1.一种可单双人转换的儿童推车，包括车架、设于所述车架底部的前轮组件和后轮组件，设于所述车架上的第一座兜组件；其特征在于：

所述儿童推车还包括前托架组件、设于所述前托架组件上的第二座兜组件；

所述前轮组件可拆卸地连接于所述车架底部；

所述前托架组件的后部可拆卸地连接于所述车架底部；

所述儿童推车具有单人状态和双人状态，当所述儿童推车在单人状态时，所述前托架组件与所述车架相脱离，所述前轮组件连接于所述车架底部；当所述儿童推车在双人状态时，所述前托架组件的后部连接于所述车架，所述第二座兜组件和所述第一座兜组件前后设置。

2.根据权利要求1所述的儿童推车，其特征在于：所述车架底部具有第一连接部，所述前轮组件具有与所述第一连接部相配合的前轮连接件，所述前轮连接件可拆卸地连接于所述第一连接部；所述前托架组件的后部具有与所述第一连接部相配合的托架连接件，所述托架连接件可拆卸地连接于所述第一连接部。

3.根据权利要求2所述的儿童推车，其特征在于：所述前轮组件可拆卸地连接于所述车架底部或所述前托架组件的前部上，当所述儿童推车在双人状态时，所述前轮组件连接于所述前托架组件的前部。

4.根据权利要求3所述的儿童推车，其特征在于：所述前托架组件的前部具有与所述前轮连接件相配合的第二连接部，所述前轮连接件可拆卸地连接于所述第二连接部。

5.根据权利要求4所述的儿童推车，其特征在于：所述前轮连接件和所述托架连接件分别为向上延伸的连接销，所述第一连接部和所述第二连接部分别为与所述连接销相配合的连接槽。

6.根据权利要求4所述的儿童推车，其特征在于：所述连接销上设有锁槽，所述连接槽内活动地设置有锁舌，所述锁舌与所述锁槽相配合，当所述锁舌插入所述锁槽中时，所述连接销被锁定在所述连接槽内。

7.根据权利要求6所述的儿童推车，其特征在于：所述车架和/或所述前托架组件上设有用于使所述锁舌脱离所述锁槽的按钮。

8.根据权利要求1所述的儿童推车，其特征在于：所述前托架组件包括固定座及通过枢轴可转动地连接于所述固定座上的座兜接口，所述第二座兜组件可拆卸地连接于所述座兜接口，当所述儿童推车在单人状态时，所述座兜接口和所述固定座相靠拢；当所述儿童推车在双人状态时，所述座兜接口相对所述固定座展开。

9.根据权利要求8所述的儿童推车，其特征在于：所述前托架组件还包括阻尼块与阻尼销，所述座兜接口、所述固定座中的一个部件上固定设置有所述阻尼块，另一个部件上活动地设置有所述阻尼销，所述阻尼块上设有与阻尼槽，当所述儿童推车在双人状态时，所述阻尼销的端部插入所述阻尼槽中。

10.根据权利要求9所述的儿童推车，其特征在于：所述阻尼槽可滑动地设于开设在所述座兜接口或所述固定座中的安装槽中，所述安装槽内设有用于使所述阻尼销插入所述阻尼槽中的弹性件。

一种可单双人转换的儿童推车

技术领域

[0001] 本发明涉及儿童用品领域，具体涉及一种可单双人转换的儿童推车。

背景技术

[0002] 随着越来越多的家庭生养两个孩子，既能作为单人使用又可作双人使用的儿童推车越来越受欢迎。现有技术中，大多是提供单个儿童乘坐的单人推车，也有一些可同时供两个儿童同时乘坐的双人推车，而能够在双人推车与单人推车之间转换的儿童推车比较少。虽然目前市场上也出现了能够在双人推车与单人推车之间转换的儿童推车，但是由于转换需要用到的连接杆件以及需要连接的部位较多，结构比较繁琐，操作也十分地不便。

发明内容

[0003] 基上述问题，本发明的目的是提供一种可单双人转换的儿童推车，其可快速转换为单人使用状态或双人使用状态，转换方便。

[0004] 为达到上述目的，本发明采用如下技术方案：

一种可单双人转换的儿童推车，包括车架、设于所述车架底部的前轮组件和后轮组件，设于所述车架上的第一座兜组件；

所述儿童推车还包括前托架组件、设于所述前托架组件上的第二座兜组件；

所述前轮组件可拆卸地连接于所述车架底部；

所述前托架组件的后部可拆卸地连接于所述车架底部；

所述儿童推车具有单人状态和双人状态，当所述儿童推车在单人状态时，所述前托架组件与所述车架相脱离，所述前轮组件连接于所述车架底部；当所述儿童推车在双人状态时，所述前托架组件的后部连接于所述车架，所述第二座兜组件和所述第一座兜组件前后设置。

[0005] 在一实施例中，所述车架底部具有第一连接部，所述前轮组件具有与所述第一连接部相配合的前轮连接件，所述前轮连接件可拆卸地连接于所述第一连接部；所述前托架组件的后部设有与所述第一连接部相配合的托架连接件，所述托架连接件可拆卸地连接于所述第一连接部。

[0006] 在一实施例中，所述前轮组件可拆卸地连接于所述车架底部或所述前托架组件的前部上，当所述儿童推车在双人状态时，所述前轮组件连接于所述前托架组件的前部。

[0007] 在一实施例中，所述前托架组件的前部具有与所述前轮连接件相配合的第二连接部，所述前轮连接件可拆卸地连接于所述第二连接部。

[0008] 在一实施例中，所述前轮连接件和所述托架连接件分别为向上延伸的连接销，所述第一连接部和所述第二连接部分别为与所述连接销相配合的连接槽。

[0009] 在一实施例中，所述连接销上设有锁槽，所述连接槽内活动地设置有锁舌，所述锁舌与所述锁槽相配合，当所述锁舌插入所述锁槽中时，所述连接销被锁定在所述连接槽内。

[0010] 在一实施例中，所述车架和/或所述前托架组件上设有用于使所述锁舌脱离所述

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锁槽的按钮。

[0011] 在一实施例中，所述前托架组件包括固定座及通过枢轴可转动地连接于所述固定座上的座兜接口，所述第二座兜组件可拆卸地连接于所述座兜接口，当所述儿童推车在单人状态时，所述座兜接口和所述固定座相靠拢；当所述儿童推车在双人状态时，所述座兜接口相对所述固定座展开。

[0012] 在一实施例中，所述前托架组件还包括阻尼块与阻尼销，所述座兜接口、所述固定座中的一个部件上固定设置有所述阻尼块，另一个部件上活动地设置有所述阻尼销，所述阻尼块上设有与阻尼槽，当所述儿童推车在双人状态时，所述阻尼销的端部插入所述阻尼槽中。

[0013] 在一实施例中，所述阻尼槽可滑动地设于开设在所述座兜接口或所述固定座中的安装槽中，所述安装槽内设有用于使所述阻尼销插入所述阻尼槽中的弹性件。

[0014] 结合上述，本发明采用以上技术方案，相比现有技术具有如下优点：

本发明提供的可单双人转换的儿童推车，由于前轮组件可自车架拆卸，而将前托架组件连接到车架上以提供设置第二座兜组件的空间，可快速地在单人状态和双人状态之间转换；而且由于在单人状态时，前托架组件自车架上拆卸，使得单人状态时推车较轻便。

附图说明

[0015] 为了更清楚地说明本发明的技术方案，下面将对实施例描述中所需要使用的附图作简单地介绍，显而易见地，下面描述中的附图仅仅是本发明的一些实施例，对于本领域普通技术人员来讲，在不付出创造性劳动的前提下，还可以根据这些附图获得其他的附图。

[0016] 图1为根据本发明的一种儿童推车在单人状态时的立体示意图；

图2为根据本发明的一种儿童推车在双人状态时的立体示意图；

图3为图2所示的儿童推车的侧视图；

图4为前托架组件和前轮组件的立体示意图；

图5为前托架组件和前轮组件的连接过程示意图；

图6为前托架组件在折叠后的示意图；

图7为前托架组件的剖视图。

[0017] 其中，1、车架；11、按钮；2、前轮组件；21、连接销；210、锁槽；3、后轮组件；4、第一座兜组件；5、前托架组件；50、连接槽；51、连接销；510、锁槽；52、固定座；520、安装槽；53、座兜接口；54、枢轴；55、阻尼块；550、阻尼槽；56、阻尼销；57、弹性件；58、按钮；6、第二座兜组件。

具体实施方式

[0018] 下面结合附图对本发明的较佳实施例进行详细阐述，以使本发明的优点和特征能更易于被本领域的技术人员理解。

[0019] 图1-7示出了根据本发明的一种可单双人转换的儿童推车，具有供单人使用的单人状态和供双人使用的双人状态，并可在两个状态之间快速转换。参照图1-7所示，该可单双人转换的儿童推车，包括车架1、设于车架1底部的前轮组件2和后轮组件3以及设于车架1上的第一座兜组件4。该儿童推车还包括前托架组件5以及设于前托架组件5上的第二座兜组件6。其中，前轮组件2可拆卸地连接于车架1底部或前托架组件5的前部上；前托架组件5

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的后部可拆卸地连接于车架1底部。当儿童推车在单人状态时，前托架组件5与车架1相脱离，前轮组件2连接于车架1底部，仅第一座兜组件4可用于供儿童乘坐，仅可供单人使用，如图1所示。当儿童推车在双人状态时，前托架组件5的后部连接于车架1，前轮连接于前托架组件5的前部，第二座兜组件6设置于前托架组件5上且第二座兜组件6和第一座兜组件4前后设置，分别供儿童乘坐，可供双人使用，如图2所示。

[0020] 前轮组件2具有前轮连接件，车架1底部设有与前轮连接件相配合的第一连接部，前轮连接件与车架1的第一连接部相可拆卸连接。结合图5所示，具体到本实施例中，前轮连接件为向上延伸的连接销21，第一连接部为开设于车架1底部的自车架1下表面向上延伸的连接槽，所述连接销21与所述连接槽相配合并可拆卸地插接。此外，当前轮组件2连接于车架1上后，通过一锁定机构将连接销21锁定在连接槽内，连接销21的侧表面上设有锁槽210，锁定机构包括可插设于锁槽210中的锁舌(图中未示出)，通过将锁舌插入锁槽210中而阻止连接销21脱出连接槽。锁舌活动地设置在连接槽中，车架1上还活动地设有用于驱使所述锁舌脱离连接槽的按钮11，当按下按钮11后，带动锁舌脱离连接销21的锁槽210，连接销21被释放而可从连接槽中脱出，从而可将前轮组件2自车架1上快速拆下。

[0021] 结合图4-7所示，前托架组件5包括固定座52以及座兜接口53。前托架组件5的固定座52前部设有与连接销21相配合的第二连接部，前轮连接件与固定座52的第二连接部相可拆卸连接。具体到本实施例中，第二连接部为开设于固定座52前部的自前托架组件5下表面向上延伸的连接槽50，所述连接销21与该连接槽50相配合并可拆卸地插接，该连接槽50的形状与车架1上的所述连接槽形状一致。此外，当前轮组件2连接于前托架组件5的固定座52上后，通过另一锁定机构将连接销21锁定在连接槽50内，锁定机构包括可插设于锁槽210中的另一锁舌(图中未示出)，通过将锁舌插入连接槽50中而阻止连接销21脱出连接槽50。该锁舌活动地设置在连接槽50中，固定座52上还活动地设有用于驱使所述锁舌脱离连接槽50的按钮58，当按下按钮58后，带动锁舌脱离连接销21的锁槽210，连接销21被释放而可从连接槽50中脱出，从而可将前轮组件2自前托架组件5的固定座52上快速拆下。

[0022] 结合图4-7所示，前托架组件5的固定座52后部上设有前托架连接件，前托架连接件可拆卸地连接于车架1底部，优选连接于车架1上的所述连接槽50。本实施例中，前托架连接件为与所述的连接销21形状一致的连接销51，该连接销51与车架1上的连接槽相配合且可拆卸地插接。该连接销51的侧表面上也开设有锁槽510，车架1连接槽内的锁舌可插入连接销51的锁槽510中将其锁定，并可通过按下车架1上的按钮11使锁舌脱离锁槽510。

[0023] 所述座兜接口53的数量为两个并分别位于固定座52的左右两侧，第二座兜组件6可拆卸地连接于两个座兜接口53。座兜接口53通过一个枢轴54可转动地连接于固定座52，枢轴54的轴心线沿儿童推车的前后方向水平延伸，从而使得前托架组件5可在自车架1上拆卸后折叠，以减小存放空间。当儿童推车在单人状态时，第二座兜组件6脱离座兜接口53，两侧座兜接口53靠拢在固定座52上，前托架组件5被折叠，折叠扁平，携带方便，如图4和5所示；当儿童推车在双人状态时，座兜接口53分别相对固定座52展开并大体沿上下方向延伸，第二座兜组件6连接于两个座兜接口53上，如图6所示。

