415" | "20050120922" | "20070080564" | "20070266912" | "20080000393" | "20090145336" | "20100242174" | "20110001033" | "20120097822" | "20120188302" | "20130193392" | "20140144352" | "20150216296" | "20150289641" | "20160338486" | "20160353880" | "20170071332" | "20170174486" | "20170196351" | "20170354245" | "20180055214" | "20180177289" | "20200029685" | "20200107633").pn. OR ("11134774").urpn. AND (PGPB | USPT | USOC).dbnm.					
L3775	29	("20100198374"|"6062148"|"20140137773"|"20120174833"|"7789025"|"20160127809"|"5884882"|"7077068"|"20080255794"|"20140247155"|"9082239"|"20080255794"|"6595144"|"6831829"|"7780578"|"8947215"|"20130204438"|"6546880"|"7517029"|"20130116092"|"20140096706"|"8485945"|"20140247146"|"5323695"|"8587439"|"8690578"|"20140137773"|"20160128467"|"20130321346"|"20140096706"|"20140247154"|"20160260019").PN.	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2022/09/21 01:52 PM
L3776	27	("10244861"|"20180213	(US-PGPUB; USPAT;	OR	ON	ON	2022/09/21

		929"|"9326598"|"9681746"|"8931750"|"7246784"|"10114352"|"5957426"|"5722513"|"4640488"|"5251864"|"4448386"|"4702454"|"2843418"|"9668572"|"20070001077"|"4753419"|"11083282"|"20170196351"|"D854775"|"20160249737"|"20120188302"|"10575630").PN.	USOCR; JPO)				01:52 PM
L3777	25	("3219338" | "4558648" | "4741512" | "5400720" | "5695173" | "5823120" | "6672430" | "9326598" | "9504316" | "9815672" | "20030154890" | "20050120922" | "20130341984" | "20170174486" | "20170340104").pn. OR ("10258149").urpn. AND (PGPB | USPT | USOC).dbnm.	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2022/09/21 01:52 PM
L3778	76	("226053" | "4403680" | "4515086" | "4926760" | "5632209" | "5829948" | "6038986" | "6112858" | "6286812" | "6397763" | "6585214" | "6679479" | "6705238" | "6857493" | "7677518" | "7950338" | "8015638" | "8424883" | "8469152" | "9055810" | "9133976" | "20040040480" | "20070034125" | "20130145972" | "20150289641").pn. OR ("9504316").urpn. AND (PGPB | USPT | USOC).dbnm.	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2022/09/21 01:52 PM
L3779	406	wilkens.xp. AND bracket AND A47B	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L3780	159	wilkens.xp. AND stack$4 AND A47B	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO;	OR	ON	ON	2022/09/21 01:52 PM

			JPO; DERWENT; IBM_TDB)				
L3781	298	wilkens.xp. AND A47B88/$	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L3782	16	("1680081" | "1686783" | "1902795" | "1994424" | "3094363" | "3275396" | "3298768" | "4285560").pn. OR ("10888157").urpn. AND (PGPB | USPT | USOC).dbnm.	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2022/09/21 01:52 PM
L3783	43	"3275396"	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L3784	60	("2001744" | "2070960" | "2610824" | "3032319" | "3110476" | "3174722" | "3282566" | "3379411" | "3982718" | "4221280" | "4403680" | "4526346" | "4682750" | "4688760" | "4690250" | "4754713" | "4764075" | "4858888" | "4890692" | "4899987" | "4921074" | "5192053" | "5299906" | "5322143" | "5460460" | "5829948" | "6182796" | "6464205" | "6601826" | "6672430" | "6814188" | "7213686" | "20060126966" | "20060279728" | "20070017748" | "20070235266").pn. OR ("8469152").urpn. AND (PGPB | USPT | USOC).dbnm.	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2022/09/21 01:52 PM
L3785	37	("4061237" | "4249749" | "4288195" | "4504041" | "4613272" | "4979592" | "5018931" | "6394419" | "6431319" | "6679479" | "8015638" | "8469152" | "8888070" | "9422141"	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2022/09/21 01:52 PM

		| "9463966" | "9540220" | "20030075657" | "20050042068" | "20110262261" | "20140014886" | "20140027693" | "20150028787" | "20150298949").pn. OR ("9815672").urpn. AND (PGPB | USPT | USOC).dbnm.					
L3786	56	("1453406" | "1581874" | "2013542" | "2563060" | "2928558" | "3094948" | "3203670" | "3282566" | "4531720" | "4577821" | "4685731" | "4705438" | "4723769" | "4760997" | "4767109" | "4796029").pn. OR ("5400720").urpn. AND (PGPB | USPT | USOC).dbnm.	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2022/09/21 01:52 PM
L3787	47	"5861051"	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L3788	1	"58-61051"	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L3789	38	"102013008020"	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L3790	870	A47B1/03.cpc.	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L3791	17703	A47B21/0314,00,02,03.	(US-PGPUB; USPAT;	OR	ON	ON	2022/09/21

		cpc.	USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)				01:52 PM
L3792	1350	A47B21/0314,00,02,03.cpc. AND ((pnuematic OR gas) ADJ spring OR actuator)	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L3793	162	("3140894"|"4926760"|"5588377"|"7640869"|"9113703"|"9615655"|"20160120300"|"6974185"|"9161616"|"5649493"|"8544391"|"9055810"|"9480332"|"9554644"|"20160249737"|"2531856"|"3494662"|"8016305"|"9644378"|"9681746"|"2922685"|"9326598"|"9625929"|"3161161"|"8936306").PN.	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L3794	88	("2156148"|"20040040480"|"20080203865"|"20130139736"|"20140041554"|"20150216296"|"20150289641"|"20160286951"|"20160338486"|"3245366"|"4691888"|"5588377"|"8544391"|"9326598"|"9480332"|"9504316").PN.	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L3795	1313	312/208.1,223.3.ccls.	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L3796	0	248/421,562,588,"585,431,432,439".cpc.	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L3797	0	248/421,562,588,585,431,432,439.cpc.	(US-PGPUB; USPAT; USOCR; FIT (AU, AP,	OR	ON	ON	2022/09/21 01:52 PM

			AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)				
L3798	3921	248/421,562,588,585,431,432,439.ccls.	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L3799	2881	248/421,562,588,585.ccls.	(US-PGPUB; USPAT; USOCR; FIT (AP, AT, AU, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L3800	1060	248/431,432,439.ccls.	(US-PGPUB; USPAT; USOCR; FIT (AP, AT, AU, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L3801	3035	108/147,144.11,145,93.ccls.	(US-PGPUB; USPAT; USOCR; FIT (AP, AT, AU, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L3802	1049	108/96,116.ccls.	(US-PGPUB; USPAT; USOCR; FIT (AP, AT, AU, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L3803	3238	108/118,120,43,138,50.01,50.02.ccls.	(US-PGPUB; USPAT; USOCR; FIT (AP, AT, AU, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L3804	1877	108/118,120,43,138.ccl	(US-PGPUB; USPAT;	OR	ON	ON	2022/09/21

		s.	USOCR; FIT (AP, AT, AU, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)				01:52 PM
L3805	1396	108/50.01,50.02.ccls.	(US-PGPUB; USPAT; USOCR; FIT (AP, AT, AU, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L3806	550	("7841570"|"8684339"|"5037163"|"10258148"|"8469152"|"9815672"|"10869549"|"10893748"|"20170071332"|"4843978"|"9681746"|"9809136"|"D830739"|"D854775"|"D901959"|"8671853"|"9504316"|"20040040480"|"20050120922"|"20180055214"|"6672430"|"8015638"|"9681746"|"10258148"|"10306977"|"1318564"|"20030213415"|"20050120922"|"20080000393"|"20170354245"|"20200107633"|"4558648"|"4702454"|"5829948"|"6701853"|"8015638"|"D302893"|"10244861"|"7575205"|"10542817"|"20160353880"|"5211367"|"10893748"|"4995130"|"9504316"|"D830739"|"10544019"|"10575630"|"4221280"|"4449262"|"4549720"|"5251864"|"6269753"|"6516478"|"6792876"|"7207629"|"10524565"|"4753419"|"4941641"|"8303062"|"8544391"|"9480332"|"9554644"|"20160309889"|"5257767"|"20150289641"|"20180103752"|"10023355"|"20070080564"|"20150289641"|"2937003"|"4995130"|"5400720"|"5626323"|"5926876"|"6533229"|"6702372"|"6722618"|"6742768"|"9055810"|"7845665"	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM

		|"4967672"|"20100242174"|"9049923"|"10413055"|"20070266912"|"20200029685"|"3295800"|"4741512"|"5294087"|"5957426"|"7048236"|"8490933"|"8950343"|"9232855"|"9993068"|"9326598"|"D854775"|"10123613"|"10258149"|"20140144352"|"20150216296"|"6076785"|"6098961"|"9815672"|"9955780"|"20180177289"|"7677518"|"8931750"|"10499730"|"20160051042"|"6076785"|"4741512"|"20090145336"|"20160338486"|"7204193"|"7950338"|"8132518"|"20070001077"|"5400720"|"D302893"|"10517390"|"10568416"|"20120097822"|"20130193392"|"20170196351"|"3826457"|"4577821"|"5588377"|"5765797"|"6533479"|"6672430"|"8469152"|"10018298"|"9981571").PN.				
L3807	25	("3282566" | "4273306" | "5400720" | "5632209" | "5649493" | "9326598" | "20130340655" | "20140360414" | "20150289641" | "20180055214").pn. OR ("10517390").urpn. AND (PGPB | USPT | USOC).dbnm.	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2022/09/21 01:52 PM
L3808	56	("1453406" | "1581874" | "2013542" | "2563060" | "2928558" | "3094948" | "3203670" | "3282566" | "4531720" | "4577821" | "4685731" | "4705438" | "4723769" | "4760997" | "4767109" | "4796029").pn. OR ("5400720").urpn. AND (PGPB | USPT | USOC).dbnm.	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2022/09/21 01:52 PM
L3809	25	("3219338" | "4558648" | "4741512" | "5400720" | "5695173" | "5823120" | "6672430" | "9326598" | "9504316" | "9815672" | "20030154890" |	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2022/09/21 01:52 PM

		"20050120922" | "20130341984" | "20170174486" | "20170340104").pn. OR ("10258149").urpn. AND (PGPB | USPT | USOC).dbnm.					
L3810	76	("226053" | "4403680" | "4515086" | "4926760" | "5632209" | "5829948" | "6038986" | "6112858" | "6286812" | "6397763" | "6585214" | "6679479" | "6705238" | "6857493" | "7677518" | "7950338" | "8015638" | "8424883" | "8469152" | "9055810" | "9133976" | "20040040480" | "20070034125" | "20130145972" | "20150289641").pn. OR ("9504316").urpn. AND (PGPB | USPT | USOC).dbnm.	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2022/09/21 01:52 PM
L3811	56	("D166377" | "D280478" | "D304112" | "D352845" | "D371687" | "D395969" | "D415910" | "D424828" | "D435368" | "D435986" | "D436268" | "D464212" | "D530939" | "D612643" | "D644046" | "D671338" | "D681979" | "D694044" | "D716074" | "D733476" | "D734413" | "D771981" | "D771982" | "9504316" | "D781617" | "D781618" | "D781619" | "D784050" | "20080178779" | "20130139736" | "20150096472" | "20160106205" | "20160278515" | "20170105518" | "20170196351" | "20170290413" | "20170354245").pn. OR ("D830739").urpn. AND (PGPB | USPT | USOC).dbnm.	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2022/09/21 01:52 PM
L3812	50	("3472183" | "3820631" | "4488326" | "4741512"	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2022/09/21 01:52 PM

		| "4995130" | "5113972" | "D346254" | "D375602" | "5588377" | "D378155" | "5833198" | "6651775" | "6814188" | "D640030" | "D640440" | "8015638" | "D771982" | "9615655" | "D814736" | "9961991" | "D825131" | "D827241" | "D830739" | "D832623" | "20120034055" | "20130139736" | "20140014886" | "20140027693" | "20150159803" | "20150289641" | "20170049224" | "20170240396" | "20180103752" | "20180177289" | "20180184797" | "20180206630" | "20180255919").pn. OR ("D854775").urpn. AND (PGPB | USPT | USOC).dbnm.					
L3813	2518	A47B9/16.cpc.	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L3814	2081	A47B2021/0321,0364.cpc.	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L3815	10819	(A47B3/00 OR A47B61/00).cpc.	(US-PGPUB; USPAT; USOCR; FIT (AP, AT, AU, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L3816	182	(A47B3/00 OR A47B61/00).cpc. AND ((pnuematic OR gas) ADJ spring OR actuator)	(US-PGPUB; USPAT; USOCR; FIT (AP, AT, AU, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO;	OR	ON	ON	2022/09/21 01:52 PM

			JPO; DERWENT; IBM_TDB)				
L3817	3649	A47B3/02,0809,0815.cpc.	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L3818	1712	A47B3/0809,0815.cpc.	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L3819	513	(A47B3/02 AND A47B2003/025).cpc.	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L3820	1267876	(desk$4 OR table$4) AND ((pnuematic OR gas) ADJ spring OR actuator)	(US-PGPUB; USPAT; USOCR; FIT (AP, AT, AU, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L3821	5666298	(desk$4 OR table$4) AND (X OR cross) ADJ (member OR arm)((pnuematic OR gas) ADJ spring OR actuator)	(US-PGPUB; USPAT; USOCR; FIT (AP, AT, AU, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L3822	3703	(desk$4 OR table$4) AND (X OR cross) ADJ (member OR arm) SAME ((pnuematic OR gas) ADJ spring OR actuator)	(US-PGPUB; USPAT; USOCR; FIT (AP, AT, AU, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L3823	869	(desk$4 OR table$4) SAME (X OR cross) ADJ (member OR arm) SAME ((pnuematic OR gas) ADJ spring OR actuator)	(US-PGPUB; USPAT; USOCR; FIT (AP, AT, AU, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO;	OR	ON	ON	2022/09/21 01:52 PM

			JPO; DERWENT; IBM_TDB)				
L3824	91	(desk$4 OR table$4) SAME (X OR cross) ADJ (member OR arm) SAME ((pnuematic OR gas) ADJ (spring OR actuator))	(US-PGPUB; USPAT; USOCR; FIT (AP, AT, AU, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L3825	305	(desk$4 OR table$4) AND (X OR cross) ADJ (member OR arm) SAME ((pnuematic OR gas) ADJ (spring OR actuator))	(US-PGPUB; USPAT; USOCR; FIT (AP, AT, AU, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L3826	56	"9815672"	(US-PGPUB; USPAT; USOCR; FIT (AP, AT, AU, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L3827	202	("7841570"|"8684339"|"5037163"|"10258148"|"8469152"|"9815672"|"10869549"|"10893748"|"20170071332"|"4843978"|"9681746"|"9809136"|"D830739"|"D854775"|"D901959"|"8671853"|"9504316"|"20040040480"|"20050120922"|"20180055214"|"6672430"|"8015638"|"9681746"|"10258148"|"10306977"|"1318564"|"20030213415"|"20050120922"|"20080000393"|"20170354245"|"20200107633"|"4558648"|"4702454"|"5829948"|"6701853"|"8015638"|"D302893"|"10244861"|"7575205"|"10542817"|"20160353880"|"5211367"|"10893748"|"4995130"|"9504316"|"D830739"|"10544019"|"10575630"|"4221280"|"4449262"|"4549720"|"5251864"|"6269753"|"6516478"|"6792876"|"7207629"|"10524565"|"4753419"|"4941641"|"8303062"	(US-PGPUB; USPAT; USOCR; FIT (AP, AT, AU, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO))	OR	ON	ON	2022/09/21 01:52 PM

		|"8544391"|"9480332"|"9554644"|"20160309889"|"5257767"|"20150289641"|"20180103752"|"10023355"|"20070080564"|"20150289641"|"2937003"|"4995130"|"5400720"|"5626323"|"5926876"|"6533229"|"6702372"|"6722618"|"6742768"|"9055810"|"7845665"|"4967672"|"20100242174"|"9049923"|"10413055"|"20070266912"|"20200029685"|"3295800"|"4741512"|"5294087"|"5957426"|"7048236"|"8490933"|"8950343"|"9232855"|"9993068"|"9326598"|"D854775"|"10123613"|"10258149"|"20140144352"|"20150216296"|"6076785"|"6098961"|"9815672"|"9955780"|"20180177289"|"7677518"|"8931750"|"10499730"|"20160051042"|"6076785"|"4741512"|"20090145336"|"20160338486"|"7204193"|"7950338"|"8132518"|"20070001077"|"5400720"|"D302893"|"10517390"|"10568416"|"20120097822"|"20130193392"|"20170196351"|"3826457"|"4577821"|"5588377"|"5765797"|"6533479"|"6672430"|"8469152"|"10018298"|"9981571").PN.				
L3828	67	"5400720"	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L3829	84	"4577821"	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L3830	24	(Artificial Intelligence)	(US-PGPUB; USPAT;	OR	ON	ON	2022/09/21

		More like doc: US-D854775-S Text: (WO-0068597-A1 OR DE-4336662-A1 OR US-5694864-A OR AT-149474-T OR US-D378155-S OR US-D375602-S OR US-D346254-S OR US-D825131-S OR US-D814736-S OR US-D640440-S OR US-D837970-S OR TW-201522199-A OR TW-I531523-B OR US-20100012909-A1 OR US-D794629-S OR US-D834861-S OR US-D927102-S OR US-D706344-S OR US-D815832-S OR US-D775524-S).did.	USOCR; FIT (AU, AP, AT, BE, BG, BR, BY, CA, CH, CN, CS, CU, CZ, DD, DE, DK, EA, EE, EP, ES, FI, FR, GB, HR, HU, ID, IE, IL, IS, IT, JP, KR, LT, LU, LV, MA, OA, RU, SU, WO, MC, MD, MY, NL, NO, NZ, PH, PL, PT, RO, RS, SE, SG, SI, SK, TH, TN, TR, TW, UA, VN); FPRS; EPO; JPO; DERWENT; IBM_TDB)				01:52 PM
L3831	50	("3472183" | "3820631" | "4488326" | "4741512" | "4995130" | "5113972" | "D346254" | "D375602" | "5588377" | "D378155" | "5833198" | "6651775" | "6814188" | "D640030" | "D640440" | "8015638" | "D771982" | "9615655" | "D814736" | "9961991" | "D825131" | "D827241" | "D830739" | "D832623" | "20120034055" | "20130139736" | "20140014886" | "20140027693" | "20150159803" | "20150289641" | "20170049224" | "20170240396" | "20180103752" | "20180177289" | "20180184797" | "20180206630" | "20180255919").pn. OR ("D854775").urpn. AND (PGPB | USPT | USOC).dbnm.	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2022/09/21 01:52 PM
L3832	124	("1318564" | "2937003" | "3295800" | "3826457" | "4221280" | "4449262" | "4549720" | "4558648" | "4577821" | "4702454"	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2022/09/21 01:52 PM

		| "4741512" | "4753419" | "4843978" | "D302893" | "4941641" | "4967672" | "4995130" | "5037163" | "5211367" | "5251864" | "5257767" | "5294087" | "5400720" | "5588377" | "5626323" | "5765797" | "5829948" | "5926876" | "5957426" | "6076785" | "6098961" | "6269753" | "6516478" | "6533229" | "6533479" | "6672430" | "6701853" | "6702372" | "6722618" | "6742768" | "6792876" | "7048236" | "7204193" | "7207629" | "7575205" | "7677518" | "7841570" | "7845665" | "7950338" | "8015638" | "8132518" | "8303062" | "8469152" | "8490933" | "8544391" | "8671853" | "8684339" | "8931750" | "8950343" | "9049923" | "9055810" | "9232855" | "9326598" | "9480332" | "9504316" | "9554644" | "9681746" | "9809136" | "9815672" | "9955780" | "9981571" | "9993068" | "10018298" | "10023355" | "D830739" | "10123613" | "D845037" | "10244861" | "10258148" | "10258149" | "10306977" | "D854775" | "10413055" | "10499730" | "10517390" | "10524565" | "10542817" | "10544019" | "10568416" | "10575630" | "D901959" | "10869549" | "10893748" | "20030213415" | "20050120922" | "20070080564" | "20070266912" | "20080000393" | "20090145336" | "20100242174" | "20110001033" | "20120097822" | "20120188302" |				

		"20130193392" | "20140144352" | "20150216296" | "20150289641" | "20160338486" | "20160353880" | "20170071332" | "20170174486" | "20170196351" | "20170354245" | "20180055214" | "20180177289" | "20200029685" | "20200107633").pn. OR ("11134774").urpn. AND (PGPB | USPT | USOC).dbnm.					
L3833	29	("20100198374"|"6062148"|"20140137773"|"20120174833"|"7789025"|"20160127809"|"5884882"|"7077068"|"20080255794"|"20140247155"|"9082239"|"20080255794"|"6595144"|"6831829"|"7780578"|"8947215"|"20130204438"|"6546880"|"7517029"|"20130116092"|"20140096706"|"8485945"|"20140247146"|"5323695"|"8587439"|"8690578"|"20140137773"|"20160128467"|"20130321346"|"20140096706"|"20140247154"|"20160260019").PN.	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2022/09/21 01:52 PM
L3834	27	("10244861"|"20180213929"|"9326598"|"9681746"|"8931750"|"7246784"|"10114352"|"5957426"|"5722513"|"4640488"|"5251864"|"4448386"|"4702454"|"2843418"|"9668572"|"20070001077"|"4753419"|"11083282"|"20170196351"|"D854775"|"20160249737"|"20120188302"|"10575630").PN.	(US-PGPUB; USPAT; USOCR; JPO)	OR	ON	ON	2022/09/21 01:52 PM
L3835	25	("3219338" | "4558648" | "4741512" | "5400720" | "5695173" | "5823120" | "6672430" | "9326598" | "9504316" | "9815672" | "20030154890" | "20050120922" | "20130341984" |	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2022/09/21 01:52 PM

		"20170174486" | "20170340104").pn. OR ("10258149").urpn. AND (PGPB | USPT | USOC).dbnm.					
L3836	76	("226053" | "4403680" | "4515086" | "4926760" | "5632209" | "5829948" | "6038986" | "6112858" | "6286812" | "6397763" | "6585214" | "6679479" | "6705238" | "6857493" | "7677518" | "7950338" | "8015638" | "8424883" | "8469152" | "9055810" | "9133976" | "20040040480" | "20070034125" | "20130145972" | "20150289641").pn. OR ("9504316").urpn. AND (PGPB | USPT | USOC).dbnm.	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2022/09/21 01:52 PM
L3837	406	wilkens.xp. AND bracket AND A47B	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L3838	159	wilkens.xp. AND stack$4 AND A47B	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L3839	298	wilkens.xp. AND A47B88/$	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L3840	16	("1680081" | "1686783" | "1902795" | "1994424" | "3094363" | "3275396" | "3298768" | "4285560").pn. OR ("10888157").urpn. AND (PGPB | USPT | USOC).dbnm.	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2022/09/21 01:52 PM
L3841	43	"3275396"	(US-PGPUB; USPAT;	OR	ON	ON	2022/09/21

			USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)				01:52 PM
L3842	60	("2001744" | "2070960" | "2610824" | "3032319" | "3110476" | "3174722" | "3282566" | "3379411" | "3982718" | "4221280" | "4403680" | "4526346" | "4682750" | "4688760" | "4690250" | "4754713" | "4764075" | "4858888" | "4890692" | "4899987" | "4921074" | "5192053" | "5299906" | "5322143" | "5460460" | "5829948" | "6182796" | "6464205" | "6601826" | "6672430" | "6814188" | "7213686" | "20060126966" | "20060279728" | "20070017748" | "20070235266").pn. OR ("8469152").urpn. AND (PGPB | USPT | USOC).dbnm.	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2022/09/21 01:52 PM
L3843	37	("4061237" | "4249749" | "4288195" | "4504041" | "4613272" | "4979592" | "5018931" | "6394419" | "6431319" | "6679479" | "8015638" | "8469152" | "8888070" | "9422141" | "9463966" | "9540220" | "20030075657" | "20050042068" | "20110262261" | "20140014886" | "20140027693" | "20150028787" | "20150298949").pn. OR ("9815672").urpn. AND (PGPB | USPT | USOC).dbnm.	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2022/09/21 01:52 PM
L3844	56	("1453406" | "1581874" | "2013542" | "2563060" | "2928558" | "3094948" | "3203670" | "3282566" | "4531720" | "4577821" | "4685731" | "4705438" | "4723769" | "4760997" | "4767109" | "4796029").pn. OR	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2022/09/21 01:52 PM

		("5400720").urpn. AND (PGPB | USPT | USOC).dbnm.					
L3845	47	"5861051"	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L3846	1	"58-61051"	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L3847	38	"102013008020"	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L3848	5	"20190116976"	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L3849	10	"20200003258"	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L3850	2	"20210214986"	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L3851	41	"4741512"	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU,	OR	ON	ON	2022/09/21 01:52 PM

			SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)				
L3852	139	"7677518"	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L3853	870	A47B1/03.cpc.	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L3854	17703	A47B21/0314,00,02,03.cpc.	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L3855	1350	A47B21/0314,00,02,03.cpc. AND ((pnuematic OR gas) ADJ spring OR actuator)	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L3856	162	("3140894"|"4926760"|"5588377"|"7640869"|"9113703"|"9615655"|"20160120300"|"6974185"|"9161616"|"5649493"|"8544391"|"9055810"|"9480332"|"9554644"|"201 60249737"|"2531856"|"3494662"|"8016305"|"9644378"|"9681746"|"2922685"|"9326598"|"9625929"|"3161161"|"8936306").PN.	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L3857	88	("2156148"|"20040040480"|"20080203865"|"20130139736"|"20140041554"|"20150216296"|"20150289641"|"20160286951"|"20160338486"|"3245366"|"4691888"|"5588377"|"8544391"|"93	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM

		26598"|"9480332"|"9504316").PN.					
L3858	1313	312/208.1,223.3.ccls.	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L3859	0	248/421,562,588, "585,431,432,439".cpc.	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L3860	0	248/421,562,588,585,431,432,439.cpc.	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L3861	3921	248/421,562,588,585,431,432,439.ccls.	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L3862	2881	248/421,562,588,585.ccls.	(US-PGPUB; USPAT; USOCR; FIT (AP, AT, AU, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L3863	1060	248/431,432,439.ccls.	(US-PGPUB; USPAT; USOCR; FIT (AP, AT, AU, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L3864	3035	108/147,144.11,145,93.ccls.	(US-PGPUB; USPAT; USOCR; FIT (AP, AT, AU, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO;	OR	ON	ON	2022/09/21 01:52 PM

			JPO; DERWENT; IBM_TDB)				
L3865	1049	108/96,116.ccls.	(US-PGPUB; USPAT; USOCR; FIT (AP, AT, AU, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L3866	3238	108/118,120,43,138,50.01,50.02.ccls.	(US-PGPUB; USPAT; USOCR; FIT (AP, AT, AU, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L3867	1877	108/118,120,43,138.ccls.	(US-PGPUB; USPAT; USOCR; FIT (AP, AT, AU, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L3868	1396	108/50.01,50.02.ccls.	(US-PGPUB; USPAT; USOCR; FIT (AP, AT, AU, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L3869	550	("7841570"|"8684339"|"5037163"|"10258148"|"8469152"|"9815672"|"10869549"|"10893748"|"20170071332"|"4843978"|"9681746"|"9809136"|"D830739"|"D854775"|"D901959"|"8671853"|"9504316"|"20040040480"|"20050120922"|"20180055214"|"6672430"|"8015638"|"9681746"|"10258148"|"10306977"|"1318564"|"20030213415"|"20050120922"|"20080000393"|"20170354245"|"20200107633"|"4558648"|"4702454"|"5829948"|"6701853"|"8015638"|"D302893"|"10244861"|"7575205"|"10542817"|"20160353880"|"52	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM

		11367"|"10893748"|"4995130"|"9504316"|"D830739"|"10544019"|"10575630"|"4221280"|"4449262"|"4549720"|"5251864"|"6269753"|"6516478"|"6792876"|"7207629"|"10524565"|"4753419"|"4941641"|"8303062"|"8544391"|"9480332"|"9554644"|"20160309889"|"5257767"|"20150289641"|"20180103752"|"10023355"|"20070080564"|"20150289641"|"2937003"|"4995130"|"5400720"|"5626323"|"5926876"|"6533229"|"6702372"|"6722618"|"6742768"|"9055810"|"7845665"|"4967672"|"20100242174"|"9049923"|"10413055"|"20070266912"|"20200029685"|"3295800"|"4741512"|"5294087"|"5957426"|"7048236"|"8490933"|"8950343"|"9232855"|"9993068"|"9326598"|"D854775"|"10123613"|"10258149"|"20140144352"|"20150216296"|"6076785"|"6098961"|"9815672"|"9955780"|"20180177289"|"7677518"|"8931750"|"10499730"|"20160051042"|"6076785"|"4741512"|"20090145336"|"20160338486"|"7204193"|"7950338"|"8132518"|"20070001077"|"5400720"|"D302893"|"10517390"|"10568416"|"20120097822"|"20130193392"|"20170196351"|"3826457"|"4577821"|"5588377"|"5765797"|"6533479"|"6672430"|"8469152"|"10018298"|"9981571").PN.					
L3870	25	("3282566" | "4273306" | "5400720" | "5632209" | "5649493" | "9326598" | "20130340655" | "20140360414" | "20150289641" | "20180055214").pn. OR ("10517390").urpn. AND (PGPB | USPT |	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2022/09/21 01:52 PM

		USOC).dbnm.					
L3871	56	("1453406" | "1581874" | "2013542" | "2563060" | "2928558" | "3094948" | "3203670" | "3282566" | "4531720" | "4577821" | "4685731" | "4705438" | "4723769" | "4760997" | "4767109" | "4796029").pn. OR ("5400720").urpn. AND (PGPB | USPT | USOC).dbnm.	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2022/09/21 01:52 PM
L3872	25	("3219338" | "4558648" | "4741512" | "5400720" | "5695173" | "5823120" | "6672430" | "9326598" | "9504316" | "9815672" | "20030154890" | "20050120922" | "20130341984" | "20170174486" | "20170340104").pn. OR ("10258149").urpn. AND (PGPB | USPT | USOC).dbnm.	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2022/09/21 01:52 PM
L3873	76	("226053" | "4403680" | "4515086" | "4926760" | "5632209" | "5829948" | "6038986" | "6112858" | "6286812" | "6397763" | "6585214" | "6679479" | "6705238" | "6857493" | "7677518" | "7950338" | "8015638" | "8424883" | "8469152" | "9055810" | "9133976" | "20040040480" | "20070034125" | "20130145972" | "20150289641").pn. OR ("9504316").urpn. AND (PGPB | USPT | USOC).dbnm.	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2022/09/21 01:52 PM
L3874	56	("D166377" | "D280478" | "D304112" | "D352845" | "D371687" | "D395969" | "D415910" | "D424828" | "D435368" | "D435986" | "D436268" | "D464212" | "D530939" | "D612643" | "D644046" | "D671338" | "D681979" | "D694044" | "D716074" | "D733476"	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2022/09/21 01:52 PM

		| "D734413" | "D771981" | "D771982" | "9504316" | "D781617" | "D781618" | "D781619" | "D784050" | "20080178779" | "20130139736" | "20150096472" | "20160106205" | "20160278515" | "20170105518" | "20170196351" | "20170290413" | "20170354245").pn. OR ("D830739").urpn. AND (PGPB | USPT | USOC).dbnm.					
L3875	50	("3472183" | "3820631" | "4488326" | "4741512" | "4995130" | "5113972" | "D346254" | "D375602" | "5588377" | "D378155" | "5833198" | "6651775" | "6814188" | "D640030" | "D640440" | "8015638" | "D771982" | "9615655" | "D814736" | "9961991" | "D825131" | "D827241" | "D830739" | "D832623" | "20120034055" | "20130139736" | "20140014886" | "20140027693" | "20150159803" | "20150289641" | "20170049224" | "20170240396" | "20180103752" | "20180177289" | "20180184797" | "20180206630" | "20180255919").pn. OR ("D854775").urpn. AND (PGPB | USPT | USOC).dbnm.	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2022/09/21 01:52 PM
L3876	2518	A47B9/16.cpc.	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L3877	2081	A47B2021/0321,0364.cpc.	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD,	OR	ON	ON	2022/09/21 01:52 PM

			DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)				
L3878	10819	(A47B3/00 OR A47B61/00).cpc.	(US-PGPUB; USPAT; USOCR; FIT (AP, AT, AU, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L3879	182	(A47B3/00 OR A47B61/00).cpc. AND ((pnuematic OR gas) ADJ spring OR actuator)	(US-PGPUB; USPAT; USOCR; FIT (AP, AT, AU, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L3880	3649	A47B3/02,0809,0815.cpc.	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L3881	1712	A47B3/0809,0815.cpc.	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L3882	513	(A47B3/02 AND A47B2003/025).cpc.	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L3883	1267876	(desk$4 OR table$4) AND ((pnuematic OR gas) ADJ spring OR actuator)	(US-PGPUB; USPAT; USOCR; FIT (AP, AT, AU, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L3884	5666298	(desk$4 OR table$4) AND (X OR cross) ADJ (member OR	(US-PGPUB; USPAT; USOCR; FIT (AP, AT, AU, CA, CH, CN, DD,	OR	ON	ON	2022/09/21 01:52 PM

		arm)((pnuematic OR gas) ADJ spring OR actuator)	DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)				
L3885	3703	(desk$4 OR table$4) AND (X OR cross) ADJ (member OR arm) SAME ((pnuematic OR gas) ADJ spring OR actuator)	(US-PGPUB; USPAT; USOCR; FIT (AP, AT, AU, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L3886	869	(desk$4 OR table$4) SAME (X OR cross) ADJ (member OR arm) SAME ((pnuematic OR gas) ADJ spring OR actuator)	(US-PGPUB; USPAT; USOCR; FIT (AP, AT, AU, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L3887	91	(desk$4 OR table$4) SAME (X OR cross) ADJ (member OR arm) SAME ((pnuematic OR gas) ADJ (spring OR actuator))	(US-PGPUB; USPAT; USOCR; FIT (AP, AT, AU, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L3888	305	(desk$4 OR table$4) AND (X OR cross) ADJ (member OR arm) SAME ((pnuematic OR gas) ADJ (spring OR actuator))	(US-PGPUB; USPAT; USOCR; FIT (AP, AT, AU, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L3889	56	"9815672"	(US-PGPUB; USPAT; USOCR; FIT (AP, AT, AU, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L3890	202	("7841570"|"8684339"|"5037163"|"10258148"|"8469152"|"9815672"|"10869549"|"10893748"|"20170071332"|"4843978"|"9681746"|"9809136"|"D830739"|"D854775"|"D901959"|"8671853"|"9504316"|"20040040480"|"20050120922"|"20180055214"|"6672430"|"8	(US-PGPUB; USPAT; USOCR; FIT (AP, AT, AU, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO))	OR	ON	ON	2022/09/21 01:52 PM