[0024] 前托架组件5还包括阻尼块55和阻尼销56，其中，阻尼块55固定嵌设在座兜接口53中，固定座52上设有安装槽520，阻尼销56可滑动地设于安装槽520中。阻尼块55上设有阻尼槽550，阻尼销56的一端部可插入阻尼槽550中，阻尼槽550的槽壁为斜面或弧面以允许阻尼

销56自阻尼槽550中脱出。安装槽520内设有用于使阻尼块55插入阻尼槽550的弹性件，弹性件具体为一端与阻尼销56的另一端部相接而另一端与安装槽520的槽壁相接的弹簧57。在座兜接口53靠拢或展开的过程中，阻尼销56脱离阻尼槽550，座兜接口53相对固定座52转动，此过程中弹簧57被压缩；在座兜接口53展开后，阻尼槽550正对阻尼销56，阻尼销56在弹簧57的复位力驱使下插入阻尼槽550中，使座兜接口53维持在当前状态，即维持在直立状态而不会歪倒。阻尼块55由耐磨材料制成。

[0025] 该可单双人转换的儿童推车的使用过程如下：

参照图1所示，单人状态时，前轮组件2的连接销21插入车架1的连接槽中并锁定，从而使得前轮组件2连接在车架1上，仅车架1上的第一座兜组件4可供使用。

[0026] 需要转换为双人状态时，按下车架1上的按钮11将前轮组件2的连接销21解锁，并自车架1的连接槽中拔出；将前托架组件5的连接销51插入车架1的连接槽中并锁定，将前轮组件2的连接销21插入前托架组件5的连接槽50中并锁定，将第二座兜组件6连接在前托架组件5上，前后设置的第二座兜组件6和第一座兜组件4都可供使用，如图2所示。

[0027] 需要转换为单人状态时，按下前托架组件5上的按钮58将前轮组件2的连接销21解锁，并自前托架组件5的连接槽50中拔出；按下车架1上的按钮11将前托架组件5的连接销21解锁，并自车架1的连接槽50中拔出；将前轮组件2的连接销21插入车架1的连接槽中并锁定，转换为图1所示的状态。

[0028] 本发明提供的可单双人转换的儿童推车，由于前轮组件2可自车架1上拆卸，而将前托架组件5连接到车架1上以提供设置第二座兜组件6的空间，可快速地在单人状态和双人状态之间转换；而且由于在单人状态时，前托架组件5自车架1上拆卸，使得单人状态时推车较轻便。

[0029] 上述实施例只为说明本发明的技术构思及特点，是优选的实施方式，其目的在于熟悉此项技术的人士能够了解本发明的内容并据以实施，并不能以此限定本发明的保护范围。凡根据本发明所作的等效变换或修饰，都应涵盖在本发明的保护范围之内。

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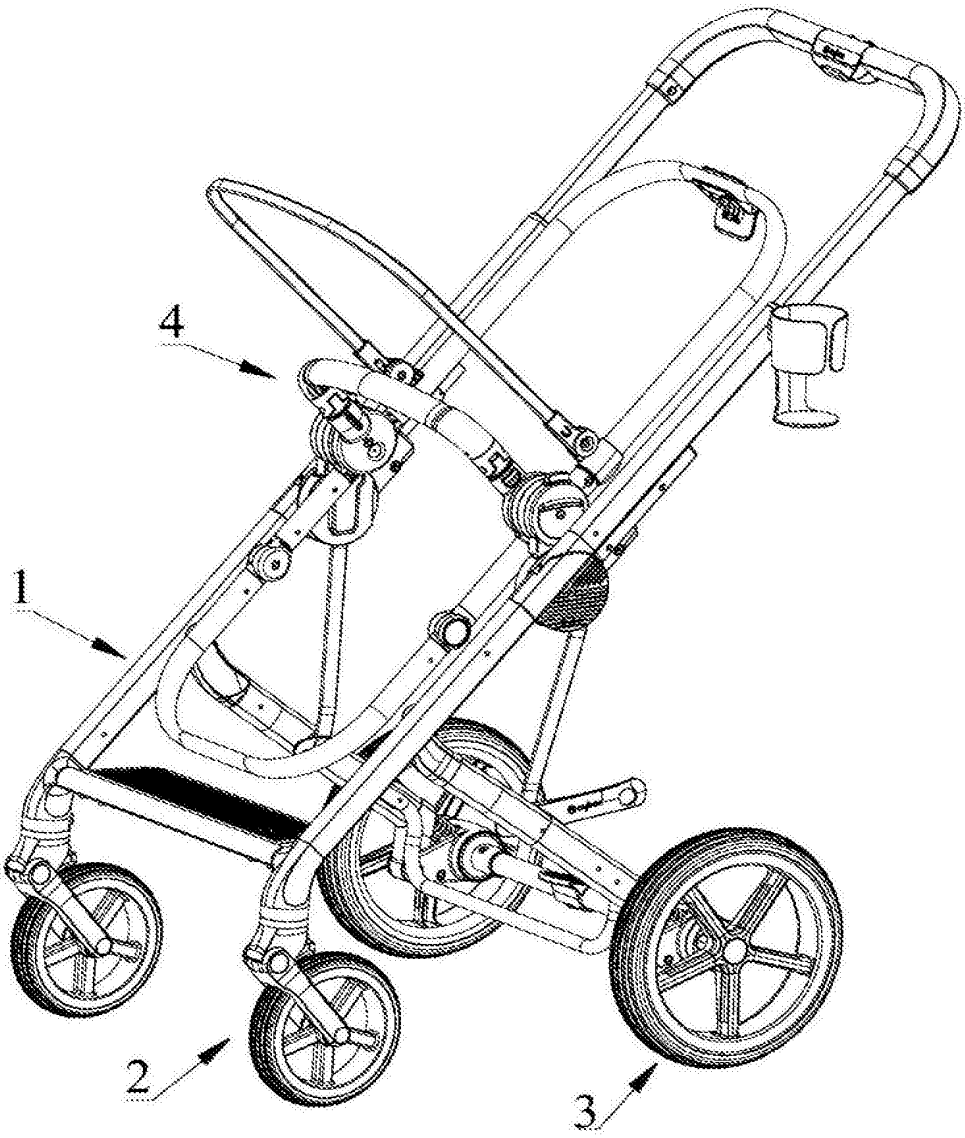