		015638"|"9681746"|"10 258148"|"10306977"|"1 318564"|"20030213415 "|"20050120922"|"2008 0000393"|"2017035424 5"|"20200107633"|"455 8648"|"4702454"|"5829 948"|"6701853"|"80156 38"|"D302893"|"102448 61"|"7575205"|"105428 17"|"20160353880"|"52 11367"|"10893748"|"49 95130"|"9504316"|"D83 0739"|"10544019"|"105 75630"|"4221280"|"444 9262"|"4549720"|"5251 864"|"6269753"|"65164 78"|"6792876"|"720762 9"|"10524565"|"475341 9"|"4941641"|"8303062" |"8544391"|"9480332"|" 9554644"|"2016030988 9"|"5257767"|"2015028 9641"|"20180103752"|" 10023355"|"200700805 64"|"20150289641"|"29 37003"|"4995130"|"540 0720"|"5626323"|"5926 876"|"6533229"|"67023 72"|"6722618"|"674276 8"|"9055810"|"7845665" |"4967672"|"201002421 74"|"9049923"|"104130 55"|"20070266912"|"20 200029685"|"3295800"| "4741512"|"5294087"|"5 957426"|"7048236"|"84 90933"|"8950343"|"923 2855"|"9993068"|"9326 598"|"D854775"|"10123 613"|"10258149"|"2014 0144352"|"2015021629 6"|"6076785"|"6098961" |"9815672"|"9955780"|" 20180177289"|"767751 8"|"8931750"|"1049973 0"|"20160051042"|"607 6785"|"4741512"|"2009 0145336"|"2016033848 6"|"7204193"|"7950338" |"8132518"|"200700010 77"|"5400720"|"D30289 3"|"10517390"|"105684 16"|"20120097822"|"20 130193392"|"20170196 351"|"3826457"|"45778 21"|"5588377"|"576579 7"|"6533479"|"6672430"					

		|"8469152"|"10018298"|"9981571").PN.					
L3891	67	"5400720"	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L3892	84	"4577821"	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L3893	24	(Artificial Intelligence) More like doc: US-D854775-S Text: (WO-0068597-A1 OR DE-4336662-A1 OR US-5694864-A OR AT-149474-T OR US-D378155-S OR US-D375602-S OR US-D346254-S OR US-D825131-S OR US-D814736-S OR US-D640440-S OR US-D837970-S OR TW-201522199-A OR TW-I531523-B OR US-20100012909-A1 OR US-D794629-S OR US-D834861-S OR US-D927102-S OR US-D706344-S OR US-D815832-S OR US-D775524-S).did.	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, BE, BG, BR, BY, CA, CH, CN, CS, CU, CZ, DD, DE, DK, EA, EE, EP, ES, FI, FR, GB, HR, HU, ID, IE, IL, IS, IT, JP, KR, LT, LU, LV, MA, OA, RU, SU, WO, MC, MD, MY, NL, NO, NZ, PH, PL, PT, RO, RS, SE, SG, SI, SK, TH, TN, TR, TW, UA, VN); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L3894	50	("3472183" | "3820631" | "4488326" | "4741512" | "4995130" | "5113972" | "D346254" | "D375602" | "5588377" | "D378155" | "5833198" | "6651775" | "6814188" | "D640030" | "D640440" | "8015638" | "D771982" | "9615655" | "D814736" | "9961991" | "D825131" | "D827241" | "D830739" | "D832623" | "20120034055" |	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2022/09/21 01:52 PM

		"20130139736" | "20140014886" | "20140027693" | "20150159803" | "20150289641" | "20170049224" | "20170240396" | "20180103752" | "20180177289" | "20180184797" | "20180206630" | "20180255919").pn. OR ("D854775").urpn. AND (PGPB | USPT | USOC).dbnm.					
L3895	124	("1318564" | "2937003" | "3295800" | "3826457" | "4221280" | "4449262" | "4549720" | "4558648" | "4577821" | "4702454" | "4741512" | "4753419" | "4843978" | "D302893" | "4941641" | "4967672" | "4995130" | "5037163" | "5211367" | "5251864" | "5257767" | "5294087" | "5400720" | "5588377" | "5626323" | "5765797" | "5829948" | "5926876" | "5957426" | "6076785" | "6098961" | "6269753" | "6516478" | "6533229" | "6533479" | "6672430" | "6701853" | "6702372" | "6722618" | "6742768" | "6792876" | "7048236" | "7204193" | "7207629" | "7575205" | "7677518" | "7841570" | "7845665" | "7950338" | "8015638" | "8132518" | "8303062" | "8469152" | "8490933" | "8544391" | "8671853" | "8684339" | "8931750" | "8950343" | "9049923" | "9055810" | "9232855" | "9326598" | "9480332" | "9504316" | "9554644" | "9681746" | "9809136" | "9815672" | "9955780" | "9981571" | "9993068" | "10018298" | "10023355" | "D830739" | "10123613" | "D845037" | "10244861" | "10258148" | "10258149" | "10306977" | "D854775"	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2022/09/21 01:52 PM

		| "10413055" | "10499730" | "10517390" | "10524565" | "10542817" | "10544019" | "10568416" | "10575630" | "D901959" | "10869549" | "10893748" | "20030213415" | "20050120922" | "20070080564" | "20070266912" | "20080000393" | "20090145336" | "20100242174" | "20110001033" | "20120097822" | "20120188302" | "20130193392" | "20140144352" | "20150216296" | "20150289641" | "20160338486" | "20160353880" | "20170071332" | "20170174486" | "20170196351" | "20170354245" | "20180055214" | "20180177289" | "20200029685" | "20200107633").pn. OR ("11134774").urpn. AND (PGPB | USPT | USOC).dbnm.					
L3896	29	("20100198374"|"6062148"|"20140137773"|"20120174833"|"7789025"|"20160127809"|"5884882"|"7077068"|"20080255794"|"20140247155"|"9082239"|"20080255794"|"6595144"|"6831829"|"7780578"|"8947215"|"20130204438"|"6546880"|"7517029"|"20130116092"|"20140096706"|"8485945"|"20140247146"|"5323695"|"8587439"|"8690578"|"20140137773"|"20160128467"|"20130321346"|"20140096706"|"20140247154"|"20160260019").PN.	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2022/09/21 01:52 PM
L3897	27	("10244861"|"20180213	(US-PGPUB; USPAT;	OR	ON	ON	2022/09/21

		929"|"9326598"|"9681746"|"8931750"|"7246784"|"10114352"|"5957426"|"5722513"|"4640488"|"5251864"|"4448386"|"4702454"|"2843418"|"9668572"|"20070001077"|"4753419"|"11083282"|"20170196351"|"D854775"|"20160249737"|"20120188302"|"10575630").PN.	USOCR; JPO)				01:52 PM
L3898	25	("3219338" | "4558648" | "4741512" | "5400720" | "5695173" | "5823120" | "6672430" | "9326598" | "9504316" | "9815672" | "20030154890" | "20050120922" | "20130341984" | "20170174486" | "20170340104").pn. OR ("10258149").urpn. AND (PGPB | USPT | USOC).dbnm.	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2022/09/21 01:52 PM
L3899	76	("226053" | "4403680" | "4515086" | "4926760" | "5632209" | "5829948" | "6038986" | "6112858" | "6286812" | "6397763" | "6585214" | "6679479" | "6705238" | "6857493" | "7677518" | "7950338" | "8015638" | "8424883" | "8469152" | "9055810" | "9133976" | "20040040480" | "20070034125" | "20130145972" | "20150289641").pn. OR ("9504316").urpn. AND (PGPB | USPT | USOC).dbnm.	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2022/09/21 01:52 PM
L3900	406	wilkens.xp. AND bracket AND A47B	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L3901	159	wilkens.xp. AND stack$4 AND A47B	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO;	OR	ON	ON	2022/09/21 01:52 PM

			JPO; DERWENT; IBM_TDB)				
L3902	298	wilkens.xp. AND A47B88/$	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L3903	16	("1680081" | "1686783" | "1902795" | "1994424" | "3094363" | "3275396" | "3298768" | "4285560").pn. OR ("10888157").urpn. AND (PGPB | USPT | USOC).dbnm.	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2022/09/21 01:52 PM
L3904	43	"3275396"	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L3905	60	("2001744" | "2070960" | "2610824" | "3032319" | "3110476" | "3174722" | "3282566" | "3379411" | "3982718" | "4221280" | "4403680" | "4526346" | "4682750" | "4688760" | "4690250" | "4754713" | "4764075" | "4858888" | "4890692" | "4899987" | "4921074" | "5192053" | "5299906" | "5322143" | "5460460" | "5829948" | "6182796" | "6464205" | "6601826" | "6672430" | "6814188" | "7213686" | "20060126966" | "20060279728" | "20070017748" | "20070235266").pn. OR ("8469152").urpn. AND (PGPB | USPT | USOC).dbnm.	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2022/09/21 01:52 PM
L3906	37	("4061237" | "4249749" | "4288195" | "4504041" | "4613272" | "4979592" | "5018931" | "6394419" | "6431319" | "6679479" | "8015638" | "8469152" | "8888070" | "9422141"	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2022/09/21 01:52 PM

		| "9463966" | "9540220" | "20030075657" | "20050042068" | "20110262261" | "20140014886" | "20140027693" | "20150028787" | "20150298949").pn. OR ("9815672").urpn. AND (PGPB | USPT | USOC).dbnm.					
L3907	56	("1453406" | "1581874" | "2013542" | "2563060" | "2928558" | "3094948" | "3203670" | "3282566" | "4531720" | "4577821" | "4685731" | "4705438" | "4723769" | "4760997" | "4767109" | "4796029").pn. OR ("5400720").urpn. AND (PGPB | USPT | USOC).dbnm.	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2022/09/21 01:52 PM
L3908	47	"5861051"	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L3909	1	"58-61051"	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L3910	38	"102013008020"	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L3911	870	A47B1/03.cpc.	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L3912	17703	A47B21/0314,00,02,03.	(US-PGPUB; USPAT;	OR	ON	ON	2022/09/21

		cpc.	USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)				01:52 PM
L3913	1350	A47B21/0314,00,02,03. cpc. AND ((pnuematic OR gas) ADJ spring OR actuator)	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L3914	162	("3140894"|"4926760"|"5588377"|"7640869"|"9113703"|"9615655"|"20160120300"|"6974185"|"9161616"|"5649493"|"8544391"|"9055810"|"9480332"|"9554644"|"20160249737"|"2531856"|"3494662"|"8016305"|"9644378"|"9681746"|"2922685"|"9326598"|"9625929"|"3161161"|"8936306").PN.	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L3915	88	("2156148"|"20040040480"|"20080203865"|"20130139736"|"20140041554"|"20150216296"|"20150289641"|"20160286951"|"20160338486"|"3245366"|"4691888"|"5588377"|"8544391"|"9326598"|"9480332"|"9504316").PN.	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L3916	1313	312/208.1,223.3.ccls.	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L3917	0	248/421,562,588, "585,431,432,439".cpc.	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L3918	0	248/421,562,588,585,431,432,439.cpc.	(US-PGPUB; USPAT; USOCR; FIT (AU, AP,	OR	ON	ON	2022/09/21 01:52 PM

			AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)				
L3919	3921	248/421,562,588,585,431,432,439.ccls.	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L3920	2881	248/421,562,588,585.ccls.	(US-PGPUB; USPAT; USOCR; FIT (AP, AT, AU, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L3921	1060	248/431,432,439.ccls.	(US-PGPUB; USPAT; USOCR; FIT (AP, AT, AU, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L3922	3035	108/147,144.11,145,93.ccls.	(US-PGPUB; USPAT; USOCR; FIT (AP, AT, AU, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L3923	1049	108/96,116.ccls.	(US-PGPUB; USPAT; USOCR; FIT (AP, AT, AU, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L3924	3238	108/118,120,43,138,50.01,50.02.ccls.	(US-PGPUB; USPAT; USOCR; FIT (AP, AT, AU, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L3925	1877	108/118,120,43,138.ccls.	(US-PGPUB; USPAT; USOCR; FIT (AP, AT,	OR	ON	ON	2022/09/21 01:52 PM

			AU, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)				
L3926	1396	108/50.01,50.02.ccls.	(US-PGPUB; USPAT; USOCR; FIT (AP, AT, AU, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L3927	550	("7841570"|"8684339"|"5037163"|"10258148"|"8469152"|"9815672"|"10869549"|"10893748"|"20170071332"|"4843978"|"9681746"|"9809136"|"D830739"|"D854775"|"D901959"|"8671853"|"9504316"|"20040040480"|"20050120922"|"20180055214"|"6672430"|"8015638"|"9681746"|"10258148"|"10306977"|"1318564"|"20030213415"|"20050120922"|"20080000393"|"20170354245"|"20200107633"|"4558648"|"4702454"|"5829948"|"6701853"|"8015638"|"D302893"|"10244861"|"7575205"|"10542817"|"20160353880"|"5211367"|"10893748"|"4995130"|"9504316"|"D830739"|"10544019"|"10575630"|"4221280"|"4449262"|"4549720"|"5251864"|"6269753"|"6516478"|"6792876"|"7207629"|"10524565"|"4753419"|"4941641"|"8303062"|"8544391"|"9480332"|"9554644"|"20160309889"|"5257767"|"20150289641"|"10023355"|"20070080564"|"20150289641"|"2937003"|"4995130"|"5400720"|"5626323"|"5926876"|"6533229"|"6702372"|"6722618"|"6742768"|"9055810"|"7845665"|"4967672"|"201002421	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM

		74"|"9049923"|"10413055"|"20070266912"|"20200029685"|"3295800"|"4741512"|"5294087"|"5957426"|"7048236"|"8490933"|"8950343"|"9232855"|"9993068"|"9326598"|"D854775"|"10123613"|"10258149"|"20140144352"|"20150216296"|"6076785"|"6098961"|"9815672"|"9955780"|"20180177289"|"7677518"|"8931750"|"10499730"|"20160051042"|"6076785"|"4741512"|"20090145336"|"20160338486"|"7204193"|"7950338"|"8132518"|"20070001077"|"5400720"|"D302893"|"10517390"|"10568416"|"20120097822"|"20130193392"|"20170196351"|"3826457"|"4577821"|"5588377"|"5765797"|"6533479"|"6672430"|"8469152"|"10018298"|"9981571").PN.					
L3928	25	("3282566" | "4273306" | "5400720" | "5632209" | "5649493" | "9326598" | "20130340655" | "20140360414" | "20150289641" | "20180055214").pn. OR ("10517390").urpn. AND (PGPB | USPT | USOC).dbnm.	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2022/09/21 01:52 PM
L3929	56	("1453406" | "1581874" | "2013542" | "2563060" | "2928558" | "3094948" | "3203670" | "3282566" | "4531720" | "4577821" | "4685731" | "4705438" | "4723769" | "4760997" | "4767109" | "4796029").pn. OR ("5400720").urpn. AND (PGPB | USPT | USOC).dbnm.	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2022/09/21 01:52 PM
L3930	25	("3219338" | "4558648" | "4741512" | "5400720" | "5695173" | "5823120" | "6672430" | "9326598" | "9504316" | "9815672" | "20030154890" | "20050120922" |	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2022/09/21 01:52 PM

		"20130341984" | "20170174486" | "20170340104").pn. OR ("10258149").urpn. AND (PGPB | USPT | USOC).dbnm.					
L3931	76	("226053" | "4403680" | "4515086" | "4926760" | "5632209" | "5829948" | "6038986" | "6112858" | "6286812" | "6397763" | "6585214" | "6679479" | "6705238" | "6857493" | "7677518" | "7950338" | "8015638" | "8424883" | "8469152" | "9055810" | "9133976" | "20040040480" | "20070034125" | "20130145972" | "20150289641").pn. OR ("9504316").urpn. AND (PGPB | USPT | USOC).dbnm.	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2022/09/21 01:52 PM
L3932	56	("D166377" | "D280478" | "D304112" | "D352845" | "D371687" | "D395969" | "D415910" | "D424828" | "D435368" | "D435986" | "D436268" | "D464212" | "D530939" | "D612643" | "D644046" | "D671338" | "D681979" | "D694044" | "D716074" | "D733476" | "D734413" | "D771981" | "D771982" | "9504316" | "D781617" | "D781618" | "D781619" | "D784050" | "20080178779" | "20130139736" | "20150096472" | "20160106205" | "20160278515" | "20170105518" | "20170196351" | "20170290413" | "20170354245").pn. OR ("D830739").urpn. AND (PGPB | USPT | USOC).dbnm.	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2022/09/21 01:52 PM
L3933	50	("3472183" | "3820631" | "4488326" | "4741512" | "4995130" | "5113972"	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2022/09/21 01:52 PM

		| "D346254" | "D375602" | "5588377" | "D378155" | "5833198" | "6651775" | "6814188" | "D640030" | "D640440" | "8015638" | "D771982" | "9615655" | "D814736" | "9961991" | "D825131" | "D827241" | "D830739" | "D832623" | "20120034055" | "20130139736" | "20140014886" | "20140027693" | "20150159803" | "20150289641" | "20170049224" | "20170240396" | "20180103752" | "20180177289" | "20180184797" | "20180206630" | "20180255919").pn. OR ("D854775").urpn. AND (PGPB | USPT | USOC).dbnm.					
L3934	2518	A47B9/16.cpc.	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L3935	2081	A47B2021/0321,0364.cpc.	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L3936	10819	(A47B3/00 OR A47B61/00).cpc.	(US-PGPUB; USPAT; USOCR; FIT (AP, AT, AU, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L3937	182	(A47B3/00 OR A47B61/00).cpc. AND ((pnuematic OR gas) ADJ spring OR actuator)	(US-PGPUB; USPAT; USOCR; FIT (AP, AT, AU, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT;	OR	ON	ON	2022/09/21 01:52 PM

			IBM_TDB)				
L3938	3649	A47B3/02,0809,0815.cpc.	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L3939	1712	A47B3/0809,0815.cpc.	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L3940	513	(A47B3/02 AND A47B2003/025).cpc.	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L3941	1267876	(desk$4 OR table$4) AND ((pnuematic OR gas) ADJ spring OR actuator)	(US-PGPUB; USPAT; USOCR; FIT (AP, AT, AU, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L3942	5666298	(desk$4 OR table$4) AND (X OR cross) ADJ (member OR arm)((pnuematic OR gas) ADJ spring OR actuator)	(US-PGPUB; USPAT; USOCR; FIT (AP, AT, AU, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L3943	3703	(desk$4 OR table$4) AND (X OR cross) ADJ (member OR arm) SAME ((pnuematic OR gas) ADJ spring OR actuator)	(US-PGPUB; USPAT; USOCR; FIT (AP, AT, AU, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L3944	869	(desk$4 OR table$4) SAME (X OR cross) ADJ (member OR arm) SAME ((pnuematic OR gas) ADJ spring OR actuator)	(US-PGPUB; USPAT; USOCR; FIT (AP, AT, AU, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT;	OR	ON	ON	2022/09/21 01:52 PM

			IBM_TDB)				
L3945	91	(desk$4 OR table$4) SAME (X OR cross) ADJ (member OR arm) SAME ((pnuematic OR gas) ADJ (spring OR actuator))	(US-PGPUB; USPAT; USOCR; FIT (AP, AT, AU, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L3946	305	(desk$4 OR table$4) AND (X OR cross) ADJ (member OR arm) SAME ((pnuematic OR gas) ADJ (spring OR actuator))	(US-PGPUB; USPAT; USOCR; FIT (AP, AT, AU, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L3947	56	"9815672"	(US-PGPUB; USPAT; USOCR; FIT (AP, AT, AU, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L3948	202	("7841570"|"8684339"|"5037163"|"10258148"|"8469152"|"9815672"|"10869549"|"10893748"|"20170071332"|"4843978"|"9681746"|"9809136"|"D830739"|"D854775"|"D901959"|"8671853"|"9504316"|"20040040480"|"20050120922"|"20180055214"|"6672430"|"8015638"|"9681746"|"10258148"|"10306977"|"1318564"|"20030213415"|"20050120922"|"20080000393"|"20170354245"|"20200107633"|"4558648"|"4702454"|"5829948"|"6701853"|"8015638"|"D302893"|"10244861"|"7575205"|"10542817"|"20160353880"|"5211367"|"10893748"|"4995130"|"9504316"|"D830739"|"10544019"|"10575630"|"4221280"|"4449262"|"4549720"|"5251864"|"6269753"|"6516478"|"6792876"|"7207629"|"10524565"|"4753419"|"4941641"|"8303062"|"8544391"|"9480332"|	(US-PGPUB; USPAT; USOCR; FIT (AP, AT, AU, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO))	OR	ON	ON	2022/09/21 01:52 PM

		9554644"|"2016030988 9"|"5257767"|"2015028 9641"|"20180103752"|" 10023355"|"200700805 64"|"20150289641"|"29 37003"|"4995130"|"540 0720"|"5626323"|"5926 876"|"6533229"|"67023 72"|"6722618"|"674276 8"|"9055810"|"7845665" |"4967672"|"201002421 74"|"9049923"|"104130 55"|"20070266912"|"20 200029685"|"3295800"| "4741512"|"5294087"|"5 957426"|"7048236"|"84 90933"|"8950343"|"923 2855"|"9993068"|"9326 598"|"D854775"|"10123 613"|"10258149"|"2014 0144352"|"2015021629 6"|"6076785"|"6098961" |"9815672"|"9955780"|" 20180177289"|"767751 8"|"8931750"|"1049973 0"|"20160051042"|"607 6785"|"4741512"|"2009 0145336"|"2016033848 6"|"7204193"|"7950338" |"8132518"|"200700010 77"|"5400720"|"D30289 3"|"10517390"|"105684 16"|"20120097822"|"20 130193392"|"20170196 351"|"3826457"|"45778 21"|"5588377"|"576579 7"|"6533479"|"6672430" |"8469152"|"10018298"| "9981571").PN.					
L3949	67	"5400720"	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L3950	84	"4577821"	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L3951	24	(Artificial Intelligence) More like doc:	(US-PGPUB; USPAT; USOCR; FIT (AU, AP,	OR	ON	ON	2022/09/21 01:52 PM

		US-D854775-S Text: (WO-0068597-A1 OR DE-4336662-A1 OR US-5694864-A OR AT-149474-T OR US-D378155-S OR US-D375602-S OR US-D346254-S OR US-D825131-S OR US-D814736-S OR US-D640440-S OR US-D837970-S OR TW-201522199-A OR TW-I531523-B OR US-20100012909-A1 OR US-D794629-S OR US-D834861-S OR US-D927102-S OR US-D706344-S OR US-D815832-S OR US-D775524-S).did.	AT, BE, BG, BR, BY, CA, CH, CN, CS, CU, CZ, DD, DE, DK, EA, EE, EP, ES, FI, FR, GB, HR, HU, ID, IE, IL, IS, IT, JP, KR, LT, LU, LV, MA, OA, RU, SU, WO, MC, MD, MY, NL, NO, NZ, PH, PL, PT, RO, RS, SE, SG, SI, SK, TH, TN, TR, TW, UA, VN); FPRS; EPO; JPO; DERWENT; IBM_TDB)				
L3952	50	("3472183" | "3820631" | "4488326" | "4741512" | "4995130" | "5113972" | "D346254" | "D375602" | "5588377" | "D378155" | "5833198" | "6651775" | "6814188" | "D640030" | "D640440" | "8015638" | "D771982" | "9615655" | "D814736" | "9961991" | "D825131" | "D827241" | "D830739" | "D832623" | "20120034055" | "20130139736" | "20140014886" | "20140027693" | "20150159803" | "20150289641" | "20170049224" | "20170240396" | "20180103752" | "20180177289" | "20180184797" | "20180206630" | "20180255919").pn. OR ("D854775").urpn. AND (PGPB | USPT | USOC).dbnm.	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2022/09/21 01:52 PM
L3953	124	("1318564" | "2937003" | "3295800" | "3826457" | "4221280" | "4449262" | "4549720" | "4558648" | "4577821" | "4702454" | "4741512" | "4753419"	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2022/09/21 01:52 PM

		| "4843978" | "D302893" | "4941641" | "4967672" | "4995130" | "5037163" | "5211367" | "5251864" | "5257767" | "5294087" | "5400720" | "5588377" | "5626323" | "5765797" | "5829948" | "5926876" | "5957426" | "6076785" | "6098961" | "6269753" | "6516478" | "6533229" | "6533479" | "6672430" | "6701853" | "6702372" | "6722618" | "6742768" | "6792876" | "7048236" | "7204193" | "7207629" | "7575205" | "7677518" | "7841570" | "7845665" | "7950338" | "8015638" | "8132518" | "8303062" | "8469152" | "8490933" | "8544391" | "8671853" | "8684339" | "8931750" | "8950343" | "9049923" | "9055810" | "9232855" | "9326598" | "9480332" | "9504316" | "9554644" | "9681746" | "9809136" | "9815672" | "9955780" | "9981571" | "9993068" | "10018298" | "10023355" | "D830739" | "10123613" | "D845037" | "10244861" | "10258148" | "10258149" | "10306977" | "D854775" | "10413055" | "10499730" | "10517390" | "10524565" | "10542817" | "10544019" | "10568416" | "10575630" | "D901959" | "10869549" | "10893748" | "20030213415" | "20050120922" | "20070080564" | "20070266912" | "20080000393" | "20090145336" | "20100242174" | "20110001033" | "20120097822" | "20120188302" | "20130193392" |				

		"20140144352" | "20150216296" | "20150289641" | "20160338486" | "20160353880" | "20170071332" | "20170174486" | "20170196351" | "20170354245" | "20180055214" | "20180177289" | "20200029685" | "20200107633").pn. OR ("11134774").urpn. AND (PGPB | USPT | USOC).dbnm.					
L3954	29	("20100198374"|"6062148"|"20140137773"|"20120174833"|"7789025"|"20160127809"|"5884882"|"7077068"|"20080255794"|"20140247155"|"9082239"|"20080255794"|"6595144"|"6831829"|"7780578"|"8947215"|"20130204438"|"6546880"|"7517029"|"20130116092"|"20140096706"|"8485945"|"20140247146"|"5323695"|"8587439"|"8690578"|"20140137773"|"20160128467"|"20130321346"|"20140096706"|"20140247154"|"20160260019").PN.	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2022/09/21 01:52 PM
L3955	27	("10244861"|"20180213929"|"9326598"|"9681746"|"8931750"|"7246784"|"10114352"|"5957426"|"5722513"|"4640488"|"5251864"|"4448386"|"4702454"|"2843418"|"9668572"|"20070001077"|"4753419"|"11083282"|"20170196351"|"D854775"|"20160249737"|"20120188302"|"10575630").PN.	(US-PGPUB; USPAT; USOCR; JPO)	OR	ON	ON	2022/09/21 01:52 PM
L3956	25	("3219338" | "4558648" | "4741512" | "5400720" | "5695173" | "5823120" | "6672430" | "9326598" | "9504316" | "9815672" | "20030154890" | "20050120922" | "20130341984" | "20170174486" |	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2022/09/21 01:52 PM

		"20170340104").pn. OR ("10258149").urpn. AND (PGPB | USPT | USOC).dbnm.					
L3957	76	("226053" | "4403680" | "4515086" | "4926760" | "5632209" | "5829948" | "6038986" | "6112858" | "6286812" | "6397763" | "6585214" | "6679479" | "6705238" | "6857493" | "7677518" | "7950338" | "8015638" | "8424883" | "8469152" | "9055810" | "9133976" | "20040040480" | "20070034125" | "20130145972" | "20150289641").pn. OR ("9504316").urpn. AND (PGPB | USPT | USOC).dbnm.	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2022/09/21 01:52 PM
L3958	406	wilkens.xp. AND bracket AND A47B	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L3959	159	wilkens.xp. AND stack$4 AND A47B	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L3960	298	wilkens.xp. AND A47B88/$	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L3961	16	("1680081" | "1686783" | "1902795" | "1994424" | "3094363" | "3275396" | "3298768" | "4285560").pn. OR ("10888157").urpn. AND (PGPB | USPT | USOC).dbnm.	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2022/09/21 01:52 PM
L3962	43	"3275396"	(US-PGPUB; USPAT; USOCR; FIT (AU, AP,	OR	ON	ON	2022/09/21 01:52 PM

			AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)				
L3963	60	("2001744" | "2070960" | "2610824" | "3032319" | "3110476" | "3174722" | "3282566" | "3379411" | "3982718" | "4221280" | "4403680" | "4526346" | "4682750" | "4688760" | "4690250" | "4754713" | "4764075" | "4858888" | "4890692" | "4899987" | "4921074" | "5192053" | "5299906" | "5322143" | "5460460" | "5829948" | "6182796" | "6464205" | "6601826" | "6672430" | "6814188" | "7213686" | "20060126966" | "20060279728" | "20070017748" | "20070235266").pn. OR ("8469152").urpn. AND (PGPB | USPT | USOC).dbnm.	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2022/09/21 01:52 PM
L3964	37	("4061237" | "4249749" | "4288195" | "4504041" | "4613272" | "4979592" | "5018931" | "6394419" | "6431319" | "6679479" | "8015638" | "8469152" | "8888070" | "9422141" | "9463966" | "9540220" | "20030075657" | "20050042068" | "20110262261" | "20140014886" | "20140027693" | "20150028787" | "20150298949").pn. OR ("9815672").urpn. AND (PGPB | USPT | USOC).dbnm.	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2022/09/21 01:52 PM
L3965	56	("1453406" | "1581874" | "2013542" | "2563060" | "2928558" | "3094948" | "3203670" | "3282566" | "4531720" | "4577821" | "4685731" | "4705438" | "4723769" | "4760997" | "4767109" | "4796029").pn. OR ("5400720").urpn. AND	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2022/09/21 01:52 PM

		(PGPB | USPT | USOC).dbnm.					
L3966	47	"5861051"	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L3967	1	"58-61051"	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L3968	38	"102013008020"	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L3969	5	"20190116976"	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L3970	10	"20200003258"	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L3971	2	"20210214986"	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L3972	41	"4741512"	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO;	OR	ON	ON	2022/09/21 01:52 PM

			JPO; DERWENT; IBM_TDB)				
L3973	139	"7677518"	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L3974	24	("10114352"|"10244861"|"10575630"|"11083282"|"20070001077"|"20120188302"|"20160249737"|"20170196351"|"20180213929"|"2843418"|"4448386"|"4640488"|"4702454"|"4753419"|"5251864"|"5722513"|"5957426"|"7246784"|"8931750"|"9326598"|"9668572"|"9681746"|"D854775").PN.	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2022/09/21 01:52 PM
L3975	70	("1318564" | "2937003" | "3295800" | "4221280" | "4558648" | "4577821" | "4843978" | "5588377" | "5626323" | "5829948" | "5957426" | "6098961" | "6269753" | "6516478" | "6533479" | "6722618" | "6742768" | "8132518" | "8671853" | "9049923" | "9055810" | "9326598" | "9480332" | "9504316" | "9554644" | "20030213415" | "20040035332" | "20040040480" | "20070080564" | "20080000393" | "20090090832" | "20090200437" | "20110001033" | "20110024958" | "20120097822" | "20130145972" | "20130193392" | "20140144352" | "20150232005" | "20150375896" | "20160338486" | "20170174486" | "20180008037").pn. OR ("10244861").urpn. AND (PGPB | USPT | USOC).dbnm.	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2022/09/21 01:52 PM

L3976	27	("10114352"|"10244861"|"10575630"|"11083282"|"11134773"|"20030213415"|"20070001077"|"20120188302"|"20160249737"|"20170196351"|"20180213929"|"2843418"|"4448386"|"4640488"|"4702454"|"4753419"|"5251864"|"5722513"|"5957426"|"7246784"|"8931750"|"9326598"|"9668572"|"9681746"|"9815672"|"D854775").PN.	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2022/09/21 01:52 PM
L3977	70	("1234569" | "1318564" | "2156148" | "2630359" | "4926760" | "5497706" | "5588377" | "5833200" | "6182935" | "6701853" | "7849789" | "8015638" | "8544391" | "8936306").pn. OR ("9326598").urpn. AND (PGPB | USPT | USOC).dbnm.	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2022/09/21 01:52 PM
L3978	25	("383610" | "4640488" | "5211369" | "7246784" | "7637468" | "7677518" | "8439334" | "8844894" | "9326598" | "10092089" | "20070295882" | "20130145972" | "20140264215" | "20150014609" | "20160249737" | "20180008037" | "20180146775" | "20180177289" | "20180279770" | "20180332957" | "20180360208" | "20200298599").pn. OR ("11083282").urpn. AND (PGPB | USPT | USOC).dbnm.	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2022/09/21 01:52 PM
L3979	18	("2016/0249737").urpn. AND (PGPB | USPT | USOC).dbnm.	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2022/09/21 01:52 PM
L3980	25	("3219338" | "4558648" | "4741512" | "5400720" | "5695173" | "5823120" | "6672430" | "9326598" | "9504316" | "9815672" | "20030154890" | "20050120922" | "20130341984" | "20170174486" |	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2022/09/21 01:52 PM

		"20170340104").pn. OR ("10258149").urpn. AND (PGPB | USPT | USOC).dbnm.					
L3981	76	("226053" | "4403680" | "4515086" | "4926760" | "5632209" | "5829948" | "6038986" | "6112858" | "6286812" | "6397763" | "6585214" | "6679479" | "6705238" | "6857493" | "7677518" | "7950338" | "8015638" | "8424883" | "8469152" | "9055810" | "9133976" | "20040040480" | "20070034125" | "20130145972" | "20150289641").pn. OR ("9504316").urpn. AND (PGPB | USPT | USOC).dbnm.	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2022/09/21 01:52 PM
L3982	37	("2766088" | "D716074" | "9326598" | "9504316" | "D781617" | "D781618" | "20030230222" | "20150289641" | "20170290413" | "20170354245" | "20180055214" | "20180125227").pn. OR ("D845037").urpn. AND (PGPB | USPT | USOC).dbnm.	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2022/09/21 01:52 PM
L3983	76	("226053" | "4403680" | "4515086" | "4926760" | "5632209" | "5829948" | "6038986" | "6112858" | "6286812" | "6397763" | "6585214" | "6679479" | "6705238" | "6857493" | "7677518" | "7950338" | "8015638" | "8424883" | "8469152" | "9055810" | "9133976" | "20040040480" | "20070034125" | "20130145972" | "20150289641").pn. OR ("9504316").urpn. AND (PGPB | USPT | USOC).dbnm.	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2022/09/21 01:52 PM
L3984	56	"9815672"	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR,	OR	ON	ON	2022/09/21 01:52 PM

			GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)				
L3985	17	"9815672"	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO))	OR	ON	ON	2022/09/21 01:52 PM
L3986	135828	hydraulic WITH gas WITH (spring OR cylinder)	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L3987	727	hydraulic WITH gas WITH (spring OR cylinder) AND A47B	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L3988	263	hydraulic WITH gas WITH (spring OR cylinder) AND A47B AND desk	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L3989	139	"7677518"	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L3990	114	"7677518"	(US-PGPUB; USPAT; USOCR; EPO)	OR	ON	ON	2022/09/21 01:52 PM
L3991	114	"7677518"	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2022/09/21 01:52 PM
L3992	129	("4691886" | "4729533" | "5037054" | "5044284" | "5174223" | "5200859" | "5287815" | "5405204" | "5445353" | "5564668" | "5636711" | "D393382" | "5829948" | "5938622" | "5961231" | "6286812" | "6585214" | "6736469"	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2022/09/21 01:52 PM

		| "6905102" | "7111825" | "7383786").pn. OR ("7677518").urpn. AND (PGPB | USPT | USOC).dbnm.					
L3993	10	("6857493"|"5400720"). PN.	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L3994	37	"1142343"	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L3995	2	("6857493"|"5400720"). PN.	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2022/09/21 01:52 PM
L3996	104	("10114352"|"10244861"|"10575630"|"11083282"|"20070001077"|"20120188302"|"20160249737"|"20170196351"|"20180213929"|"2843418"|"4448386"|"4640488"|"4702454"|"4753419"|"5251864"|"5722513"|"5957426"|"7246784"|"8931750"|"9326598"|"9668572"|"9681746"|"D854775").PN.	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L3997	24	("10114352"|"10244861"|"10575630"|"11083282"|"20070001077"|"20120188302"|"20160249737"|"20170196351"|"20180213929"|"2843418"|"4448386"|"4640488"|"4702454"|"4753419"|"5251864"|"5722513"|"5957426"|"7246784"|"8931750"|"9326598"|"9668572"|"9681746"|"D854775").PN.	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2022/09/21 01:52 PM
L3998	132	("10018298" OR "10023355" OR "10123613" OR "10258148" OR "10258149" OR "10264877" OR "10306977" OR	(US-PGPUB; USPAT)	OR	ON	ON	2022/09/21 01:52 PM