图1

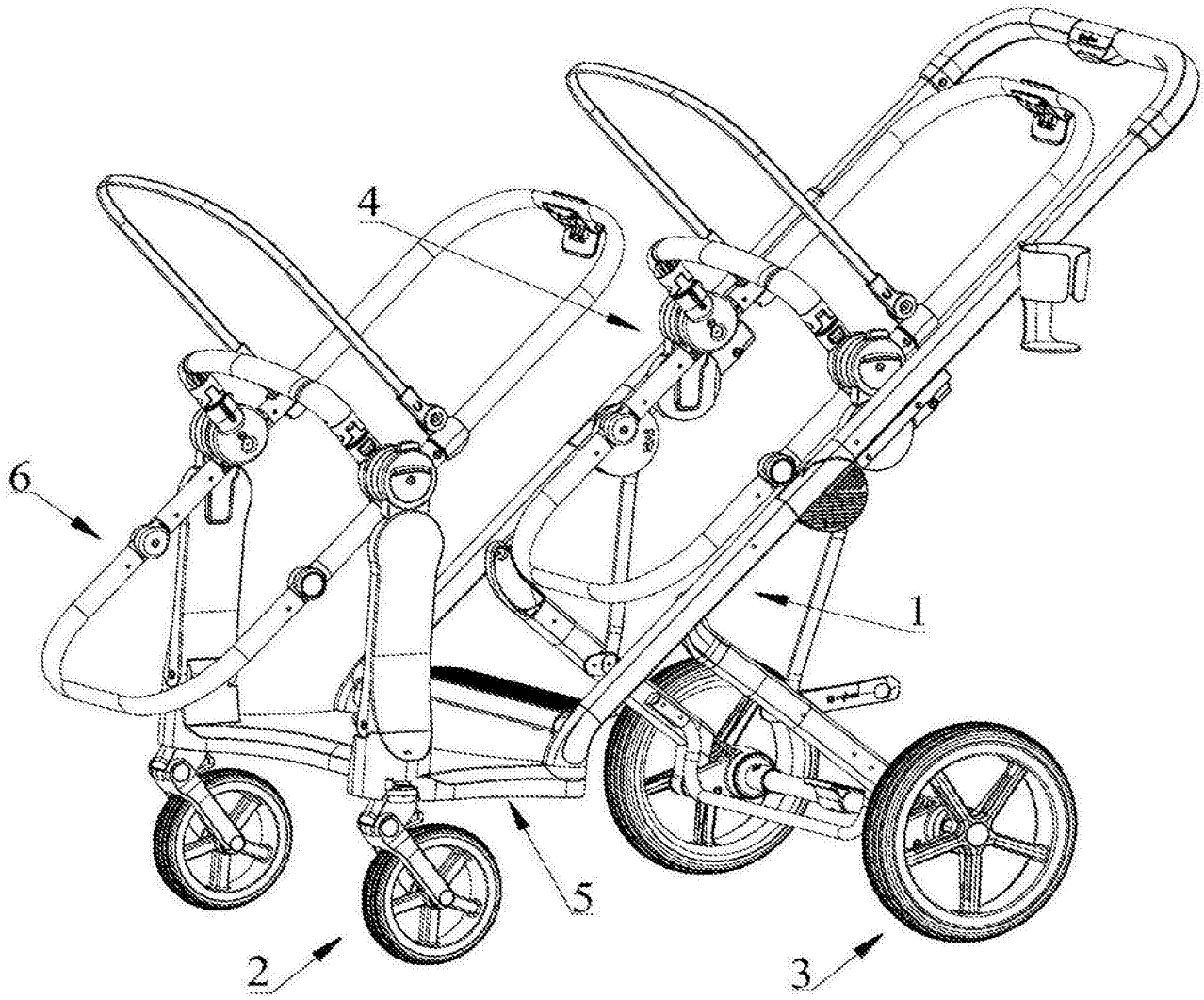


图2

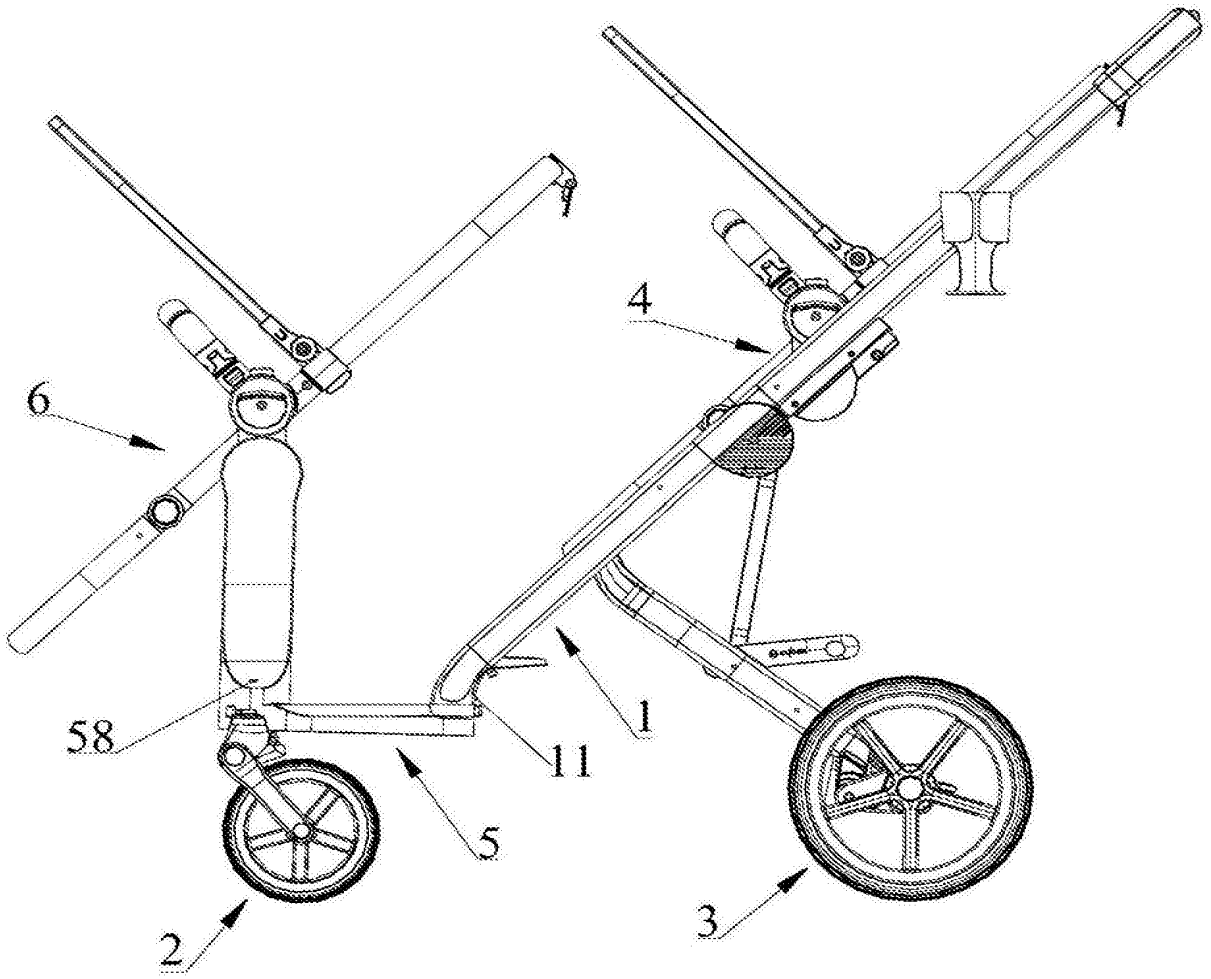


图3

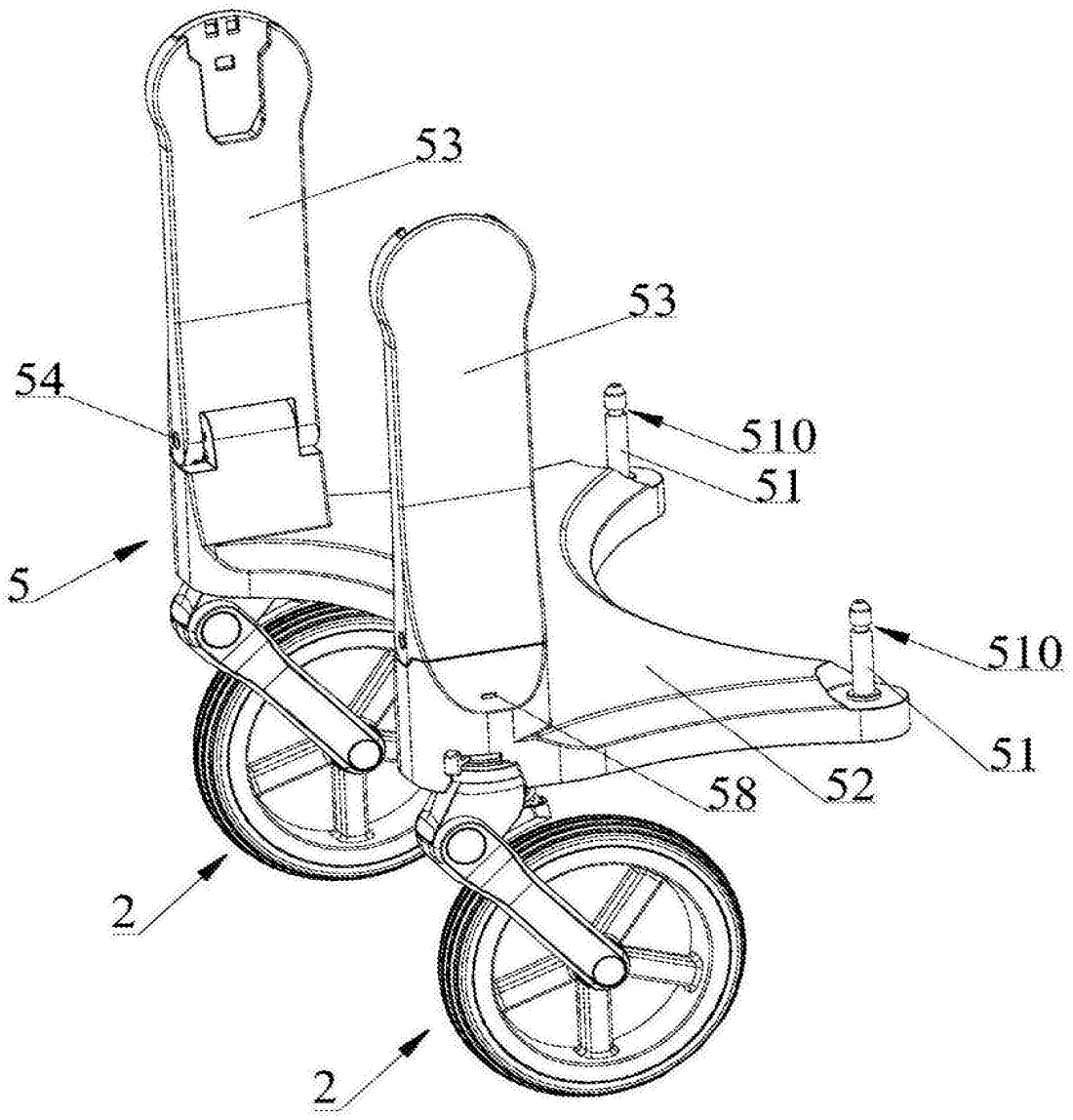


图4

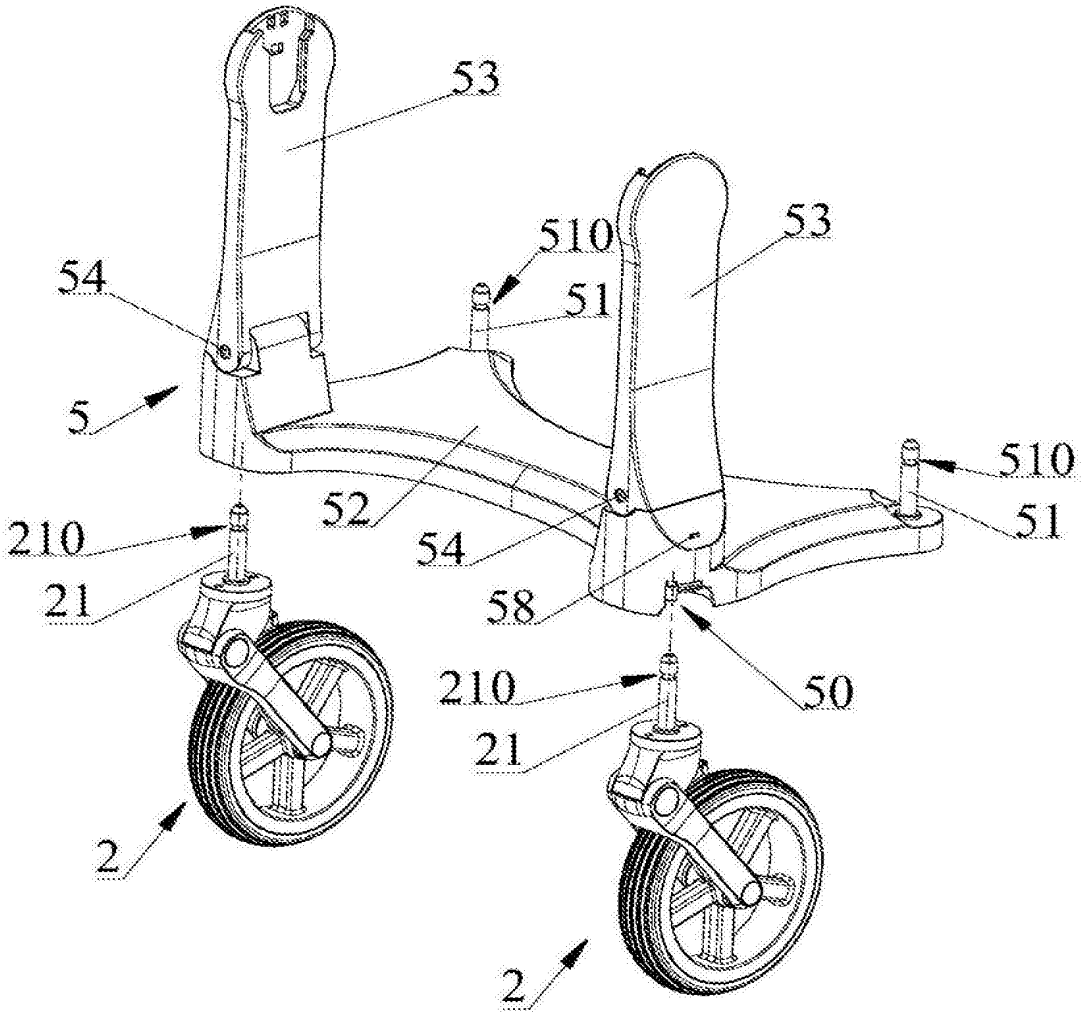


图5

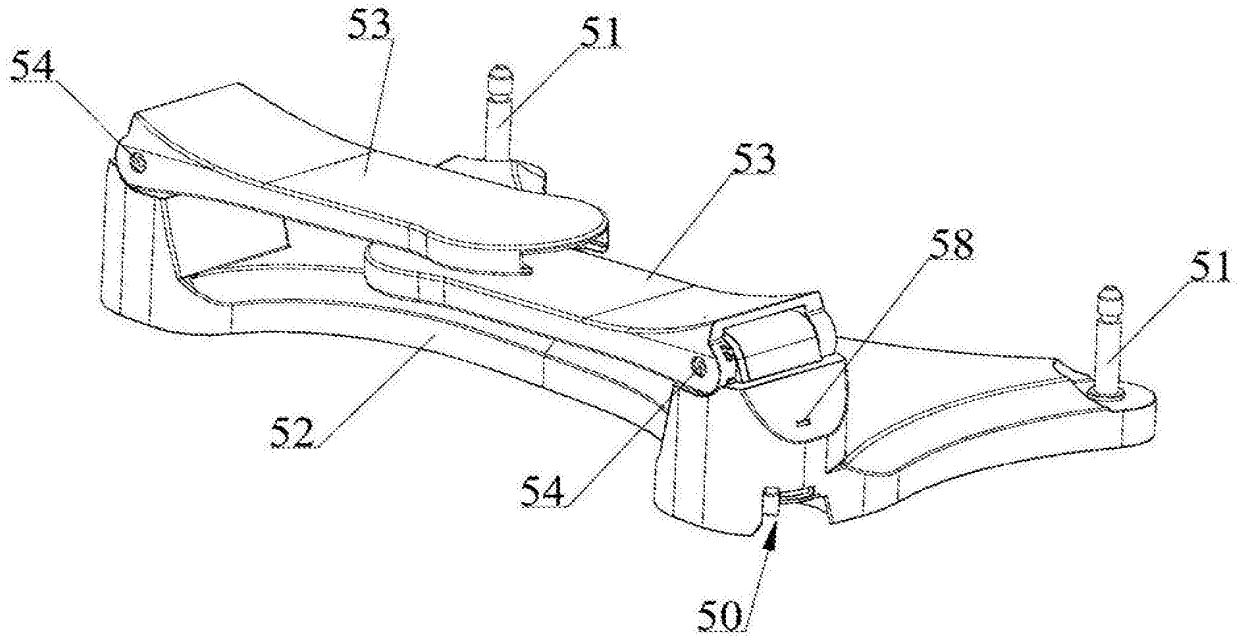


图6

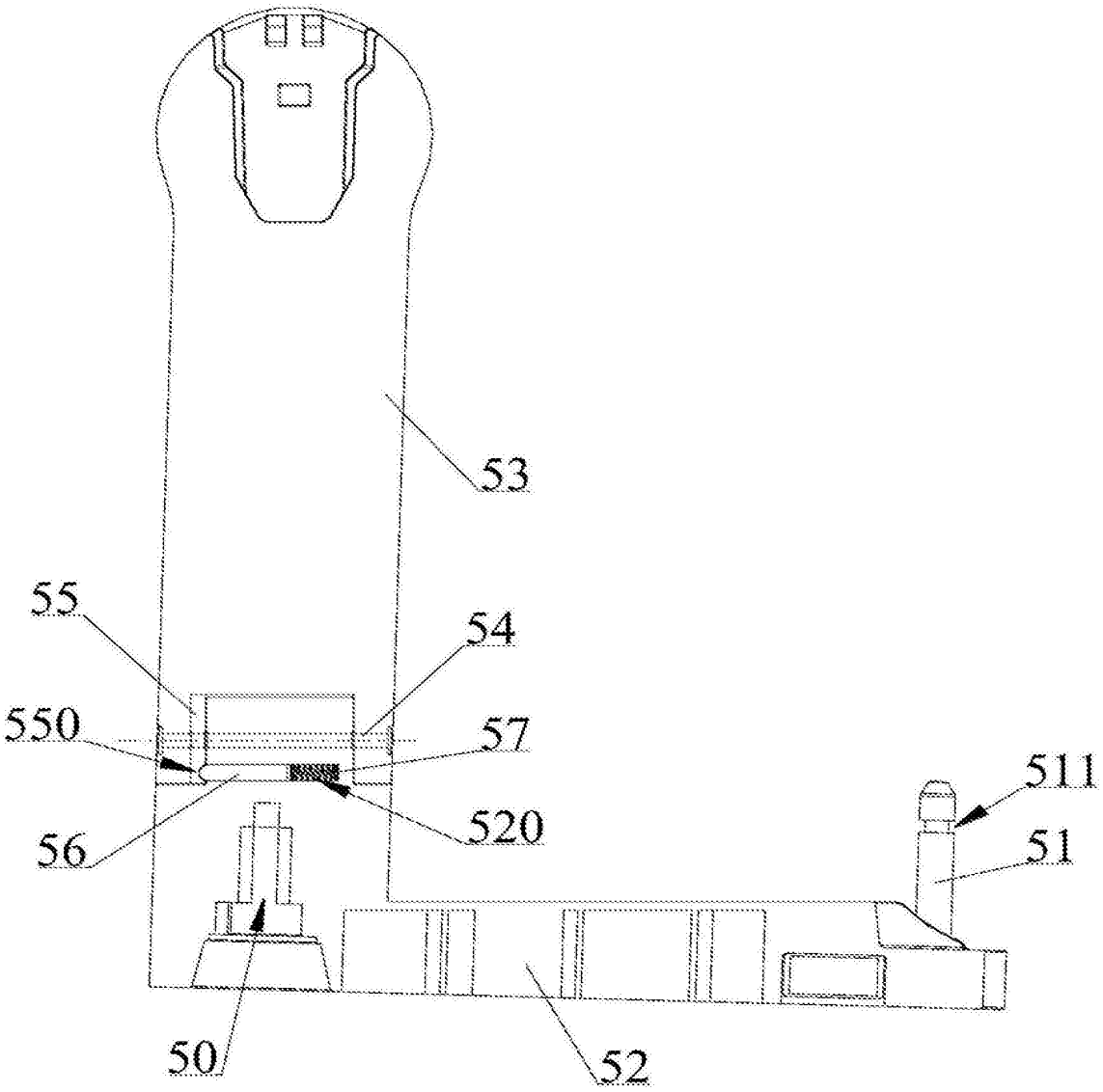


图7

(TRANSLATION)