		"10413055" OR "10499730" OR "10517390" OR "10524565" OR "10542817" OR "10544019" OR "10568416" OR "10869549" OR "10893748" OR "11134773" OR "11134774" OR "11140977" OR "11147366" OR "11160367" OR "1318564" OR "20030042380" OR "20030213415" OR "20050120922" OR "20070080564" OR "20070266912" OR "20080000393" OR "20090145336" OR "20100242174" OR "20120097822" OR "20130193392" OR "20140144352" OR "20150028787" OR "20150216296" OR "20150289641" OR "20160338486" OR "20160353880" OR "20170071332" OR "20170354245" OR "20180177289" OR "20180279770" OR "20190110588" OR "20190183239" OR "20190269237" OR "20200029685" OR "20200107633" OR "2937003" OR "3295800" OR "3823915" OR "3826457" OR "4221280" OR "4449262" OR "4549720" OR "4558648" OR "4577821" OR "4625657" OR "4659052" OR "4709972" OR "4717112" OR "4741512" OR "4826123" OR "4843978" OR "4941641" OR "4967672" OR				

		"4995130" OR "5037163" OR "5048784" OR "5211367" OR "5257767" OR "5294087" OR "5400720" OR "5588377" OR "5626323" OR "5765797" OR "5829948" OR "5836562" OR "5926876" OR "6076785" OR "6098961" OR "6148739" OR "6176456" OR "6179261" OR "6269753" OR "6273382" OR "6488248" OR "6516478" OR "6533229" OR "6533479" OR "6672430" OR "6701853" OR "6702372" OR "6722618" OR "6742768" OR "6792876" OR "6938866" OR "7048236" OR "7188813" OR "7204193" OR "7207629" OR "7575205" OR "7677518" OR "7841570" OR "7845665" OR "7946551" OR "7950338" OR "8015638" OR "8132518" OR "8303062" OR "8469152" OR "8490933" OR "8544391" OR "8671853" OR "8684339" OR "8950343" OR "9049923" OR "9055810" OR "9232855" OR "9480332" OR "9504316" OR "9554644" OR "9809136" OR "9815672" OR					

		"9854904" OR "9955780" OR "9981571" OR "9993068" OR "D302893" OR "D830739" OR "D845037" OR "D870490" OR "D901959").pn.					
L3999	27	("2531856" | "3727245" | "4611823" | "5447319" | "5722513" | "6974185" | "8016305" | "8544391" | "9326598" | "20040040480").pn. OR ("9480332").urpn. AND (PGPB | USPT | USOC).dbnm.	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2022/09/21 01:52 PM
L4000	2481	A47B67/005.cpc.	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4001	2113	(A47B3/00 OR A47B61/00).cpc. AND (gear OR shaft)	(US-PGPUB; USPAT; USOCR; FIT (AP, AT, AU, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4002	48	wilkens.xp. AND lift SAME table	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4003	34	(Artificial Intelligence) More like doc: US-8950343-B2 Text: (US-20140041554-A1 OR TW-M445388-U OR US-10092089-B1 OR JP-2018520740-A OR GB-2341790-A OR DK-179639-B1 OR US-20180160799-A1 OR WO-2016200318-A1 OR EP-3307108-A1 OR CN-107708486-A OR	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, BE, BG, BR, BY, CA, CH, CN, CS, CU, CZ, DD, DE, DK, EA, EE, EP, ES, FI, FR, GB, HR, HU, ID, IE, IL, IS, IT, JP, KR, LT, LU, LV, MA, OA, RU, SU, WO, MC, MD, MY, NL, NO, NZ, PH, PL, PT, RO, RS, SE, SG, SI, SK, TH, TN, TR, TW, UA, VN); FPRS; EPO;	OR	ON	ON	2022/09/21 01:52 PM

		WO-2016200318-A8 OR WO-2018137739-A1 OR US-9713375-B1 OR DK-201700050-A1 OR US-20180103752-A1 OR US-10258149-B2 OR US-20180255919-A1 OR JP-2017513663-A OR US-10542817-B2 OR US-20150272316-A1).did.	JPO; DERWENT; IBM_TDB)				
L4004	132	("20180125227" OR "10018298" OR "10023355" OR "10114352" OR "10123613" OR "10244861" OR "10258149" OR "10264877" OR "10306977" OR "10413055" OR "10524565" OR "10542817" OR "10544019" OR "10568416" OR "10575630" OR "10869549" OR "11083282" OR "11140977" OR "11147366" OR "1318564" OR "20030042380" OR "20030213415" OR "20070001077" OR "20070080564" OR "20070266912" OR "20080000393" OR "20100242174" OR "20120097822" OR "20120188302" OR "20130193392" OR "20150216296" OR "20160338486" OR "20160353880" OR "20170071332" OR "20170196351" OR "20180177289" OR "20180213929" OR "20180279770" OR "20190110588" OR "20190183239" OR "20190269237" OR "20200029685" OR "20200107633" OR "2843418" OR "2937003" OR	(US-PGPUB; USPAT)	OR	ON	ON	2022/09/21 01:52 PM

		"3295800" OR "4221280" OR "4448386" OR "4449262" OR "4549720" OR "4558648" OR "4577821" OR "4625657" OR "4640488" OR "4702454" OR "4709972" OR "4717112" OR "4753419" OR "4826123" OR "4843978" OR "4941641" OR "4967672" OR "4995130" OR "5037163" OR "5048784" OR "5211367" OR "5251864" OR "5257767" OR "5294087" OR "5400720" OR "5588377" OR "5626323" OR "5722513" OR "5765797" OR "5829948" OR "5836562" OR "5926876" OR "5957426" OR "6076785" OR "6098961" OR "6148739" OR "6176456" OR "6179261" OR "6269753" OR "6273382" OR "6488248" OR "6516478" OR "6533229" OR "6533479" OR "6672430" OR "6701853" OR "6702372" OR "6722618" OR "6742768" OR "6792876" OR "6938866" OR "7048236" OR "7188813" OR "7204193" OR "7207629" OR "7246784" OR "7575205" OR "7841570" OR					

		"7845665" OR "7946551" OR "7950338" OR "8015638" OR "8132518" OR "8303062" OR "8469152" OR "8490933" OR "8544391" OR "8671853" OR "8684339" OR "8950343" OR "9049923" OR "9055810" OR "9232855" OR "9326598" OR "9480332" OR "9504316" OR "9554644" OR "9668572" OR "9681746" OR "9809136" OR "9854904" OR "9955780" OR "9981571" OR "9993068" OR "D830739" OR "D870490" OR "D901959").pn.					
L4005	26	("4221280" | "4577821" | "4995130" | "5186038" | "5322143" | "5588377" | "9161616" | "D845037" | "10264877" | "10517390" | "20100012909" | "20140041554" | "20160338486" | "20170354245" | "20180055214" | "20180146775").pn. OR ("10869549").urpn. AND (PGPB | USPT | USOC).dbnm.	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2022/09/21 01:52 PM
L4006	124	("1318564" | "2937003" | "3295800" | "3826457" | "4221280" | "4449262" | "4549720" | "4558648" | "4577821" | "4702454" | "4741512" | "4753419" | "4843978" | "D302893" | "4941641" | "4967672" | "4995130" | "5037163" | "5211367" | "5251864" | "5257767" | "5294087" | "5400720" | "5588377" | "5626323" | "5765797"	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2022/09/21 01:52 PM

		| "5829948" | "5926876" | "5957426" | "6076785" | "6098961" | "6269753" | "6516478" | "6533229" | "6533479" | "6672430" | "6701853" | "6702372" | "6722618" | "6742768" | "6792876" | "7048236" | "7204193" | "7207629" | "7575205" | "7677518" | "7841570" | "7845665" | "7950338" | "8015638" | "8132518" | "8303062" | "8469152" | "8490933" | "8544391" | "8671853" | "8684339" | "8931750" | "8950343" | "9049923" | "9055810" | "9232855" | "9326598" | "9480332" | "9504316" | "9554644" | "9681746" | "9809136" | "9815672" | "9955780" | "9981571" | "9993068" | "10018298" | "10023355" | "D830739" | "10123613" | "D845037" | "10244861" | "10258148" | "10258149" | "10306977" | "D854775" | "10413055" | "10499730" | "10517390" | "10524565" | "10542817" | "10544019" | "10568416" | "10575630" | "D901959" | "10869549" | "10893748" | "20030213415" | "20050120922" | "20070080564" | "20070266912" | "20080000393" | "20090145336" | "20100242174" | "20110001033" | "20120097822" | "20120188302" | "20130193392" | "20140144352" | "20150216296" | "20150289641" | "20160338486" | "20160353880" | "20170071332" | "20170174486" |				

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L4007	87	("1318564" | "2937003" | "3295800" | "4221280" | "4558648" | "4577821" | "4843978" | "5037163" | "5211367" | "5257767" | "5588377" | "5626323" | "5829948" | "5957426" | "6076785" | "6098961" | "6269753" | "6516478" | "6533479" | "6701853" | "6722618" | "6742768" | "6792876" | "7677518" | "7841570" | "7950338" | "8132518" | "8544391" | "8671853" | "8684339" | "8931750" | "9049923" | "9326598" | "9480332" | "9504316" | "9554644" | "9681746" | "10159336" | "10244861" | "10258148" | "10258149" | "10499730" | "10542817" | "20030213415" | "20040040480" | "20070080564" | "20080000393" | "20120097822" | "20130193392" | "20130199420" | "20140144352" | "20140158026" | "20150232005" | "20150368082" | "20150375896" | "20160051042" | "20160106205" | "20160170402" | "20160260019" | "20160309889" | "20160338486" | "20160353880" | "20170174486" | "20170360192" | "20180008037" | "20180125227" | "20180177289" |	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2022/09/21 01:52 PM

		"20180279770" | "20180360208" | "20190110588" | "20190269237" | "20200029685").pn. OR ("10893748").urpn. AND (PGPB | USPT | USOC).dbnm.					
L4008	162	("1824822" | "2545515" | "2579577" | "2581023" | "2630359" | "2727799" | "2798641" | "3203373" | "3245366" | "3347184" | "3727245" | "3888451" | "4032103" | "4073240" | "4130069" | "4194452" | "4515086" | "4534544" | "4558847" | "4577821" | "4589621" | "4625657" | "4728118" | "4981052" | "4981085" | "5039054" | "5048784" | "5083512" | "5088676" | "5174223" | "5192053" | "5251864" | "5322025" | "5325794" | "5375514" | "5394809" | "5490466" | "5503086" | "5549052" | "5553550" | "5588377" | "5649493" | "5680820" | "5687655" | "5778799" | "5794911" | "5823120" | "5833198" | "5938340" | "5967059" | "6026755" | "6038986" | "6283047" | "6286441" | "6378446" | "6439657" | "6510803" | "6516478" | "6520091" | "6603157" | "6691626" | "6701853" | "6874431" | "6991199" | "7048236" | "7059254" | "7201108" | "7246784" | "7385376" | "7548051" | "7642759" | "7654208" | "7677518" | "7690317" | "7849789" | "7887014" | "7950338" | "8065966" | "8132518" | "8439319" | "8544391" | "8671853" | "8783639" | "8800454" | "8931750" | "8950343" | "9049923" | "9055810" | "9072645" | "9113703" | "9668572" | "20020189505" | "20030213415" | "20040187742" | "20040227443" |	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2022/09/21 01:52 PM

		"20050041721" | "20050248239" | "20060037518" | "20060038383" | "20060157628" | "20070163475" | "20070259554" | "20070266912" | "20070295882" | "20080308016" | "20090179121" | "20100242174" | "20100257671" | "20110120351" | "20110168062" | "20110247532" | "20130014674" | "20130139736" | "20130145972" | "20130199420" | "20130340655" | "20140020606" | "20140041554" | "20140144352" | "20140158026" | "20140165882" | "20140360411" | "20150164218" | "20150216296" | "20150231992" | "20150250303" | "20150289641" | "20160120300" | "20160198853" | "20160278515" | "20160338486" | "20170354245" | "20170360188" | "20180103752" | "20180146775" | "20180160799" | "20180213929" | "20180279772").pn. OR ("10542817").urpn. AND (PGPB | USPT | USOC).dbnm.					
L4009	87	("1318564" | "2937003" | "3295800" | "4221280" | "4558648" | "4577821" | "4843978" | "5037163" | "5211367" | "5257767" | "5588377" | "5626323" | "5829948" | "5957426" | "6076785" | "6098961" | "6269753" | "6516478" | "6533479" | "6701853" | "6722618" | "6742768" | "6792876" | "7677518"	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2022/09/21 01:52 PM

		| "7841570" | "7950338" | "8132518" | "8544391" | "8671853" | "8684339" | "8931750" | "9049923" | "9326598" | "9480332" | "9504316" | "9554644" | "9681746" | "10159336" | "10244861" | "10258148" | "10258149" | "10499730" | "10542817" | "20030213415" | "20040040480" | "20070080564" | "20080000393" | "20120097822" | "20130193392" | "20130199420" | "20140144352" | "20140158026" | "20150232005" | "20150368082" | "20150375896" | "20160051042" | "20160106205" | "20160170402" | "20160260019" | "20160309889" | "20160338486" | "20160353880" | "20170174486" | "20170360192" | "20180008037" | "20180125227" | "20180177289" | "20180279770" | "20180360208" | "20190110588" | "20190269237" | "20200029685").pn. OR ("10893748").urpn. AND (PGPB | USPT | USOC).dbnm.					
L4010	33	("136357" | "2624535" | "2733109" | "3001559" | "4967672" | "5588377" | "5636711" | "5829948" | "7032872" | "7059616" | "7677518" | "20140144352").pn. OR ("8950343").urpn. AND (PGPB | USPT | USOC).dbnm.	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2022/09/21 01:52 PM
L4011	8	("2012/0188302").urpn. AND (PGPB | USPT |	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2022/09/21 01:52 PM

		USOC).dbnm.					
L4012	22	("2005/0120922").urpn. AND (PGPB | USPT | USOC).dbnm.	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2022/09/21 01:52 PM
L4013	870	A47B1/03.cpc.	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4014	17703	A47B21/0314,00,02,03.cpc.	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4015	1350	A47B21/0314,00,02,03.cpc. AND ((pnuematic OR gas) ADJ spring OR actuator)	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4016	162	("3140894"|"4926760"|"5588377"|"7640869"|"9113703"|"9615655"|"20160120300"|"6974185"|"9161616"|"5649493"|"8544391"|"9055810"|"9480332"|"9554644"|"201 60249737"|"2531856"|"3494662"|"8016305"|"9644378"|"9681746"|"2922685"|"9326598"|"9625929"|"3161161"|"8936306").PN.	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4017	88	("2156148"|"20040040480"|"20080203865"|"20130139736"|"20140041554"|"20150216296"|"20150289641"|"20160286951"|"20160338486"|"3245366"|"4691888"|"5588377"|"8544391"|"9326598"|"9480332"|"9504316").PN.	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4018	1313	312/208.1,223.3.ccls.	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU,	OR	ON	ON	2022/09/21 01:52 PM

			SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)				
L4019	0	248/421,562,588, "585,431,432,439".cpc.	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4020	0	248/421,562,588,585,431,432,439.cpc.	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4021	3921	248/421,562,588,585,431,432,439.ccls.	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4022	2881	248/421,562,588,585.ccls.	(US-PGPUB; USPAT; USOCR; FIT (AP, AT, AU, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4023	1060	248/431,432,439.ccls.	(US-PGPUB; USPAT; USOCR; FIT (AP, AT, AU, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4024	3035	108/147,144.11,145,93.ccls.	(US-PGPUB; USPAT; USOCR; FIT (AP, AT, AU, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4025	1049	108/96,116.ccls.	(US-PGPUB; USPAT; USOCR; FIT (AP, AT, AU, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU,	OR	ON	ON	2022/09/21 01:52 PM

			SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)				
L4026	3238	108/118,120,43,138,50.01,50.02.ccls.	(US-PGPUB; USPAT; USOCR; FIT (AP, AT, AU, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4027	1877	108/118,120,43,138.ccls.	(US-PGPUB; USPAT; USOCR; FIT (AP, AT, AU, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4028	1396	108/50.01,50.02.ccls.	(US-PGPUB; USPAT; USOCR; FIT (AP, AT, AU, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4029	550	("7841570"|"8684339"|"5037163"|"10258148"|"8469152"|"9815672"|"10869549"|"10893748"|"20170071332"|"4843978"|"9681746"|"9809136"|"D830739"|"D854775"|"D901959"|"8671853"|"9504316"|"20040040480"|"20050120922"|"20180055214"|"6672430"|"8015638"|"9681746"|"10258148"|"10306977"|"1318564"|"20030213415"|"20050120922"|"20080000393"|"20170354245"|"20200107633"|"4558648"|"4702454"|"5829948"|"6701853"|"8015638"|"D302893"|"10244861"|"7575205"|"10542817"|"20160353880"|"5211367"|"10893748"|"4995130"|"9504316"|"D830739"|"10544019"|"10575630"|"4221280"|"4449262"|"4549720"|"5251864"|"6269753"|"6516478"|"6792876"|"7207629"|"10524565"|"475341	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM

		9"|"4941641"|"8303062"|"8544391"|"9480332"|"9554644"|"20160309889"|"5257767"|"20150289641"|"20180103752"|"10023355"|"20070080564"|"20150289641"|"2937003"|"4995130"|"5400720"|"5626323"|"5926876"|"6533229"|"6702372"|"6722618"|"6742768"|"9055810"|"7845665"|"4967672"|"20100242174"|"9049923"|"10413055"|"20070266912"|"20200029685"|"3295800"|"4741512"|"5294087"|"5957426"|"7048236"|"8490933"|"8950343"|"9232855"|"9993068"|"9326598"|"D854775"|"10123613"|"10258149"|"20140144352"|"20150216296"|"6076785"|"6098961"|"9815672"|"9955780"|"20180177289"|"7677518"|"8931750"|"10499730"|"20160051042"|"6076785"|"4741512"|"20090145336"|"20160338486"|"7204193"|"7950338"|"8132518"|"20070001077"|"5400720"|"D302893"|"10517390"|"10568416"|"20120097822"|"20130193392"|"20170196351"|"3826457"|"4577821"|"5588377"|"5765797"|"6533479"|"6672430"|"8469152"|"10018298"|"9981571").PN.					
L4030	25	("3282566" | "4273306" | "5400720" | "5632209" | "5649493" | "9326598" | "20130340655" | "20140360414" | "20150289641" | "20180055214").pn. OR ("10517390").urpn. AND (PGPB | USPT | USOC).dbnm.	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2022/09/21 01:52 PM
L4031	56	("1453406" | "1581874" | "2013542" | "2563060" | "2928558" | "3094948" | "3203670" | "3282566" | "4531720" | "4577821" | "4685731" | "4705438"	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2022/09/21 01:52 PM

		| "4723769" | "4760997" | "4767109" | "4796029").pn. OR ("5400720").urpn. AND (PGPB | USPT | USOC).dbnm.					
L4032	25	("3219338" | "4558648" | "4741512" | "5400720" | "5695173" | "5823120" | "6672430" | "9326598" | "9504316" | "9815672" | "20030154890" | "20050120922" | "20130341984" | "20170174486" | "20170340104").pn. OR ("10258149").urpn. AND (PGPB | USPT | USOC).dbnm.	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2022/09/21 01:52 PM
L4033	76	("226053" | "4403680" | "4515086" | "4926760" | "5632209" | "5829948" | "6038986" | "6112858" | "6286812" | "6397763" | "6585214" | "6679479" | "6705238" | "6857493" | "7677518" | "7950338" | "8015638" | "8424883" | "8469152" | "9055810" | "9133976" | "20040040480" | "20070034125" | "20130145972" | "20150289641").pn. OR ("9504316").urpn. AND (PGPB | USPT | USOC).dbnm.	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2022/09/21 01:52 PM
L4034	56	("D166377" | "D280478" | "D304112" | "D352845" | "D371687" | "D395969" | "D415910" | "D424828" | "D435368" | "D435986" | "D436268" | "D464212" | "D530939" | "D612643" | "D644046" | "D671338" | "D681979" | "D694044" | "D716074" | "D733476" | "D734413" | "D771981" | "D771982" | "9504316" | "D781617" | "D781618" | "D781619" | "D784050" | "20080178779" | "20130139736" |	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2022/09/21 01:52 PM

		"20150096472" | "20160106205" | "20160278515" | "20170105518" | "20170196351" | "20170290413" | "20170354245").pn. OR ("D830739").urpn. AND (PGPB | USPT | USOC).dbnm.					
L4035	50	("3472183" | "3820631" | "4488326" | "4741512" | "4995130" | "5113972" | "D346254" | "D375602" | "5588377" | "D378155" | "5833198" | "6651775" | "6814188" | "D640030" | "D640440" | "8015638" | "D771982" | "9615655" | "D814736" | "9961991" | "D825131" | "D827241" | "D830739" | "D832623" | "20120034055" | "20130139736" | "20140014886" | "20140027693" | "20150159803" | "20150289641" | "20170049224" | "20170240396" | "20180103752" | "20180177289" | "20180184797" | "20180206630" | "20180255919").pn. OR ("D854775").urpn. AND (PGPB | USPT | USOC).dbnm.	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2022/09/21 01:52 PM
L4036	2518	A47B9/16.cpc.	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4037	2081	A47B2021/0321,0364.cpc.	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4038	10819	(A47B3/00 OR A47B61/00).cpc.	(US-PGPUB; USPAT; USOCR; FIT (AP, AT,	OR	ON	ON	2022/09/21 01:52 PM

			AU, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)				
L4039	182	(A47B3/00 OR A47B61/00).cpc. AND ((pnuematic OR gas) ADJ spring OR actuator)	(US-PGPUB; USPAT; USOCR; FIT (AP, AT, AU, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4040	3649	A47B3/02,0809,0815.cpc.	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4041	1712	A47B3/0809,0815.cpc.	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4042	513	(A47B3/02 AND A47B2003/025).cpc.	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4043	1267876	(desk$4 OR table$4) AND ((pnuematic OR gas) ADJ spring OR actuator)	(US-PGPUB; USPAT; USOCR; FIT (AP, AT, AU, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4044	5666298	(desk$4 OR table$4) AND (X OR cross) ADJ (member OR arm)((pnuematic OR gas) ADJ spring OR actuator)	(US-PGPUB; USPAT; USOCR; FIT (AP, AT, AU, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4045	3703	(desk$4 OR table$4) AND (X OR cross) ADJ	(US-PGPUB; USPAT; USOCR; FIT (AP, AT,	OR	ON	ON	2022/09/21 01:52 PM

		(member OR arm) SAME ((pnuematic OR gas) ADJ spring OR actuator)	AU, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)				
L4046	869	(desk$4 OR table$4) SAME (X OR cross) ADJ (member OR arm) SAME ((pnuematic OR gas) ADJ spring OR actuator)	(US-PGPUB; USPAT; USOCR; FIT (AP, AT, AU, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4047	91	(desk$4 OR table$4) SAME (X OR cross) ADJ (member OR arm) SAME ((pnuematic OR gas) ADJ (spring OR actuator))	(US-PGPUB; USPAT; USOCR; FIT (AP, AT, AU, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4048	305	(desk$4 OR table$4) AND (X OR cross) ADJ (member OR arm) SAME ((pnuematic OR gas) ADJ (spring OR actuator))	(US-PGPUB; USPAT; USOCR; FIT (AP, AT, AU, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4049	56	"9815672"	(US-PGPUB; USPAT; USOCR; FIT (AP, AT, AU, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4050	202	("7841570"|"8684339"|"5037163"|"10258148"|"8469152"|"9815672"|"10869549"|"10893748"|"20170071332"|"4843978"|"9681746"|"9809136"|"D830739"|"D854775"|"D901959"|"8671853"|"9504316"|"20040040480"|"20050120922"|"20180055214"|"6672430"|"8015638"|"9681746"|"10258148"|"10306977"|"1318564"|"20030213415"|"20050120922"|"20080000393"|"20170354245"|"20200107633"|"4558648"|"4702454"|"5829	(US-PGPUB; USPAT; USOCR; FIT (AP, AT, AU, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO))	OR	ON	ON	2022/09/21 01:52 PM

		948"|"6701853"|"80156 38"|"D302893"|"102448 61"|"7575205"|"105428 17"|"20160353880"|"52 11367"|"10893748"|"49 95130"|"9504316"|"D83 0739"|"10544019"|"105 75630"|"4221280"|"444 9262"|"4549720"|"5251 864"|"6269753"|"65164 78"|"6792876"|"720762 9"|"10524565"|"475341 9"|"4941641"|"8303062" |"8544391"|"9480332"|" 9554644"|"2016030988 9"|"5257767"|"2015028 9641"|"20180103752"|" 10023355"|"200700805 64"|"20150289641"|"29 37003"|"4995130"|"540 0720"|"5626323"|"5926 876"|"6533229"|"67023 72"|"6722618"|"674276 8"|"9055810"|"7845665" |"4967672"|"201002421 74"|"9049923"|"104130 55"|"20070266912"|"20 200029685"|"3295800"| "4741512"|"5294087"|"5 957426"|"7048236"|"84 90933"|"8950343"|"923 2855"|"9993068"|"9326 598"|"D854775"|"10123 613"|"10258149"|"2014 0144352"|"2015021629 6"|"6076785"|"6098961" |"9815672"|"9955780"|" 20180177289"|"767751 8"|"8931750"|"1049973 0"|"20160051042"|"607 6785"|"4741512"|"2009 0145336"|"2016033848 6"|"7204193"|"7950338" |"8132518"|"200700010 77"|"5400720"|"D30289 3"|"10517390"|"105684 16"|"20120097822"|"20 130193392"|"20170196 351"|"3826457"|"45778 21"|"5588377"|"576579 7"|"6533479"|"6672430" |"8469152"|"10018298"| "9981571").PN.				
L4051	67	"5400720"	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU,	OR	ON	ON	2022/09/21 01:52 PM

			SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)				
L4052	84	"4577821"	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4053	24	(Artificial Intelligence) More like doc: US-D854775-S Text: (WO-0068597-A1 OR DE-4336662-A1 OR US-5694864-A OR AT-149474-T OR US-D378155-S OR US-D375602-S OR US-D346254-S OR US-D825131-S OR US-D814736-S OR US-D640440-S OR US-D837970-S OR TW-201522199-A OR TW-I531523-B OR US-20100012909-A1 OR US-D794629-S OR US-D834861-S OR US-D927102-S OR US-D706344-S OR US-D815832-S OR US-D775524-S).did.	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, BE, BG, BR, BY, CA, CH, CN, CS, CU, CZ, DD, DE, DK, EA, EE, EP, ES, FI, FR, GB, HR, HU, ID, IE, IL, IS, IT, JP, KR, LT, LU, LV, MA, OA, RU, SU, WO, MC, MD, MY, NL, NO, NZ, PH, PL, PT, RO, RS, SE, SG, SI, SK, TH, TN, TR, TW, UA, VN); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4054	50	("3472183" | "3820631" | "4488326" | "4741512" | "4995130" | "5113972" | "D346254" | "D375602" | "5588377" | "D378155" | "5833198" | "6651775" | "6814188" | "D640030" | "D640440" | "8015638" | "D771982" | "9615655" | "D814736" | "9961991" | "D825131" | "D827241" | "D830739" | "D832623" | "20120034055" | "20130139736" | "20140014886" | "20140027693" | "20150159803" | "20150289641" | "20170049224" | "20170240396" | "20180103752" |	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2022/09/21 01:52 PM

		"20180177289" | "20180184797" | "20180206630" | "20180255919").pn. OR ("D854775").urpn. AND (PGPB | USPT | USOC).dbnm.					
L4055	124	("1318564" | "2937003" | "3295800" | "3826457" | "4221280" | "4449262" | "4549720" | "4558648" | "4577821" | "4702454" | "4741512" | "4753419" | "4843978" | "D302893" | "4941641" | "4967672" | "4995130" | "5037163" | "5211367" | "5251864" | "5257767" | "5294087" | "5400720" | "5588377" | "5626323" | "5765797" | "5829948" | "5926876" | "5957426" | "6076785" | "6098961" | "6269753" | "6516478" | "6533229" | "6533479" | "6672430" | "6701853" | "6702372" | "6722618" | "6742768" | "6792876" | "7048236" | "7204193" | "7207629" | "7575205" | "7677518" | "7841570" | "7845665" | "7950338" | "8015638" | "8132518" | "8303062" | "8469152" | "8490933" | "8544391" | "8671853" | "8684339" | "8931750" | "8950343" | "9049923" | "9055810" | "9232855" | "9326598" | "9480332" | "9504316" | "9554644" | "9681746" | "9809136" | "9815672" | "9955780" | "9981571" | "9993068" | "10018298" | "10023355" | "D830739" | "10123613" | "D845037" | "10244861" | "10258148" | "10258149" | "10306977" | "D854775" | "10413055" | "10499730" | "10517390" | "10524565" | "10542817" | "10544019" | "10568416" | "10575630" | "D901959"	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2022/09/21 01:52 PM

		| "10869549" | "10893748" | "20030213415" | "20050120922" | "20070080564" | "20070266912" | "20080000393" | "20090145336" | "20100242174" | "20110001033" | "20120097822" | "20120188302" | "20130193392" | "20140144352" | "20150216296" | "20150289641" | "20160338486" | "20160353880" | "20170071332" | "20170174486" | "20170196351" | "20170354245" | "20180055214" | "20180177289" | "20200029685" | "20200107633").pn. OR ("11134774").urpn. AND (PGPB | USPT | USOC).dbnm.					
L4056	29	("20100198374"|"6062148"|"20140137773"|"20120174833"|"7789025"|"20160127809"|"5884882"|"7077068"|"20080255794"|"20140247155"|"9082239"|"20080255794"|"6595144"|"6831829"|"7780578"|"8947215"|"20130204438"|"6546880"|"7517029"|"20130116092"|"20140096706"|"8485945"|"20140247146"|"5323695"|"8587439"|"8690578"|"20140137773"|"20160128467"|"20130321346"|"20140096706"|"20140247154"|"20160260019").PN.	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2022/09/21 01:52 PM
L4057	27	("10244861"|"20180213929"|"9326598"|"9681746"|"8931750"|"7246784"|"10114352"|"5957426"|"5722513"|"4640488"|"5251864"|"4448386"|"4702454"|"2843418"|"9668572"|"20070001077"|"4753419"|"11083282"	(US-PGPUB; USPAT; USOCR; JPO)	OR	ON	ON	2022/09/21 01:52 PM

		|"20170196351"|"D854775"|"20160249737"|"20120188302"|"10575630").PN.					
L4058	25	("3219338" | "4558648" | "4741512" | "5400720" | "5695173" | "5823120" | "6672430" | "9326598" | "9504316" | "9815672" | "20030154890" | "20050120922" | "20130341984" | "20170174486" | "20170340104").pn. OR ("10258149").urpn. AND (PGPB | USPT | USOC).dbnm.	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2022/09/21 01:52 PM
L4059	76	("226053" | "4403680" | "4515086" | "4926760" | "5632209" | "5829948" | "6038986" | "6112858" | "6286812" | "6397763" | "6585214" | "6679479" | "6705238" | "6857493" | "7677518" | "7950338" | "8015638" | "8424883" | "8469152" | "9055810" | "9133976" | "20040040480" | "20070034125" | "20130145972" | "20150289641").pn. OR ("9504316").urpn. AND (PGPB | USPT | USOC).dbnm.	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2022/09/21 01:52 PM
L4060	406	wilkens.xp. AND bracket AND A47B	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4061	159	wilkens.xp. AND stack$4 AND A47B	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4062	298	wilkens.xp. AND A47B88/$	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU,	OR	ON	ON	2022/09/21 01:52 PM

			SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)				
L4063	16	("1680081" | "1686783" | "1902795" | "1994424" | "3094363" | "3275396" | "3298768" | "4285560").pn. OR ("10888157").urpn. AND (PGPB | USPT | USOC).dbnm.	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2022/09/21 01:52 PM
L4064	43	"3275396"	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4065	60	("2001744" | "2070960" | "2610824" | "3032319" | "3110476" | "3174722" | "3282566" | "3379411" | "3982718" | "4221280" | "4403680" | "4526346" | "4682750" | "4688760" | "4690250" | "4754713" | "4764075" | "4858888" | "4890692" | "4899987" | "4921074" | "5192053" | "5299906" | "5322143" | "5460460" | "5829948" | "6182796" | "6464205" | "6601826" | "6672430" | "6814188" | "7213686" | "20060126966" | "20060279728" | "20070017748" | "20070235266").pn. OR ("8469152").urpn. AND (PGPB | USPT | USOC).dbnm.	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2022/09/21 01:52 PM
L4066	37	("4061237" | "4249749" | "4288195" | "4504041" | "4613272" | "4979592" | "5018931" | "6394419" | "6431319" | "6679479" | "8015638" | "8469152" | "8888070" | "9422141" | "9463966" | "9540220" | "20030075657" | "20050042068" | "20110262261" | "20140014886" | "20140027693" | "20150028787" | "20150298949").pn. OR	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2022/09/21 01:52 PM

		("9815672").urpn. AND (PGPB | USPT | USOC).dbnm.					
L4067	56	("1453406" | "1581874" | "2013542" | "2563060" | "2928558" | "3094948" | "3203670" | "3282566" | "4531720" | "4577821" | "4685731" | "4705438" | "4723769" | "4760997" | "4767109" | "4796029").pn. OR ("5400720").urpn. AND (PGPB | USPT | USOC).dbnm.	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2022/09/21 01:52 PM
L4068	47	"5861051"	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4069	1	"58-61051"	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4070	38	"102013008020"	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4071	870	A47B1/03.cpc.	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4072	17703	A47B21/0314,00,02,03.cpc.	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4073	1350	A47B21/0314,00,02,03.	(US-PGPUB; USPAT;	OR	ON	ON	2022/09/21

		cpc. AND ((pnuematic OR gas) ADJ spring OR actuator)	USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)				01:52 PM
L4074	162	("3140894"|"4926760"|"5588377"|"7640869"|"9113703"|"9615655"|"20160120300"|"6974185"|"9161616"|"5649493"|"8544391"|"9055810"|"9480332"|"9554644"|"20160249737"|"2531856"|"3494662"|"8016305"|"9644378"|"9681746"|"2922685"|"9326598"|"9625929"|"3161161"|"8936306").PN.	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4075	88	("2156148"|"20040040480"|"20080203865"|"20130139736"|"20140041554"|"20150216296"|"20150289641"|"20160286951"|"20160338486"|"3245366"|"4691888"|"5588377"|"8544391"|"9326598"|"9480332"|"9504316").PN.	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4076	1313	312/208.1,223.3.ccls.	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4077	0	248/421,562,588, "585,431,432,439".cpc.	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4078	0	248/421,562,588,585,431,432,439.cpc.	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4079	3921	248/421,562,588,585,431,432,439.ccls.	(US-PGPUB; USPAT; USOCR; FIT (AU, AP,	OR	ON	ON	2022/09/21 01:52 PM

			AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)				
L4080	2881	248/421,562,588,585.ccls.	(US-PGPUB; USPAT; USOCR; FIT (AP, AT, AU, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4081	1060	248/431,432,439.ccls.	(US-PGPUB; USPAT; USOCR; FIT (AP, AT, AU, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4082	3035	108/147,144.11,145,93.ccls.	(US-PGPUB; USPAT; USOCR; FIT (AP, AT, AU, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4083	1049	108/96,116.ccls.	(US-PGPUB; USPAT; USOCR; FIT (AP, AT, AU, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4084	3238	108/118,120,43,138,50.01,50.02.ccls.	(US-PGPUB; USPAT; USOCR; FIT (AP, AT, AU, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4085	1877	108/118,120,43,138.ccls.	(US-PGPUB; USPAT; USOCR; FIT (AP, AT, AU, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4086	1396	108/50.01,50.02.ccls.	(US-PGPUB; USPAT; USOCR; FIT (AP, AT,	OR	ON	ON	2022/09/21 01:52 PM

			AU, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)				
L4087	550	("7841570"|"8684339"|"5037163"|"10258148"|"8469152"|"9815672"|"10869549"|"10893748"|"20170071332"|"4843978"|"9681746"|"9809136"|"D830739"|"D854775"|"D901959"|"8671853"|"9504316"|"20040040480"|"20050120922"|"20180055214"|"6672430"|"8015638"|"9681746"|"10258148"|"10306977"|"1318564"|"20030213415"|"20050120922"|"20080000393"|"20170354245"|"20200107633"|"4558648"|"4702454"|"5829948"|"6701853"|"8015638"|"D302893"|"10244861"|"7575205"|"10542817"|"20160353880"|"5211367"|"10893748"|"4995130"|"9504316"|"D830739"|"10544019"|"10575630"|"4221280"|"4449262"|"4549720"|"5251864"|"6269753"|"6516478"|"6792876"|"7207629"|"10524565"|"4753419"|"4941641"|"8303062"|"8544391"|"9480332"|"9554644"|"20160309889"|"5257767"|"20150289641"|"20180103752"|"10023355"|"20070080564"|"20150289641"|"2937003"|"4995130"|"5400720"|"5626323"|"5926876"|"6533229"|"6702372"|"6722618"|"6742768"|"9055810"|"7845665"|"4967672"|"20100242174"|"9049923"|"10413055"|"20070266912"|"20200029685"|"3295800"|"4741512"|"5294087"|"5957426"|"7048236"|"8490933"|"8950343"|"9232855"|"9993068"|"9326598"|"D854775"|"10123613"|"10258149"|"2014	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM

		0144352"|"2015021629 6"|"6076785"|"6098961" |"9815672"|"9955780"|" 20180177289"|"767751 8"|"8931750"|"1049973 0"|"20160051042"|"607 6785"|"4741512"|"2009 0145336"|"2016033848 6"|"7204193"|"7950338" |"8132518"|"200700010 77"|"5400720"|"D30289 3"|"10517390"|"105684 16"|"20120097822"|"20 130193392"|"20170196 351"|"3826457"|"45778 21"|"5588377"|"576579 7"|"6533479"|"6672430" |"8469152"|"10018298"| "9981571").PN.					
L4088	25	("3282566" | "4273306" | "5400720" | "5632209" | "5649493" | "9326598" | "20130340655" | "20140360414" | "20150289641" | "20180055214").pn. OR ("10517390").urpn. AND (PGPB | USPT | USOC).dbnm.	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2022/09/21 01:52 PM
L4089	56	("1453406" | "1581874" | "2013542" | "2563060" | "2928558" | "3094948" | "3203670" | "3282566" | "4531720" | "4577821" | "4685731" | "4705438" | "4723769" | "4760997" | "4767109" | "4796029").pn. OR ("5400720").urpn. AND (PGPB | USPT | USOC).dbnm.	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2022/09/21 01:52 PM
L4090	25	("3219338" | "4558648" | "4741512" | "5400720" | "5695173" | "5823120" | "6672430" | "9326598" | "9504316" | "9815672" | "20030154890" | "20050120922" | "20130341984" | "20170174486" | "20170340104").pn. OR ("10258149").urpn. AND (PGPB | USPT | USOC).dbnm.	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2022/09/21 01:52 PM
L4091	76	("226053" | "4403680" | "4515086" | "4926760" | "5632209" | "5829948" |	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2022/09/21 01:52 PM

		"6038986" | "6112858" | "6286812" | "6397763" | "6585214" | "6679479" | "6705238" | "6857493" | "7677518" | "7950338" | "8015638" | "8424883" | "8469152" | "9055810" | "9133976" | "20040040480" | "20070034125" | "20130145972" | "20150289641").pn. OR ("9504316").urpn. AND (PGPB | USPT | USOC).dbnm.					
L4092	56	("D166377" | "D280478" | "D304112" | "D352845" | "D371687" | "D395969" | "D415910" | "D424828" | "D435368" | "D435986" | "D436268" | "D464212" | "D530939" | "D612643" | "D644046" | "D671338" | "D681979" | "D694044" | "D716074" | "D733476" | "D734413" | "D771981" | "D771982" | "9504316" | "D781617" | "D781618" | "D781619" | "D784050" | "20080178779" | "20130139736" | "20150096472" | "20160106205" | "20160278515" | "20170105518" | "20170196351" | "20170290413" | "20170354245").pn. OR ("D830739").urpn. AND (PGPB | USPT | USOC).dbnm.	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2022/09/21 01:52 PM
L4093	50	("3472183" | "3820631" | "4488326" | "4741512" | "4995130" | "5113972" | "D346254" | "D375602" | "5588377" | "D378155" | "5833198" | "6651775" | "6814188" | "D640030" | "D640440" | "8015638" | "D771982" | "9615655" | "D814736" | "9961991" | "D825131" | "D827241" |	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2022/09/21 01:52 PM

		"D830739" | "D832623" | "20120034055" | "20130139736" | "20140014886" | "20140027693" | "20150159803" | "20150289641" | "20170049224" | "20170240396" | "20180103752" | "20180177289" | "20180184797" | "20180206630" | "20180255919").pn. OR ("D854775").urpn. AND (PGPB | USPT | USOC).dbnm.					
L4094	2518	A47B9/16.cpc.	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4095	2081	A47B2021/0321,0364.cpc.	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4096	10819	(A47B3/00 OR A47B61/00).cpc.	(US-PGPUB; USPAT; USOCR; FIT (AP, AT, AU, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4097	182	(A47B3/00 OR A47B61/00).cpc. AND ((pnuematic OR gas) ADJ spring OR actuator)	(US-PGPUB; USPAT; USOCR; FIT (AP, AT, AU, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4098	3649	A47B3/02,0809,0815.cpc.	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT;	OR	ON	ON	2022/09/21 01:52 PM

			IBM_TDB)				
L4099	1712	A47B3/0809,0815.cpc.	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4100	513	(A47B3/02 AND A47B2003/025).cpc.	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4101	1267876	(desk$4 OR table$4) AND ((pnuematic OR gas) ADJ spring OR actuator)	(US-PGPUB; USPAT; USOCR; FIT (AP, AT, AU, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4102	5666298	(desk$4 OR table$4) AND (X OR cross) ADJ (member OR arm)((pnuematic OR gas) ADJ spring OR actuator)	(US-PGPUB; USPAT; USOCR; FIT (AP, AT, AU, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4103	3703	(desk$4 OR table$4) AND (X OR cross) ADJ (member OR arm) SAME ((pnuematic OR gas) ADJ spring OR actuator)	(US-PGPUB; USPAT; USOCR; FIT (AP, AT, AU, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4104	869	(desk$4 OR table$4) SAME (X OR cross) ADJ (member OR arm) SAME ((pnuematic OR gas) ADJ spring OR actuator)	(US-PGPUB; USPAT; USOCR; FIT (AP, AT, AU, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4105	91	(desk$4 OR table$4) SAME (X OR cross) ADJ (member OR arm) SAME ((pnuematic OR gas) ADJ (spring OR actuator))	(US-PGPUB; USPAT; USOCR; FIT (AP, AT, AU, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO;	OR	ON	ON	2022/09/21 01:52 PM

			JPO; DERWENT; IBM_TDB)				
L4106	305	(desk$4 OR table$4) AND (X OR cross) ADJ (member OR arm) SAME ((pnuematic OR gas) ADJ (spring OR actuator))	(US-PGPUB; USPAT; USOCR; FIT (AP, AT, AU, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4107	56	"9815672"	(US-PGPUB; USPAT; USOCR; FIT (AP, AT, AU, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4108	202	("7841570"|"8684339"|"5037163"|"10258148"|"8469152"|"9815672"|"10869549"|"10893748"|"20170071332"|"4843978"|"9681746"|"9809136"|"D830739"|"D854775"|"D901959"|"8671853"|"9504316"|"20040040480"|"20050120922"|"20180055214"|"6672430"|"8015638"|"9681746"|"10258148"|"10306977"|"1318564"|"20030213415"|"20050120922"|"20080000393"|"20170354245"|"20200107633"|"4558648"|"4702454"|"5829948"|"6701853"|"8015638"|"D302893"|"10244861"|"7575205"|"10542817"|"20160353880"|"5211367"|"10893748"|"4995130"|"9504316"|"D830739"|"10544019"|"10575630"|"4221280"|"4449262"|"4549720"|"5251864"|"6269753"|"6516478"|"6792876"|"7207629"|"10524565"|"4753419"|"4941641"|"8303062"|"8544391"|"9480332"|"9554644"|"20160309889"|"5257767"|"20150289641"|"10023355"|"20070080564"|"20150289641"|"2937003"|"4995130"|"5400720"|"5626323"|"5926	(US-PGPUB; USPAT; USOCR; FIT (AP, AT, AU, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO))	OR	ON	ON	2022/09/21 01:52 PM

		876"|"6533229"|"6702372"|"6722618"|"6742768"|"9055810"|"7845665"|"4967672"|"20100242174"|"9049923"|"10413055"|"20070266912"|"20200029685"|"3295800"|"4741512"|"5294087"|"5957426"|"7048236"|"8490933"|"8950343"|"9232855"|"9993068"|"9326598"|"D854775"|"10123613"|"10258149"|"20140144352"|"20150216296"|"6076785"|"6098961"|"9815672"|"9955780"|"20180177289"|"7677518"|"8931750"|"10499730"|"20160051042"|"6076785"|"4741512"|"20090145336"|"20160338486"|"7204193"|"7950338"|"8132518"|"20070001077"|"5400720"|"D302893"|"10517390"|"10568416"|"20120097822"|"20130193392"|"20170196351"|"3826457"|"4577821"|"5588377"|"5765797"|"6533479"|"6672430"|"8469152"|"10018298"|"9981571").PN.					
L4109	67	"5400720"	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4110	84	"4577821"	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4111	24	(Artificial Intelligence) More like doc: US-D854775-S Text: (WO-0068597-A1 OR DE-4336662-A1 OR US-5694864-A OR AT-149474-T OR US-D378155-S OR US-	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, BE, BG, BR, BY, CA, CH, CN, CS, CU, CZ, DD, DE, DK, EA, EE, EP, ES, FI, FR, GB, HR, HU, ID, IE, IL, IS, IT, JP, KR, LT, LU, LV, MA, OA, RU, SU, WO,	OR	ON	ON	2022/09/21 01:52 PM

		D375602-S OR US-D346254-S OR US-D825131-S OR US-D814736-S OR US-D640440-S OR US-D837970-S OR TW-201522199-A OR TW-I531523-B OR US-20100012909-A1 OR US-D794629-S OR US-D834861-S OR US-D927102-S OR US-D706344-S OR US-D815832-S OR US-D775524-S).did.	MC, MD, MY, NL, NO, NZ, PH, PL, PT, RO, RS, SE, SG, SI, SK, TH, TN, TR, TW, UA, VN); FPRS; EPO; JPO; DERWENT; IBM_TDB)				
L4112	50	("3472183" | "3820631" | "4488326" | "4741512" | "4995130" | "5113972" | "D346254" | "D375602" | "5588377" | "D378155" | "5833198" | "6651775" | "6814188" | "D640030" | "D640440" | "8015638" | "D771982" | "9615655" | "D814736" | "9961991" | "D825131" | "D827241" | "D830739" | "D832623" | "20120034055" | "20130139736" | "20140014886" | "20140027693" | "20150159803" | "20150289641" | "20170049224" | "20170240396" | "20180103752" | "20180177289" | "20180184797" | "20180206630" | "20180255919").pn. OR ("D854775").urpn. AND (PGPB | USPT | USOC).dbnm.	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2022/09/21 01:52 PM
L4113	124	("1318564" | "2937003" | "3295800" | "3826457" | "4221280" | "4449262" | "4549720" | "4558648" | "4577821" | "4702454" | "4741512" | "4753419" | "4843978" | "D302893" | "4941641" | "4967672" | "4995130" | "5037163" | "5211367" | "5251864" | "5257767" | "5294087" | "5400720" | "5588377" | "5626323" | "5765797"	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2022/09/21 01:52 PM

		| "5829948" | "5926876" | "5957426" | "6076785" | "6098961" | "6269753" | "6516478" | "6533229" | "6533479" | "6672430" | "6701853" | "6702372" | "6722618" | "6742768" | "6792876" | "7048236" | "7204193" | "7207629" | "7575205" | "7677518" | "7841570" | "7845665" | "7950338" | "8015638" | "8132518" | "8303062" | "8469152" | "8490933" | "8544391" | "8671853" | "8684339" | "8931750" | "8950343" | "9049923" | "9055810" | "9232855" | "9326598" | "9480332" | "9504316" | "9554644" | "9681746" | "9809136" | "9815672" | "9955780" | "9981571" | "9993068" | "10018298" | "10023355" | "D830739" | "10123613" | "D845037" | "10244861" | "10258148" | "10258149" | "10306977" | "D854775" | "10413055" | "10499730" | "10517390" | "10524565" | "10542817" | "10544019" | "10568416" | "10575630" | "D901959" | "10869549" | "10893748" | "20030213415" | "20050120922" | "20070080564" | "20070266912" | "20080000393" | "20090145336" | "20100242174" | "20110001033" | "20120097822" | "20120188302" | "20130193392" | "20140144352" | "20150216296" | "20150289641" | "20160338486" | "20160353880" | "20170071332" | "20170174486" |				

		"20170196351" | "20170354245" | "20180055214" | "20180177289" | "20200029685" | "20200107633").pn. OR ("11134774").urpn. AND (PGPB | USPT | USOC).dbnm.					
L4114	29	("20100198374"|"6062148"|"20140137773"|"20120174833"|"7789025"|"20160127809"|"5884882"|"7077068"|"20080255794"|"20140247155"|"9082239"|"20080255794"|"6595144"|"6831829"|"7780578"|"8947215"|"20130204438"|"6546880"|"7517029"|"20130116092"|"20140096706"|"8485945"|"20140247146"|"5323695"|"8587439"|"8690578"|"20140137773"|"20160128467"|"20130321346"|"20140096706"|"20140247154"|"20160260019").PN.	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2022/09/21 01:52 PM
L4115	27	("10244861"|"20180213929"|"9326598"|"9681746"|"8931750"|"7246784"|"10114352"|"5957426"|"5722513"|"4640488"|"5251864"|"4448386"|"4702454"|"2843418"|"9668572"|"20070001077"|"4753419"|"11083282"|"20170196351"|"D854775"|"20160249737"|"20120188302"|"10575630").PN.	(US-PGPUB; USPAT; USOCR; JPO)	OR	ON	ON	2022/09/21 01:52 PM
L4116	25	("3219338" | "4558648" | "4741512" | "5400720" | "5695173" | "5823120" | "6672430" | "9326598" | "9504316" | "9815672" | "20030154890" | "20050120922" | "20130341984" | "20170174486" | "20170340104").pn. OR ("10258149").urpn. AND (PGPB | USPT | USOC).dbnm.	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2022/09/21 01:52 PM
L4117	76	("226053" | "4403680" | "4515086" | "4926760" | "5632209" | "5829948" |	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2022/09/21 01:52 PM

		"6038986" | "6112858" | "6286812" | "6397763" | "6585214" | "6679479" | "6705238" | "6857493" | "7677518" | "7950338" | "8015638" | "8424883" | "8469152" | "9055810" | "9133976" | "20040040480" | "20070034125" | "20130145972" | "20150289641").pn. OR ("9504316").urpn. AND (PGPB | USPT | USOC).dbnm.					
L4118	406	wilkens.xp. AND bracket AND A47B	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4119	159	wilkens.xp. AND stack$4 AND A47B	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4120	298	wilkens.xp. AND A47B88/$	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4121	16	("1680081" | "1686783" | "1902795" | "1994424" | "3094363" | "3275396" | "3298768" | "4285560").pn. OR ("10888157").urpn. AND (PGPB | USPT | USOC).dbnm.	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2022/09/21 01:52 PM
L4122	43	"3275396"	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4123	60	("2001744" | "2070960"	(US-PGPUB; USPAT;	OR	ON	ON	2022/09/21

		| "2610824" | "3032319" | "3110476" | "3174722" | "3282566" | "3379411" | "3982718" | "4221280" | "4403680" | "4526346" | "4682750" | "4688760" | "4690250" | "4754713" | "4764075" | "4858888" | "4890692" | "4899987" | "4921074" | "5192053" | "5299906" | "5322143" | "5460460" | "5829948" | "6182796" | "6464205" | "6601826" | "6672430" | "6814188" | "7213686" | "20060126966" | "20060279728" | "20070017748" | "20070235266").pn. OR ("8469152").urpn. AND (PGPB | USPT | USOC).dbnm.	USOCR)				01:52 PM
L4124	37	("4061237" | "4249749" | "4288195" | "4504041" | "4613272" | "4979592" | "5018931" | "6394419" | "6431319" | "6679479" | "8015638" | "8469152" | "8888070" | "9422141" | "9463966" | "9540220" | "20030075657" | "20050042068" | "20110262261" | "20140014886" | "20140027693" | "20150028787" | "20150298949").pn. OR ("9815672").urpn. AND (PGPB | USPT | USOC).dbnm.	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2022/09/21 01:52 PM
L4125	56	("1453406" | "1581874" | "2013542" | "2563060" | "2928558" | "3094948" | "3203670" | "3282566" | "4531720" | "4577821" | "4685731" | "4705438" | "4723769" | "4760997" | "4767109" | "4796029").pn. OR ("5400720").urpn. AND (PGPB | USPT | USOC).dbnm.	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2022/09/21 01:52 PM
L4126	47	"5861051"	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU,	OR	ON	ON	2022/09/21 01:52 PM

			SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)				
L4127	1	"58-61051"	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4128	38	"102013008020"	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4129	5	"20190116976"	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4130	10	"20200003258"	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4131	2	"20210214986"	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4132	41	"4741512"	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4133	139	"7677518"	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU,	OR	ON	ON	2022/09/21 01:52 PM

			SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)				
L4134	870	A47B1/03.cpc.	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4135	17703	A47B21/0314,00,02,03.cpc.	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4136	1350	A47B21/0314,00,02,03.cpc. AND ((pnuematic OR gas) ADJ spring OR actuator)	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4137	162	("3140894"|"4926760"|"5588377"|"7640869"|"9113703"|"9615655"|"20160120300"|"6974185"|"9161616"|"5649493"|"8544391"|"9055810"|"9480332"|"9554644"|"20160249737"|"2531856"|"3494662"|"8016305"|"9644378"|"9681746"|"2922685"|"9326598"|"9625929"|"3161161"|"8936306").PN.	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4138	88	("2156148"|"20040040480"|"20080203865"|"20130139736"|"20140041554"|"20150216296"|"20150289641"|"20160286951"|"20160338486"|"3245366"|"4691888"|"5588377"|"8544391"|"9326598"|"9480332"|"9504316").PN.	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4139	1313	312/208.1,223.3.ccls.	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO;	OR	ON	ON	2022/09/21 01:52 PM

			JPO; DERWENT; IBM_TDB)				
L4140	0	248/421,562,588, "585,431,432,439".cpc.	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4141	0	248/421,562,588,585,431,432,439.cpc.	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4142	3921	248/421,562,588,585,431,432,439.ccls.	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4143	2881	248/421,562,588,585.ccls.	(US-PGPUB; USPAT; USOCR; FIT (AP, AT, AU, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4144	1060	248/431,432,439.ccls.	(US-PGPUB; USPAT; USOCR; FIT (AP, AT, AU, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4145	3035	108/147,144.11,145,93.ccls.	(US-PGPUB; USPAT; USOCR; FIT (AP, AT, AU, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4146	1049	108/96,116.ccls.	(US-PGPUB; USPAT; USOCR; FIT (AP, AT, AU, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO;	OR	ON	ON	2022/09/21 01:52 PM

			JPO; DERWENT; IBM_TDB)				
L4147	3238	108/118,120,43,138,50.01,50.02.ccls.	(US-PGPUB; USPAT; USOCR; FIT (AP, AT, AU, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4148	1877	108/118,120,43,138.ccls.	(US-PGPUB; USPAT; USOCR; FIT (AP, AT, AU, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4149	1396	108/50.01,50.02.ccls.	(US-PGPUB; USPAT; USOCR; FIT (AP, AT, AU, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4150	550	("7841570"|"8684339"|"5037163"|"10258148"|"8469152"|"9815672"|"10869549"|"10893748"|"20170071332"|"4843978"|"9681746"|"9809136"|"D830739"|"D854775"|"D901959"|"8671853"|"9504316"|"20040040480"|"20050120922"|"20180055214"|"6672430"|"8015638"|"9681746"|"10258148"|"10306977"|"1318564"|"20030213415"|"20050120922"|"20080000393"|"20170354245"|"20200107633"|"4558648"|"4702454"|"5829948"|"6701853"|"8015638"|"D302893"|"10244861"|"7575205"|"10542817"|"20160353880"|"5211367"|"10893748"|"4995130"|"9504316"|"D830739"|"10544019"|"10575630"|"4221280"|"4449262"|"4549720"|"5251864"|"6269753"|"6516478"|"6792876"|"7207629"|"10524565"|"4753419"|"4941641"|"8303062"	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM

		|"8544391"|"9480332"|"9554644"|"20160309889"|"5257767"|"20150289641"|"20180103752"|"10023355"|"20070080564"|"20150289641"|"2937003"|"4995130"|"5400720"|"5626323"|"5926876"|"6533229"|"6702372"|"6722618"|"6742768"|"9055810"|"7845665"|"4967672"|"20100242174"|"9049923"|"10413055"|"20070266912"|"20200029685"|"3295800"|"4741512"|"5294087"|"5957426"|"7048236"|"8490933"|"8950343"|"9232855"|"9993068"|"9326598"|"D854775"|"10123613"|"10258149"|"20140144352"|"20150216296"|"6076785"|"6098961"|"9815672"|"9955780"|"20180177289"|"7677518"|"8931750"|"10499730"|"20160051042"|"6076785"|"4741512"|"20090145336"|"20160338486"|"7204193"|"7950338"|"8132518"|"20070001077"|"5400720"|"D302893"|"10517390"|"10568416"|"20120097822"|"20130193392"|"20170196351"|"3826457"|"4577821"|"5588377"|"5765797"|"6533479"|"6672430"|"8469152"|"10018298"|"9981571").PN.				
L4151	25	("3282566" | "4273306" | "5400720" | "5632209" | "5649493" | "9326598" | "20130340655" | "20140360414" | "20150289641" | "20180055214").pn. OR ("10517390").urpn. AND (PGPB | USPT | USOC).dbnm.	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2022/09/21 01:52 PM
L4152	56	("1453406" | "1581874" | "2013542" | "2563060" | "2928558" | "3094948" | "3203670" | "3282566" | "4531720" | "4577821" | "4685731" | "4705438" | "4723769" | "4760997"	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2022/09/21 01:52 PM

		| "4767109" | "4796029").pn. OR ("5400720").urpn. AND (PGPB | USPT | USOC).dbnm.					
L4153	25	("3219338" | "4558648" | "4741512" | "5400720" | "5695173" | "5823120" | "6672430" | "9326598" | "9504316" | "9815672" | "20030154890" | "20050120922" | "20130341984" | "20170174486" | "20170340104").pn. OR ("10258149").urpn. AND (PGPB | USPT | USOC).dbnm.	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2022/09/21 01:52 PM
L4154	76	("226053" | "4403680" | "4515086" | "4926760" | "5632209" | "5829948" | "6038986" | "6112858" | "6286812" | "6397763" | "6585214" | "6679479" | "6705238" | "6857493" | "7677518" | "7950338" | "8015638" | "8424883" | "8469152" | "9055810" | "9133976" | "20040040480" | "20070034125" | "20130145972" | "20150289641").pn. OR ("9504316").urpn. AND (PGPB | USPT | USOC).dbnm.	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2022/09/21 01:52 PM
L4155	56	("D166377" | "D280478" | "D304112" | "D352845" | "D371687" | "D395969" | "D415910" | "D424828" | "D435368" | "D435986" | "D436268" | "D464212" | "D530939" | "D612643" | "D644046" | "D671338" | "D681979" | "D694044" | "D716074" | "D733476" | "D734413" | "D771981" | "D771982" | "9504316" | "D781617" | "D781618" | "D781619" | "D784050" | "20080178779" | "20130139736" | "20150096472" |	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2022/09/21 01:52 PM

		"20160106205" | "20160278515" | "20170105518" | "20170196351" | "20170290413" | "20170354245").pn. OR ("D830739").urpn. AND (PGPB | USPT | USOC).dbnm.					
L4156	50	("3472183" | "3820631" | "4488326" | "4741512" | "4995130" | "5113972" | "D346254" | "D375602" | "5588377" | "D378155" | "5833198" | "6651775" | "6814188" | "D640030" | "D640440" | "8015638" | "D771982" | "9615655" | "D814736" | "9961991" | "D825131" | "D827241" | "D830739" | "D832623" | "20120034055" | "20130139736" | "20140014886" | "20140027693" | "20150159803" | "20150289641" | "20170049224" | "20170240396" | "20180103752" | "20180177289" | "20180184797" | "20180206630" | "20180255919").pn. OR ("D854775").urpn. AND (PGPB | USPT | USOC).dbnm.	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2022/09/21 01:52 PM
L4157	2518	A47B9/16.cpc.	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4158	2081	A47B2021/0321,0364.cpc.	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4159	10819	(A47B3/00 OR A47B61/00).cpc.	(US-PGPUB; USPAT; USOCR; FIT (AP, AT, AU, CA, CH, CN, DD,	OR	ON	ON	2022/09/21 01:52 PM

			DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)				
L4160	182	(A47B3/00 OR A47B61/00).cpc. AND ((pnuematic OR gas) ADJ spring OR actuator)	(US-PGPUB; USPAT; USOCR; FIT (AP, AT, AU, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4161	3649	A47B3/02,0809,0815.cpc.	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4162	1712	A47B3/0809,0815.cpc.	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4163	513	(A47B3/02 AND A47B2003/025).cpc.	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4164	1267876	(desk$4 OR table$4) AND ((pnuematic OR gas) ADJ spring OR actuator)	(US-PGPUB; USPAT; USOCR; FIT (AP, AT, AU, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4165	5666298	(desk$4 OR table$4) AND (X OR cross) ADJ (member OR arm)((pnuematic OR gas) ADJ spring OR actuator)	(US-PGPUB; USPAT; USOCR; FIT (AP, AT, AU, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4166	3703	(desk$4 OR table$4) AND (X OR cross) ADJ (member OR arm)	(US-PGPUB; USPAT; USOCR; FIT (AP, AT, AU, CA, CH, CN, DD,	OR	ON	ON	2022/09/21 01:52 PM

		SAME ((pnuematic OR gas) ADJ spring OR actuator)	DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)				
L4167	869	(desk$4 OR table$4) SAME (X OR cross) ADJ (member OR arm) SAME ((pnuematic OR gas) ADJ spring OR actuator)	(US-PGPUB; USPAT; USOCR; FIT (AP, AT, AU, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4168	91	(desk$4 OR table$4) SAME (X OR cross) ADJ (member OR arm) SAME ((pnuematic OR gas) ADJ (spring OR actuator))	(US-PGPUB; USPAT; USOCR; FIT (AP, AT, AU, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4169	305	(desk$4 OR table$4) AND (X OR cross) ADJ (member OR arm) SAME ((pnuematic OR gas) ADJ (spring OR actuator))	(US-PGPUB; USPAT; USOCR; FIT (AP, AT, AU, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4170	56	"9815672"	(US-PGPUB; USPAT; USOCR; FIT (AP, AT, AU, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4171	202	("7841570"|"8684339"|"5037163"|"10258148"|"8469152"|"9815672"|"10869549"|"10893748"|"20170071332"|"4843978"|"9681746"|"9809136"|"D830739"|"D854775"|"D901959"|"8671853"|"9504316"|"20040040480"|"20050120922"|"20180055214"|"6672430"|"8015638"|"9681746"|"10258148"|"10306977"|"1318564"|"20030213415"|"20050120922"|"20080000393"|"20170354245"|"20200107633"|"4558648"|"4702454"|"5829948"|"6701853"|"80156	(US-PGPUB; USPAT; USOCR; FIT (AP, AT, AU, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO))	OR	ON	ON	2022/09/21 01:52 PM

		38"|"D302893"|"102448 61"|"7575205"|"105428 17"|"20160353880"|"52 11367"|"10893748"|"49 95130"|"9504316"|"D83 0739"|"10544019"|"105 75630"|"4221280"|"444 9262"|"4549720"|"5251 864"|"6269753"|"65164 78"|"6792876"|"720762 9"|"10524565"|"475341 9"|"4941641"|"8303062" |"8544391"|"9480332"|" 9554644"|"2016030988 9"|"5257767"|"2015028 9641"|"20180103752"|" 10023355"|"200700805 64"|"20150289641"|"29 37003"|"4995130"|"540 0720"|"5626323"|"5926 876"|"6533229"|"67023 72"|"6722618"|"674276 8"|"9055810"|"7845665" |"4967672"|"201002421 74"|"9049923"|"104130 55"|"20070266912"|"20 200029685"|"3295800"| "4741512"|"5294087"|"5 957426"|"7048236"|"84 90933"|"8950343"|"923 2855"|"9993068"|"9326 598"|"D854775"|"10123 613"|"10258149"|"2014 0144352"|"2015021629 6"|"6076785"|"6098961" |"9815672"|"9955780"|" 20180177289"|"767751 8"|"8931750"|"1049973 0"|"20160051042"|"607 6785"|"4741512"|"2009 0145336"|"2016033848 6"|"7204193"|"7950338" |"8132518"|"200700010 77"|"5400720"|"D30289 3"|"10517390"|"105684 16"|"20120097822"|"20 130193392"|"20170196 351"|"3826457"|"45778 21"|"5588377"|"576579 7"|"6533479"|"6672430" |"8469152"|"10018298"| "9981571").PN.				
L4172	67	"5400720"	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO;	OR	ON	ON	2022/09/21 01:52 PM

			JPO; DERWENT; IBM_TDB)				
L4173	84	"4577821"	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4174	24	(Artificial Intelligence) More like doc: US-D854775-S Text: (WO-0068597-A1 OR DE-4336662-A1 OR US-5694864-A OR AT-149474-T OR US-D378155-S OR US-D375602-S OR US-D346254-S OR US-D825131-S OR US-D814736-S OR US-D640440-S OR US-D837970-S OR TW-201522199-A OR TW-I531523-B OR US-20100012909-A1 OR US-D794629-S OR US-D834861-S OR US-D927102-S OR US-D706344-S OR US-D815832-S OR US-D775524-S).did.	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, BE, BG, BR, BY, CA, CH, CN, CS, CU, CZ, DD, DE, DK, EA, EE, EP, ES, FI, FR, GB, HR, HU, ID, IE, IL, IS, IT, JP, KR, LT, LU, LV, MA, OA, RU, SU, WO, MC, MD, MY, NL, NO, NZ, PH, PL, PT, RO, RS, SE, SG, SI, SK, TH, TN, TR, TW, UA, VN); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4175	50	("3472183" | "3820631" | "4488326" | "4741512" | "4995130" | "5113972" | "D346254" | "D375602" | "5588377" | "D378155" | "5833198" | "6651775" | "6814188" | "D640030" | "D640440" | "8015638" | "D771982" | "9615655" | "D814736" | "9961991" | "D825131" | "D827241" | "D830739" | "D832623" | "20120034055" | "20130139736" | "20140014886" | "20140027693" | "20150159803" | "20150289641" | "20170049224" | "20170240396" | "20180103752" | "20180177289" |	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2022/09/21 01:52 PM

		"20180184797" | "20180206630" | "20180255919").pn. OR ("D854775").urpn. AND (PGPB | USPT | USOC).dbnm.					
L4176	124	("1318564" | "2937003" | "3295800" | "3826457" | "4221280" | "4449262" | "4549720" | "4558648" | "4577821" | "4702454" | "4741512" | "4753419" | "4843978" | "D302893" | "4941641" | "4967672" | "4995130" | "5037163" | "5211367" | "5251864" | "5257767" | "5294087" | "5400720" | "5588377" | "5626323" | "5765797" | "5829948" | "5926876" | "5957426" | "6076785" | "6098961" | "6269753" | "6516478" | "6533229" | "6533479" | "6672430" | "6701853" | "6702372" | "6722618" | "6742768" | "6792876" | "7048236" | "7204193" | "7207629" | "7575205" | "7677518" | "7841570" | "7845665" | "7950338" | "8015638" | "8132518" | "8303062" | "8469152" | "8490933" | "8544391" | "8671853" | "8684339" | "8931750" | "8950343" | "9049923" | "9055810" | "9232855" | "9326598" | "9480332" | "9504316" | "9554644" | "9681746" | "9809136" | "9815672" | "9955780" | "9981571" | "9993068" | "10018298" | "10023355" | "D830739" | "10123613" | "D845037" | "10244861" | "10258148" | "10258149" | "10306977" | "D854775" | "10413055" | "10499730" | "10517390" | "10524565" | "10542817" | "10544019" | "10568416" | "10575630" | "D901959" | "10869549" |	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2022/09/21 01:52 PM

		"10893748" | "20030213415" | "20050120922" | "20070080564" | "20070266912" | "20080000393" | "20090145336" | "20100242174" | "20110001033" | "20120097822" | "20120188302" | "20130193392" | "20140144352" | "20150216296" | "20150289641" | "20160338486" | "20160353880" | "20170071332" | "20170174486" | "20170196351" | "20170354245" | "20180055214" | "20180177289" | "20200029685" | "20200107633").pn. OR ("11134774").urpn. AND (PGPB | USPT | USOC).dbnm.					
L4177	29	("20100198374"|"6062148"|"20140137773"|"20120174833"|"7789025"|"20160127809"|"5884882"|"7077068"|"20080255794"|"20140247155"|"9082239"|"20080255794"|"6595144"|"6831829"|"7780578"|"8947215"|"20130204438"|"6546880"|"7517029"|"20130116092"|"20140096706"|"8485945"|"20140247146"|"5323695"|"8587439"|"8690578"|"20140137773"|"20160128467"|"20130321346"|"20140096706"|"20140247154"|"20160260019").PN.	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2022/09/21 01:52 PM
L4178	27	("10244861"|"20180213929"|"9326598"|"9681746"|"8931750"|"7246784"|"10114352"|"5957426"|"5722513"|"4640488"|"5251864"|"4448386"|"4702454"|"2843418"|"9668572"|"20070001077"|"4753419"|"11083282"|"20170196351"|"D8547	(US-PGPUB; USPAT; USOCR; JPO)	OR	ON	ON	2022/09/21 01:52 PM

		75"|"20160249737"|"20120188302"|"10575630").PN.					
L4179	25	("3219338" | "4558648" | "4741512" | "5400720" | "5695173" | "5823120" | "6672430" | "9326598" | "9504316" | "9815672" | "20030154890" | "20050120922" | "20130341984" | "20170174486" | "20170340104").pn. OR ("10258149").urpn. AND (PGPB | USPT | USOC).dbnm.	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2022/09/21 01:52 PM
L4180	76	("226053" | "4403680" | "4515086" | "4926760" | "5632209" | "5829948" | "6038986" | "6112858" | "6286812" | "6397763" | "6585214" | "6679479" | "6705238" | "6857493" | "7677518" | "7950338" | "8015638" | "8424883" | "8469152" | "9055810" | "9133976" | "20040040480" | "20070034125" | "20130145972" | "20150289641").pn. OR ("9504316").urpn. AND (PGPB | USPT | USOC).dbnm.	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2022/09/21 01:52 PM
L4181	406	wilkens.xp. AND bracket AND A47B	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4182	159	wilkens.xp. AND stack$4 AND A47B	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4183	298	wilkens.xp. AND A47B88/$	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO;	OR	ON	ON	2022/09/21 01:52 PM

			JPO; DERWENT; IBM_TDB)				
L4184	16	("1680081" | "1686783" | "1902795" | "1994424" | "3094363" | "3275396" | "3298768" | "4285560").pn. OR ("10888157").urpn. AND (PGPB | USPT | USOC).dbnm.	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2022/09/21 01:52 PM
L4185	43	"3275396"	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4186	60	("2001744" | "2070960" | "2610824" | "3032319" | "3110476" | "3174722" | "3282566" | "3379411" | "3982718" | "4221280" | "4403680" | "4526346" | "4682750" | "4688760" | "4690250" | "4754713" | "4764075" | "4858888" | "4890692" | "4899987" | "4921074" | "5192053" | "5299906" | "5322143" | "5460460" | "5829948" | "6182796" | "6464205" | "6601826" | "6672430" | "6814188" | "7213686" | "20060126966" | "20060279728" | "20070017748" | "20070235266").pn. OR ("8469152").urpn. AND (PGPB | USPT | USOC).dbnm.	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2022/09/21 01:52 PM
L4187	37	("4061237" | "4249749" | "4288195" | "4504041" | "4613272" | "4979592" | "5018931" | "6394419" | "6431319" | "6679479" | "8015638" | "8469152" | "8888070" | "9422141" | "9463966" | "9540220" | "20030075657" | "20050042068" | "20110262261" | "20140014886" | "20140027693" | "20150028787" | "20150298949").pn. OR ("9815672").urpn. AND	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2022/09/21 01:52 PM

		(PGPB | USPT | USOC).dbnm.					
L4188	56	("1453406" | "1581874" | "2013542" | "2563060" | "2928558" | "3094948" | "3203670" | "3282566" | "4531720" | "4577821" | "4685731" | "4705438" | "4723769" | "4760997" | "4767109" | "4796029").pn. OR ("5400720").urpn. AND (PGPB | USPT | USOC).dbnm.	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2022/09/21 01:52 PM
L4189	47	"5861051"	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4190	1	"58-61051"	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4191	38	"102013008020"	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4192	870	A47B1/03.cpc.	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4193	17703	A47B21/0314,00,02,03.cpc.	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4194	1350	A47B21/0314,00,02,03.cpc. AND ((pnuematic	(US-PGPUB; USPAT; USOCR; FIT (AU, AP,	OR	ON	ON	2022/09/21 01:52 PM

		OR gas) ADJ spring OR actuator)	AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)				
L4195	162	("3140894"|"4926760"|"5588377"|"7640869"|"9113703"|"9615655"|"20160120300"|"6974185"|"9161616"|"5649493"|"8544391"|"9055810"|"9480332"|"9554644"|"20160249737"|"2531856"|"3494662"|"8016305"|"9644378"|"9681746"|"2922685"|"9326598"|"9625929"|"3161161"|"8936306").PN.	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4196	88	("2156148"|"20040040480"|"20080203865"|"20130139736"|"20140041554"|"20150216296"|"20150289641"|"20160286951"|"20160338486"|"3245366"|"4691888"|"5588377"|"8544391"|"9326598"|"9480332"|"9504316").PN.	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4197	1313	312/208.1,223.3.ccls.	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4198	0	248/421,562,588, "585,431,432,439".cpc.	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4199	0	248/421,562,588,585,431,432,439.cpc.	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4200	3921	248/421,562,588,585,431,432,439.ccls.	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD,	OR	ON	ON	2022/09/21 01:52 PM

			DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)				
L4201	2881	248/421,562,588,585.ccls.	(US-PGPUB; USPAT; USOCR; FIT (AP, AT, AU, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4202	1060	248/431,432,439.ccls.	(US-PGPUB; USPAT; USOCR; FIT (AP, AT, AU, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4203	3035	108/147,144.11,145,93.ccls.	(US-PGPUB; USPAT; USOCR; FIT (AP, AT, AU, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4204	1049	108/96,116.ccls.	(US-PGPUB; USPAT; USOCR; FIT (AP, AT, AU, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4205	3238	108/118,120,43,138,50.01,50.02.ccls.	(US-PGPUB; USPAT; USOCR; FIT (AP, AT, AU, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4206	1877	108/118,120,43,138.ccls.	(US-PGPUB; USPAT; USOCR; FIT (AP, AT, AU, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4207	1396	108/50.01,50.02.ccls.	(US-PGPUB; USPAT; USOCR; FIT (AP, AT,	OR	ON	ON	2022/09/21 01:52 PM

			AU, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)				
L4208	550	("7841570"|"8684339"|"5037163"|"10258148"|"8469152"|"9815672"|"10869549"|"10893748"|"20170071332"|"4843978"|"9681746"|"9809136"|"D830739"|"D854775"|"D901959"|"8671853"|"9504316"|"20040040480"|"20050120922"|"20180055214"|"6672430"|"8015638"|"9681746"|"10258148"|"10306977"|"1318564"|"20030213415"|"20050120922"|"20080000393"|"20170354245"|"20200107633"|"4558648"|"4702454"|"5829948"|"6701853"|"8015638"|"D302893"|"10244861"|"7575205"|"10542817"|"20160353880"|"5211367"|"10893748"|"4995130"|"9504316"|"D830739"|"10544019"|"10575630"|"4221280"|"4449262"|"4549720"|"5251864"|"6269753"|"6516478"|"6792876"|"7207629"|"10524565"|"4753419"|"4941641"|"8303062"|"8544391"|"9480332"|"9554644"|"20160309889"|"5257767"|"20150289641"|"20180103752"|"10023355"|"20070080564"|"20150289641"|"2937003"|"4995130"|"5400720"|"5626323"|"5926876"|"6533229"|"6702372"|"6722618"|"6742768"|"9055810"|"7845665"|"4967672"|"20100242174"|"9049923"|"10413055"|"20070266912"|"20200029685"|"3295800"|"4741512"|"5294087"|"5957426"|"7048236"|"8490933"|"8950343"|"9232855"|"9993068"|"9326598"|"D854775"|"10123613"|"10258149"|"2014	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM

		0144352"|"2015021629 6"|"6076785"|"6098961" |"9815672"|"9955780"|" 20180177289"|"767751 8"|"8931750"|"1049973 0"|"20160051042"|"607 6785"|"4741512"|"2009 0145336"|"2016033848 6"|"7204193"|"7950338" |"8132518"|"200700010 77"|"5400720"|"D30289 3"|"10517390"|"105684 16"|"20120097822"|"20 130193392"|"20170196 351"|"3826457"|"45778 21"|"5588377"|"576579 7"|"6533479"|"6672430" |"8469152"|"10018298"| "9981571").PN.					
L4209	25	("3282566" | "4273306" | "5400720" | "5632209" | "5649493" | "9326598" | "20130340655" | "20140360414" | "20150289641" | "20180055214").pn. OR ("10517390").urpn. AND (PGPB | USPT | USOC).dbnm.	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2022/09/21 01:52 PM
L4210	56	("1453406" | "1581874" | "2013542" | "2563060" | "2928558" | "3094948" | "3203670" | "3282566" | "4531720" | "4577821" | "4685731" | "4705438" | "4723769" | "4760997" | "4767109" | "4796029").pn. OR ("5400720").urpn. AND (PGPB | USPT | USOC).dbnm.	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2022/09/21 01:52 PM
L4211	25	("3219338" | "4558648" | "4741512" | "5400720" | "5695173" | "5823120" | "6672430" | "9326598" | "9504316" | "9815672" | "20030154890" | "20050120922" | "20130341984" | "20170174486" | "20170340104").pn. OR ("10258149").urpn. AND (PGPB | USPT | USOC).dbnm.	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2022/09/21 01:52 PM
L4212	76	("226053" | "4403680" | "4515086" | "4926760" | "5632209" | "5829948" |	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2022/09/21 01:52 PM

		"6038986" | "6112858" | "6286812" | "6397763" | "6585214" | "6679479" | "6705238" | "6857493" | "7677518" | "7950338" | "8015638" | "8424883" | "8469152" | "9055810" | "9133976" | "20040040480" | "20070034125" | "20130145972" | "20150289641").pn. OR ("9504316").urpn. AND (PGPB | USPT | USOC).dbnm.					
L4213	56	("D166377" | "D280478" | "D304112" | "D352845" | "D371687" | "D395969" | "D415910" | "D424828" | "D435368" | "D435986" | "D436268" | "D464212" | "D530939" | "D612643" | "D644046" | "D671338" | "D681979" | "D694044" | "D716074" | "D733476" | "D734413" | "D771981" | "D771982" | "9504316" | "D781617" | "D781618" | "D781619" | "D784050" | "20080178779" | "20130139736" | "20150096472" | "20160106205" | "20160278515" | "20170105518" | "20170196351" | "20170290413" | "20170354245").pn. OR ("D830739").urpn. AND (PGPB | USPT | USOC).dbnm.	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2022/09/21 01:52 PM
L4214	50	("3472183" | "3820631" | "4488326" | "4741512" | "4995130" | "5113972" | "D346254" | "D375602" | "5588377" | "D378155" | "5833198" | "6651775" | "6814188" | "D640030" | "D640440" | "8015638" | "D771982" | "9615655" | "D814736" | "9961991" | "D825131" | "D827241" |	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2022/09/21 01:52 PM

		"D830739" | "D832623" | "20120034055" | "20130139736" | "20140014886" | "20140027693" | "20150159803" | "20150289641" | "20170049224" | "20170240396" | "20180103752" | "20180177289" | "20180184797" | "20180206630" | "20180255919").pn. OR ("D854775").urpn. AND (PGPB | USPT | USOC).dbnm.					
L4215	2518	A47B9/16.cpc.	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4216	2081	A47B2021/0321,0364.cpc.	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4217	10819	(A47B3/00 OR A47B61/00).cpc.	(US-PGPUB; USPAT; USOCR; FIT (AP, AT, AU, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4218	182	(A47B3/00 OR A47B61/00).cpc. AND ((pnuematic OR gas) ADJ spring OR actuator)	(US-PGPUB; USPAT; USOCR; FIT (AP, AT, AU, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4219	3649	A47B3/02,0809,0815.cpc.	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT;	OR	ON	ON	2022/09/21 01:52 PM

			IBM_TDB)				
L4220	1712	A47B3/0809,0815.cpc.	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4221	513	(A47B3/02 AND A47B2003/025).cpc.	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4222	1267876	(desk$4 OR table$4) AND ((pnuematic OR gas) ADJ spring OR actuator)	(US-PGPUB; USPAT; USOCR; FIT (AP, AT, AU, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4223	5666298	(desk$4 OR table$4) AND (X OR cross) ADJ (member OR arm)((pnuematic OR gas) ADJ spring OR actuator)	(US-PGPUB; USPAT; USOCR; FIT (AP, AT, AU, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4224	3703	(desk$4 OR table$4) AND (X OR cross) ADJ (member OR arm) SAME ((pnuematic OR gas) ADJ spring OR actuator)	(US-PGPUB; USPAT; USOCR; FIT (AP, AT, AU, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4225	869	(desk$4 OR table$4) SAME (X OR cross) ADJ (member OR arm) SAME ((pnuematic OR gas) ADJ spring OR actuator)	(US-PGPUB; USPAT; USOCR; FIT (AP, AT, AU, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4226	91	(desk$4 OR table$4) SAME (X OR cross) ADJ (member OR arm) SAME ((pnuematic OR gas) ADJ (spring OR actuator))	(US-PGPUB; USPAT; USOCR; FIT (AP, AT, AU, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT;	OR	ON	ON	2022/09/21 01:52 PM

			IBM_TDB)				
L4227	305	(desk$4 OR table$4) AND (X OR cross) ADJ (member OR arm) SAME ((pnuematic OR gas) ADJ (spring OR actuator))	(US-PGPUB; USPAT; USOCR; FIT (AP, AT, AU, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4228	56	"9815672"	(US-PGPUB; USPAT; USOCR; FIT (AP, AT, AU, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4229	202	("7841570"|"8684339"|"5037163"|"10258148"|"8469152"|"9815672"|"10869549"|"10893748"|"20170071332"|"4843978"|"9681746"|"9809136"|"D830739"|"D854775"|"D901959"|"8671853"|"9504316"|"20040040480"|"20050120922"|"20180055214"|"6672430"|"8015638"|"9681746"|"10258148"|"10306977"|"1318564"|"20030213415"|"20050120922"|"20080000393"|"20170354245"|"20200107633"|"4558648"|"4702454"|"5829948"|"6701853"|"8015638"|"D302893"|"10244861"|"7575205"|"10542817"|"20160353880"|"5211367"|"10893748"|"4995130"|"9504316"|"D830739"|"10544019"|"10575630"|"4221280"|"4449262"|"4549720"|"5251864"|"6269753"|"6516478"|"6792876"|"7207629"|"10524565"|"4753419"|"4941641"|"8303062"|"8544391"|"9480332"|"9554644"|"20160309889"|"5257767"|"20150289641"|"20180103752"|"10023355"|"20070080564"|"20150289641"|"2937003"|"4995130"|"5400720"|"5626323"|"5926876"|"6533229"|"67023	(US-PGPUB; USPAT; USOCR; FIT (AP, AT, AU, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO))	OR	ON	ON	2022/09/21 01:52 PM

		72"|"6722618"|"6742768"|"9055810"|"7845665"|"4967672"|"20100242174"|"9049923"|"10413055"|"20070266912"|"20200029685"|"3295800"|"4741512"|"5294087"|"5957426"|"7048236"|"8490933"|"8950343"|"9232855"|"9993068"|"9326598"|"D854775"|"10123613"|"10258149"|"20140144352"|"20150216296"|"6076785"|"6098961"|"9815672"|"9955780"|"20180177289"|"7677518"|"8931750"|"10499730"|"20160051042"|"6076785"|"4741512"|"20090145336"|"20160338486"|"7204193"|"7950338"|"8132518"|"20070001077"|"5400720"|"D302893"|"10517390"|"10568416"|"20120097822"|"20130193392"|"20170196351"|"3826457"|"4577821"|"5588377"|"5765797"|"6533479"|"6672430"|"8469152"|"10018298"|"9981571").PN.					
L4230	67	"5400720"	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4231	84	"4577821"	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4232	24	(Artificial Intelligence) More like doc: US-D854775-S Text: (WO-0068597-A1 OR DE-4336662-A1 OR US-5694864-A OR AT-149474-T OR US-D378155-S OR US-D375602-S OR US-	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, BE, BG, BR, BY, CA, CH, CN, CS, CU, CZ, DD, DE, DK, EA, EE, EP, ES, FI, FR, GB, HR, HU, ID, IE, IL, IS, IT, JP, KR, LT, LU, LV, MA, OA, RU, SU, WO, MC, MD, MY, NL, NO,	OR	ON	ON	2022/09/21 01:52 PM

		D346254-S OR US-D825131-S OR US-D814736-S OR US-D640440-S OR US-D837970-S OR TW-201522199-A OR TW-I531523-B OR US-20100012909-A1 OR US-D794629-S OR US-D834861-S OR US-D927102-S OR US-D706344-S OR US-D815832-S OR US-D775524-S).did.	NZ, PH, PL, PT, RO, RS, SE, SG, SI, SK, TH, TN, TR, TW, UA, VN); FPRS; EPO; JPO; DERWENT; IBM_TDB)				
L4233	50	("3472183" | "3820631" | "4488326" | "4741512" | "4995130" | "5113972" | "D346254" | "D375602" | "5588377" | "D378155" | "5833198" | "6651775" | "6814188" | "D640030" | "D640440" | "8015638" | "D771982" | "9615655" | "D814736" | "9961991" | "D825131" | "D827241" | "D830739" | "D832623" | "20120034055" | "20130139736" | "20140014886" | "20140027693" | "20150159803" | "20150289641" | "20170049224" | "20170240396" | "20180103752" | "20180177289" | "20180184797" | "20180206630" | "20180255919").pn. OR ("D854775").urpn. AND (PGPB | USPT | USOC).dbnm.	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2022/09/21 01:52 PM
L4234	124	("1318564" | "2937003" | "3295800" | "3826457" | "4221280" | "4449262" | "4549720" | "4558648" | "4577821" | "4702454" | "4741512" | "4753419" | "4843978" | "D302893" | "4941641" | "4967672" | "4995130" | "5037163" | "5211367" | "5251864" | "5257767" | "5294087" | "5400720" | "5588377" | "5626323" | "5765797" | "5829948" | "5926876"	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2022/09/21 01:52 PM

		| "5957426" | "6076785" | "6098961" | "6269753" | "6516478" | "6533229" | "6533479" | "6672430" | "6701853" | "6702372" | "6722618" | "6742768" | "6792876" | "7048236" | "7204193" | "7207629" | "7575205" | "7677518" | "7841570" | "7845665" | "7950338" | "8015638" | "8132518" | "8303062" | "8469152" | "8490933" | "8544391" | "8671853" | "8684339" | "8931750" | "8950343" | "9049923" | "9055810" | "9232855" | "9326598" | "9480332" | "9504316" | "9554644" | "9681746" | "9809136" | "9815672" | "9955780" | "9981571" | "9993068" | "10018298" | "10023355" | "D830739" | "10123613" | "D845037" | "10244861" | "10258148" | "10258149" | "10306977" | "D854775" | "10413055" | "10499730" | "10517390" | "10524565" | "10542817" | "10544019" | "10568416" | "10575630" | "D901959" | "10869549" | "10893748" | "20030213415" | "20050120922" | "20070080564" | "20070266912" | "20080000393" | "20090145336" | "20100242174" | "20110001033" | "20120097822" | "20120188302" | "20130193392" | "20140144352" | "20150216296" | "20150289641" | "20160338486" | "20160353880" | "20170071332" | "20170174486" | "20170196351" |					

		"20170354245" | "20180055214" | "20180177289" | "20200029685" | "20200107633").pn. OR ("11134774").urpn. AND (PGPB | USPT | USOC).dbnm.					
L4235	29	("20100198374"|"6062148"|"20140137773"|"20120174833"|"7789025"|"20160127809"|"5884882"|"7077068"|"20080255794"|"20140247155"|"9082239"|"20080255794"|"6595144"|"6831829"|"7780578"|"8947215"|"20130204438"|"6546880"|"7517029"|"20130116092"|"20140096706"|"8485945"|"20140247146"|"5323695"|"8587439"|"8690578"|"20140137773"|"20160128467"|"20130321346"|"20140096706"|"20140247154"|"20160260019").PN.	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2022/09/21 01:52 PM
L4236	27	("10244861"|"20180213929"|"9326598"|"9681746"|"8931750"|"7246784"|"10114352"|"5957426"|"5722513"|"4640488"|"5251864"|"4448386"|"4702454"|"2843418"|"9668572"|"20070001077"|"4753419"|"11083282"|"20170196351"|"D854775"|"20160249737"|"20120188302"|"10575630").PN.	(US-PGPUB; USPAT; USOCR; JPO)	OR	ON	ON	2022/09/21 01:52 PM
L4237	25	("3219338" | "4558648" | "4741512" | "5400720" | "5695173" | "5823120" | "6672430" | "9326598" | "9504316" | "9815672" | "20030154890" | "20050120922" | "20130341984" | "20170174486" | "20170340104").pn. OR ("10258149").urpn. AND (PGPB | USPT | USOC).dbnm.	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2022/09/21 01:52 PM
L4238	76	("226053" | "4403680" | "4515086" | "4926760" | "5632209" | "5829948" | "6038986" | "6112858" |	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2022/09/21 01:52 PM

		"6286812" | "6397763" | "6585214" | "6679479" | "6705238" | "6857493" | "7677518" | "7950338" | "8015638" | "8424883" | "8469152" | "9055810" | "9133976" | "20040040480" | "20070034125" | "20130145972" | "20150289641").pn. OR ("9504316").urpn. AND (PGPB | USPT | USOC).dbnm.					
L4239	406	wilkens.xp. AND bracket AND A47B	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4240	159	wilkens.xp. AND stack$4 AND A47B	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4241	298	wilkens.xp. AND A47B88/$	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4242	16	("1680081" | "1686783" | "1902795" | "1994424" | "3094363" | "3275396" | "3298768" | "4285560").pn. OR ("10888157").urpn. AND (PGPB | USPT | USOC).dbnm.	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2022/09/21 01:52 PM
L4243	43	"3275396"	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4244	60	("2001744" | "2070960" | "2610824" | "3032319"	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2022/09/21 01:52 PM

		| "3110476" | "3174722" | "3282566" | "3379411" | "3982718" | "4221280" | "4403680" | "4526346" | "4682750" | "4688760" | "4690250" | "4754713" | "4764075" | "4858888" | "4890692" | "4899987" | "4921074" | "5192053" | "5299906" | "5322143" | "5460460" | "5829948" | "6182796" | "6464205" | "6601826" | "6672430" | "6814188" | "7213686" | "20060126966" | "20060279728" | "20070017748" | "20070235266").pn. OR ("8469152").urpn. AND (PGPB | USPT | USOC).dbnm.					
L4245	37	("4061237" | "4249749" | "4288195" | "4504041" | "4613272" | "4979592" | "5018931" | "6394419" | "6431319" | "6679479" | "8015638" | "8469152" | "8888070" | "9422141" | "9463966" | "9540220" | "20030075657" | "20050042068" | "20110262261" | "20140014886" | "20140027693" | "20150028787" | "20150298949").pn. OR ("9815672").urpn. AND (PGPB | USPT | USOC).dbnm.	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2022/09/21 01:52 PM
L4246	56	("1453406" | "1581874" | "2013542" | "2563060" | "2928558" | "3094948" | "3203670" | "3282566" | "4531720" | "4577821" | "4685731" | "4705438" | "4723769" | "4760997" | "4767109" | "4796029").pn. OR ("5400720").urpn. AND (PGPB | USPT | USOC).dbnm.	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2022/09/21 01:52 PM
L4247	47	"5861051"	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO;	OR	ON	ON	2022/09/21 01:52 PM

			JPO; DERWENT; IBM_TDB)				
L4248	1	"58-61051"	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4249	38	"102013008020"	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4250	5	"20190116976"	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4251	10	"20200003258"	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4252	2	"20210214986"	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4253	41	"4741512"	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4254	139	"7677518"	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO;	OR	ON	ON	2022/09/21 01:52 PM

			JPO; DERWENT; IBM_TDB)				
L4255	24	("10114352"|"10244861"|"10575630"|"11083282"|"20070001077"|"20120188302"|"20160249737"|"20170196351"|"20180213929"|"2843418"|"4448386"|"4640488"|"4702454"|"4753419"|"5251864"|"5722513"|"5957426"|"7246784"|"8931750"|"9326598"|"9668572"|"9681746"|"D854775").PN.	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2022/09/21 01:52 PM
L4256	70	("1318564" | "2937003" | "3295800" | "4221280" | "4558648" | "4577821" | "4843978" | "5588377" | "5626323" | "5829948" | "5957426" | "6098961" | "6269753" | "6516478" | "6533479" | "6722618" | "6742768" | "8132518" | "8671853" | "9049923" | "9055810" | "9326598" | "9480332" | "9504316" | "9554644" | "20030213415" | "20040035332" | "20040040480" | "20070080564" | "20080000393" | "20090090832" | "20090200437" | "20110001033" | "20110024958" | "20120097822" | "20130145972" | "20130193392" | "20140144352" | "20150232005" | "20150375896" | "20160338486" | "20170174486" | "20180008037").pn. OR ("10244861").urpn. AND (PGPB | USPT | USOC).dbnm.	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2022/09/21 01:52 PM
L4257	27	("10114352"|"10244861"|"10575630"|"11083282"|"11134773"|"20030213415"|"20070001077"|"20120188302"|"20160249737"|"20170196351"|"20180213929"|"2843418"|"4448386"|"46404	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2022/09/21 01:52 PM

		88"|"4702454"|"4753419"|"5251864"|"5722513"|"5957426"|"7246784"|"8931750"|"9326598"|"9668572"|"9681746"|"9815672"|"D854775").PN.					
L4258	70	("1234569" | "1318564" | "2156148" | "2630359" | "4926760" | "5497706" | "5588377" | "5833200" | "6182935" | "6701853" | "7849789" | "8015638" | "8544391" | "8936306").pn. OR ("9326598").urpn. AND (PGPB | USPT | USOC).dbnm.	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2022/09/21 01:52 PM
L4259	25	("383610" | "4640488" | "5211369" | "7246784" | "7637468" | "7677518" | "8439334" | "8844894" | "9326598" | "10092089" | "20070295882" | "20130145972" | "20140264215" | "20150014609" | "20160249737" | "20180008037" | "20180146775" | "20180177289" | "20180279770" | "20180332957" | "20180360208" | "20200298599").pn. OR ("11083282").urpn. AND (PGPB | USPT | USOC).dbnm.	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2022/09/21 01:52 PM
L4260	18	("2016/0249737").urpn. AND (PGPB | USPT | USOC).dbnm.	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2022/09/21 01:52 PM
L4261	25	("3219338" | "4558648" | "4741512" | "5400720" | "5695173" | "5823120" | "6672430" | "9326598" | "9504316" | "9815672" | "20030154890" | "20050120922" | "20130341984" | "20170174486" | "20170340104").pn. OR ("10258149").urpn. AND (PGPB | USPT | USOC).dbnm.	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2022/09/21 01:52 PM
L4262	76	("226053" | "4403680" | "4515086" | "4926760" | "5632209" | "5829948" |	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2022/09/21 01:52 PM

		"6038986" | "6112858" | "6286812" | "6397763" | "6585214" | "6679479" | "6705238" | "6857493" | "7677518" | "7950338" | "8015638" | "8424883" | "8469152" | "9055810" | "9133976" | "20040040480" | "20070034125" | "20130145972" | "20150289641").pn. OR ("9504316").urpn. AND (PGPB | USPT | USOC).dbnm.					
L4263	37	("2766088" | "D716074" | "9326598" | "9504316" | "D781617" | "D781618" | "20030230222" | "20150289641" | "20170290413" | "20170354245" | "20180055214" | "20180125227").pn. OR ("D845037").urpn. AND (PGPB | USPT | USOC).dbnm.	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2022/09/21 01:52 PM
L4264	76	("226053" | "4403680" | "4515086" | "4926760" | "5632209" | "5829948" | "6038986" | "6112858" | "6286812" | "6397763" | "6585214" | "6679479" | "6705238" | "6857493" | "7677518" | "7950338" | "8015638" | "8424883" | "8469152" | "9055810" | "9133976" | "20040040480" | "20070034125" | "20130145972" | "20150289641").pn. OR ("9504316").urpn. AND (PGPB | USPT | USOC).dbnm.	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2022/09/21 01:52 PM
L4265	56	"9815672"	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4266	17	"9815672"	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD,	OR	ON	ON	2022/09/21 01:52 PM

			DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO))				
L4267	135828	hydraulic WITH gas WITH (spring OR cylinder)	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4268	727	hydraulic WITH gas WITH (spring OR cylinder) AND A47B	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4269	263	hydraulic WITH gas WITH (spring OR cylinder) AND A47B AND desk	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4270	139	"7677518"	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4271	114	"7677518"	(US-PGPUB; USPAT; USOCR; EPO)	OR	ON	ON	2022/09/21 01:52 PM
L4272	114	"7677518"	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2022/09/21 01:52 PM
L4273	129	("4691886" | "4729533" | "5037054" | "5044284" | "5174223" | "5200859" | "5287815" | "5405204" | "5445353" | "5564668" | "5636711" | "D393382" | "5829948" | "5938622" | "5961231" | "6286812" | "6585214" | "6736469" | "6905102" | "7111825" | "7383786").pn. OR ("7677518").urpn. AND (PGPB | USPT | USOC).dbnm.	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2022/09/21 01:52 PM
L4274	10	("6857493"|"5400720"). PN.	(US-PGPUB; USPAT; USOCR; FIT (AU, AP,	OR	ON	ON	2022/09/21 01:52 PM

			AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)				
L4275	37	"1142343"	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4276	2	("6857493"|"5400720").PN.	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2022/09/21 01:52 PM
L4277	104	("10114352"|"10244861"|"10575630"|"11083282"|"20070001077"|"20120188302"|"20160249737"|"20170196351"|"20180213929"|"2843418"|"4448386"|"4640488"|"4702454"|"4753419"|"5251864"|"5722513"|"5957426"|"7246784"|"8931750"|"9326598"|"9668572"|"9681746"|"D854775").PN.	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4278	24	("10114352"|"10244861"|"10575630"|"11083282"|"20070001077"|"20120188302"|"20160249737"|"20170196351"|"20180213929"|"2843418"|"4448386"|"4640488"|"4702454"|"4753419"|"5251864"|"5722513"|"5957426"|"7246784"|"8931750"|"9326598"|"9668572"|"9681746"|"D854775").PN.	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2022/09/21 01:52 PM
L4279	132	("10018298" OR "10023355" OR "10123613" OR "10258148" OR "10258149" OR "10264877" OR "10306977" OR "10413055" OR "10499730" OR "10517390" OR "10524565" OR "10542817" OR "10544019" OR "10568416" OR	(US-PGPUB; USPAT)	OR	ON	ON	2022/09/21 01:52 PM

		"10869549" OR "10893748" OR "11134773" OR "11134774" OR "11140977" OR "11147366" OR "11160367" OR "1318564" OR "20030042380" OR "20030213415" OR "20050120922" OR "20070080564" OR "20070266912" OR "20080000393" OR "20090145336" OR "20100242174" OR "20120097822" OR "20130193392" OR "20140144352" OR "20150028787" OR "20150216296" OR "20150289641" OR "20160338486" OR "20160353880" OR "20170071332" OR "20170354245" OR "20180177289" OR "20180279770" OR "20190110588" OR "20190183239" OR "20190269237" OR "20200029685" OR "20200107633" OR "2937003" OR "3295800" OR "3823915" OR "3826457" OR "4221280" OR "4449262" OR "4549720" OR "4558648" OR "4577821" OR "4625657" OR "4659052" OR "4709972" OR "4717112" OR "4741512" OR "4826123" OR "4843978" OR "4941641" OR "4967672" OR "4995130" OR "5037163" OR "5048784" OR "5211367" OR "5257767" OR "5294087" OR "5400720" OR					

		"5588377" OR "5626323" OR "5765797" OR "5829948" OR "5836562" OR "5926876" OR "6076785" OR "6098961" OR "6148739" OR "6176456" OR "6179261" OR "6269753" OR "6273382" OR "6488248" OR "6516478" OR "6533229" OR "6533479" OR "6672430" OR "6701853" OR "6702372" OR "6722618" OR "6742768" OR "6792876" OR "6938866" OR "7048236" OR "7188813" OR "7204193" OR "7207629" OR "7575205" OR "7677518" OR "7841570" OR "7845665" OR "7946551" OR "7950338" OR "8015638" OR "8132518" OR "8303062" OR "8469152" OR "8490933" OR "8544391" OR "8671853" OR "8684339" OR "8950343" OR "9049923" OR "9055810" OR "9232855" OR "9480332" OR "9504316" OR "9554644" OR "9809136" OR "9815672" OR "9854904" OR "9955780" OR "9981571" OR "9993068" OR "D302893" OR "D830739" OR "D845037" OR					

		"D870490" OR "D901959").pn.					
L4280	27	("2531856" | "3727245" | "4611823" | "5447319" | "5722513" | "6974185" | "8016305" | "8544391" | "9326598" | "20040040480").pn. OR ("9480332").urpn. AND (PGPB | USPT | USOC).dbnm.	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2022/09/21 01:52 PM
L4281	2481	A47B67/005.cpc.	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4282	2113	(A47B3/00 OR A47B61/00).cpc. AND (gear OR shaft)	(US-PGPUB; USPAT; USOCR; FIT (AP, AT, AU, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4283	48	wilkens.xp. AND lift SAME table	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4284	34	(Artificial Intelligence) More like doc: US-8950343-B2 Text: (US-20140041554-A1 OR TW-M445388-U OR US-10092089-B1 OR JP-2018520740-A OR GB-2341790-A OR DK-179639-B1 OR US-20180160799-A1 OR WO-2016200318-A1 OR EP-3307108-A1 OR CN-107708486-A OR WO-2016200318-A8 OR WO-2018137739-A1 OR US-9713375-B1 OR DK-201700050-A1 OR US-20180103752-A1 OR US-10258149-B2 OR US-	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, BE, BG, BR, BY, CA, CH, CN, CS, CU, CZ, DD, DE, DK, EA, EE, EP, ES, FI, FR, GB, HR, HU, ID, IE, IL, IS, IT, JP, KR, LT, LU, LV, MA, OA, RU, SU, WO, MC, MD, MY, NL, NO, NZ, PH, PL, PT, RO, RS, SE, SG, SI, SK, TH, TN, TR, TW, UA, VN); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM

		20180255919-A1 OR JP-2017513663-A OR US-10542817-B2 OR US-20150272316-A1).did.					
L4285	132	("20180125227" OR "10018298" OR "10023355" OR "10114352" OR "10123613" OR "10244861" OR "10258149" OR "10264877" OR "10306977" OR "10413055" OR "10524565" OR "10542817" OR "10544019" OR "10568416" OR "10575630" OR "10869549" OR "11083282" OR "11140977" OR "11147366" OR "1318564" OR "20030042380" OR "20030213415" OR "20070001077" OR "20070080564" OR "20070266912" OR "20080000393" OR "20100242174" OR "20120097822" OR "20120188302" OR "20130193392" OR "20150216296" OR "20160338486" OR "20160353880" OR "20170071332" OR "20170196351" OR "20180177289" OR "20180213929" OR "20180279770" OR "20190110588" OR "20190183239" OR "20190269237" OR "20200029685" OR "20200107633" OR "2843418" OR "2937003" OR "3295800" OR "4221280" OR "4448386" OR "4449262" OR "4549720" OR "4558648" OR "4577821" OR "4625657" OR	(US-PGPUB; USPAT)	OR	ON	ON	2022/09/21 01:52 PM

		"4640488" OR "4702454" OR "4709972" OR "4717112" OR "4753419" OR "4826123" OR "4843978" OR "4941641" OR "4967672" OR "4995130" OR "5037163" OR "5048784" OR "5211367" OR "5251864" OR "5257767" OR "5294087" OR "5400720" OR "5588377" OR "5626323" OR "5722513" OR "5765797" OR "5829948" OR "5836562" OR "5926876" OR "5957426" OR "6076785" OR "6098961" OR "6148739" OR "6176456" OR "6179261" OR "6269753" OR "6273382" OR "6488248" OR "6516478" OR "6533229" OR "6533479" OR "6672430" OR "6701853" OR "6702372" OR "6722618" OR "6742768" OR "6792876" OR "6938866" OR "7048236" OR "7188813" OR "7204193" OR "7207629" OR "7246784" OR "7575205" OR "7841570" OR "7845665" OR "7946551" OR "7950338" OR "8015638" OR "8132518" OR "8303062" OR "8469152" OR "8490933" OR					