SECOND OFFICE ACTION OF CHINA STATE INTELLECTUAL PROPERTY OFFICE

Date of Issuance: 8 June 2013

Application No.: 200980148829.3

The applicant filed a response and amended application documents on 15 March 2013. After reviewing the above documents, the examiner continued examination of the subject application and had the following comments:

I. Claims 1-18 lack inventiveness as stipulated in Paragraph 3, Article 22 of the Patent Law.

1. Claim 1 seeks to protect a seat attachment for a stroller. Citation 1 (WO2005/105546A1) discloses a seat attachment 1 for a stroller 2, which comprises: two separate attachment frame members 1, 18, and 19, in which each attachment frame member comprises: a connector portion 4, 5, 6, 18, and 19 capable of reversibly connecting to a stroller frame adjacent a front wheel of the stroller; and a seat support element 16 (*see* pages 7-11 of the specification and Figs. 1-7).

   In view of the above, the distinguishing technical feature of Claim 1 over Citation 1 is that: the seat support element of each attachment member together are capable of supporting a seat between the seat support elements in either a forward or backward position.

   However, Citation 2 discloses that (*see* page 2 of the specification and Figs. 4-8) the seat support elements 410, 420 are capable of supporting a seat between the seat support elements in either a forward or backward position. Given this, the above distinguishing technical feature of Claim 1 is disclosed in Citation 2, and it plays the same role in Citation 2 as in this invention for solving the technical problem to be solved. Thus, persons skilled in the art would be motivated to incorporate the above distinguishing technical feature into Citation 1 so as to arrive at the technical solution claimed in Claim 1, which needs no creative effort. Therefore, Claim 1 lacks prominent substantive features and does not represent notable progress, and thus it lacks inventiveness as stipulated in Paragraph 3, Article 22 of the Patent Law.

2. Claim 2 depends upon Claim 1. Citation 1 (*see* Fig.6) discloses that the seat attachment comprises a wheel 30. Given this, the dependent technical feature of Claim 2 is disclosed in Citation 1. Since Claim 1 upon which Claim 2 depends lacks an inventive step, Claim 2 also lacks inventiveness as stipulated in Paragraph 2, Article 22 of the Patent Law.

3. Claim 3 depends upon Claim 2. Citation 1 (*see* pages 7-11 of the specification and Figs. 1-7) discloses (the seat attachment) comprising a wheel support frame 10, 12, and 12a connecting the wheel 30 to the attachment frame member 1. Given this, the

dependent technical feature of Claim 3 is disclosed in Citation 1. Since Claim 2 upon which Claim 3 depends lacks an inventive step, Claim 3 also lacks inventiveness as stipulated in Paragraph 2, Article 22 of the Patent Law.

4. Claim 4 depends upon Claim 3. Citation 1 (*see* pages 7-11 of the specification and Figs. 1-7) discloses that the wheel support frame 10, 12, and 12a is pivotally connected to the attachment frame member 1. Given this, the dependent technical feature of Claim 4 is disclosed in Citation 1. Since Claim 3 upon which Claim 4 depends lacks an inventive step, Claim 4 also lacks inventiveness as stipulated in Paragraph 2, Article 22 of the Patent Law.

5. Claim 5 depends upon Claim 4. Citation 1 (*see* pages 7-11 of the specification and Figs. 1-7) discloses that the wheel support frame 10, 12, and 12a is pivotally connected near the middle of the attachment frame member 1. Given this, the dependent technical feature of Claim 5 is disclosed in Citation 1. Since Claim 4 upon which Claim 5 depends lacks an inventive step, Claim 5 also lacks inventiveness as stipulated in Paragraph 2, Article 22 of the Patent Law.

6. Claim 6 depends upon Claim 5. Citation 1 (*see* Figs. 6 and 7) discloses (the seat attachment) further comprising a folding mechanism. Given this, the dependent technical feature of Claim 6 is disclosed in Citation 1. Since Claim 5 upon which Claim 6 depends lacks an inventive step, Claim 6 also lacks inventiveness as stipulated in Paragraph 2, Article 22 of the Patent Law.

7. Claim 7 depends upon Claim 6. Citation 1 (*see* pages 12-14 on the specification and Figs. 8-31) discloses that the folding mechanism comprises a sliding connector 143, 144 slidingly connected to the attachment frame member and a strut 142 having a first end connected to the sliding member and a second end connected to the wheel support frame. Given this, the dependent technical feature of Claim 7 is disclosed in Citation 1. Since the above features are disclosed in an embodiment of Citation 1, persons skilled in the art may combine these features with the technical solution disclosed in other parts of Citation 1 so as to arrive at the technical solution claimed in Claim 7, which needs no creative effort. Therefore, since Claim 6 upon which Claim 7 depends lacks an inventive step, Claim 7 lacks inventiveness as stipulated in Paragraph 3, Article 22 of the Patent Law.

8. Claim 8 depends upon Claim 4. Citation 1 (*see* pages 7-11 on the specification and Figs. 1-7) discloses that the wheel support frame 10, 12, and 12a is capable of pivoting from a first position to a second position. Given this, the dependent technical feature of Claim 8 is disclosed in Citation 1. Since Claim 4 upon which Claim 8 depends lacks an inventive step, Claim 8 also lacks inventiveness as stipulated in Paragraph 2, Article 22 of the Patent Law.

9. Claim 9 depends upon Claim 8. Citation 1 (*see* pages 7-11 on the specification and Figs. 1-7) discloses that the first position is a locked and in-use position and the second position is an unlocked and folded position. Given this, the dependent technical feature of Claim 9 is disclosed in Citation 1. Since Claim 8 upon which Claim 9 depends lacks an inventive step, Claim 9 also lacks inventiveness as stipulated in Paragraph 2, Article 22 of the Patent Law.

10. Claim 10 depends upon Claim 1. Citation 1 (*see* Fig. 6) discloses that the seat is a baby seat. Given this, the dependent technical feature of Claim 10 is disclosed in Citation 1. Since Claim 1 upon which Claim 10 depends lacks an inventive step, Claim 10 also lacks inventiveness as stipulated in Paragraph 2, Article 22 of the Patent Law.

11. Claim 11 depends upon Claim 1. Citation 1 (*see* Figs. 2 and 6) discloses that the attachment frame member 1 has a first end and a second end. Given this, the dependent technical feature of Claim 11 is disclosed in Citation 1. Since Claim 1 upon which Claim 11 depends lacks an inventive step, Claim 11 also lacks inventiveness as stipulated in Paragraph 2, Article 22 of the Patent Law.

12. Claim 12 depends upon Claim 11. Citation 1 (*see* Fig. 6) discloses that the first end is capable of connecting to a stroller frame. Given this, the dependent technical feature of Claim 12 is disclosed in Citation 1. Since Claim 11 upon which Claim 12 depends lacks an inventive step, Claim 12 also lacks inventiveness as stipulated in Paragraph 2, Article 22 of the Patent Law.

13. Claim 13 depends upon Claim 12. Citation 1 (*see* Fig. 5) discloses that the second end is connected to the seat attachment member 1. Given this, the dependent technical feature of Claim 13 is disclosed in Citation 1. Since Claim 1 upon which Claim 13 depends lacks an inventive step, Claim 13 also lacks inventiveness as stipulated in Paragraph 2, Article 22 of the Patent Law.

14. Claim 14 depends upon Claim 1, but its dependent technical feature has been limited in Claim 1. Thus, Claim 14 also lacks inventiveness as stipulated in Paragraph 3, Article 22 of the Patent Law.

15. Claim 15 depends upon Claim 1. Citation 2 discloses (*see* page 2 of the specification and Figs. 4-8) that (the seat attachment) further comprises a stroller seat 71, 72, 8, and 9, wherein the seat support element 410, 420 is capable of supporting the stroller seat 71, 72, 8, and 9 in either a forward or backward position. Given this, the dependent technical feature of Claim 15 is disclosed in Citation 2, and persons skilled in the art can incorporate these features into Citation 1 so as to obtain the technical solution claimed in Claim 15, which needs no creative effort. Therefore, since Claim 1 upon which Claim 15 depends lacks an inventive step, Claim 15 also lacks inventiveness as stipulated in Paragraph 3, Article 22 of the Patent Law.

16. Claim 16 claims a double stroller. Citation 1 discloses a double stroller (*see* pages 7-11 of the specification and Figs. 1-7), which comprises: a stroller frame 2 comprising two front wheels 3, a frame 4, a first seat 2 and two attachment portions 1, 18, and 19 connected to the frame 4; wherein one attachment portion is connected adjacent to one front wheel; a seat attachment 16, two seat support elements 23, 16, a second seat 20, 21, and 22, and two connector portions 4, 5, 6, 18, and 19, each connector portion 4, 5, 6, 18, and 19 capable of releasably connecting to the attachment portion 1, 18, and 19, wherein the second seat 20, 21, and 22 is attached in front of the first seat 2 between the two front wheels 3.

The distinguishing technical feature of Claim 16 over Citation 1 is that: the other attachment portion is connected to the frame adjacent to the other front wheel.

However, Citation 2 discloses that (*see* page 2 of the specification and Figs. 4-8) the seat support elements 410, 420 are connected to the frame adjacent to the two front wheels 33. Moreover, such a feature plays the same role in Citation 2 as in this invention for solving the technical problem to be solved. Persons skilled in the art would be motivated to incorporate the above distinguishing technical feature into Citation 1 so as to render the other attachment portion connected to the frame adjacent to the other front wheel, thereby arriving at the technical solution claimed in Claim 16, which needs no creative effort. Therefore, Claim 16 lacks prominent substantive features and does not represent notable progress, and thus it lacks inventiveness as stipulated in Paragraph 3, Article 22 of the Patent Law.

17. Claim 17 depends upon Claim 16. Citation 2 discloses (*see* page 2 of the specification and Figs. 4-8) that the second seat is releasably connected to the seat support element 410, 420. Given this, the dependent technical feature of Claim 17 is disclosed in Citation 2. Therefore, since Claim 16 upon which Claim 17 depends lacks an inventive step, Claim 17 lacks inventiveness as stipulated in Paragraph 3, Article 22 of the Patent Law.

18. Claim 18 depends upon Claim 17. Citation 2 discloses (*see* page 2 of the specification and Figs. 4-8) that the seat support elements 410, 420 are capable of supporting a seat between the seat support elements 410, 420 in either a forward or backward position. Given this, the dependent technical feature of Claim 18 is disclosed in Citation 2. Therefore, since Claim 17 upon which Claim 18 depends lacks inventiveness, Claim 18 also lacks an inventive step as stipulated in Paragraph 3, Article 22 of the Patent Law.

In view of the above, all of the independent and dependent claims of this application lack an inventive step. Moreover, no substantial contents which can be granted a patent right were disclosed in the specification. Thus, even if the applicant rearranges the claims and/or further defines the claims based on the description in the specification, the present application still cannot be granted a patent right. If the applicant cannot provide convincing reasons why the present application possesses novelty and inventiveness, this application will be rejected.

Examiner: Anle Wei
Code: 193214

THE RELEVANT PROVISIONS

THE PRC PATENT LAW

Article 22

Any invention or utility model for which patent right may be granted must possess novelty, inventiveness and practical applicability.

Novelty means that an invention or utility model is not an existing technology, and before the date of filing, no identical invention or utility model has been filed by any entity or individual with the Patent Administration Department under the State Council and will be disclosed in the patent application documents or patent documents published after the said date of filing.

Inventiveness means that, in comparison with the existing technology, the invention has prominent substantive features and represents notable progress and that the utility model has substantive features and represents progress.

Practical applicability means that the invention or utility model can be made or used and can produce effective results.

The term "existing technology" used in this Law refers to any technology known to the public in China and abroad before the date of filing.