		"8544391" OR "8671853" OR "8684339" OR "8950343" OR "9049923" OR "9055810" OR "9232855" OR "9326598" OR "9480332" OR "9504316" OR "9554644" OR "9668572" OR "9681746" OR "9809136" OR "9854904" OR "9955780" OR "9981571" OR "9993068" OR "D830739" OR "D870490" OR "D901959").pn.					
L4286	26	("4221280" | "4577821" | "4995130" | "5186038" | "5322143" | "5588377" | "9161616" | "D845037" | "10264877" | "10517390" | "20100012909" | "20140041554" | "20160338486" | "20170354245" | "20180055214" | "20180146775").pn. OR ("10869549").urpn. AND (PGPB | USPT | USOC).dbnm.	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2022/09/21 01:52 PM
L4287	124	("1318564" | "2937003" | "3295800" | "3826457" | "4221280" | "4449262" | "4549720" | "4558648" | "4577821" | "4702454" | "4741512" | "4753419" | "4843978" | "D302893" | "4941641" | "4967672" | "4995130" | "5037163" | "5211367" | "5251864" | "5257767" | "5294087" | "5400720" | "5588377" | "5626323" | "5765797" | "5829948" | "5926876" | "5957426" | "6076785" | "6098961" | "6269753" | "6516478" | "6533229" | "6533479" | "6672430" | "6701853" | "6702372" | "6722618" | "6742768" | "6792876" | "7048236"	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2022/09/21 01:52 PM

		| "7204193" | "7207629" | "7575205" | "7677518" | "7841570" | "7845665" | "7950338" | "8015638" | "8132518" | "8303062" | "8469152" | "8490933" | "8544391" | "8671853" | "8684339" | "8931750" | "8950343" | "9049923" | "9055810" | "9232855" | "9326598" | "9480332" | "9504316" | "9554644" | "9681746" | "9809136" | "9815672" | "9955780" | "9981571" | "9993068" | "10018298" | "10023355" | "D830739" | "10123613" | "D845037" | "10244861" | "10258148" | "10258149" | "10306977" | "D854775" | "10413055" | "10499730" | "10517390" | "10524565" | "10542817" | "10544019" | "10568416" | "10575630" | "D901959" | "10869549" | "10893748" | "20030213415" | "20050120922" | "20070080564" | "20070266912" | "20080000393" | "20090145336" | "20100242174" | "20110001033" | "20120097822" | "20120188302" | "20130193392" | "20140144352" | "20150216296" | "20150289641" | "20160338486" | "20160353880" | "20170071332" | "20170174486" | "20170196351" | "20170354245" | "20180055214" | "20180177289" | "20200029685" | "20200107633").pn. OR ("11134774").urpn. AND (PGPB | USPT |					

		USOC).dbnm.					
L4288	87	("1318564" | "2937003" | "3295800" | "4221280" | "4558648" | "4577821" | "4843978" | "5037163" | "5211367" | "5257767" | "5588377" | "5626323" | "5829948" | "5957426" | "6076785" | "6098961" | "6269753" | "6516478" | "6533479" | "6701853" | "6722618" | "6742768" | "6792876" | "7677518" | "7841570" | "7950338" | "8132518" | "8544391" | "8671853" | "8684339" | "8931750" | "9049923" | "9326598" | "9480332" | "9504316" | "9554644" | "9681746" | "10159336" | "10244861" | "10258148" | "10258149" | "10499730" | "10542817" | "20030213415" | "20040040480" | "20070080564" | "20080000393" | "20120097822" | "20130193392" | "20130199420" | "20140144352" | "20140158026" | "20150232005" | "20150368082" | "20150375896" | "20160051042" | "20160106205" | "20160170402" | "20160260019" | "20160309889" | "20160338486" | "20160353880" | "20170174486" | "20170360192" | "20180008037" | "20180125227" | "20180177289" | "20180279770" | "20180360208" | "20190110588" | "20190269237" | "20200029685").pn. OR ("10893748").urpn. AND (PGPB | USPT | USOC).dbnm.	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2022/09/21 01:52 PM

L4289	162	("1824822" | "2545515" | "2579577" | "2581023" | "2630359" | "2727799" | "2798641" | "3203373" | "3245366" | "3347184" | "3727245" | "3888451" | "4032103" | "4073240" | "4130069" | "4194452" | "4515086" | "4534544" | "4558847" | "4577821" | "4589621" | "4625657" | "4728118" | "4981052" | "4981085" | "5039054" | "5048784" | "5083512" | "5088676" | "5174223" | "5192053" | "5251864" | "5322025" | "5325794" | "5375514" | "5394809" | "5490466" | "5503086" | "5549052" | "5553550" | "5588377" | "5649493" | "5680820" | "5687655" | "5778799" | "5794911" | "5823120" | "5833198" | "5938340" | "5967059" | "6026755" | "6038986" | "6283047" | "6286441" | "6378446" | "6439657" | "6510803" | "6516478" | "6520091" | "6603157" | "6691626" | "6701853" | "6874431" | "6991199" | "7048236" | "7059254" | "7201108" | "7246784" | "7385376" | "7548051" | "7642759" | "7654208" | "7677518" | "7690317" | "7849789" | "7887014" | "7950338" | "8065966" | "8132518" | "8439319" | "8544391" | "8671853" | "8783639" | "8800454" | "8931750" | "8950343" | "9049923" | "9055810" | "9072645" | "9113703" | "9668572" | "20020189505" | "20030213415" | "20040187742" | "20040227443" | "20050041721" | "20050248239" | "20060037518" | "20060038383" | "20060157628" | "20070163475" | "20070259554" | "20070266912" |	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2022/09/21 01:52 PM

		"20070295882" | "20080308016" | "20090179121" | "20100242174" | "20100257671" | "20110120351" | "20110168062" | "20110247532" | "20130014674" | "20130139736" | "20130145972" | "20130199420" | "20130340655" | "20140020606" | "20140041554" | "20140144352" | "20140158026" | "20140165882" | "20140360411" | "20150164218" | "20150216296" | "20150231992" | "20150250303" | "20150289641" | "20160120300" | "20160198853" | "20160278515" | "20160338486" | "20170354245" | "20170360188" | "20180103752" | "20180146775" | "20180160799" | "20180213929" | "20180279772").pn. OR ("10542817").urpn. AND (PGPB | USPT | USOC).dbnm.					
L4290	87	("1318564" | "2937003" | "3295800" | "4221280" | "4558648" | "4577821" | "4843978" | "5037163" | "5211367" | "5257767" | "5588377" | "5626323" | "5829948" | "5957426" | "6076785" | "6098961" | "6269753" | "6516478" | "6533479" | "6701853" | "6722618" | "6742768" | "6792876" | "7677518" | "7841570" | "7950338" | "8132518" | "8544391" | "8671853" | "8684339" | "8931750" | "9049923" | "9326598" | "9480332" | "9504316" | "9554644" | "9681746" | "10159336" |	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2022/09/21 01:52 PM

		"10244861" | "10258148" | "10258149" | "10499730" | "10542817" | "20030213415" | "20040040480" | "20070080564" | "20080000393" | "20120097822" | "20130193392" | "20130199420" | "20140144352" | "20140158026" | "20150232005" | "20150368082" | "20150375896" | "20160051042" | "20160106205" | "20160170402" | "20160260019" | "20160309889" | "20160338486" | "20160353880" | "20170174486" | "20170360192" | "20180008037" | "20180125227" | "20180177289" | "20180279770" | "20180360208" | "20190110588" | "20190269237" | "20200029685").pn. OR ("10893748").urpn. AND (PGPB | USPT | USOC).dbnm.					
L4291	33	("136357" | "2624535" | "2733109" | "3001559" | "4967672" | "5588377" | "5636711" | "5829948" | "7032872" | "7059616" | "7677518" | "20140144352").pn. OR ("8950343").urpn. AND (PGPB | USPT | USOC).dbnm.	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2022/09/21 01:52 PM
L4292	8	("2012/0188302").urpn. AND (PGPB | USPT | USOC).dbnm.	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2022/09/21 01:52 PM
L4293	22	("2005/0120922").urpn. AND (PGPB | USPT | USOC).dbnm.	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2022/09/21 01:52 PM
L4294	132	("20180125227" OR "10018298" OR "10023355" OR "10114352" OR	(US-PGPUB; USPAT)	OR	ON	ON	2022/09/21 01:52 PM

		"10123613" OR "10244861" OR "10258149" OR "10264877" OR "10306977" OR "10413055" OR "10524565" OR "10542817" OR "10544019" OR "10568416" OR "10575630" OR "10869549" OR "11083282" OR "11140977" OR "11147366" OR "1318564" OR "20030042380" OR "20030213415" OR "20070001077" OR "20070080564" OR "20070266912" OR "20080000393" OR "20100242174" OR "20120097822" OR "20120188302" OR "20130193392" OR "20150216296" OR "20160338486" OR "20160353880" OR "20170071332" OR "20170196351" OR "20180177289" OR "20180213929" OR "20180279770" OR "20190110588" OR "20190183239" OR "20190269237" OR "20200029685" OR "20200107633" OR "2843418" OR "2937003" OR "3295800" OR "4221280" OR "4448386" OR "4449262" OR "4549720" OR "4558648" OR "4577821" OR "4625657" OR "4640488" OR "4702454" OR "4709972" OR "4717112" OR "4753419" OR "4826123" OR "4843978" OR "4941641" OR "4967672" OR				

		"4995130" OR "5037163" OR "5048784" OR "5211367" OR "5251864" OR "5257767" OR "5294087" OR "5400720" OR "5588377" OR "5626323" OR "5722513" OR "5765797" OR "5829948" OR "5836562" OR "5926876" OR "5957426" OR "6076785" OR "6098961" OR "6148739" OR "6176456" OR "6179261" OR "6269753" OR "6273382" OR "6488248" OR "6516478" OR "6533229" OR "6533479" OR "6672430" OR "6701853" OR "6702372" OR "6722618" OR "6742768" OR "6792876" OR "6938866" OR "7048236" OR "7188813" OR "7204193" OR "7207629" OR "7246784" OR "7575205" OR "7841570" OR "7845665" OR "7946551" OR "7950338" OR "8015638" OR "8132518" OR "8303062" OR "8469152" OR "8490933" OR "8544391" OR "8671853" OR "8684339" OR "8950343" OR "9049923" OR "9055810" OR "9232855" OR "9326598" OR "9480332" OR					

		"9504316" OR "9554644" OR "9668572" OR "9681746" OR "9809136" OR "9854904" OR "9955780" OR "9981571" OR "9993068" OR "D830739" OR "D870490" OR "D901959").pn.					
L4295	2518	A47B9/16.cpc.	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4296	6151	A47B21/02.cpc.	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4297	1892	A47B21/02.cpc. AND (gas OR spring)	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4298	390	A47B2200/005.cpc. AND (gas OR spring)	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4299	49	(Artificial Intelligence) More like doc: CN-106473451-A Text: (CN-206565534-U OR CN-106473451-B OR CN-204580324-U OR CN-105342138-B OR CN-105342138-A OR CN-108024625-A OR CN-106165968-B OR US-20180255919-A1	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, BE, BG, BR, BY, CA, CH, CN, CS, CU, CZ, DD, DE, DK, EA, EE, EP, ES, FI, FR, GB, HR, HU, ID, IE, IL, IS, IT, JP, KR, LT, LU, LV, MA, OA, RU, SU, WO, MC, MD, MY, NL, NO, NZ, PH, PL, PT, RO, RS, SE, SG, SI, SK,	OR	ON	ON	2022/09/21 01:52 PM

		OR CA-2999757-C OR US-10542817-B2 OR CN-108024625-B OR CN-106617668-A OR US-11395544-B1 OR WO-2018072235-A1 OR AT-413318-B OR CN-203353949-U OR CN-102949016-A OR EP-0142919-A1 OR CN-204541230-U OR CN-106165968-A).did.	TH, TN, TR, TW, UA, VN); FPRS; EPO; JPO; DERWENT; IBM_TDB)				
L4300	2404	A47B9/10.cpc.	(US-PGPUB; USPAT; USOCR; FIT (AP, AT, AU, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4301	387	108/144.11,147.22.ccls.	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4302	1960	A47B3/02.cpc.	(US-PGPUB; USPAT; USOCR; FIT (AP, AT, AU, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4303	1955	(A47B3/00 OR A47B61/00).cpc. AND (gas OR pneumatic OR spring)	(US-PGPUB; USPAT; USOCR; FIT (AP, AT, AU, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4304	591	A47B2003/025.cpc.	(US-PGPUB; USPAT; USOCR; FIT (AP, AT, AU, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4305	2630	108/116-118,120,43,138.ccls.	(US-PGPUB; USPAT; USOCR; FIT (AP, AT, AU, CA, CH, CN, DD, DE, EA, EP, ES, FR,	OR	ON	ON	2022/09/21 01:52 PM

			GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)				
L4306	36	("4052944" | "4765583" | "5125606" | "5131614" | "5143341" | "5263423" | "5355811" | "5593128" | "5732928").pn. OR ("5893540").urpn. AND (PGPB | USPT | USOC).dbnm.	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2022/09/21 01:52 PM
L4307	48	(Artificial Intelligence) More like doc: KR-20110006306-U Text: (KR-200416871-Y1 OR KR-20140006320-U OR CN-108813920-A OR TW-201033508-A OR KR-20160002687-U OR CN-110934419-A OR US-20100237666-A1 OR WO-2021226487-A1 OR US-20210345768-A1 OR CN-113812797-A OR CN-110623417-A OR CN-110786639-A OR CN-106165968-B OR AU-2014283918-A1 OR IE-S84540-Y1 OR CN-110115422-A OR GB-2439522-A OR WO-2008028306-A3 OR CN-2473993-Y OR CN-110973828-A).did.	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, BE, BG, BR, BY, CA, CH, CN, CS, CU, CZ, DD, DE, DK, EA, EE, EP, ES, FI, FR, GB, HR, HU, ID, IE, IL, IS, IT, JP, KR, LT, LU, LV, MA, OA, RU, SU, WO, MC, MD, MY, NL, NO, NZ, PH, PL, PT, RO, RS, SE, SG, SI, SK, TH, TN, TR, TW, UA, VN); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4308	1700	248/421,562,588,585,431,432,439.ccls. AND (gas OR pneumatic OR spring)	(US-PGPUB; USPAT; USOCR; FIT (AP, AT, AU, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4309	948	108/147,145,93,96.ccls. AND (gas OR pneumatic OR spring)	(US-PGPUB; USPAT; USOCR; FIT (AP, AT, AU, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4310	39	(Artificial Intelligence) More like doc: US-10568416-B1	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, BE, BG, BR, BY,	OR	ON	ON	2022/09/21 01:52 PM

		Text: (US-10244861-B1 OR US-11147366-B1 OR US-10575630-B1 OR US-11140977-B1 OR US-11134773-B1 OR US-11160367-B1 OR US-11388989-B1 OR US-11134774-B1 OR US-10893748-B1 OR US-11388991-B1 OR US-11395544-B1 OR US-9504316-B1 OR WO-2017184206-A1 OR US-20130014674-A1 OR US-20160037909-A1 OR US-20180103752-A1 OR US-10258149-B2 OR EP-3593671-B1 OR US-20140238279-A1 OR US-9681746-B1).did.	CA, CH, CN, CS, CU, CZ, DD, DE, DK, EA, EE, EP, ES, FI, FR, GB, HR, HU, ID, IE, IL, IS, IT, JP, KR, LT, LU, LV, MA, OA, RU, SU, WO, MC, MD, MY, NL, NO, NZ, PH, PL, PT, RO, RS, SE, SG, SI, SK, TH, TN, TR, TW, UA, VN); FPRS; EPO; JPO; DERWENT; IBM_TDB)				
L4311	14	"201230022"	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4312	0	"JP201230022"	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4313	0	"JP2012030022"	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4314	76	fin ADJ reinforcement SAME (tube OR column OR cylinder)	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4315	61	triangle ADJ	(US-PGPUB; USPAT;	OR	ON	ON	2022/09/21

		reinforcement SAME (tube OR column OR cylinder)	USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)				01:52 PM
L4316	16	("20160338486"|"11134773"|"11109671"|"10542817"|"20140041554"). PN.	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4317	2404	A47B9/10.cpc.	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4318	49	"6857493"	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4319	18	"2018125227"	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4320	9	"20180125227"	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4321	161	("10258148"|"20160249737"|"9815672"|"4448386"|"9681746"|"10869549"|"20170071332"|"4843978"|"5037163"|"6179261"|"7841570"|"8684339"|"9809136"|"D830739"|"D901959"|"10499730"|"20050120922"|"20	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2022/09/21 01:52 PM

		090145336"|"4659052"|"20030213415"|"4702454"|"10258149"|"1318564"|"20080000393"|"20100242174"|"20200029685"|"20200107633"|"4558648"|"5829948"|"6701853"|"7946551"|"8015638"|"8671853"|"9504316"|"11134773"|"10244861"|"10575630"|"11140977"|"11147366"|"5251864"|"10123613"|"10542817"|"10544019"|"20160353880"|"4221280"|"4449262"|"4549720"|"4717112"|"5211367"|"6076785"|"6176456"|"6269753"|"6516478"|"6792876"|"7207629"|"7575205"|"9854904"|"20140144352"|"20150289641"|"7677518"|"D845037"|"20070001077"|"20180213929"|"4640488"|"4753419"|"9668572"|"10023355"|"10264877"|"10524565"|"20070080564"|"2937003"|"4941641"|"4967672"|"4995130"|"5257767"|"5400720"|"5626323"|"5926876"|"6533229"|"6702372"|"6722618"|"6742768"|"7845665"|"8303062"|"8544391"|"9055810"|"9480332"|"9554644"|"9993068"|"11160367"|"20150028787"|"3823915"|"3826457"|"11083282"|"2843418"|"5957426"|"10413055"|"20070266912"|"20180279770"|"20190269237"|"3295800"|"5294087"|"6938866"|"7048236"|"8132518"|"8490933"|"8950343"|"9049923"|"9232855"|"11134774"|"D854775"|"9326598"|"20150216296"|"20190110588"|"20190183239"|"4709972"|"5048784"|"6098961"|"6148739"|"7188813"|"9955780"|"20180125227"|"10893748"|"4741512"|"8931750"|"6857493"|"10114352"|"5722513"|"20030042380					

		"|"20160338486"|"20180177289"|"4625657"|"4826123"|"6273382"|"7204193"|"D870490"|"10517390"|"20170354245"|"D302893"|"5400720"|"10568416"|"20120188302"|"20170196351"|"7246784"|"10018298"|"10306977"|"20120097822"|"20130193392"|"4577821"|"5588377"|"5765797"|"5836562"|"6488248"|"6533479"|"6672430"|"7950338"|"8469152"|"9981571").PN.				
L4322	870	A47B1/03.cpc.	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4323	17703	A47B21/0314,00,02,03.cpc.	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4324	1350	A47B21/0314,00,02,03.cpc. AND ((pnuematic OR gas) ADJ spring OR actuator)	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4325	162	("3140894"|"4926760"|"5588377"|"7640869"|"9113703"|"9615655"|"20160120300"|"6974185"|"9161616"|"5649493"|"8544391"|"9055810"|"9480332"|"9554644"|"201 60249737"|"2531856"|"3494662"|"8016305"|"9644378"|"9681746"|"2922685"|"9326598"|"9625929"|"3161161"|"8936306").PN.	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4326	88	("2156148"|"20040040480"|"20080203865"|"20130139736"|"20140041	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD,	OR	ON	ON	2022/09/21 01:52 PM

		554"|"20150216296"|"20150289641"|"20160286951"|"20160338486"|"3245366"|"4691888"|"5588377"|"8544391"|"9326598"|"9480332"|"9504316").PN.	DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)				
L4327	1313	312/208.1,223.3.ccls.	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4328	0	248/421,562,588, "585,431,432,439".cpc.	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4329	0	248/421,562,588,585,431,432,439.cpc.	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4330	3921	248/421,562,588,585,431,432,439.ccls.	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4331	2881	248/421,562,588,585.ccls.	(US-PGPUB; USPAT; USOCR; FIT (AP, AT, AU, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4332	1060	248/431,432,439.ccls.	(US-PGPUB; USPAT; USOCR; FIT (AP, AT, AU, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4333	3035	108/147,144.11,145,93.	(US-PGPUB; USPAT;	OR	ON	ON	2022/09/21

		ccls.	USOCR; FIT (AP, AT, AU, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)				01:52 PM
L4334	1049	108/96,116.ccls.	(US-PGPUB; USPAT; USOCR; FIT (AP, AT, AU, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4335	3238	108/118,120,43,138,50.01,50.02.ccls.	(US-PGPUB; USPAT; USOCR; FIT (AP, AT, AU, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4336	1877	108/118,120,43,138.ccls.	(US-PGPUB; USPAT; USOCR; FIT (AP, AT, AU, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4337	1396	108/50.01,50.02.ccls.	(US-PGPUB; USPAT; USOCR; FIT (AP, AT, AU, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4338	550	("7841570"|"8684339"|"5037163"|"10258148"|"8469152"|"9815672"|"10869549"|"10893748"|"20170071332"|"4843978"|"9681746"|"9809136"|"D830739"|"D854775"|"D901959"|"8671853"|"9504316"|"20040040480"|"20050120922"|"20180055214"|"6672430"|"8015638"|"9681746"|"10258148"|"10306977"|"1318564"|"20030213415"|"20050120922"|"20080000393"|"20170354245"|"20200107633"|"455	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM

		8648"|"4702454"|"5829948"|"6701853"|"8015638"|"D302893"|"10244861"|"7575205"|"10542817"|"20160353880"|"5211367"|"10893748"|"4995130"|"9504316"|"D830739"|"10544019"|"10575630"|"4221280"|"4449262"|"4549720"|"5251864"|"6269753"|"6516478"|"6792876"|"7207629"|"10524565"|"4753419"|"4941641"|"8303062"|"8544391"|"9480332"|"9554644"|"20160309889"|"5257767"|"20150289641"|"10023355"|"20070080564"|"20150289641"|"2937003"|"4995130"|"5400720"|"5626323"|"5926876"|"6533229"|"6702372"|"6722618"|"6742768"|"9055810"|"7845665"|"4967672"|"20100242174"|"9049923"|"10413055"|"20070266912"|"20200029685"|"3295800"|"4741512"|"5294087"|"5957426"|"7048236"|"8490933"|"8950343"|"9232855"|"9993068"|"9326598"|"D854775"|"10123613"|"10258149"|"20140144352"|"20150216296"|"6076785"|"6098961"|"9815672"|"9955780"|"20180177289"|"7677518"|"8931750"|"10499730"|"20160051042"|"6076785"|"4741512"|"20090145336"|"20160338486"|"7204193"|"7950338"|"8132518"|"20070001077"|"5400720"|"D302893"|"10517390"|"10568416"|"20120097822"|"20130193392"|"20170196351"|"3826457"|"4577821"|"5588377"|"5765797"|"6533479"|"6672430"|"8469152"|"10018298"|"9981571").PN.					
L4339	25	("3282566" | "4273306" | "5400720" | "5632209" | "5649493" | "9326598" | "20130340655" |	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2022/09/21 01:52 PM

		"20140360414" | "20150289641" | "20180055214").pn. OR ("10517390").urpn. AND (PGPB | USPT | USOC).dbnm.					
L4340	56	("1453406" | "1581874" | "2013542" | "2563060" | "2928558" | "3094948" | "3203670" | "3282566" | "4531720" | "4577821" | "4685731" | "4705438" | "4723769" | "4760997" | "4767109" | "4796029").pn. OR ("5400720").urpn. AND (PGPB | USPT | USOC).dbnm.	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2022/09/21 01:52 PM
L4341	25	("3219338" | "4558648" | "4741512" | "5400720" | "5695173" | "5823120" | "6672430" | "9326598" | "9504316" | "9815672" | "20030154890" | "20050120922" | "20130341984" | "20170174486" | "20170340104").pn. OR ("10258149").urpn. AND (PGPB | USPT | USOC).dbnm.	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2022/09/21 01:52 PM
L4342	76	("226053" | "4403680" | "4515086" | "4926760" | "5632209" | "5829948" | "6038986" | "6112858" | "6286812" | "6397763" | "6585214" | "6679479" | "6705238" | "6857493" | "7677518" | "7950338" | "8015638" | "8424883" | "8469152" | "9055810" | "9133976" | "20040040480" | "20070034125" | "20130145972" | "20150289641").pn. OR ("9504316").urpn. AND (PGPB | USPT | USOC).dbnm.	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2022/09/21 01:52 PM
L4343	56	("D166377" | "D280478" | "D304112" | "D352845" | "D371687" | "D395969" | "D415910" | "D424828" | "D435368" | "D435986" | "D436268" | "D464212" |	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2022/09/21 01:52 PM

		"D530939" | "D612643" | "D644046" | "D671338" | "D681979" | "D694044" | "D716074" | "D733476" | "D734413" | "D771981" | "D771982" | "9504316" | "D781617" | "D781618" | "D781619" | "D784050" | "20080178779" | "20130139736" | "20150096472" | "20160106205" | "20160278515" | "20170105518" | "20170196351" | "20170290413" | "20170354245").pn. OR ("D830739").urpn. AND (PGPB | USPT | USOC).dbnm.					
L4344	50	("3472183" | "3820631" | "4488326" | "4741512" | "4995130" | "5113972" | "D346254" | "D375602" | "5588377" | "D378155" | "5833198" | "6651775" | "6814188" | "D640030" | "D640440" | "8015638" | "D771982" | "9615655" | "D814736" | "9961991" | "D825131" | "D827241" | "D830739" | "D832623" | "20120034055" | "20130139736" | "20140014886" | "20140027693" | "20150159803" | "20150289641" | "20170049224" | "20170240396" | "20180103752" | "20180177289" | "20180184797" | "20180206630" | "20180255919").pn. OR ("D854775").urpn. AND (PGPB | USPT | USOC).dbnm.	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2022/09/21 01:52 PM
L4345	2518	A47B9/16.cpc.	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO;	OR	ON	ON	2022/09/21 01:52 PM

			JPO; DERWENT; IBM_TDB)				
L4346	2081	A47B2021/0321,0364.cpc.	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4347	10819	(A47B3/00 OR A47B61/00).cpc.	(US-PGPUB; USPAT; USOCR; FIT (AP, AT, AU, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4348	182	(A47B3/00 OR A47B61/00).cpc. AND ((pnuematic OR gas) ADJ spring OR actuator)	(US-PGPUB; USPAT; USOCR; FIT (AP, AT, AU, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4349	3649	A47B3/02,0809,0815.cpc.	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4350	1712	A47B3/0809,0815.cpc.	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4351	513	(A47B3/02 AND A47B2003/025).cpc.	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4352	1267876	(desk$4 OR table$4) AND ((pnuematic OR gas) ADJ spring OR actuator)	(US-PGPUB; USPAT; USOCR; FIT (AP, AT, AU, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO;	OR	ON	ON	2022/09/21 01:52 PM

			JPO; DERWENT; IBM_TDB)				
L4353	5666298	(desk$4 OR table$4) AND (X OR cross) ADJ (member OR arm)((pnuematic OR gas) ADJ spring OR actuator)	(US-PGPUB; USPAT; USOCR; FIT (AP, AT, AU, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4354	3703	(desk$4 OR table$4) AND (X OR cross) ADJ (member OR arm) SAME ((pnuematic OR gas) ADJ spring OR actuator)	(US-PGPUB; USPAT; USOCR; FIT (AP, AT, AU, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4355	869	(desk$4 OR table$4) SAME (X OR cross) ADJ (member OR arm) SAME ((pnuematic OR gas) ADJ spring OR actuator)	(US-PGPUB; USPAT; USOCR; FIT (AP, AT, AU, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4356	91	(desk$4 OR table$4) SAME (X OR cross) ADJ (member OR arm) SAME ((pnuematic OR gas) ADJ (spring OR actuator))	(US-PGPUB; USPAT; USOCR; FIT (AP, AT, AU, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4357	305	(desk$4 OR table$4) AND (X OR cross) ADJ (member OR arm) SAME ((pnuematic OR gas) ADJ (spring OR actuator))	(US-PGPUB; USPAT; USOCR; FIT (AP, AT, AU, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4358	56	"9815672"	(US-PGPUB; USPAT; USOCR; FIT (AP, AT, AU, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4359	202	("7841570"|"8684339"|"5037163"|"10258148"|"8469152"|"9815672"|"10869549"|"10893748"|"20170071332"|"4843978"|"9681746"|"9809136"	(US-PGPUB; USPAT; USOCR; FIT (AP, AT, AU, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO))	OR	ON	ON	2022/09/21 01:52 PM

		|"D830739"|"D854775"|"D901959"|"8671853"|"9504316"|"20040040480"|"20050120922"|"20180055214"|"6672430"|"8015638"|"9681746"|"10258148"|"10306977"|"1318564"|"20030213415"|"20050120922"|"20080000393"|"20170354245"|"20200107633"|"4558648"|"4702454"|"5829948"|"6701853"|"8015638"|"D302893"|"10244861"|"7575205"|"10542817"|"20160353880"|"5211367"|"10893748"|"4995130"|"9504316"|"D830739"|"10544019"|"10575630"|"4221280"|"4449262"|"4549720"|"5251864"|"6269753"|"6516478"|"6792876"|"7207629"|"10524565"|"4753419"|"4941641"|"8303062"|"8544391"|"9480332"|"9554644"|"20160309889"|"5257767"|"20150289641"|"20180103752"|"10023355"|"20070080564"|"20150289641"|"2937003"|"4995130"|"5400720"|"5626323"|"5926876"|"6533229"|"6702372"|"6722618"|"6742768"|"9055810"|"7845665"|"4967672"|"20100242174"|"9049923"|"10413055"|"20070266912"|"20200029685"|"3295800"|"4741512"|"5294087"|"5957426"|"7048236"|"8490933"|"8950343"|"9232855"|"9993068"|"9326598"|"D854775"|"10123613"|"10258149"|"20140144352"|"20150216296"|"6076785"|"6098961"|"9815672"|"9955780"|"20180177289"|"7677518"|"8931750"|"10499730"|"20160051042"|"6076785"|"4741512"|"20090145336"|"20160338486"|"7204193"|"7950338"|"8132518"|"20070001077"|"5400720"|"D302893"|"10517390"|"105684				

		16"|"20120097822"|"20130193392"|"20170196351"|"3826457"|"4577821"|"5588377"|"5765797"|"6533479"|"6672430"|"8469152"|"10018298"|"9981571").PN.					
L4360	67	"5400720"	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4361	84	"4577821"	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4362	24	(Artificial Intelligence) More like doc: US-D854775-S Text: (WO-0068597-A1 OR DE-4336662-A1 OR US-5694864-A OR AT-149474-T OR US-D378155-S OR US-D375602-S OR US-D346254-S OR US-D825131-S OR US-D814736-S OR US-D640440-S OR US-D837970-S OR TW-201522199-A OR TW-I531523-B OR US-20100012909-A1 OR US-D794629-S OR US-D834861-S OR US-D927102-S OR US-D706344-S OR US-D815832-S OR US-D775524-S).did.	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, BE, BG, BR, BY, CA, CH, CN, CS, CU, CZ, DD, DE, DK, EA, EE, EP, ES, FI, FR, GB, HR, HU, ID, IE, IL, IS, IT, JP, KR, LT, LU, LV, MA, OA, RU, SU, WO, MC, MD, MY, NL, NO, NZ, PH, PL, PT, RO, RS, SE, SG, SI, SK, TH, TN, TR, TW, UA, VN); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4363	50	("3472183" | "3820631" | "4488326" | "4741512" | "4995130" | "5113972" | "D346254" | "D375602" | "5588377" | "D378155" | "5833198" | "6651775" | "6814188" | "D640030" | "D640440" | "8015638" | "D771982"	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2022/09/21 01:52 PM

		| "9615655" | "D814736" | "9961991" | "D825131" | "D827241" | "D830739" | "D832623" | "20120034055" | "20130139736" | "20140014886" | "20140027693" | "20150159803" | "20150289641" | "20170049224" | "20170240396" | "20180103752" | "20180177289" | "20180184797" | "20180206630" | "20180255919").pn. OR ("D854775").urpn. AND (PGPB | USPT | USOC).dbnm.					
L4364	124	("1318564" | "2937003" | "3295800" | "3826457" | "4221280" | "4449262" | "4549720" | "4558648" | "4577821" | "4702454" | "4741512" | "4753419" | "4843978" | "D302893" | "4941641" | "4967672" | "4995130" | "5037163" | "5211367" | "5251864" | "5257767" | "5294087" | "5400720" | "5588377" | "5626323" | "5765797" | "5829948" | "5926876" | "5957426" | "6076785" | "6098961" | "6269753" | "6516478" | "6533229" | "6533479" | "6672430" | "6701853" | "6702372" | "6722618" | "6742768" | "6792876" | "7048236" | "7204193" | "7207629" | "7575205" | "7677518" | "7841570" | "7845665" | "7950338" | "8015638" | "8132518" | "8303062" | "8469152" | "8490933" | "8544391" | "8671853" | "8684339" | "8931750" | "8950343" | "9049923" | "9055810" | "9232855" | "9326598" | "9480332" | "9504316" | "9554644" | "9681746" | "9809136" | "9815672" | "9955780" | "9981571" | "9993068" | "10018298" | "10023355" | "D830739"	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2022/09/21 01:52 PM

		| "10123613" | "D845037" | "10244861" | "10258148" | "10258149" | "10306977" | "D854775" | "10413055" | "10499730" | "10517390" | "10524565" | "10542817" | "10544019" | "10568416" | "10575630" | "D901959" | "10869549" | "10893748" | "20030213415" | "20050120922" | "20070080564" | "20070266912" | "20080000393" | "20090145336" | "20100242174" | "20110001033" | "20120097822" | "20120188302" | "20130193392" | "20140144352" | "20150216296" | "20150289641" | "20160338486" | "20160353880" | "20170071332" | "20170174486" | "20170196351" | "20170354245" | "20180055214" | "20180177289" | "20200029685" | "20200107633").pn. OR ("11134774").urpn. AND (PGPB | USPT | USOC).dbnm.					
L4365	29	("20100198374"|"6062148"|"20140137773"|"20120174833"|"7789025"|"20160127809"|"5884882"|"7077068"|"20080255794"|"20140247155"|"9082239"|"20080255794"|"6595144"|"6831829"|"7780578"|"8947215"|"20130204438"|"6546880"|"7517029"|"20130116092"|"20140096706"|"8485945"|"20140247146"|"5323695"|"8587439"|"8690578"|"20140137773"|"20160128467"|	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2022/09/21 01:52 PM