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北京市东长安街一号东方广场东方经贸城西一办公楼十层 1008 室 北京律盟知识产权代理有限责任公司
刘国伟

发文日：

2013 年 06 月 08 日

申请号或专利号：200980148829.3　　发文序号：2013060500760670

申请人或专利权人：戴那米克品牌股份有限公司

发明创造名称：用于手推童车的座椅附接件

第二次审查意见通知书

1. ☒审查员已经收到申请人于 2013 年 03 月 15 日提交的意见陈述书，在此基础上审查员对上述专利申请继续进行实质审查。

☐根据国家知识产权局专利复审委员会于_____年_____月_____日作出的复审决定，审查员对上述专利申请继续进行实质审查。

☐_____

2. ☐经审查，申请人于_____提交的修改文件，不符合专利法实施细则第 51 条第 3 款的规定，不予接受。

3. 继续审查是针对下列申请文件进行的：

☐上述意见陈述书中所附的经修改的申请文件。

☒前次审查意见通知书所针对的申请文件以及上述意见陈述书中所附的经修改的申请文件替换文件。

☐前次审查意见通知书所针对的申请文件。

☐上述复审决定所确定的申请文件。

☐_____

4. ☒本通知书未引用新的对比文件。

☐本通知书引用下列对比文件(其编号续前，并在今后的审查过程中继续沿用)：

编号	文件号或名称	公开日期（或抵触申请的申请日）

5. 审查的结论性意见：

关于说明书：

☐申请的内容属于专利法第 5 条规定的不授予专利权的范围。

☐说明书不符合专利法第 26 条第 3 款的规定。

☐说明书的修改不符合专利法第 33 条的规定。

☐说明书的撰写不符合专利法实施细则第 17 条的规定。

☐_____

关于权利要求书：

☐权利要求_____不符合专利法第 2 条第 2 款的规定。

☐权利要求_____不符合专利法第 9 条第 1 款的规定。

中华人民共和国国家知识产权局 专利审查业务章

210403
2010.2

纸件申请，回函请寄：100088 北京市海淀区蓟门桥西土城路 6 号 国家知识产权局专利局受理处收。
电子申请，应当通过电子专利申请系统以电子文件形式提交相关文件。除另有规定外，以纸件等其他形式提交的文件视为未提交。

05H

☐权利要求_____不具备专利法第 22 条第 2 款规定的新颖性。
☒权利要求 1-18 不具备专利法第 22 条第 3 款规定的创造性。
☐权利要求_____不具备专利法第 22 条第 4 款规定的实用性。
☐权利要求_____属于专利法第 25 条规定的不授予专利权的范围。
☐权利要求_____不符合专利法第 26 条第 4 款的规定。
☐权利要求_____不符合专利法第 31 条第 1 款的规定。
☐权利要求_____的修改不符合专利法第 33 条的规定。
☐权利要求_____不符合专利法实施细则第 19 条的规定。
☐权利要求_____不符合专利法实施细则第 20 条的规定。
☐权利要求_____不符合专利法实施细则第 21 条的规定。
☐权利要求_____不符合专利法实施细则第 22 条的规定。
☐_____

☐申请不符合专利法第 26 条第 5 款或者实施细则第 26 条的规定。
☐申请不符合专利法第 20 条第 1 款的规定。
☐分案申请不符合专利法实施细则第 43 条第 1 款的规定。
上述结论性意见的具体分析见本通知书的正文部分。

6.基于上述结论性意见，审查员认为：

☐申请人应当按照通知书正文部分提出的要求，对申请文件进行修改。
☐申请人应当在意见陈述书中论述其专利申请可以被授予专利权的理由，并对通知书正文部分中指出的不符合规定之处进行修改，否则将不能授予专利权。
☒专利申请中没有可以被授予专利权的实质性内容，如果申请人没有陈述理由或者陈述理由不充分，其申请将被驳回。
☐_____

7. 申请人应注意下列事项：

（1）根据专利法第 37 条的规定，申请人应当在收到本通知书之日起的 2 个月内陈述意见，如果申请人无正当理由逾期不答复，其申请将被视为撤回。

（2）申请人对其申请的修改应当符合专利法第 33 条的规定，不得超出原说明书和权利要求书记载的范围，同时申请人对专利申请文件进行的修改应当符合专利法实施细则第 51 条第 3 款的规定，按照本通知书的要求进行修改。

（3）申请人的意见陈述书和/或修改文本应当邮寄或递交国家知识产权局专利局受理处，凡未邮寄或递交给受理处的文件不具备法律效力。

（4）未经预约，申请人和/或代理人不得前来国家知识产权局与审查员举行会晤。

8. 本通知书正文部分共有 4 页，并附有下列附件：

☐引用的对比文件的复印件共_____份_____页。
☐_____

审查员：卫安乐　　联系电话：62413143　　审查部门：专利审查协作北京中心发明审查部

中华人民共和国国家知识产权局 专利审查业务章

第二次审查意见通知书

申请号:2009801488293

申请人于2013年03月15日提交了意见陈述书和经过修改的申请文件，对该申请的权利要求书进行了修改。审查员在阅读了上述文件后，对该申请继续进行审查，针对此次修改的申请文件提出如下审查意见。

1. 权利要求1-18不具备专利法第22条第3款规定的创造性。

1) 权利要求1要求保护一种用于手推童车的座椅附接件，对比文件1（参见说明书第7-11页、附图1-7）公开了一种用于手推童车的座椅附接件，包括两个分离的附接框架部件1，18，19，其中每一附接框架部件包括：连接器部分4，5，6，18，19，其能够以可逆方式连接到邻近于手推童车的前车轮的手推童车框架；及座椅支撑元件16。

权利要求1与对比文件1的区别技术特征在于：每一附接框架部件的座椅支撑元件能够共同将位于座椅支撑元件之间的座椅支撑于前向或后向的位置中。

然而对比文件2（参见说明书第2页、附图4-8）公开了座椅支撑元件410，420能够共同将位于座椅支撑元件410，420之间的座椅支撑于向前或向后的位置中。可见上述区别技术特征已经被对比文件2公开，并且其所起的作用和本发明为解决其技术问题所起的作用，由此本领域技术人员可以从中得到技术启示，将上述区别技术特征应用于对比文件1从而得到权利要求1要求保护的技术方案，这不需要付出创造性劳动，因此权利要求1不具备突出的实质性特点，不具备专利法第22条第3款规定的创造性。

2) 权利要求2对权利要求1做了进一步限定，对比文件1（参见附图6）公开了座椅附接件包括车轮30。可见权利要求2的附加技术特征已经被对比文件1公开，因此在引用的权利要求1不具备创造性的基础上，权利要求2也不具备专利法第22条第3款规定的创造性。

3) 权利要求3对权利要求2做了进一步限定，对比文件1（参见说明书第7-11页、附图1-7）公开了包括将车轮30连接到所述附接框架部件1的车轮支撑框架10，12，12a。可见权利要求3的附加技术特征已经被对比文件1公开，因此在引用的权利要求2不具备创造性的基础上，权利要求3也不具备专利法第22条第3款规定的创造性。

4) 权利要求4对权利要求3做了进一步限定，对比文件1（参见说明书第7-11页、附图1-7）公开了车轮支撑框架10，12，12a以枢转方式连接到附接框架部件1。可见权利要求4的附加技术特征已经被对比文件1公开，因此在引用的权利要求3不具备创造性的基础上，权利要求4也不具备专利法第22条第3款规定的创造性。

5) 权利要求5对权利要求4做了进一步限定，对比文件1（参见说明书第7-11页、附图1-7）公开了车轮支撑框架10，12，12a以枢转方式连接于接近附接框架部件1的中间处。可见权利要求5的附加技术特征

已经被对比文件1公开，因此在引用的权利要求4不具备创造性的基础上，权利要求5也不具备专利法第22条第3款规定的创造性。

6) 权利要求6对权利要求5做了进一步限定，对比文件1（参见附图6-7）公开了进一步包括折叠机构。可见权利要求6的附加技术特征已经被对比文件1公开，因此在引用的权利要求5不具备创造性的基础上，权利要求6也不具备专利法第22条第3款规定的创造性。

7) 权利要求7对权利要求6做了进一步限定，对比文件1（参见说明书第12-14页、附图8-31）公开了折叠机构包括以滑动方式连接到附接框架部件的滑动连接器144，143以及具有连接到滑动部件的第一端及连接到车轮支撑框架的第二端的斜撑142。可见权利要求7的附加技术特征已经被对比文件1公开，由于其是在对比文件1的一个实施例中公开，本领域技术人员可以和对比文件1其它部分公开的技术方案项结合从而得到权利要求7要求保护的技术方案，这不需要付出创造性劳动，因此在引用的权利要求6不具备创造性的基础上，权利要求7也不具备专利法第22条第3款规定的创造性。

8) 权利要求8对权利要求4做了进一步限定，对比文件1（参见说明书第7-11页、附图1-7）公开了车轮支撑框架10，12，12a能够从第一位置枢转到第二位置。可见权利要求8的附加技术特征已经被对比文件1公开，因此在引用的权利要求4不具备创造性的基础上，权利要求8也不具备专利法第22条第3款规定的创造性。

9) 权利要求9对权利要求8做了进一步限定，对比文件1（参见说明书第7-11页、附图1-7）公开了第一位置为锁定及使用中位置且第二位置为解锁及折叠位置。可见权利要求9的附加技术特征已经被对比文件1公开，因此在引用的权利要求8不具备创造性的基础上，权利要求9也不具备专利法第22条第3款规定的创造性。

10) 权利要求10对权利要求1做了进一步限定，对比文件1（参见附图6）公开了座椅为婴儿座椅。可见权利要求10的附加技术特征已经被对比文件1公开，因此在引用的权利要求1不具备创造性的基础上，权利要求10也不具备专利法第22条第3款规定的创造性。

11) 权利要求11对权利要求1做了进一步限定，对比文件1（参见附图2，6）公开了附接框架部件1具有第一端及第二端。可见权利要求11的附加技术特征已经被对比文件1公开，因此在引用的权利要求1不具备创造性的基础上，权利要求11也不具备专利法第22条第3款规定的创造性。

12) 权利要求12对权利要求11做了进一步限定，对比文件1（参见附图6）公开了第一端能够连接到手推童车框架。可见权利要求12的附加技术特征已经被对比文件1公开，因此在引用的权利要求11不具备创造性的基础上，权利要求12也不具备专利法第22条第3款规定的创造性。

中华人民共和国国家知识产权局 专利审查业务章

13) 权利要求 13 对权利要求 12 做了进一步限定，对比文件 1（参见附图 5）公开了第二端连接到座椅附接部件 1。可见权利要求 13 的附加技术特征已经被对比文件 1 公开，因此在引用的权利要求 12 不具备创造性的基础上，权利要求 13 也不具备专利法第 22 条第 3 款规定的创造性。

14) 权利要求 14 对权利要求 1 做了进一步限定，然而其附加技术特征已经在权利要求 1 中被限定过，因此权利要求 14 也不具备专利法第 22 条第 3 款规定的创造性。

15) 权利要求 15 对权利要求 1 做了进一步限定，对比文件 2（参见说明书第 2 页、附图 4-8）公开了进一步包括手推童车座椅 71，72，8，9，其中座椅支撑元件 410，420 能够将手推童车座椅 71，72，8，9 支撑在前向或后向位置中。可见权利要求 15 的附加技术特征已经被对比文件 2 公开，本领域技术人员可以将其应用于对比文件 1 从而得到权利要求 15 要求保护的技术方案，这不需要付出创造性劳动，因此在引用的权利要求 1 不具备新颖性的基础上，权利要求 15 不具备专利法第 22 条第 3 款规定的创造性。

16) 权利要求 16 要求保护一种双人手推童车，对比文件 1（参见说明书第 7-11 页、附图 1-7）公开了一种双人手推童车，包括手推童车框架 2，其包括两个前车轮 3、框架 4、第一座椅 2 及连接到框架 4 的两个附接部分 1，18，19，其中一个附接部分连接到邻近于一个前车轮，座椅附接件 16、两个座椅支撑元件 23，16，第二座椅 20，21，22 及两个连接器部分 4，5，6，18，19，每一连接器部分 4，5，6，18，19 能够以可释放方式连接到附接部分 1，18，19，其中第二座椅 20，21，22 附接至位于两个前车轮 3 之间的第一座椅 2 的前方。

权利要求 16 与对比文件 1 的区别技术特征在于：另一个附接部分连接到邻近于另一前车轮的框架。

然而，对比文件 2（参见说明书第 2 页、附图 4-8）公开了附接件部分 410，420 连接到邻近于两个前车轮 33 的框架。并且其所起的作用和本发明为解决其技术问题所起的作用相同，本领域技术人员可以从中得到技术启示，将上述特征应用于对比文件 1 使得另一个附接部分连接到邻近于另一前车轮的框架。从而得到权利要求 16 要求保护的技术方案，这不需要付出创造性劳动，因此权利要求 16 不具备突出的实质性特点，不具备专利法第 22 条第 3 款规定的创造性。

17) 权利要求 17 对权利要求 16 做了进一步限定，对比文件 2（参见说明书第 2 页、附图 4-8）公开了第二座椅以可释放方式连接到座椅支撑元件 410，420。可见权利要求 17 的附加技术特征已经被对比文件 2 公开，因此在引用的权利要求 16 不具备创造性的基础上，权利要求 17 也不具备专利法第 22 条第 3 款规定的创造性。

18) 权利要求 18 对权利要求 17 做了进一步限定，对比文件 2（参见说明书第 2 页、附图 4-8）公开了座椅支撑元件 410，420 能够共同将位于座椅支撑元件 410，420 之间的座椅支撑于向前或向后的位置中。可见权利要求 18 的附加技术特征已经被对比文件 2 公开，因此在引用的权利要求 17 不具备创造性的基础上，权利要求 18 也不具备专利法第 22 条第 3 款规定的创造性。

专利审查协作

基于上述理由，本申请的独立权利要求以及从属权利要求都不具备创造性，同时说明书中也没有记载其它任何可以授予专利权的实质性内容，因而即使申请人对权利要求进行重新组合或根据说明书记载的内容作进一步的限定，本申请也不具备被授予专利权的前景。如果申请人不能在本通知书指定的答复期限内提出表明本申请具有创造性的充分理由，本申请将被驳回。

审查员姓名：卫安乐　　审查员代码：19[illegible]

210403
2010.2
纸件申请，回函请寄：100088 北京市海淀区蓟门桥西土城路6号 国家知识产权局专利局受理处收
电子申请，应当通过电子专利申请系统以电子文件形式提交相关文件。除另有规定外，以纸件等其他形式提交的文件视为未提交。

国家知识产权局

100005

北京市东城区建国门南大街7号万豪中心A座2202室 北京律盟知识产权代理有限责任公司
张世俊(10-85187141-17)

发文日：

2018年10月31日

申请号或专利号：201710169826.4　　发文序号：2018102601342040

申请人或专利权人：贝贝漫步有限责任公司

发明创造名称：用于手推童车的可拆卸式座椅附接件

第一次审查意见通知书

1. ☒应申请人提出的实质审查请求，根据专利法第35条第1款的规定，国家知识产权局对上述发明专利申请进行实质审查。

☐根据专利法第35条第2款的规定，国家知识产权局决定自行对上述发明专利申请进行审查。

2. ☒申请人要求以其在：

US专利局的申请日2016年03月21日为优先权日，

US专利局的申请日2016年08月01日为优先权日。

☒申请人已经提交了经原受理机构证明的第一次提出的在先申请文件的副本。

☐申请人尚未提交经原受理机构证明的第一次提出的在先申请文件的副本，根据专利法第30条的规定视为未要求优先权要求。

3. ☐经审查，申请人于_____提交的修改文件，不符合专利法实施细则第51条第1款的规定，不予接受。

4. 审查针对的申请文件：

☒原始申请文件。☐分案申请递交日提交的文件。☐下列申请文件：

5. ☐本通知书是在未进行检索的情况下作出的。

☒本通知书是在进行了检索的情况下作出的。

☒本通知书引用下列对比文件(其编号在今后的审查过程中继续沿用)：

编号	文件号或名称	公开日期（或抵触申请的申请日）
1	CN 103909960A	20140709
2	CN 201626448U	20101110
3	CN 201646823U	20101124

6. 审查的结论性意见：

关于说明书：

☐申请的内容属于专利法第5条规定的不授予专利权的范围。

☐说明书不符合专利法第26条第3款的规定。

☐说明书不符合专利法第33条的规定。

210401 2018.8　纸件申请，回函请寄：100088 北京市海淀区蓟门桥西土城路6号 国家知识产权局专利局受理处收
电子申请，应当通过电子专利申请系统以电子文件形式提交相关文件。除另有规定外，以纸件等其他形式提交的文件视为未提交。

☐说明书的撰写不符合专利法实施细则第 17 条的规定。

☐_____

关于权利要求书：

☐权利要求_____不符合专利法第 2 条第 2 款的规定。

☐权利要求_____不符合专利法第 9 条第 1 款的规定。

☒权利要求 1, 13 不具备专利法第 22 条第 2 款规定的新颖性。

☒权利要求 2-12, 14-20 不具备专利法第 22 条第 3 款规定的创造性。

☐权利要求_____不具备专利法第 22 条第 4 款规定的实用性。

☐权利要求_____属于专利法第 25 条规定的不授予专利权的范围。

☐权利要求_____不符合专利法第 26 条第 4 款的规定。

☐权利要求_____不符合专利法第 31 条第 1 款的规定。

☐权利要求_____不符合专利法第 33 条的规定。

☐权利要求_____不符合专利法实施细则第 19 条的规定。

☐权利要求_____不符合专利法实施细则第 20 条的规定。

☐权利要求_____不符合专利法实施细则第 21 条的规定。

☐权利要求_____不符合专利法实施细则第 22 条的规定。

☐_____

☐申请不符合专利法第 26 条第 5 款或者实施细则第 26 条的规定。

☐申请不符合专利法第 20 条第 1 款的规定。

☐分案申请不符合专利法实施细则第 43 条第 1 款的规定。

上述结论性意见的具体分析见本通知书的正文部分。

7. 基于上述结论性意见，审查员认为：

☐申请人应当按照通知书正文部分提出的要求，对申请文件进行修改。

☐申请人应当在意见陈述书中论述其专利申请可以被授予专利权的理由，并对通知书正文部分中指出的不符合规定之处进行修改，否则将不能授予专利权。

☒专利申请中没有可以被授予专利权的实质性内容，如果申请人没有陈述理由或者陈述理由不充分，其申请将被驳回。

☐_____

8. 申请人应注意下列事项：

(1) 根据专利法第 37 条的规定，申请人应在收到本通知之日起的 4 个月内陈述意见，如果申请人无正当理由逾期不答复，其申请将被视为撤回。

(2) 申请人对其申请的修改应当符合专利法第 33 条的规定，不得超出原说明书和权利要求书记载的范围，同时申请人对专利申请文件进行的修改应当符合专利法实施细则第 51 条第 3 款的规定，按照本通知书的要求进行修改。

(3) 申请人的意见陈述书和/或修改文本应邮寄或递交国家知识产权局专利局受理处，凡未邮寄或递交给受理处的文件不具备法律效力。

(4) 未经预约，申请人和/或代理人不得前来国家知识产权局专利局与审查员举行会晤。

(5) 对进入实质审查阶段的发明专利申请，在第一次审查意见通知书答复期限届满前（已提交答复意见的除外），主动申请撤回的，可以请求退还 50%的专利申请实质审查费。

9. 本通知书正文部分共有 6 页，并附有下述附件：

☐引用的对比文件的复印件共_____份_____页。

☐_____

审查员：曾靖　　联系电话：020-28958768　　审查部门：专利审查协作广东中心机械发明审查部

第一次审查意见通知书

申请号:2017101698264

本申请涉及一种用于手推童车的可拆卸式座椅附接件，经审查，现提出如下审查意见。

1、权利要求1要求保护一种手推童车，对比文件1（CN103909960A）公开了一种容易操纵的婴儿车，其实质上公开了一种手推童车，并具体公开了如下技术特征（参见对比文件1说明书第41-42,73段、说明书附图1-3,10）：说明书附图10公开的实施例包括：手推童车框架102；耦合到所述手推童车框架的多个车轮110,114；耦合到所述手推童车框架的第一座椅106；沿着所述手推童车框架的第一部分安置的第一座椅附接件外壳（参见说明书附图1,3,10，未给出附图标记）；沿着所述手推童车框架的第二部分安置的第二座椅附接件外壳（参见说明书附图1,3,10，未给出附图标记）；第一可拆卸式座椅附接件配接器108（参见附图10，婴儿座椅安装件108），其经配置以可拆卸方式耦合到所述第一座椅附接件外壳；和第二可拆卸式座椅附接件配接器108，其经配置以可拆卸方式耦合到所述第二座椅附接件外壳。由此可见，对比文件1已经公开了该权利要求的全部技术特征，且对比文件1所公开的技术方案与该权利要求所要求保护的技术方案属于同一技术领域，并能产生相同的技术效果，因此该权利要求所要求保护的技术方案不具备专利法第二十二条第二款规定的新颖性。

2、权利要求2是对权利要求1的进一步限定，对于其附加技术特征，对比文件1还公开了如下技术特征（参见说明书第73段、说明书附图10）：其中所述第一座椅附接件外壳和所述第二座椅附接件外壳中的每一个包括：配接器接纳空腔（第73段记载“从凹口1002移除座椅安装件108”，即公开了配接器接纳空腔），其经配置以接纳所述第一和所述第二可拆卸式座椅附接件配接器中的相应一个的至少一部分。至于剩余的附加技术特征，其构成了本申请与对比文件1的区别技术特征。基于上述区别技术特征，可以确定本申请相对于对比文件1实际解决的技术问题是：如何根据实际的工作状态而对配接器接纳空腔进行遮盖保护。然而，对比文件2（CN201626448U）公开了一种多功能童车，并具体公开了如下技术特征（参见对比文件2说明书第12段、说明书附图1-3）：该多功能童车具有车架，车架上设置侧扶手1，侧扶手具有外壳（其相当于座椅附接件外壳），侧扶手上设置有凹槽1（其相当于配接器接纳空腔），另设有连接座5（相当于座椅附接件配接器）；此外，设置有扶手盖4（相当于门），其邻近所述相应侧扶手外壳的顶面安置，且经配置以从防止所述相应连接座从所述顶面进出所述凹槽的关闭配置移动到允许所述相应连接座从所述顶面进出所述凹槽的打开配置，而且该特征在对比文件2中所起的作用与其在本申请中为解决其技术问题所起的作用相同，都是通过在座椅附接件外壳的顶面设置门，从而在座椅被拆卸后，通过门对配接器接纳空腔进行遮盖保护，也就是说对比文件2给出了将该技术特征用于该对比文件1以解决其技术问题的启示。在这一技术启示下，本领域技术人员有动机对对比文件1进行修改，在凹口1002的顶部位置设置门，并根据需要进行关闭配置或打开配置。因此，当其引用的权利要求1不具备新颖性时，该权利要求不具备专利法第二十二条第三款规定的创造性。

3、权利要求3是对权利要求2的进一步限定，对于其附加技术特征，具体限定了门的打开方式，然而，门通过滑动方式打开为现有的一种开门方式，门具体通过滑动方式耦合到相应座椅附接件外壳，且经配置以从所述关闭配置滑动到所述打开配置属于本领域的一种常规选择，上述设置方式并不需要付出创造性的劳动，也没有带来预料不到的技术效果。因此，当其引用的权利要求不具备创造性时，该权利要求也不具备专利法第二十二条第三款规定的创造性。

4、权利要求4是对权利要求2的进一步限定，对于其附加技术特征，对比文件2还公开了如下技术特征（参见说明书第12段、说明书附图1）：所述扶手盖4可旋转地耦合到所述相应侧扶手外壳，且其中所述扶手盖经配置以从所述关闭配置旋转到所述打开配置。因此，当其引用的权利要求不具备创造性时，该权利要求也不具备专利法第二十二条第三款规定的创造性。

5、权利要求5是对权利要求4的进一步限定，对于其附加技术特征，对比文件2还公开了如下技术特征

（参见说明书附图 1）：进一步包括铰链，所述铰链具有耦合到所述扶手盖的第一部分和耦合到所述相应侧扶手外壳的第二部分，其中所述铰链将所述扶手盖可旋转地耦合到所述相应侧扶手外壳。因此，当其引用的权利要求不具备创造性时，该权利要求也不具备专利法第二十二条第三款规定的创造性。

6、权利要求 6 是对权利要求 2 的进一步限定，对于其附加技术特征，对比文件 1 还公开了如下技术特征（参见对比文件 1 说明书附图 10）：所述配接器接纳空腔包括：第一开口端 1002（参见附图 10 的凹口 1002）。至于剩余的附加技术特征，本领域技术人员在面对配接器接纳空腔的具体结构设置时，将配接器容纳腔设置为具有两个开口的穿孔属于本领域的一种现有技术（具体可参见检索报告中给出的现有技术 CN103921830A、CN102256856A），其仅仅是容纳腔形式的一种简单变换，并未带来预料不到的技术效果。对应地，在配接器接纳空腔设置第二开口远端，并使配接器接纳空腔提供穿过相应第一或第二座椅附接件外壳的穿孔是一种适应性设置，并不需要付出创造性的劳动。因此，当其引用的权利要求不具备创造性时，该权利要求也不具备专利法第二十二条第三款规定的创造性。

7、权利要求 7 是对权利要求 2 的进一步限定，对于其附加技术特征，对比文件 1 还公开了如下技术特征（参见对比文件 1 说明书第 73 段、说明书附图 10）：所述配接器接纳空腔包括：至少一个侧壁，其从所述空腔的第一端延伸到所述空腔的第二远端。至于剩余的附加技术特征，为了使可拆卸式座椅附接件配接器能够在配接器接纳空腔内限位，防止可拆卸式座椅附接件配接器从第二远端中穿出，具体设置至少一个止挡凸缘，并使止挡凸缘从所述至少一个侧壁向外延伸到所述空腔中，其属于本领域的一种常规设置，而且采用止挡凸缘这一形式的限位机构并不需要付出创造性的劳动，也没有带来预料不到的技术效果。因此，当其引用的权利要求不具备创造性时，该权利要求也不具备专利法第二十二条第三款规定的创造性。