		20130321346"|"20140096706"|"20140247154"|"20160260019").PN.					
L4366	27	("10244861"|"20180213929"|"9326598"|"9681746"|"8931750"|"7246784"|"10114352"|"5957426"|"5722513"|"4640488"|"5251864"|"4448386"|"4702454"|"2843418"|"9668572"|"20070001077"|"4753419"|"11083282"|"20170196351"|"D854775"|"20160249737"|"20120188302"|"10575630").PN.	(US-PGPUB; USPAT; USOCR; JPO)	OR	ON	ON	2022/09/21 01:52 PM
L4367	25	("3219338" | "4558648" | "4741512" | "5400720" | "5695173" | "5823120" | "6672430" | "9326598" | "9504316" | "9815672" | "20030154890" | "20050120922" | "20130341984" | "20170174486" | "20170340104").pn. OR ("10258149").urpn. AND (PGPB | USPT | USOC).dbnm.	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2022/09/21 01:52 PM
L4368	76	("226053" | "4403680" | "4515086" | "4926760" | "5632209" | "5829948" | "6038986" | "6112858" | "6286812" | "6397763" | "6585214" | "6679479" | "6705238" | "6857493" | "7677518" | "7950338" | "8015638" | "8424883" | "8469152" | "9055810" | "9133976" | "20040040480" | "20070034125" | "20130145972" | "20150289641").pn. OR ("9504316").urpn. AND (PGPB | USPT | USOC).dbnm.	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2022/09/21 01:52 PM
L4369	406	wilkens.xp. AND bracket AND A47B	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4370	159	wilkens.xp. AND	(US-PGPUB; USPAT;	OR	ON	ON	2022/09/21

		stack$4 AND A47B	USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)				01:52 PM
L4371	298	wilkens.xp. AND A47B88/$	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4372	16	("1680081" | "1686783" | "1902795" | "1994424" | "3094363" | "3275396" | "3298768" | "4285560").pn. OR ("10888157").urpn. AND (PGPB | USPT | USOC).dbnm.	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2022/09/21 01:52 PM
L4373	43	"3275396"	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4374	60	("2001744" | "2070960" | "2610824" | "3032319" | "3110476" | "3174722" | "3282566" | "3379411" | "3982718" | "4221280" | "4403680" | "4526346" | "4682750" | "4688760" | "4690250" | "4754713" | "4764075" | "4858888" | "4890692" | "4899987" | "4921074" | "5192053" | "5299906" | "5322143" | "5460460" | "5829948" | "6182796" | "6464205" | "6601826" | "6672430" | "6814188" | "7213686" | "20060126966" | "20060279728" | "20070017748" | "20070235266").pn. OR ("8469152").urpn. AND (PGPB | USPT | USOC).dbnm.	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2022/09/21 01:52 PM
L4375	37	("4061237" | "4249749" | "4288195" | "4504041"	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2022/09/21 01:52 PM

		| "4613272" | "4979592" | "5018931" | "6394419" | "6431319" | "6679479" | "8015638" | "8469152" | "8888070" | "9422141" | "9463966" | "9540220" | "20030075657" | "20050042068" | "20110262261" | "20140014886" | "20140027693" | "20150028787" | "20150298949").pn. OR ("9815672").urpn. AND (PGPB | USPT | USOC).dbnm.					
L4376	56	("1453406" | "1581874" | "2013542" | "2563060" | "2928558" | "3094948" | "3203670" | "3282566" | "4531720" | "4577821" | "4685731" | "4705438" | "4723769" | "4760997" | "4767109" | "4796029").pn. OR ("5400720").urpn. AND (PGPB | USPT | USOC).dbnm.	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2022/09/21 01:52 PM
L4377	47	"5861051"	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4378	1	"58-61051"	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4379	38	"102013008020"	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4380	870	A47B1/03.cpc.	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR,	OR	ON	ON	2022/09/21 01:52 PM

			GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)				
L4381	17703	A47B21/0314,00,02,03.cpc.	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4382	1350	A47B21/0314,00,02,03.cpc. AND ((pnuematic OR gas) ADJ spring OR actuator)	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4383	162	("3140894"|"4926760"|"5588377"|"7640869"|"9113703"|"9615655"|"20160120300"|"6974185"|"9161616"|"5649493"|"8544391"|"9055810"|"9480332"|"9554644"|"20160249737"|"2531856"|"3494662"|"8016305"|"9644378"|"9681746"|"2922685"|"9326598"|"9625929"|"3161161"|"8936306").PN.	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4384	88	("2156148"|"20040040480"|"20080203865"|"20130139736"|"20140041554"|"20150216296"|"20150289641"|"20160286951"|"20160338486"|"3245366"|"4691888"|"5588377"|"8544391"|"9326598"|"9480332"|"9504316").PN.	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4385	1313	312/208.1,223.3.ccls.	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4386	0	248/421,562,588,"585,431,432,439".cpc.	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU,	OR	ON	ON	2022/09/21 01:52 PM

			SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)				
L4387	0	248/421,562,588,585,431,432,439.cpc.	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4388	3921	248/421,562,588,585,431,432,439.ccls.	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4389	2881	248/421,562,588,585.ccls.	(US-PGPUB; USPAT; USOCR; FIT (AP, AT, AU, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4390	1060	248/431,432,439.ccls.	(US-PGPUB; USPAT; USOCR; FIT (AP, AT, AU, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4391	3035	108/147,144.11,145,93.ccls.	(US-PGPUB; USPAT; USOCR; FIT (AP, AT, AU, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4392	1049	108/96,116.ccls.	(US-PGPUB; USPAT; USOCR; FIT (AP, AT, AU, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4393	3238	108/118,120,43,138,50.01,50.02.ccls.	(US-PGPUB; USPAT; USOCR; FIT (AP, AT, AU, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU,	OR	ON	ON	2022/09/21 01:52 PM

			SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)				
L4394	1877	108/118,120,43,138.ccls.	(US-PGPUB; USPAT; USOCR; FIT (AP, AT, AU, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4395	1396	108/50.01,50.02.ccls.	(US-PGPUB; USPAT; USOCR; FIT (AP, AT, AU, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4396	550	("7841570"|"8684339"|"5037163"|"10258148"|"8469152"|"9815672"|"10869549"|"10893748"|"20170071332"|"4843978"|"9681746"|"9809136"|"D830739"|"D854775"|"D901959"|"8671853"|"9504316"|"20040040480"|"20050120922"|"20180055214"|"6672430"|"8015638"|"9681746"|"10258148"|"10306977"|"1318564"|"20030213415"|"20050120922"|"20080000393"|"20170354245"|"20200107633"|"4558648"|"4702454"|"5829948"|"6701853"|"8015638"|"D302893"|"10244861"|"7575205"|"10542817"|"20160353880"|"5211367"|"10893748"|"4995130"|"9504316"|"D830739"|"10544019"|"10575630"|"4221280"|"4449262"|"4549720"|"5251864"|"6269753"|"6516478"|"6792876"|"7207629"|"10524565"|"4753419"|"4941641"|"8303062"|"8544391"|"9480332"|"9554644"|"20160309889"|"5257767"|"20150289641"|"10023355"|"20070080564"|"20150289641"|"2937003"|"4995130"|"540	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM

		0720"|"5626323"|"5926876"|"6533229"|"6702372"|"6722618"|"6742768"|"9055810"|"7845665"|"4967672"|"20100242174"|"9049923"|"10413055"|"20070266912"|"20200029685"|"3295800"|"4741512"|"5294087"|"5957426"|"7048236"|"8490933"|"8950343"|"9232855"|"9993068"|"9326598"|"D854775"|"10123613"|"10258149"|"20140144352"|"20150216296"|"6076785"|"6098961"|"9815672"|"9955780"|"20180177289"|"7677518"|"8931750"|"10499730"|"20160051042"|"6076785"|"4741512"|"20090145336"|"20160338486"|"7204193"|"7950338"|"8132518"|"20070001077"|"5400720"|"D302893"|"10517390"|"10568416"|"20120097822"|"20130193392"|"20170196351"|"3826457"|"4577821"|"5588377"|"5765797"|"6533479"|"6672430"|"8469152"|"10018298"|"9981571").PN.					
L4397	25	("3282566" | "4273306" | "5400720" | "5632209" | "5649493" | "9326598" | "20130340655" | "20140360414" | "20150289641" | "20180055214").pn. OR ("10517390").urpn. AND (PGPB | USPT | USOC).dbnm.	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2022/09/21 01:52 PM
L4398	56	("1453406" | "1581874" | "2013542" | "2563060" | "2928558" | "3094948" | "3203670" | "3282566" | "4531720" | "4577821" | "4685731" | "4705438" | "4723769" | "4760997" | "4767109" | "4796029").pn. OR ("5400720").urpn. AND (PGPB | USPT | USOC).dbnm.	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2022/09/21 01:52 PM
L4399	25	("3219338" | "4558648" | "4741512" | "5400720"	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2022/09/21 01:52 PM

		| "5695173" | "5823120" | "6672430" | "9326598" | "9504316" | "9815672" | "20030154890" | "20050120922" | "20130341984" | "20170174486" | "20170340104").pn. OR ("10258149").urpn. AND (PGPB | USPT | USOC).dbnm.					
L4400	76	("226053" | "4403680" | "4515086" | "4926760" | "5632209" | "5829948" | "6038986" | "6112858" | "6286812" | "6397763" | "6585214" | "6679479" | "6705238" | "6857493" | "7677518" | "7950338" | "8015638" | "8424883" | "8469152" | "9055810" | "9133976" | "20040040480" | "20070034125" | "20130145972" | "20150289641").pn. OR ("9504316").urpn. AND (PGPB | USPT | USOC).dbnm.	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2022/09/21 01:52 PM
L4401	56	("D166377" | "D280478" | "D304112" | "D352845" | "D371687" | "D395969" | "D415910" | "D424828" | "D435368" | "D435986" | "D436268" | "D464212" | "D530939" | "D612643" | "D644046" | "D671338" | "D681979" | "D694044" | "D716074" | "D733476" | "D734413" | "D771981" | "D771982" | "9504316" | "D781617" | "D781618" | "D781619" | "D784050" | "20080178779" | "20130139736" | "20150096472" | "20160106205" | "20160278515" | "20170105518" | "20170196351" | "20170290413" | "20170354245").pn. OR ("D830739").urpn. AND	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2022/09/21 01:52 PM

		(PGPB | USPT | USOC).dbnm.					
L4402	50	("3472183" | "3820631" | "4488326" | "4741512" | "4995130" | "5113972" | "D346254" | "D375602" | "5588377" | "D378155" | "5833198" | "6651775" | "6814188" | "D640030" | "D640440" | "8015638" | "D771982" | "9615655" | "D814736" | "9961991" | "D825131" | "D827241" | "D830739" | "D832623" | "20120034055" | "20130139736" | "20140014886" | "20140027693" | "20150159803" | "20150289641" | "20170049224" | "20170240396" | "20180103752" | "20180177289" | "20180184797" | "20180206630" | "20180255919").pn. OR ("D854775").urpn. AND (PGPB | USPT | USOC).dbnm.	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2022/09/21 01:52 PM
L4403	2518	A47B9/16.cpc.	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4404	2081	A47B2021/0321,0364.cpc.	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4405	10819	(A47B3/00 OR A47B61/00).cpc.	(US-PGPUB; USPAT; USOCR; FIT (AP, AT, AU, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4406	182	(A47B3/00 OR	(US-PGPUB; USPAT;	OR	ON	ON	2022/09/21

		A47B61/00).cpc. AND ((pnuematic OR gas) ADJ spring OR actuator)	USOCR; FIT (AP, AT, AU, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)				01:52 PM
L4407	3649	A47B3/02,0809,0815.cpc.	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4408	1712	A47B3/0809,0815.cpc.	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4409	513	(A47B3/02 AND A47B2003/025).cpc.	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4410	1267876	(desk$4 OR table$4) AND ((pnuematic OR gas) ADJ spring OR actuator)	(US-PGPUB; USPAT; USOCR; FIT (AP, AT, AU, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4411	5666298	(desk$4 OR table$4) AND (X OR cross) ADJ (member OR arm)((pnuematic OR gas) ADJ spring OR actuator)	(US-PGPUB; USPAT; USOCR; FIT (AP, AT, AU, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4412	3703	(desk$4 OR table$4) AND (X OR cross) ADJ (member OR arm) SAME ((pnuematic OR gas) ADJ spring OR actuator)	(US-PGPUB; USPAT; USOCR; FIT (AP, AT, AU, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4413	869	(desk$4 OR table$4)	(US-PGPUB; USPAT;	OR	ON	ON	2022/09/21

		SAME (X OR cross) ADJ (member OR arm) SAME ((pnuematic OR gas) ADJ spring OR actuator)	USOCR; FIT (AP, AT, AU, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)				01:52 PM
L4414	91	(desk$4 OR table$4) SAME (X OR cross) ADJ (member OR arm) SAME ((pnuematic OR gas) ADJ (spring OR actuator))	(US-PGPUB; USPAT; USOCR; FIT (AP, AT, AU, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4415	305	(desk$4 OR table$4) AND (X OR cross) ADJ (member OR arm) SAME ((pnuematic OR gas) ADJ (spring OR actuator))	(US-PGPUB; USPAT; USOCR; FIT (AP, AT, AU, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4416	56	"9815672"	(US-PGPUB; USPAT; USOCR; FIT (AP, AT, AU, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4417	202	("7841570"|"8684339"|"5037163"|"10258148"|"8469152"|"9815672"|"10869549"|"10893748"|"20170071332"|"4843978"|"9681746"|"9809136"|"D830739"|"D854775"|"D901959"|"8671853"|"9504316"|"20040040480"|"20050120922"|"20180055214"|"6672430"|"8015638"|"9681746"|"10258148"|"10306977"|"1318564"|"20030213415"|"20050120922"|"20080000393"|"20170354245"|"20200107633"|"4558648"|"4702454"|"5829948"|"6701853"|"8015638"|"D302893"|"10244861"|"7575205"|"10542817"|"20160353880"|"5211367"|"10893748"|"4995130"|"9504316"|"D830739"|"10544019"|"10575630"|"4221280"|"444	(US-PGPUB; USPAT; USOCR; FIT (AP, AT, AU, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO))	OR	ON	ON	2022/09/21 01:52 PM

		9262"|"4549720"|"5251864"|"6269753"|"6516478"|"6792876"|"7207629"|"10524565"|"4753419"|"4941641"|"8303062"|"8544391"|"9480332"|"9554644"|"20160309889"|"5257767"|"20150289641"|"10023355"|"20070080564"|"20150289641"|"2937003"|"4995130"|"5400720"|"5626323"|"5926876"|"6533229"|"6702372"|"6722618"|"6742768"|"9055810"|"7845665"|"4967672"|"20100242174"|"9049923"|"10413055"|"20070266912"|"20200029685"|"3295800"|"4741512"|"5294087"|"5957426"|"7048236"|"8490933"|"8950343"|"9232855"|"9993068"|"9326598"|"D854775"|"10123613"|"10258149"|"20140144352"|"20150216296"|"6076785"|"6098961"|"9815672"|"9955780"|"20180177289"|"7677518"|"8931750"|"10499730"|"20160051042"|"6076785"|"4741512"|"20090145336"|"20160338486"|"7204193"|"7950338"|"8132518"|"20070001077"|"5400720"|"D302893"|"10517390"|"10568416"|"20120097822"|"20130193392"|"20170196351"|"3826457"|"4577821"|"5588377"|"5765797"|"6533479"|"6672430"|"8469152"|"10018298"|"9981571").PN.					
L4418	67	"5400720"	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4419	84	"4577821"	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR,	OR	ON	ON	2022/09/21 01:52 PM

			GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)				
L4420	24	(Artificial Intelligence) More like doc: US-D854775-S Text: (WO-0068597-A1 OR DE-4336662-A1 OR US-5694864-A OR AT-149474-T OR US-D378155-S OR US-D375602-S OR US-D346254-S OR US-D825131-S OR US-D814736-S OR US-D640440-S OR US-D837970-S OR TW-201522199-A OR TW-I531523-B OR US-20100012909-A1 OR US-D794629-S OR US-D834861-S OR US-D927102-S OR US-D706344-S OR US-D815832-S OR US-D775524-S).did.	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, BE, BG, BR, BY, CA, CH, CN, CS, CU, CZ, DD, DE, DK, EA, EE, EP, ES, FI, FR, GB, HR, HU, ID, IE, IL, IS, IT, JP, KR, LT, LU, LV, MA, OA, RU, SU, WO, MC, MD, MY, NL, NO, NZ, PH, PL, PT, RO, RS, SE, SG, SI, SK, TH, TN, TR, TW, UA, VN); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4421	50	("3472183" | "3820631" | "4488326" | "4741512" | "4995130" | "5113972" | "D346254" | "D375602" | "5588377" | "D378155" | "5833198" | "6651775" | "6814188" | "D640030" | "D640440" | "8015638" | "D771982" | "9615655" | "D814736" | "9961991" | "D825131" | "D827241" | "D830739" | "D832623" | "20120034055" | "20130139736" | "20140014886" | "20140027693" | "20150159803" | "20150289641" | "20170049224" | "20170240396" | "20180103752" | "20180177289" | "20180184797" | "20180206630" | "20180255919").pn. OR ("D854775").urpn. AND (PGPB | USPT | USOC).dbnm.	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2022/09/21 01:52 PM

L4422	124	("1318564" | "2937003" | "3295800" | "3826457" | "4221280" | "4449262" | "4549720" | "4558648" | "4577821" | "4702454" | "4741512" | "4753419" | "4843978" | "D302893" | "4941641" | "4967672" | "4995130" | "5037163" | "5211367" | "5251864" | "5257767" | "5294087" | "5400720" | "5588377" | "5626323" | "5765797" | "5829948" | "5926876" | "5957426" | "6076785" | "6098961" | "6269753" | "6516478" | "6533229" | "6533479" | "6672430" | "6701853" | "6702372" | "6722618" | "6742768" | "6792876" | "7048236" | "7204193" | "7207629" | "7575205" | "7677518" | "7841570" | "7845665" | "7950338" | "8015638" | "8132518" | "8303062" | "8469152" | "8490933" | "8544391" | "8671853" | "8684339" | "8931750" | "8950343" | "9049923" | "9055810" | "9232855" | "9326598" | "9480332" | "9504316" | "9554644" | "9681746" | "9809136" | "9815672" | "9955780" | "9981571" | "9993068" | "10018298" | "10023355" | "D830739" | "10123613" | "D845037" | "10244861" | "10258148" | "10258149" | "10306977" | "D854775" | "10413055" | "10499730" | "10517390" | "10524565" | "10542817" | "10544019" | "10568416" | "10575630" | "D901959" | "10869549" | "10893748" | "20030213415" | "20050120922" | "20070080564" | "20070266912" | "20080000393" |	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2022/09/21 01:52 PM

		"20090145336" | "20100242174" | "20110001033" | "20120097822" | "20120188302" | "20130193392" | "20140144352" | "20150216296" | "20150289641" | "20160338486" | "20160353880" | "20170071332" | "20170174486" | "20170196351" | "20170354245" | "20180055214" | "20180177289" | "20200029685" | "20200107633").pn. OR ("11134774").urpn. AND (PGPB | USPT | USOC).dbnm.					
L4423	29	("20100198374"|"6062148"|"20140137773"|"20120174833"|"7789025"|"20160127809"|"5884882"|"7077068"|"20080255794"|"20140247155"|"9082239"|"20080255794"|"6595144"|"6831829"|"7780578"|"8947215"|"20130204438"|"6546880"|"7517029"|"20130116092"|"20140096706"|"8485945"|"20140247146"|"5323695"|"8587439"|"8690578"|"20140137773"|"20160128467"|"20130321346"|"20140096706"|"20140247154"|"20160260019").PN.	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2022/09/21 01:52 PM
L4424	27	("10244861"|"20180213929"|"9326598"|"9681746"|"8931750"|"7246784"|"10114352"|"5957426"|"5722513"|"4640488"|"5251864"|"4448386"|"4702454"|"2843418"|"9668572"|"20070001077"|"4753419"|"11083282"|"20170196351"|"D854775"|"20160249737"|"20120188302"|"10575630").PN.	(US-PGPUB; USPAT; USOCR; JPO)	OR	ON	ON	2022/09/21 01:52 PM
L4425	25	("3219338" | "4558648" | "4741512" | "5400720" | "5695173" | "5823120"	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2022/09/21 01:52 PM

		| "6672430" | "9326598" | "9504316" | "9815672" | "20030154890" | "20050120922" | "20130341984" | "20170174486" | "20170340104").pn. OR ("10258149").urpn. AND (PGPB | USPT | USOC).dbnm.					
L4426	76	("226053" | "4403680" | "4515086" | "4926760" | "5632209" | "5829948" | "6038986" | "6112858" | "6286812" | "6397763" | "6585214" | "6679479" | "6705238" | "6857493" | "7677518" | "7950338" | "8015638" | "8424883" | "8469152" | "9055810" | "9133976" | "20040040480" | "20070034125" | "20130145972" | "20150289641").pn. OR ("9504316").urpn. AND (PGPB | USPT | USOC).dbnm.	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2022/09/21 01:52 PM
L4427	406	wilkens.xp. AND bracket AND A47B	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4428	159	wilkens.xp. AND stack$4 AND A47B	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4429	298	wilkens.xp. AND A47B88/$	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4430	16	("1680081" | "1686783" | "1902795" | "1994424" | "3094363" | "3275396" | "3298768" |	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2022/09/21 01:52 PM

		"4285560").pn. OR ("10888157").urpn. AND (PGPB | USPT | USOC).dbnm.					
L4431	43	"3275396"	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4432	60	("2001744" | "2070960" | "2610824" | "3032319" | "3110476" | "3174722" | "3282566" | "3379411" | "3982718" | "4221280" | "4403680" | "4526346" | "4682750" | "4688760" | "4690250" | "4754713" | "4764075" | "4858888" | "4890692" | "4899987" | "4921074" | "5192053" | "5299906" | "5322143" | "5460460" | "5829948" | "6182796" | "6464205" | "6601826" | "6672430" | "6814188" | "7213686" | "20060126966" | "20060279728" | "20070017748" | "20070235266").pn. OR ("8469152").urpn. AND (PGPB | USPT | USOC).dbnm.	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2022/09/21 01:52 PM
L4433	37	("4061237" | "4249749" | "4288195" | "4504041" | "4613272" | "4979592" | "5018931" | "6394419" | "6431319" | "6679479" | "8015638" | "8469152" | "8888070" | "9422141" | "9463966" | "9540220" | "20030075657" | "20050042068" | "20110262261" | "20140014886" | "20140027693" | "20150028787" | "20150298949").pn. OR ("9815672").urpn. AND (PGPB | USPT | USOC).dbnm.	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2022/09/21 01:52 PM
L4434	56	("1453406" | "1581874" | "2013542" | "2563060" | "2928558" | "3094948" | "3203670" | "3282566"	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2022/09/21 01:52 PM

		| "4531720" | "4577821" | "4685731" | "4705438" | "4723769" | "4760997" | "4767109" | "4796029").pn. OR ("5400720").urpn. AND (PGPB | USPT | USOC).dbnm.					
L4435	47	"5861051"	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4436	1	"58-61051"	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4437	38	"102013008020"	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4438	5	"20190116976"	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4439	10	"20200003258"	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4440	2	"20210214986"	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM

L4441	41	"4741512"	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4442	139	"7677518"	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4443	870	A47B1/03.cpc.	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4444	17703	A47B21/0314,00,02,03.cpc.	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4445	1350	A47B21/0314,00,02,03.cpc. AND ((pnuematic OR gas) ADJ spring OR actuator)	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4446	162	("3140894"|"4926760"|"5588377"|"7640869"|"9113703"|"9615655"|"20160120300"|"6974185"|"9161616"|"5649493"|"8544391"|"9055810"|"9480332"|"9554644"|"20160249737"|"2531856"|"3494662"|"8016305"|"9644378"|"9681746"|"2922685"|"9326598"|"9625929"|"3161161"|"8936306").PN.	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4447	88	("2156148"|"20040040480"|"20080203865"|"20130139736"|"20140041	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD,	OR	ON	ON	2022/09/21 01:52 PM

		554"|"20150216296"|"20150289641"|"20160286951"|"20160338486"|"3245366"|"4691888"|"5588377"|"8544391"|"9326598"|"9480332"|"9504316").PN.	DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)				
L4448	1313	312/208.1,223.3.ccls.	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4449	0	248/421,562,588, "585,431,432,439".cpc.	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4450	0	248/421,562,588,585,431,432,439.cpc.	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4451	3921	248/421,562,588,585,431,432,439.ccls.	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4452	2881	248/421,562,588,585.ccls.	(US-PGPUB; USPAT; USOCR; FIT (AP, AT, AU, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4453	1060	248/431,432,439.ccls.	(US-PGPUB; USPAT; USOCR; FIT (AP, AT, AU, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4454	3035	108/147,144.11,145,93.	(US-PGPUB; USPAT;	OR	ON	ON	2022/09/21

		ccls.	USOCR; FIT (AP, AT, AU, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)				01:52 PM
L4455	1049	108/96,116.ccls.	(US-PGPUB; USPAT; USOCR; FIT (AP, AT, AU, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4456	3238	108/118,120,43,138,50.01,50.02.ccls.	(US-PGPUB; USPAT; USOCR; FIT (AP, AT, AU, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4457	1877	108/118,120,43,138.ccls.	(US-PGPUB; USPAT; USOCR; FIT (AP, AT, AU, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4458	1396	108/50.01,50.02.ccls.	(US-PGPUB; USPAT; USOCR; FIT (AP, AT, AU, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4459	550	("7841570"|"8684339"|"5037163"|"10258148"|"8469152"|"9815672"|"10869549"|"10893748"|"20170071332"|"4843978"|"9681746"|"9809136"|"D830739"|"D854775"|"D901959"|"8671853"|"9504316"|"20040040480"|"20050120922"|"20180055214"|"6672430"|"8015638"|"9681746"|"10258148"|"10306977"|"1318564"|"20030213415"|"20050120922"|"20080000393"|"20170354245"|"20200107633"|"455	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM

		8648"|"4702454"|"5829948"|"6701853"|"8015638"|"D302893"|"10244861"|"7575205"|"10542817"|"20160353880"|"5211367"|"10893748"|"4995130"|"9504316"|"D830739"|"10544019"|"10575630"|"4221280"|"4449262"|"4549720"|"5251864"|"6269753"|"6516478"|"6792876"|"7207629"|"10524565"|"4753419"|"4941641"|"8303062"|"8544391"|"9480332"|"9554644"|"20160309889"|"5257767"|"20150289641"|"10023355"|"20070080564"|"20150289641"|"2937003"|"4995130"|"5400720"|"5626323"|"5926876"|"6533229"|"6702372"|"6722618"|"6742768"|"9055810"|"7845665"|"4967672"|"20100242174"|"9049923"|"10413055"|"20070266912"|"20200029685"|"3295800"|"4741512"|"5294087"|"5957426"|"7048236"|"8490933"|"8950343"|"9232855"|"9993068"|"9326598"|"D854775"|"10123613"|"10258149"|"20140144352"|"20150216296"|"6076785"|"6098961"|"9815672"|"9955780"|"20180177289"|"7677518"|"8931750"|"10499730"|"20160051042"|"6076785"|"4741512"|"20090145336"|"20160338486"|"7204193"|"7950338"|"8132518"|"20070001077"|"5400720"|"D302893"|"10517390"|"10568416"|"20120097822"|"20130193392"|"20170196351"|"3826457"|"4577821"|"5588377"|"5765797"|"6533479"|"6672430"|"8469152"|"10018298"|"9981571").PN.					
L4460	25	("3282566" | "4273306" | "5400720" | "5632209" | "5649493" | "9326598" | "20130340655" |	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2022/09/21 01:52 PM

		"20140360414" | "20150289641" | "20180055214").pn. OR ("10517390").urpn. AND (PGPB | USPT | USOC).dbnm.					
L4461	56	("1453406" | "1581874" | "2013542" | "2563060" | "2928558" | "3094948" | "3203670" | "3282566" | "4531720" | "4577821" | "4685731" | "4705438" | "4723769" | "4760997" | "4767109" | "4796029").pn. OR ("5400720").urpn. AND (PGPB | USPT | USOC).dbnm.	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2022/09/21 01:52 PM
L4462	25	("3219338" | "4558648" | "4741512" | "5400720" | "5695173" | "5823120" | "6672430" | "9326598" | "9504316" | "9815672" | "20030154890" | "20050120922" | "20130341984" | "20170174486" | "20170340104").pn. OR ("10258149").urpn. AND (PGPB | USPT | USOC).dbnm.	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2022/09/21 01:52 PM
L4463	76	("226053" | "4403680" | "4515086" | "4926760" | "5632209" | "5829948" | "6038986" | "6112858" | "6286812" | "6397763" | "6585214" | "6679479" | "6705238" | "6857493" | "7677518" | "7950338" | "8015638" | "8424883" | "8469152" | "9055810" | "9133976" | "20040040480" | "20070034125" | "20130145972" | "20150289641").pn. OR ("9504316").urpn. AND (PGPB | USPT | USOC).dbnm.	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2022/09/21 01:52 PM
L4464	56	("D166377" | "D280478" | "D304112" | "D352845" | "D371687" | "D395969" | "D415910" | "D424828" | "D435368" | "D435986" | "D436268" | "D464212" |	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2022/09/21 01:52 PM

		"D530939" | "D612643" | "D644046" | "D671338" | "D681979" | "D694044" | "D716074" | "D733476" | "D734413" | "D771981" | "D771982" | "9504316" | "D781617" | "D781618" | "D781619" | "D784050" | "20080178779" | "20130139736" | "20150096472" | "20160106205" | "20160278515" | "20170105518" | "20170196351" | "20170290413" | "20170354245").pn. OR ("D830739").urpn. AND (PGPB | USPT | USOC).dbnm.					
L4465	50	("3472183" | "3820631" | "4488326" | "4741512" | "4995130" | "5113972" | "D346254" | "D375602" | "5588377" | "D378155" | "5833198" | "6651775" | "6814188" | "D640030" | "D640440" | "8015638" | "D771982" | "9615655" | "D814736" | "9961991" | "D825131" | "D827241" | "D830739" | "D832623" | "20120034055" | "20130139736" | "20140014886" | "20140027693" | "20150159803" | "20150289641" | "20170049224" | "20170240396" | "20180103752" | "20180177289" | "20180184797" | "20180206630" | "20180255919").pn. OR ("D854775").urpn. AND (PGPB | USPT | USOC).dbnm.	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2022/09/21 01:52 PM
L4466	2518	A47B9/16.cpc.	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO;	OR	ON	ON	2022/09/21 01:52 PM

			JPO; DERWENT; IBM_TDB)				
L4467	2081	A47B2021/0321,0364.cpc.	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4468	10819	(A47B3/00 OR A47B61/00).cpc.	(US-PGPUB; USPAT; USOCR; FIT (AP, AT, AU, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4469	182	(A47B3/00 OR A47B61/00).cpc. AND ((pnuematic OR gas) ADJ spring OR actuator)	(US-PGPUB; USPAT; USOCR; FIT (AP, AT, AU, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4470	3649	A47B3/02,0809,0815.cpc.	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4471	1712	A47B3/0809,0815.cpc.	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4472	513	(A47B3/02 AND A47B2003/025).cpc.	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4473	1267876	(desk$4 OR table$4) AND ((pnuematic OR gas) ADJ spring OR actuator)	(US-PGPUB; USPAT; USOCR; FIT (AP, AT, AU, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO;	OR	ON	ON	2022/09/21 01:52 PM

			JPO; DERWENT; IBM_TDB)				
L4474	5666298	(desk$4 OR table$4) AND (X OR cross) ADJ (member OR arm)((pnuematic OR gas) ADJ spring OR actuator)	(US-PGPUB; USPAT; USOCR; FIT (AP, AT, AU, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4475	3703	(desk$4 OR table$4) AND (X OR cross) ADJ (member OR arm) SAME ((pnuematic OR gas) ADJ spring OR actuator)	(US-PGPUB; USPAT; USOCR; FIT (AP, AT, AU, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4476	869	(desk$4 OR table$4) SAME (X OR cross) ADJ (member OR arm) SAME ((pnuematic OR gas) ADJ spring OR actuator)	(US-PGPUB; USPAT; USOCR; FIT (AP, AT, AU, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4477	91	(desk$4 OR table$4) SAME (X OR cross) ADJ (member OR arm) SAME ((pnuematic OR gas) ADJ (spring OR actuator))	(US-PGPUB; USPAT; USOCR; FIT (AP, AT, AU, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4478	305	(desk$4 OR table$4) AND (X OR cross) ADJ (member OR arm) SAME ((pnuematic OR gas) ADJ (spring OR actuator))	(US-PGPUB; USPAT; USOCR; FIT (AP, AT, AU, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4479	56	"9815672"	(US-PGPUB; USPAT; USOCR; FIT (AP, AT, AU, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4480	202	("7841570"|"8684339"|"5037163"|"10258148"|"8469152"|"9815672"|"10869549"|"10893748"|"20170071332"|"4843978"|"9681746"|"9809136"	(US-PGPUB; USPAT; USOCR; FIT (AP, AT, AU, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO))	OR	ON	ON	2022/09/21 01:52 PM

		|"D830739"|"D854775"|"D901959"|"8671853"|"9504316"|"20040040480"|"20050120922"|"20180055214"|"6672430"|"8015638"|"9681746"|"10258148"|"10306977"|"1318564"|"20030213415"|"20050120922"|"20080000393"|"20170354245"|"20200107633"|"4558648"|"4702454"|"5829948"|"6701853"|"8015638"|"D302893"|"10244861"|"7575205"|"10542817"|"20160353880"|"5211367"|"10893748"|"4995130"|"9504316"|"D830739"|"10544019"|"10575630"|"4221280"|"4449262"|"4549720"|"5251864"|"6269753"|"6516478"|"6792876"|"7207629"|"10524565"|"4753419"|"4941641"|"8303062"|"8544391"|"9480332"|"9554644"|"20160309889"|"5257767"|"20150289641"|"20180103752"|"10023355"|"20070080564"|"20150289641"|"2937003"|"4995130"|"5400720"|"5626323"|"5926876"|"6533229"|"6702372"|"6722618"|"6742768"|"9055810"|"7845665"|"4967672"|"20100242174"|"9049923"|"10413055"|"20070266912"|"20200029685"|"3295800"|"4741512"|"5294087"|"5957426"|"7048236"|"8490933"|"8950343"|"9232855"|"9993068"|"9326598"|"D854775"|"10123613"|"10258149"|"20140144352"|"20150216296"|"6076785"|"6098961"|"9815672"|"9955780"|"20180177289"|"7677518"|"8931750"|"10499730"|"20160051042"|"6076785"|"4741512"|"20090145336"|"20160338486"|"7204193"|"7950338"|"8132518"|"20070001077"|"5400720"|"D302893"|"10517390"|"105684					