8、权利要求 8 是对权利要求 1 的进一下限定，对于其附加技术特征，对比文件 1 还公开了如下技术特征（参见对比文件 1 说明书第 73 段、说明书附图 10）：其中每个所述第一可拆卸式座椅附接件配接器和所述第二可拆卸式座椅附接件配接器中的每一个包括：第一端；第二远端；外表面。至于剩余的附加技术特征，其构成了本申请与对比文件 1 之间的区别技术特征。基于上述区别技术特征，可以确定本申请相对于对比文件 1 实际解决的技术问题是：如何实现可拆卸式座椅附接件配接器的锁定。然而，对比文件 3（CN201646823U）公开了一种可坐兜换向的儿童推车，并具体公开了如下技术特征（参见对比文件 3 说明书第 19-20 段、说明书附图 1-3）：坐兜框架 1 的围框管上设有两个插件 13（相当于可拆卸式座椅附接件配接器），插件 13 包括：第一端；第二远端；外表面；弹性突起 131（相当于闩锁突片），其沿着所述外表面安置于所述第一端与所述第二远端之间，而且该特征在对比文件 3 中所起的作用与其在本申请中为解决其技术问题所起的作用相同，都是通过设置闩锁突片，从而使可拆卸式座椅附接件配接器通过闩锁突片实现卡接锁定，也就是说对比文件 3 给出了将该技术特征用于该对比文件 1 以解决其技术问题的启示。在这一技术启示下，本领域技术人员有动机对对比文件 1 进行修改，在对比文件 1 的可拆卸式座椅附接件配接器 108 的外表面设置闩锁突片，从而实现可拆卸式座椅附接件配接器 108 与座椅附接件外壳卡接锁定。因此，当其引用的权利要求不具备新颖性，该权利要求不具备专利法第二十二条第三款规定的创造性。

9、权利要求 9 是对权利要求 8 的进一步限定，对于其附加技术特征，对比文件 3 进一步公开了通过按压弹性突起 131 进行解锁（参见说明书第 20 段）。至于附加技术特征限定手动可调式突片释放按钮，然而，本领域技术人员为了使闩锁突片进行解锁，具体设置手动可调式突片释放按钮，并使其沿着所述相应可拆卸式座椅附接件配接器的所述外表面安置，且以可操作方式耦合到所述闩锁突片为本领域的一种常规选择，其仅仅是解锁位置的一种简单变换，而且通过按钮和联动机构实现闩锁突片的致动并不存在技术上的困难和跨越。因此，当其引用的权利要求不具备创造性时，该权利要求也不具备专利法第二十二条第三款规定的创造性。

10、权利要求 10 是对权利要求 9 的进一步限定，对于其附加技术特征，为了实现闩锁突片的解锁，对应地使所述突片释放按钮经配置以在按压所述突片释放按钮时将所述闩锁突片以从延伸位置移动到缩回位置，

其属于本领域的一种适应性设置，而且并不需要付出创造性的劳动。因此，当其引用的权利要求不具备创造性时，该权利要求也不具备专利法第二十二条第三款规定的创造性。

11、权利要求 11 是对权利要求 9 的进一步限定，对于其附加技术特征，本领域技术人员为了限制可拆卸式座椅附接件配接器的插入深度，对应于座椅附接件外壳的开口，具体使第一可拆卸式座椅附接件配接器和所述第二可拆卸式座椅附接件配接器中的每一个进一步包括安置于所述第一端与所述第二远端之间的止挡环管，其中所述止挡环管的外表面从所述相应可拆卸式座椅附接件配接器的所述外表面向外延伸，从而通过止挡环管改变可拆卸式座椅附接件配接器的径向尺寸进行限位，上述设置方式属于本领域的一种常规设置，且其技术效果是可以预期的。因此，当其引用的权利要求不具备创造性时，该权利要求也不具备专利法第二十二条第三款规定的创造性。

12、权利要求 12 是对权利要求 1 的进一步限定，对于其附加技术特征，为了使可拆卸式座椅附接件配接器锁定在座椅附接件外壳中，具体使所述闩锁突片安置于所述止挡环管与所述相应可拆卸式座椅附接件配接器的所述第一端之间，其属于本领域的一种常规设置。因此，当其引用的权利要求不具备创造性时，该权利要求也不具备专利法第二十二条第三款规定的创造性。

13、权利要求 13 要求保护一种将第二手推童车座椅附接到手推车的方法，对比文件 1（CN103909960A）公开了一种容易操纵的婴儿车，其涉及一种将第二手推童车座椅附接到手推车的方法，并具体公开了如下技术特征（参见对比文件 1 说明书第 41-42, 73 段、说明书附图 1-3, 10）：所述方法包括：提供手推童车，所述手推童车，所述手推童车包括：手推童车框架 102；耦合到所述手推童车框架的多个车轮 110, 114；耦合到所述手推童车框架的第一手推童车座椅 106；沿着所述手推童车框架的第一部分安置的第一座椅附接件外壳（参见说明书附图 1, 3, 10，未给出附图标记）；沿着所述手推童车框架的第二部分安置的第二座椅附接件外壳（参见说明书附图 1, 3, 10，未给出附图标记）；第一可拆卸式座椅附接件配接器 108（参见附图 10，婴儿座椅安装件 108）；和第二可拆卸式座椅附接件配接器 108；其中所述第一和所述第二可拆卸式座椅附接件配接器中的每一个包括第一端和第二端，所述第二端包括座椅连接器（参见说明书附图 10）；将所述第一可拆卸式座椅附接件配接器的所述第一端插入到第一座椅附接件外壳中；将所述第二可拆卸式座椅附接件配接器的所述第一端插入到所述第二座椅附接件外壳中；和将所述第二手推童车座椅耦合到所述第一可拆卸式座椅附接件配接器和所述第二可拆卸式座椅附接件配接器中的每一个的所述座椅连接器。由此可见，对比文件 1 已经公开了该权利要求的全部技术特征，且对比文件 1 所公开的技术方案与该权利要求所要求保护的技术方案属于同一技术领域，并能产生相同的技术效果，因此该权利要求所要求保护的技术方案不具备专利法第二十二条第二款规定的新颖性。

14、权利要求 14 是对权利要求 13 的进一步限定，其附加技术特征构成了本申请与对比文件 1 之间的区别技术特征。基于上述区别技术特征，可以确定本申请相对于对比文件 1 实际解决的技术问题是：如何根据实际的工作状态而对座椅附接件外壳中的连接结构进行遮盖保护。然而，对比文件 2（CN201626448U）公开了一种多功能童车，并具体公开了如下技术特征（参见对比文件 2 说明书第 12 段、说明书附图 1-3）：该多功能童车具有车架，车架上设置侧扶手 1，侧扶手具有外壳（其相当于座椅附接件外壳），并且设置有侧扶手盖 4（相当于门），即其公开了本申请的手推童车包括邻近所述第一座椅附接件外壳的顶面安置的第一门，和邻近所述第二座椅附接件外壳的顶面安置的第二门；此外，进一步公开了：另设有连接座 5（相当于座椅附接件配接器），翻转的扶手盖 4 能盖住在凹槽上，连接座与接收装置组成侧的可拆卸装置，实现汽车座椅或提篮的固定或拆卸，即其公开了本申请的在将所述第一可拆卸式座椅附接件配接器的所述第一端插入到第一座椅附接件外壳中之前，将所述第一门从防止进出第一座椅附接件外壳的关闭配置调整到允许进出所述第一座椅附接件外壳的打开配置；在将所述第二可拆卸式座椅附接件配接器的所述第一端插入到所述第二座椅附接件外壳中之前，将所述第二门从所述关闭配置调整到所述打开配置，而且该特征在对比文件 2 中所起的作用与其在本申请中为解决其技术问题所起的作用相同，都是通过在座椅附接件外壳的顶面设置门，从而在座椅

被拆卸后，通过门对配接器接纳空腔进行遮盖保护，并能在座椅安装前打开该门，也就是说对比文件 2 给出了将该技术特征用于该对比文件 1 以解决其技术问题的启示。在这一技术启示下，本领域技术人员有动机对对比文件 1 进行修改，在凹口 1002 的顶部位置设置门，并根据需要进行关闭配置或打开配置。因此，当其引用的权利要求不具备新颖性时，该权利要求不具备专利法第二十二条第三款规定的创造性。

15、权利要求 15 是对权利要求 13 的进一步限定，对于其附加技术特征，对比文件 3（CN201646823U）公开了一种可坐兜换向的儿童推车，并具体公开了如下技术特征（参见对比文件 3 说明书第 19-20 段、说明书附图 1-3）：坐兜框架 1 的围框管上设有两个插件 13（相当于可拆卸式座椅附接件配接器），插件 13 包括：第一端；第二远端；外表面；弹性突起 131（相当于闩锁突片），其沿着插件 13 的外表面安置于所述第一端与所述第二远端之间，而且该特征在对比文件 3 中所起的作用与其在本申请中为解决其技术问题所起的作用相同，都是通过设置闩锁突片，从而使可拆卸式座椅附接件配接器通过闩锁突片实现卡接锁定，也就是说对比文件 3 给出了将该技术特征用于该对比文件 1 以解决其技术问题的启示。在这一技术启示下，本领域技术人员有动机对对比文件 1 进行修改，在对比文件 1 的可拆卸式座椅附接件配接器 108 的外表面设置闩锁突片，从而实现可拆卸式座椅附接件配接器 108 与座椅附接件外壳卡接锁定。至于剩余的附加技术特征，对比文件 3 进一步公开了通过按压弹性突起 131 进行解锁（参见说明书第 20 段）。对于附加技术特征具体限定的手动可调式突片释放按钮，然而，本领域技术人员为了使闩锁突片进行解锁，具体设置手动可调式突片释放按钮，并使其沿着所述第一可拆卸式座椅附接件配接器的所述外表面安置，且以可操作方式耦合到所述闩锁突片为本领域的一种常规选择，其仅仅是解锁位置的一种简单变换，而且通过按钮和联动机构实现闩锁突片的致动并不存在技术上的困难和跨越。在此基础上，为了实现闩锁突片的致动，所述方法进一步包括：按压所述突片释放按钮以将所述闩锁突片从延伸位置移动到缩回位置；和从所述第一座椅附接件外壳移除所述第一可拆卸式座椅附接件配接器，这对本领域技术人员而言是一种容易想到的操作方式。因此，当其引用的权利要求不具备新颖性时，该权利要求不具备专利法第二十二条第三款规定的创造性。

16、权利要求 16 要求保护一种手推童车，对比文件 1（CN103909960A）公开了一种容易操纵的婴儿车，其实质上公开了一种手推童车，并具体公开了如下技术特征（参见对比文件 1 说明书第 41-42, 73 段、说明书附图 1-3, 10）：说明书附图 10 公开的实施例包括：手推童车框架 102；第一座椅附接件外壳（参见说明书附图 1, 3, 10，未给出附图标记），其沿着所述手推童车框架的第一部分安置，且包括第一配接器接纳空腔；第二座椅附接件外壳（参见说明书附图 1, 3, 10，未给出附图标记），其沿着所述手推童车框架的第二部分安置，且包括第二配接器接纳空腔；第一可拆卸式座椅附接件配接器 108（参见附图 10，婴儿座椅安装件 108），其经配置以可拆卸方式耦合到所述第一座椅附接件外壳；和第二可拆卸式座椅附接件配接器 108，其经配置以可拆卸方式耦合到所述第二座椅附接件外壳；其中所述第一可拆卸式座椅附接件配接器和所述第二可拆卸式座椅附接件配接器中的每一个包括：第一端；第二远端；外表面。因此，权利要求 1 所要求保护的内容与对比文件 1 所公开的内容相比，其区别在于：闩锁突片，其沿着所述外表面安置于所述第一端与所述第二端之间。

基于上述区别技术特征，可以确定本申请相对于对比文件 1 实际解决的技术问题是：如何实现可拆卸式座椅附接件配接器的锁定。然而，对比文件 3（CN201646823U）公开了一种可坐兜换向的儿童推车，并具体公开了如下技术特征（参见对比文件 3 说明书第 19-20 段、说明书附图 1-3）：坐兜框架 1 的围框管上设有两个插件 13（相当于可拆卸式座椅附接件配接器），插件 13 包括：第一端；第二远端；外表面；弹性突起 131（相当于闩锁突片），其沿着所述外表面安置于所述第一端与所述第二远端之间，而且该特征在对比文件 3 中所起的作用与其在本申请中为解决其技术问题所起的作用相同，都是通过设置闩锁突片，从而使可拆卸式座椅附接件配接器通过闩锁突片实现卡接锁定，也就是说对比文件 3 给出了将该技术特征用于该对比文件 1 以解决其技术问题的启示。在这一技术启示下，本领域技术人员有动机对对比文件 1 进行修改，在对比文件 1 的可拆卸式座椅附接件配接器 108 的外表面设置闩锁突片，从而实现可拆卸式座椅附接件配接器 108 与座椅附接件外壳卡接锁定。