		16"|"20120097822"|"20130193392"|"20170196351"|"3826457"|"4577821"|"5588377"|"5765797"|"6533479"|"6672430"|"8469152"|"10018298"|"9981571").PN.					
L4481	67	"5400720"	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4482	84	"4577821"	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4483	24	(Artificial Intelligence) More like doc: US-D854775-S Text: (WO-0068597-A1 OR DE-4336662-A1 OR US-5694864-A OR AT-149474-T OR US-D378155-S OR US-D375602-S OR US-D346254-S OR US-D825131-S OR US-D814736-S OR US-D640440-S OR US-D837970-S OR TW-201522199-A OR TW-I531523-B OR US-20100012909-A1 OR US-D794629-S OR US-D834861-S OR US-D927102-S OR US-D706344-S OR US-D815832-S OR US-D775524-S).did.	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, BE, BG, BR, BY, CA, CH, CN, CS, CU, CZ, DD, DE, DK, EA, EE, EP, ES, FI, FR, GB, HR, HU, ID, IE, IL, IS, IT, JP, KR, LT, LU, LV, MA, OA, RU, SU, WO, MC, MD, MY, NL, NO, NZ, PH, PL, PT, RO, RS, SE, SG, SI, SK, TH, TN, TR, TW, UA, VN); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4484	50	("3472183" | "3820631" | "4488326" | "4741512" | "4995130" | "5113972" | "D346254" | "D375602" | "5588377" | "D378155" | "5833198" | "6651775" | "6814188" | "D640030" | "D640440" | "8015638" | "D771982"	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2022/09/21 01:52 PM

		| "9615655" | "D814736" | "9961991" | "D825131" | "D827241" | "D830739" | "D832623" | "20120034055" | "20130139736" | "20140014886" | "20140027693" | "20150159803" | "20150289641" | "20170049224" | "20170240396" | "20180103752" | "20180177289" | "20180184797" | "20180206630" | "20180255919").pn. OR ("D854775").urpn. AND (PGPB | USPT | USOC).dbnm.					
L4485	124	("1318564" | "2937003" | "3295800" | "3826457" | "4221280" | "4449262" | "4549720" | "4558648" | "4577821" | "4702454" | "4741512" | "4753419" | "4843978" | "D302893" | "4941641" | "4967672" | "4995130" | "5037163" | "5211367" | "5251864" | "5257767" | "5294087" | "5400720" | "5588377" | "5626323" | "5765797" | "5829948" | "5926876" | "5957426" | "6076785" | "6098961" | "6269753" | "6516478" | "6533229" | "6533479" | "6672430" | "6701853" | "6702372" | "6722618" | "6742768" | "6792876" | "7048236" | "7204193" | "7207629" | "7575205" | "7677518" | "7841570" | "7845665" | "7950338" | "8015638" | "8132518" | "8303062" | "8469152" | "8490933" | "8544391" | "8671853" | "8684339" | "8931750" | "8950343" | "9049923" | "9055810" | "9232855" | "9326598" | "9480332" | "9504316" | "9554644" | "9681746" | "9809136" | "9815672" | "9955780" | "9981571" | "9993068" | "10018298" | "10023355" | "D830739"	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2022/09/21 01:52 PM

		| "10123613" | "D845037" | "10244861" | "10258148" | "10258149" | "10306977" | "D854775" | "10413055" | "10499730" | "10517390" | "10524565" | "10542817" | "10544019" | "10568416" | "10575630" | "D901959" | "10869549" | "10893748" | "20030213415" | "20050120922" | "20070080564" | "20070266912" | "20080000393" | "20090145336" | "20100242174" | "20110001033" | "20120097822" | "20120188302" | "20130193392" | "20140144352" | "20150216296" | "20150289641" | "20160338486" | "20160353880" | "20170071332" | "20170174486" | "20170196351" | "20170354245" | "20180055214" | "20180177289" | "20200029685" | "20200107633").pn. OR ("11134774").urpn. AND (PGPB | USPT | USOC).dbnm.					
L4486	29	("20100198374"|"6062148"|"20140137773"|"20120174833"|"7789025"|"20160127809"|"5884882"|"7077068"|"20080255794"|"20140247155"|"9082239"|"20080255794"|"6595144"|"6831829"|"7780578"|"8947215"|"20130204438"|"6546880"|"7517029"|"20130116092"|"20140096706"|"8485945"|"20140247146"|"5323695"|"8587439"|"8690578"|"20140137773"|"20160128467"|	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2022/09/21 01:52 PM

		20130321346"|"20140096706"|"20140247154"|"20160260019").PN.					
L4487	27	("10244861"|"20180213929"|"9326598"|"9681746"|"8931750"|"7246784"|"10114352"|"5957426"|"5722513"|"4640488"|"5251864"|"4448386"|"4702454"|"2843418"|"9668572"|"20070001077"|"4753419"|"11083282"|"20170196351"|"D854775"|"20160249737"|"20120188302"|"10575630").PN.	(US-PGPUB; USPAT; USOCR; JPO)	OR	ON	ON	2022/09/21 01:52 PM
L4488	25	("3219338" | "4558648" | "4741512" | "5400720" | "5695173" | "5823120" | "6672430" | "9326598" | "9504316" | "9815672" | "20030154890" | "20050120922" | "20130341984" | "20170174486" | "20170340104").pn. OR ("10258149").urpn. AND (PGPB | USPT | USOC).dbnm.	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2022/09/21 01:52 PM
L4489	76	("226053" | "4403680" | "4515086" | "4926760" | "5632209" | "5829948" | "6038986" | "6112858" | "6286812" | "6397763" | "6585214" | "6679479" | "6705238" | "6857493" | "7677518" | "7950338" | "8015638" | "8424883" | "8469152" | "9055810" | "9133976" | "20040040480" | "20070034125" | "20130145972" | "20150289641").pn. OR ("9504316").urpn. AND (PGPB | USPT | USOC).dbnm.	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2022/09/21 01:52 PM
L4490	406	wilkens.xp. AND bracket AND A47B	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4491	159	wilkens.xp. AND	(US-PGPUB; USPAT;	OR	ON	ON	2022/09/21

		stack$4 AND A47B	USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)				01:52 PM
L4492	298	wilkens.xp. AND A47B88/$	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4493	16	("1680081" | "1686783" | "1902795" | "1994424" | "3094363" | "3275396" | "3298768" | "4285560").pn. OR ("10888157").urpn. AND (PGPB | USPT | USOC).dbnm.	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2022/09/21 01:52 PM
L4494	43	"3275396"	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4495	60	("2001744" | "2070960" | "2610824" | "3032319" | "3110476" | "3174722" | "3282566" | "3379411" | "3982718" | "4221280" | "4403680" | "4526346" | "4682750" | "4688760" | "4690250" | "4754713" | "4764075" | "4858888" | "4890692" | "4899987" | "4921074" | "5192053" | "5299906" | "5322143" | "5460460" | "5829948" | "6182796" | "6464205" | "6601826" | "6672430" | "6814188" | "7213686" | "20060126966" | "20060279728" | "20070017748" | "20070235266").pn. OR ("8469152").urpn. AND (PGPB | USPT | USOC).dbnm.	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2022/09/21 01:52 PM
L4496	37	("4061237" | "4249749" | "4288195" | "4504041"	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2022/09/21 01:52 PM

		| "4613272" | "4979592" | "5018931" | "6394419" | "6431319" | "6679479" | "8015638" | "8469152" | "8888070" | "9422141" | "9463966" | "9540220" | "20030075657" | "20050042068" | "20110262261" | "20140014886" | "20140027693" | "20150028787" | "20150298949").pn. OR ("9815672").urpn. AND (PGPB | USPT | USOC).dbnm.					
L4497	56	("1453406" | "1581874" | "2013542" | "2563060" | "2928558" | "3094948" | "3203670" | "3282566" | "4531720" | "4577821" | "4685731" | "4705438" | "4723769" | "4760997" | "4767109" | "4796029").pn. OR ("5400720").urpn. AND (PGPB | USPT | USOC).dbnm.	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2022/09/21 01:52 PM
L4498	47	"5861051"	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4499	1	"58-61051"	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4500	38	"102013008020"	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4501	870	A47B1/03.cpc.	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR,	OR	ON	ON	2022/09/21 01:52 PM

			GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)				
L4502	17703	A47B21/0314,00,02,03.cpc.	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4503	1350	A47B21/0314,00,02,03.cpc. AND ((pnuematic OR gas) ADJ spring OR actuator)	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4504	162	("3140894"|"4926760"|"5588377"|"7640869"|"9113703"|"9615655"|"20160120300"|"6974185"|"9161616"|"5649493"|"8544391"|"9055810"|"9480332"|"9554644"|"20160249737"|"2531856"|"3494662"|"8016305"|"9644378"|"9681746"|"2922685"|"9326598"|"9625929"|"3161161"|"8936306").PN.	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4505	88	("2156148"|"20040040480"|"20080203865"|"20130139736"|"20140041554"|"20150216296"|"20150289641"|"20160286951"|"20160338486"|"3245366"|"4691888"|"5588377"|"8544391"|"9326598"|"9480332"|"9504316").PN.	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4506	1313	312/208.1,223.3.ccls.	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4507	0	248/421,562,588, "585,431,432,439".cpc.	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU,	OR	ON	ON	2022/09/21 01:52 PM

			SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)				
L4508	0	248/421,562,588,585,431,432,439.cpc.	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4509	3921	248/421,562,588,585,431,432,439.ccls.	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4510	2881	248/421,562,588,585.ccls.	(US-PGPUB; USPAT; USOCR; FIT (AP, AT, AU, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4511	1060	248/431,432,439.ccls.	(US-PGPUB; USPAT; USOCR; FIT (AP, AT, AU, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4512	3035	108/147,144.11,145,93.ccls.	(US-PGPUB; USPAT; USOCR; FIT (AP, AT, AU, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4513	1049	108/96,116.ccls.	(US-PGPUB; USPAT; USOCR; FIT (AP, AT, AU, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4514	3238	108/118,120,43,138,50.01,50.02.ccls.	(US-PGPUB; USPAT; USOCR; FIT (AP, AT, AU, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU,	OR	ON	ON	2022/09/21 01:52 PM

			SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)				
L4515	1877	108/118,120,43,138.ccls.	(US-PGPUB; USPAT; USOCR; FIT (AP, AT, AU, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4516	1396	108/50.01,50.02.ccls.	(US-PGPUB; USPAT; USOCR; FIT (AP, AT, AU, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4517	550	("7841570"|"8684339"|"5037163"|"10258148"|"8469152"|"9815672"|"10869549"|"10893748"|"20170071332"|"4843978"|"9681746"|"9809136"|"D830739"|"D854775"|"D901959"|"8671853"|"9504316"|"20040040480"|"20050120922"|"20180055214"|"6672430"|"8015638"|"9681746"|"10258148"|"10306977"|"1318564"|"20030213415"|"20050120922"|"20080000393"|"20170354245"|"20200107633"|"4558648"|"4702454"|"5829948"|"6701853"|"8015638"|"D302893"|"10244861"|"7575205"|"10542817"|"20160353880"|"5211367"|"10893748"|"4995130"|"9504316"|"D830739"|"10544019"|"10575630"|"4221280"|"4449262"|"4549720"|"5251864"|"6269753"|"6516478"|"6792876"|"7207629"|"10524565"|"4753419"|"4941641"|"8303062"|"8544391"|"9480332"|"9554644"|"20160309889"|"5257767"|"20150289641"|"20180103752"|"10023355"|"20070080564"|"20150289641"|"2937003"|"4995130"|"540	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM

		0720"|"5626323"|"5926876"|"6533229"|"6702372"|"6722618"|"6742768"|"9055810"|"7845665"|"4967672"|"20100242174"|"9049923"|"10413055"|"20070266912"|"20200029685"|"3295800"|"4741512"|"5294087"|"5957426"|"7048236"|"8490933"|"8950343"|"9232855"|"9993068"|"9326598"|"D854775"|"10123613"|"10258149"|"20140144352"|"20150216296"|"6076785"|"6098961"|"9815672"|"9955780"|"20180177289"|"7677518"|"8931750"|"10499730"|"20160051042"|"6076785"|"4741512"|"20090145336"|"20160338486"|"7204193"|"7950338"|"8132518"|"20070001077"|"5400720"|"D302893"|"10517390"|"10568416"|"20120097822"|"20130193392"|"20170196351"|"3826457"|"4577821"|"5588377"|"5765797"|"6533479"|"6672430"|"8469152"|"10018298"|"9981571").PN.					
L4518	25	("3282566" | "4273306" | "5400720" | "5632209" | "5649493" | "9326598" | "20130340655" | "20140360414" | "20150289641" | "20180055214").pn. OR ("10517390").urpn. AND (PGPB | USPT | USOC).dbnm.	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2022/09/21 01:52 PM
L4519	56	("1453406" | "1581874" | "2013542" | "2563060" | "2928558" | "3094948" | "3203670" | "3282566" | "4531720" | "4577821" | "4685731" | "4705438" | "4723769" | "4760997" | "4767109" | "4796029").pn. OR ("5400720").urpn. AND (PGPB | USPT | USOC).dbnm.	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2022/09/21 01:52 PM
L4520	25	("3219338" | "4558648" | "4741512" | "5400720"	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2022/09/21 01:52 PM

		| "5695173" | "5823120" | "6672430" | "9326598" | "9504316" | "9815672" | "20030154890" | "20050120922" | "20130341984" | "20170174486" | "20170340104").pn. OR ("10258149").urpn. AND (PGPB | USPT | USOC).dbnm.					
L4521	76	("226053" | "4403680" | "4515086" | "4926760" | "5632209" | "5829948" | "6038986" | "6112858" | "6286812" | "6397763" | "6585214" | "6679479" | "6705238" | "6857493" | "7677518" | "7950338" | "8015638" | "8424883" | "8469152" | "9055810" | "9133976" | "20040040480" | "20070034125" | "20130145972" | "20150289641").pn. OR ("9504316").urpn. AND (PGPB | USPT | USOC).dbnm.	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2022/09/21 01:52 PM
L4522	56	("D166377" | "D280478" | "D304112" | "D352845" | "D371687" | "D395969" | "D415910" | "D424828" | "D435368" | "D435986" | "D436268" | "D464212" | "D530939" | "D612643" | "D644046" | "D671338" | "D681979" | "D694044" | "D716074" | "D733476" | "D734413" | "D771981" | "D771982" | "9504316" | "D781617" | "D781618" | "D781619" | "D784050" | "20080178779" | "20130139736" | "20150096472" | "20160106205" | "20160278515" | "20170105518" | "20170196351" | "20170290413" | "20170354245").pn. OR ("D830739").urpn. AND	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2022/09/21 01:52 PM

		(PGPB | USPT | USOC).dbnm.					
L4523	50	("3472183" | "3820631" | "4488326" | "4741512" | "4995130" | "5113972" | "D346254" | "D375602" | "5588377" | "D378155" | "5833198" | "6651775" | "6814188" | "D640030" | "D640440" | "8015638" | "D771982" | "9615655" | "D814736" | "9961991" | "D825131" | "D827241" | "D830739" | "D832623" | "20120034055" | "20130139736" | "20140014886" | "20140027693" | "20150159803" | "20150289641" | "20170049224" | "20170240396" | "20180103752" | "20180177289" | "20180184797" | "20180206630" | "20180255919").pn. OR ("D854775").urpn. AND (PGPB | USPT | USOC).dbnm.	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2022/09/21 01:52 PM
L4524	2518	A47B9/16.cpc.	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4525	2081	A47B2021/0321,0364.cpc.	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4526	10819	(A47B3/00 OR A47B61/00).cpc.	(US-PGPUB; USPAT; USOCR; FIT (AP, AT, AU, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4527	182	(A47B3/00 OR	(US-PGPUB; USPAT;	OR	ON	ON	2022/09/21

		A47B61/00).cpc. AND ((pnuematic OR gas) ADJ spring OR actuator)	USOCR; FIT (AP, AT, AU, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)				01:52 PM
L4528	3649	A47B3/02,0809,0815.cpc.	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4529	1712	A47B3/0809,0815.cpc.	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4530	513	(A47B3/02 AND A47B2003/025).cpc.	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4531	1267876	(desk$4 OR table$4) AND ((pnuematic OR gas) ADJ spring OR actuator)	(US-PGPUB; USPAT; USOCR; FIT (AP, AT, AU, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4532	5666298	(desk$4 OR table$4) AND (X OR cross) ADJ (member OR arm)((pnuematic OR gas) ADJ spring OR actuator)	(US-PGPUB; USPAT; USOCR; FIT (AP, AT, AU, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4533	3703	(desk$4 OR table$4) AND (X OR cross) ADJ (member OR arm) SAME ((pnuematic OR gas) ADJ spring OR actuator)	(US-PGPUB; USPAT; USOCR; FIT (AP, AT, AU, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4534	869	(desk$4 OR table$4)	(US-PGPUB; USPAT;	OR	ON	ON	2022/09/21

		SAME (X OR cross) ADJ (member OR arm) SAME ((pnuematic OR gas) ADJ spring OR actuator)	USOCR; FIT (AP, AT, AU, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)				01:52 PM
L4535	91	(desk$4 OR table$4) SAME (X OR cross) ADJ (member OR arm) SAME ((pnuematic OR gas) ADJ (spring OR actuator))	(US-PGPUB; USPAT; USOCR; FIT (AP, AT, AU, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4536	305	(desk$4 OR table$4) AND (X OR cross) ADJ (member OR arm) SAME ((pnuematic OR gas) ADJ (spring OR actuator))	(US-PGPUB; USPAT; USOCR; FIT (AP, AT, AU, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4537	56	"9815672"	(US-PGPUB; USPAT; USOCR; FIT (AP, AT, AU, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4538	202	("7841570"|"8684339"|"5037163"|"10258148"|"8469152"|"9815672"|"10869549"|"10893748"|"20170071332"|"4843978"|"9681746"|"9809136"|"D830739"|"D854775"|"D901959"|"8671853"|"9504316"|"20040040480"|"20050120922"|"20180055214"|"6672430"|"8015638"|"9681746"|"10258148"|"10306977"|"1318564"|"20030213415"|"20050120922"|"20080000393"|"20170354245"|"20200107633"|"4558648"|"4702454"|"5829948"|"6701853"|"8015638"|"D302893"|"10244861"|"7575205"|"10542817"|"20160353880"|"5211367"|"10893748"|"4995130"|"9504316"|"D830739"|"10544019"|"10575630"|"4221280"|"444	(US-PGPUB; USPAT; USOCR; FIT (AP, AT, AU, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO))	OR	ON	ON	2022/09/21 01:52 PM

		9262"|"4549720"|"5251864"|"6269753"|"6516478"|"6792876"|"7207629"|"10524565"|"4753419"|"4941641"|"8303062"|"8544391"|"9480332"|"9554644"|"20160309889"|"5257767"|"20150289641"|"10023355"|"20070080564"|"20150289641"|"2937003"|"4995130"|"5400720"|"5626323"|"5926876"|"6533229"|"6702372"|"6722618"|"6742768"|"9055810"|"7845665"|"4967672"|"20100242174"|"9049923"|"10413055"|"20070266912"|"20200029685"|"3295800"|"4741512"|"5294087"|"5957426"|"7048236"|"8490933"|"8950343"|"9232855"|"9993068"|"9326598"|"D854775"|"10123613"|"10258149"|"20140144352"|"20150216296"|"6076785"|"6098961"|"9815672"|"9955780"|"20180177289"|"7677518"|"8931750"|"10499730"|"20160051042"|"6076785"|"4741512"|"20090145336"|"20160338486"|"7204193"|"7950338"|"8132518"|"20070001077"|"5400720"|"D302893"|"10517390"|"10568416"|"20120097822"|"20130193392"|"20170196351"|"3826457"|"4577821"|"5588377"|"5765797"|"6533479"|"6672430"|"8469152"|"10018298"|"9981571").PN.					
L4539	67	"5400720"	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4540	84	"4577821"	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR,	OR	ON	ON	2022/09/21 01:52 PM

			GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)				
L4541	24	(Artificial Intelligence) More like doc: US-D854775-S Text: (WO-0068597-A1 OR DE-4336662-A1 OR US-5694864-A OR AT-149474-T OR US-D378155-S OR US-D375602-S OR US-D346254-S OR US-D825131-S OR US-D814736-S OR US-D640440-S OR US-D837970-S OR TW-201522199-A OR TW-I531523-B OR US-20100012909-A1 OR US-D794629-S OR US-D834861-S OR US-D927102-S OR US-D706344-S OR US-D815832-S OR US-D775524-S).did.	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, BE, BG, BR, BY, CA, CH, CN, CS, CU, CZ, DD, DE, DK, EA, EE, EP, ES, FI, FR, GB, HR, HU, ID, IE, IL, IS, IT, JP, KR, LT, LU, LV, MA, OA, RU, SU, WO, MC, MD, MY, NL, NO, NZ, PH, PL, PT, RO, RS, SE, SG, SI, SK, TH, TN, TR, TW, UA, VN); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4542	50	("3472183" | "3820631" | "4488326" | "4741512" | "4995130" | "5113972" | "D346254" | "D375602" | "5588377" | "D378155" | "5833198" | "6651775" | "6814188" | "D640030" | "D640440" | "8015638" | "D771982" | "9615655" | "D814736" | "9961991" | "D825131" | "D827241" | "D830739" | "D832623" | "20120034055" | "20130139736" | "20140014886" | "20140027693" | "20150159803" | "20150289641" | "20170049224" | "20170240396" | "20180103752" | "20180177289" | "20180184797" | "20180206630" | "20180255919").pn. OR ("D854775").urpn. AND (PGPB | USPT | USOC).dbnm.	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2022/09/21 01:52 PM

L4543	124	("1318564" | "2937003" | "3295800" | "3826457" | "4221280" | "4449262" | "4549720" | "4558648" | "4577821" | "4702454" | "4741512" | "4753419" | "4843978" | "D302893" | "4941641" | "4967672" | "4995130" | "5037163" | "5211367" | "5251864" | "5257767" | "5294087" | "5400720" | "5588377" | "5626323" | "5765797" | "5829948" | "5926876" | "5957426" | "6076785" | "6098961" | "6269753" | "6516478" | "6533229" | "6533479" | "6672430" | "6701853" | "6702372" | "6722618" | "6742768" | "6792876" | "7048236" | "7204193" | "7207629" | "7575205" | "7677518" | "7841570" | "7845665" | "7950338" | "8015638" | "8132518" | "8303062" | "8469152" | "8490933" | "8544391" | "8671853" | "8684339" | "8931750" | "8950343" | "9049923" | "9055810" | "9232855" | "9326598" | "9480332" | "9504316" | "9554644" | "9681746" | "9809136" | "9815672" | "9955780" | "9981571" | "9993068" | "10018298" | "10023355" | "D830739" | "10123613" | "D845037" | "10244861" | "10258148" | "10258149" | "10306977" | "D854775" | "10413055" | "10499730" | "10517390" | "10524565" | "10542817" | "10544019" | "10568416" | "10575630" | "D901959" | "10869549" | "10893748" | "20030213415" | "20050120922" | "20070080564" | "20070266912" | "20080000393" |	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2022/09/21 01:52 PM

		"20090145336" | "20100242174" | "20110001033" | "20120097822" | "20120188302" | "20130193392" | "20140144352" | "20150216296" | "20150289641" | "20160338486" | "20160353880" | "20170071332" | "20170174486" | "20170196351" | "20170354245" | "20180055214" | "20180177289" | "20200029685" | "20200107633").pn. OR ("11134774").urpn. AND (PGPB | USPT | USOC).dbnm.					
L4544	29	("20100198374"|"6062148"|"20140137773"|"20120174833"|"7789025"|"20160127809"|"5884882"|"7077068"|"20080255794"|"20140247155"|"9082239"|"20080255794"|"6595144"|"6831829"|"7780578"|"8947215"|"20130204438"|"6546880"|"7517029"|"20130116092"|"20140096706"|"8485945"|"20140247146"|"5323695"|"8587439"|"8690578"|"20140137773"|"20160128467"|"20130321346"|"20140096706"|"20140247154"|"20160260019").PN.	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2022/09/21 01:52 PM
L4545	27	("10244861"|"20180213929"|"9326598"|"9681746"|"8931750"|"7246784"|"10114352"|"5957426"|"5722513"|"4640488"|"5251864"|"4448386"|"4702454"|"2843418"|"9668572"|"20070001077"|"4753419"|"11083282"|"20170196351"|"D854775"|"20160249737"|"20120188302"|"10575630").PN.	(US-PGPUB; USPAT; USOCR; JPO)	OR	ON	ON	2022/09/21 01:52 PM
L4546	25	("3219338" | "4558648" | "4741512" | "5400720" | "5695173" | "5823120"	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2022/09/21 01:52 PM

		| "6672430" | "9326598" | "9504316" | "9815672" | "20030154890" | "20050120922" | "20130341984" | "20170174486" | "20170340104").pn. OR ("10258149").urpn. AND (PGPB | USPT | USOC).dbnm.					
L4547	76	("226053" | "4403680" | "4515086" | "4926760" | "5632209" | "5829948" | "6038986" | "6112858" | "6286812" | "6397763" | "6585214" | "6679479" | "6705238" | "6857493" | "7677518" | "7950338" | "8015638" | "8424883" | "8469152" | "9055810" | "9133976" | "20040040480" | "20070034125" | "20130145972" | "20150289641").pn. OR ("9504316").urpn. AND (PGPB | USPT | USOC).dbnm.	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2022/09/21 01:52 PM
L4548	406	wilkens.xp. AND bracket AND A47B	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4549	159	wilkens.xp. AND stack$4 AND A47B	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4550	298	wilkens.xp. AND A47B88/$	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4551	16	("1680081" | "1686783" | "1902795" | "1994424" | "3094363" | "3275396" | "3298768" |	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2022/09/21 01:52 PM

		"4285560").pn. OR ("10888157").urpn. AND (PGPB | USPT | USOC).dbnm.					
L4552	43	"3275396"	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4553	60	("2001744" | "2070960" | "2610824" | "3032319" | "3110476" | "3174722" | "3282566" | "3379411" | "3982718" | "4221280" | "4403680" | "4526346" | "4682750" | "4688760" | "4690250" | "4754713" | "4764075" | "4858888" | "4890692" | "4899987" | "4921074" | "5192053" | "5299906" | "5322143" | "5460460" | "5829948" | "6182796" | "6464205" | "6601826" | "6672430" | "6814188" | "7213686" | "20060126966" | "20060279728" | "20070017748" | "20070235266").pn. OR ("8469152").urpn. AND (PGPB | USPT | USOC).dbnm.	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2022/09/21 01:52 PM
L4554	37	("4061237" | "4249749" | "4288195" | "4504041" | "4613272" | "4979592" | "5018931" | "6394419" | "6431319" | "6679479" | "8015638" | "8469152" | "8888070" | "9422141" | "9463966" | "9540220" | "20030075657" | "20050042068" | "20110262261" | "20140014886" | "20140027693" | "20150028787" | "20150298949").pn. OR ("9815672").urpn. AND (PGPB | USPT | USOC).dbnm.	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2022/09/21 01:52 PM
L4555	56	("1453406" | "1581874" | "2013542" | "2563060" | "2928558" | "3094948" | "3203670" | "3282566"	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2022/09/21 01:52 PM

		| "4531720" | "4577821" | "4685731" | "4705438" | "4723769" | "4760997" | "4767109" | "4796029").pn. OR ("5400720").urpn. AND (PGPB | USPT | USOC).dbnm.					
L4556	47	"5861051"	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4557	1	"58-61051"	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4558	38	"102013008020"	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4559	5	"20190116976"	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4560	10	"20200003258"	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4561	2	"20210214986"	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM

L4562	41	"4741512"	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4563	139	"7677518"	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4564	24	("10114352"|"10244861"|"10575630"|"11083282"|"20070001077"|"20120188302"|"20160249737"|"20170196351"|"20180213929"|"2843418"|"4448386"|"4640488"|"4702454"|"4753419"|"5251864"|"5722513"|"5957426"|"7246784"|"8931750"|"9326598"|"9668572"|"9681746"|"D854775").PN.	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2022/09/21 01:52 PM
L4565	70	("1318564" | "2937003" | "3295800" | "4221280" | "4558648" | "4577821" | "4843978" | "5588377" | "5626323" | "5829948" | "5957426" | "6098961" | "6269753" | "6516478" | "6533479" | "6722618" | "6742768" | "8132518" | "8671853" | "9049923" | "9055810" | "9326598" | "9480332" | "9504316" | "9554644" | "20030213415" | "20040035332" | "20040040480" | "20070080564" | "20080000393" | "20090090832" | "20090200437" | "20110001033" | "20110024958" | "20120097822" | "20130145972" | "20130193392" | "20140144352" | "20150232005" | "20150375896" |	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2022/09/21 01:52 PM

		"20160338486" | "20170174486" | "20180008037").pn. OR ("10244861").urpn. AND (PGPB | USPT | USOC).dbnm.					
L4566	27	("10114352"|"10244861"|"10575630"|"11083282"|"11134773"|"20030213415"|"20070001077"|"20120188302"|"20160249737"|"20170196351"|"20180213929"|"2843418"|"4448386"|"4640488"|"4702454"|"4753419"|"5251864"|"5722513"|"5957426"|"7246784"|"8931750"|"9326598"|"9668572"|"9681746"|"9815672"|"D854775").PN.	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2022/09/21 01:52 PM
L4567	70	("1234569" | "1318564" | "2156148" | "2630359" | "4926760" | "5497706" | "5588377" | "5833200" | "6182935" | "6701853" | "7849789" | "8015638" | "8544391" | "8936306").pn. OR ("9326598").urpn. AND (PGPB | USPT | USOC).dbnm.	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2022/09/21 01:52 PM
L4568	25	("383610" | "4640488" | "5211369" | "7246784" | "7637468" | "7677518" | "8439334" | "8844894" | "9326598" | "10092089" | "20070295882" | "20130145972" | "20140264215" | "20150014609" | "20160249737" | "20180008037" | "20180146775" | "20180177289" | "20180279770" | "20180332957" | "20180360208" | "20200298599").pn. OR ("11083282").urpn. AND (PGPB | USPT | USOC).dbnm.	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2022/09/21 01:52 PM
L4569	18	("2016/0249737").urpn. AND (PGPB | USPT | USOC).dbnm.	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2022/09/21 01:52 PM
L4570	25	("3219338" | "4558648" | "4741512" | "5400720"	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2022/09/21 01:52 PM

		| "5695173" | "5823120" | "6672430" | "9326598" | "9504316" | "9815672" | "20030154890" | "20050120922" | "20130341984" | "20170174486" | "20170340104").pn. OR ("10258149").urpn. AND (PGPB | USPT | USOC).dbnm.					
L4571	76	("226053" | "4403680" | "4515086" | "4926760" | "5632209" | "5829948" | "6038986" | "6112858" | "6286812" | "6397763" | "6585214" | "6679479" | "6705238" | "6857493" | "7677518" | "7950338" | "8015638" | "8424883" | "8469152" | "9055810" | "9133976" | "20040040480" | "20070034125" | "20130145972" | "20150289641").pn. OR ("9504316").urpn. AND (PGPB | USPT | USOC).dbnm.	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2022/09/21 01:52 PM
L4572	37	("2766088" | "D716074" | "9326598" | "9504316" | "D781617" | "D781618" | "20030230222" | "20150289641" | "20170290413" | "20170354245" | "20180055214" | "20180125227").pn. OR ("D845037").urpn. AND (PGPB | USPT | USOC).dbnm.	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2022/09/21 01:52 PM
L4573	76	("226053" | "4403680" | "4515086" | "4926760" | "5632209" | "5829948" | "6038986" | "6112858" | "6286812" | "6397763" | "6585214" | "6679479" | "6705238" | "6857493" | "7677518" | "7950338" | "8015638" | "8424883" | "8469152" | "9055810" | "9133976" | "20040040480" | "20070034125" | "20130145972" | "20150289641").pn. OR	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2022/09/21 01:52 PM

		("9504316").urpn. AND (PGPB | USPT | USOC).dbnm.					
L4574	56	"9815672"	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4575	17	"9815672"	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO))	OR	ON	ON	2022/09/21 01:52 PM
L4576	135828	hydraulic WITH gas WITH (spring OR cylinder)	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4577	727	hydraulic WITH gas WITH (spring OR cylinder) AND A47B	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4578	263	hydraulic WITH gas WITH (spring OR cylinder) AND A47B AND desk	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4579	139	"7677518"	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4580	114	"7677518"	(US-PGPUB; USPAT; USOCR; EPO)	OR	ON	ON	2022/09/21 01:52 PM
L4581	114	"7677518"	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2022/09/21 01:52 PM
L4582	129	("4691886" | "4729533" | "5037054" | "5044284"	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2022/09/21 01:52 PM

		| "5174223" | "5200859" | "5287815" | "5405204" | "5445353" | "5564668" | "5636711" | "D393382" | "5829948" | "5938622" | "5961231" | "6286812" | "6585214" | "6736469" | "6905102" | "7111825" | "7383786").pn. OR ("7677518").urpn. AND (PGPB | USPT | USOC).dbnm.					
L4583	10	("6857493"|"5400720").PN.	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4584	37	"1142343"	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4585	2	("6857493"|"5400720").PN.	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2022/09/21 01:52 PM
L4586	104	("10114352"|"10244861"|"10575630"|"11083282"|"20070001077"|"20120188302"|"20160249737"|"20170196351"|"20180213929"|"2843418"|"4448386"|"4640488"|"4702454"|"4753419"|"5251864"|"5722513"|"5957426"|"7246784"|"8931750"|"9326598"|"9668572"|"9681746"|"D854775").PN.	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4587	24	("10114352"|"10244861"|"10575630"|"11083282"|"20070001077"|"20120188302"|"20160249737"|"20170196351"|"20180213929"|"2843418"|"4448386"|"4640488"|"4702454"|"4753419"|"5251864"|"5722513"|"5957426"|"7246784"|"8931750"|"9326598"|"9668572"|"9681746"|"D854775").PN.	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2022/09/21 01:52 PM

L4588	132	("10018298" OR "10023355" OR "10123613" OR "10258148" OR "10258149" OR "10264877" OR "10306977" OR "10413055" OR "10499730" OR "10517390" OR "10524565" OR "10542817" OR "10544019" OR "10568416" OR "10869549" OR "10893748" OR "11134773" OR "11134774" OR "11140977" OR "11147366" OR "11160367" OR "1318564" OR "20030042380" OR "20030213415" OR "20050120922" OR "20070080564" OR "20070266912" OR "20080000393" OR "20090145336" OR "20100242174" OR "20120097822" OR "20130193392" OR "20140144352" OR "20150028787" OR "20150216296" OR "20150289641" OR "20160338486" OR "20160353880" OR "20170071332" OR "20170354245" OR "20180177289" OR "20180279770" OR "20190110588" OR "20190183239" OR "20190269237" OR "20200029685" OR "20200107633" OR "2937003" OR "3295800" OR "3823915" OR "3826457" OR "4221280" OR "4449262" OR "4549720" OR "4558648" OR "4577821" OR "4625657" OR "4659052" OR	(US-PGPUB; USPAT)	OR	ON	ON	2022/09/21 01:52 PM

		"4709972" OR "4717112" OR "4741512" OR "4826123" OR "4843978" OR "4941641" OR "4967672" OR "4995130" OR "5037163" OR "5048784" OR "5211367" OR "5257767" OR "5294087" OR "5400720" OR "5588377" OR "5626323" OR "5765797" OR "5829948" OR "5836562" OR "5926876" OR "6076785" OR "6098961" OR "6148739" OR "6176456" OR "6179261" OR "6269753" OR "6273382" OR "6488248" OR "6516478" OR "6533229" OR "6533479" OR "6672430" OR "6701853" OR "6702372" OR "6722618" OR "6742768" OR "6792876" OR "6938866" OR "7048236" OR "7188813" OR "7204193" OR "7207629" OR "7575205" OR "7677518" OR "7841570" OR "7845665" OR "7946551" OR "7950338" OR "8015638" OR "8132518" OR "8303062" OR "8469152" OR "8490933" OR "8544391" OR "8671853" OR "8684339" OR "8950343" OR "9049923" OR					

		"9055810" OR "9232855" OR "9480332" OR "9504316" OR "9554644" OR "9809136" OR "9815672" OR "9854904" OR "9955780" OR "9981571" OR "9993068" OR "D302893" OR "D830739" OR "D845037" OR "D870490" OR "D901959").pn.					
L4589	27	("2531856" | "3727245" | "4611823" | "5447319" | "5722513" | "6974185" | "8016305" | "8544391" | "9326598" | "20040040480").pn. OR ("9480332").urpn. AND (PGPB | USPT | USOC).dbnm.	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2022/09/21 01:52 PM
L4590	2481	A47B67/005.cpc.	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4591	2113	(A47B3/00 OR A47B61/00).cpc. AND (gear OR shaft)	(US-PGPUB; USPAT; USOCR; FIT (AP, AT, AU, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4592	48	wilkens.xp. AND lift SAME table	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, CA, CH, CN, DD, DE, EA, EP, ES, FR, GB, JP, KR, OA, RU, SU, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/09/21 01:52 PM
L4593	34	(Artificial Intelligence) More like doc: US-8950343-B2 Text: (US-20140041554-A1 OR TW-M445388-U OR US-10092089-B1 OR	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, BE, BG, BR, BY, CA, CH, CN, CS, CU, CZ, DD, DE, DK, EA, EE, EP, ES, FI, FR, GB, HR, HU, ID, IE, IL, IS,	OR	ON	ON	2022/09/21 01:52 PM