由此可知，在对比文件 1 的基础上结合对比文件 3 得出该权利要求所要求保护的技术方案，对本领域的

技术人员来说是显而易见的，因此该权利要求所要求保护的技术方案不具有突出的实质性特点和显著的进步，因而不具备专利法第二十二条第三款规定的创造性。

17、权利要求 17 是对权利要求 16 的进一步限定，对于其附加技术特征，对比文件 2（CN201626448U）公开了一种多功能童车，并具体公开了如下技术特征（参见对比文件 2 说明书第 12 段、说明书附图 1-3）：该多功能童车具有车架，车架上设置两个侧扶手 1，侧扶手具有外壳（其相当于座椅附接件外壳），扶手上设置有凹槽 1（其相当于配接器接纳空腔），并且设置有扶手盖 4（相当于门），此外，进一步公开了：另设有连接座 5（相当于座椅附接件配接器），翻转的扶手盖 4 能盖住在凹槽上，连接座与接收装置组成侧扶手的可拆卸装置，实现汽车座椅或提篮的固定或拆卸；即其公开了其中所述第一座椅附接件外壳和所述第二座椅附接件外壳中的每一个进一步包括门，所述门邻近所述相应第一及第二座椅附接件外壳中的每一个的顶面安置，且经配置以防止所述相应座椅附接件配接器从所述顶面进出所述第一和第二配接器接纳空腔中的所述相应一个的关闭配置移动到允许所述相应座椅附接件配接器从所述顶面进出所述第一和第二配接器接纳空腔中的所述相应一个的打开配置，而且该特征在对比文件 2 中所起的作用与其在本申请中为解决其技术问题所起的作用相同，都是通过在座椅附接件外壳的顶面设置门，从而在座椅被拆卸后，通过门对配接器接纳空腔进行遮盖保护，并能在座椅安装前打开该门，也就是说对比文件 2 给出了将该技术特征用于该对比文件 1 以解决其技术问题的启示。在这一技术启示下，本领域技术人员有动机对对比文件 1 进行修改，在凹口 1002 的顶部位置设置门，并根据需要进行关闭配置或打开配置。因此，当其引用的权利要求不具备创造性时，该权利要求也不具备专利法第二十二条第三款规定的创造性。

18、权利要求 18 是对权利要求 17 的进一步限定，对于其附加技术特征，具体限定了门的打开方式，然而，门通过滑动方式打开为现有的一种开门方式，每一门具体通过滑动方式耦合且可旋转地耦合到所述第一和第二座椅附接件外壳中的所述相应一个中的至少一个，且经配置以从所述关闭配置移动到所述打开配置属于本领域的一种常规选择，上述设置方式并不需要付出创造性的劳动，也没有带来预料不到的技术效果。因此，当其引用的权利要求不具备创造性时，该权利要求也不具备专利法第二十二条第三款规定的创造性。

19、权利要求 19 是对权利要求 17 的进一步限定，对比文件 2 还公开了如下技术特征（参见说明书第 12 段、说明书附图 1）：进一步包括铰链，所述铰链具有耦合到所述扶手盖的第一部分和耦合到所述相应侧扶手外壳的第二部分，其中所述铰链将所述扶手盖可旋转地耦合到所述相应侧扶手外壳。因此，当其引用的权利要求不具备创造性时，该权利要求也不具备专利法第二十二条第三款规定的创造性。

20、权利要求 20 是对权利要求 16 的进一步限定，对于其附加技术特征，对比文件 3 进一步公开了通过按压弹性突起 131 进行解锁（参见说明书第 20 段）。对于附加技术特征具体限定的手动可调式突片释放按钮，然而，本领域技术人员为了使闩锁突片进行解锁，具体设置手动可调式突片释放按钮，并使其沿着所述第一可拆卸式座椅附接件配接器和所述第二可拆卸式座椅附接件配接器中的每一个的所述外表面安置，且以可操作方式耦合到所述相应闩锁突片为本领域的一种常规选择，其仅仅是解锁位置的一种简单变换，而且通过按钮和联动机构实现闩锁突片的致动并不存在技术上的困难和跨越。在此基础上，为了实现闩锁突片的致动，其中所述突片释放按钮经配置以在按压所述突片释放按钮时将所述闩锁突片从延伸位置移动到缩回位置这对本领域技术人员而言是一种容易想到常规设置。因此，当其引用的权利要求不具备创造性时，该权利要求也不具备专利法第二十二条第三款规定的创造性。

基于上述理由，本申请的独立权利要求及从属权利要求都不具备新颖性或创造性，同时说明书中也没有记载其他任何可以授予专利权的实质性内容，因而即使申请人对权利要求进行重新组合和/或根据说明书记载的内容作进一步的限定，本申请也不具备被授予专利权的前景。如果申请人不能在本通知书规定的答复期限内提出表明本申请具有创造性的充分理由，本申请将被驳回。

另根据国家知识产权局《关于停征和调整部分专利收费的公告》（第 272 号）规定，对进入实质审查的发

明专利申请，在第一次审查意见通知书答复期限前（已提交答复意见的除外）主动申请撤回的，可以请求退还50%的专利申请实质审查费。

审查员姓名：曾靖

审查员代码：343015

检索报告

申请号：2017101698264	申请日：20170321	首次检索
申请人：贝贝漫步有限责任公司	最早的优先权日：20160321	
权利要求项数：20	说明书段数：76	
审查员确定的 IPC 分类号：B62B7/06,B62B7/00,B62B9/12,B62B7/12		

检索记录信息：CN103909960A: 131 CNTXT, (B62B7/+/ic) and ((座椅 or 篮 or 兜) s (拆 or 装) s (按压 or 按钮)), 转库至 CNABS

CNABS, 转库结果 1

CN201626448U: 68 CNABS, (B62B7/+/ic) and (((座椅 or 篮 or 兜) s (拆 or 装)) s (车架 or 框架) s (腔 or 槽))

CN201646823U: 178 CNTXT, (B62B9/+/ic) and ((座椅 or 篮 or 兜) s (拆 or 装) s (按压 or 按钮)), 转库至 CNABS

CNABS, 转库结果 1

US6286844B1: 1 VEN, us6286844/pn 获自欧局同族审查过程

WO2014042524A1: 获自欧局同族审查过程

CN103921830A: 5 CNABS, 策富斯/pa/in 追踪发明人

CN102256856A: 5 CNABS, 策富斯/pa/in 追踪发明人

相关专利文献

类型	国别以及代码[11]给出的文献号	代码[43]或[45]给出的日期	IPC 分类号	相关的段落和/或图号	涉及的权利要求
X	CN103909960A	20140709	B62B7/10	说明书第41-42,73 段、说明书附图1-3,10	1,13

Y	CN103909960A	20140709	B62B7/10	说明书第41-42,73段、说明书附图1-3,10	2-12,14-20
Y	CN201626448U	20101110	B62B7/04	说明书第73段、说明书附图10	2-7,14,17-19
Y	CN201646823U	20101124	B62B9/12	说明书第19-20段、说明书附图1-3	8-12,15-20
X	US6286844B1	20010911	B62B7/08	全文	1-2,4-6,13-14
X	WO2014042524A1	20140320	B62B9/28	全文	1,13
A	CN103921830A	20140716	B62B9/12	全文	1-20
A	CN102256856A	20111123	B62B7/00	全文	1-20

相关非专利文献					
类型	书名（包括版本号和卷号）	出版日期	作者姓名和出版者名称	相关页数	涉及的权利要求
类型	期刊或文摘名称 （包括卷号和期号）	发行日期	作者姓名和文章标题	相关页数	涉及的权利要求

表格填写说明事项：

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3. 相关文件的类型说明：

X：一篇文件影响新颖性或创造性；

Y：与本报告中的另外的 Y 类文件组合而影响创造性；

A：背景技术文件；

R：任何单位或个人在申请日向专利局提交的、属于同样的发明创造的专利或专利申请文件。

P：中间文件，其公开日在申请的申请日与所要求的优先权日之间的文件；

E：抵触申请。

审 查 员：曾靖　　审查部门：专利审查协作广东中心机械发明审查部

2018 年 10 月 21 日

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1. CN113135216 - BABY STROLLER AND SEAT HEIGHT ADJUSTING MECHANISM THEREOF

Office
China

Application Number
202010050146.2

Application Date
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Publication Number
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20.07.2021

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A

IPC
B62B 9/12 | B62B 9/10 | B62B 7/06

CPC
B62B 9/12 | B62B 9/10 | B62B 7/06 | B62B 7/142 | B62B 2206/06 | B62B 2205/20

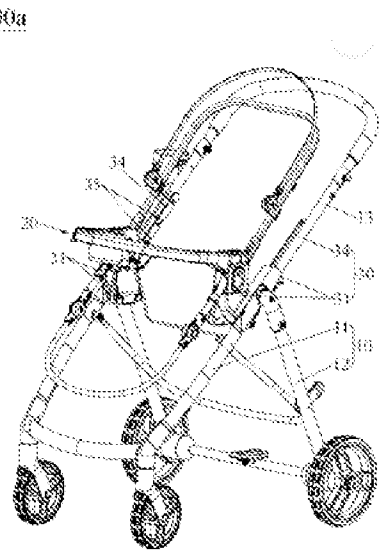
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Title
[EN] Baby stroller and seat height adjusting mechanism thereof
[ZH] 婴儿推车及其座椅高度调整机构



Abstract
[EN] The invention discloses a seat height adjusting mechanism which is arranged on a frame of a cart and comprises a bearing seat used for being connected with a seat in an assembled mode. The bearing seat is arranged on the frame in a sliding mode in the vertical direction of the frame, and the height position of the seat on the bearing seat on the frame is adjusted by means of vertical sliding of the bearing seat relative to the frame. According to the seat height adjusting mechanism, the height position of the seat on the bearing seat on the frame can be adjusted through up-and-down sliding of the bearing seat relative to the frame, and the requirements of children with different heights can be better met. In addition, the invention further discloses a cart with the seat height adjusting mechanism.
[ZH] 本发明公开了一种座椅高度调整机构，设于推车的车架上，包括用于与座椅组接的承载座。承载座沿车架的上下方向滑设于车架上，借由承载座相对车架的上下滑移而调整承载座上的座椅在车架上的高度位置。本发明的座椅高度调整机构能通过承载座相对车架的上下滑移而调整承载座上的座椅在车架上的高度位置，更好地满足不同身高的儿童要求。另，本发明还公开了一种具有该座椅高度调整机构的推车。

Related patent documents
WO/2021/144406

(19)中华人民共和国国家知识产权局

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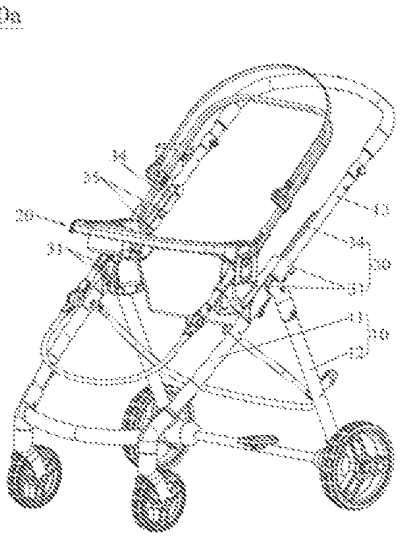
权利要求书4页 说明书12页 附图32页

(54)发明名称

婴儿推车及其座椅高度调整机构

(57)摘要

本发明公开了一种座椅高度调整机构，设于推车的车架上，包括用于与座椅组接的承载座。承载座沿车架的上下方向滑设于车架上，借由承载座相对车架的上下滑移而调整承载座上的座椅在车架上的高度位置。本发明的座椅高度调整机构能通过承载座相对车架的上下滑移而调整承载座上的座椅在车架上的高度位置，更好地满足不同身高的儿童要求。另，本发明还公开了一种具有该座椅高度调整机构的推车。



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1.一种座椅高度调整机构，设于婴儿推车的车架上，其特征在于，所述座椅高度调整机构包括用于与座椅组接的承载座，所述承载座沿所述车架的上下方向滑设于所述车架上，借由所述承载座相对所述车架的上下滑移而调整所述承载座上的座椅在所述车架上的高度位置。

2.根据权利要求1所述的座椅高度调整机构，其特征在于，还包括锁定件、与所述锁定件连动的释锁操作件及安装于所述车架上的固定件，所述承载座滑设于所述固定件，所述锁定件安装于所述固定件及承载座中的一者并至少具有一锁合位置和一释锁位置，所述固定件及承载座中的另一者至少设有两个沿所述承载座的滑移方向彼此间隔开的段位配锁部，所述锁定件在选择性地与任一所述段位配锁部锁合时处于所述锁合位置，所述释锁操作件连动所述锁定件脱离与任一所述段位配锁部锁合，以使所述锁定件处于所述释锁位置。

3.根据权利要求1所述的座椅高度调整机构，其特征在于，还包括至少两个沿所述承载座的滑移方向彼此间隔开的锁定件、同时与所有所述锁定件一起连动的释锁操作件及安装于所述车架上的固定件，所述承载座滑设于所述固定件，所述锁定件安装于所述固定件及承载座中的一者并至少具有一锁合位置和一释锁位置，所述固定件及承载座中的另一者设有段位配锁部，任一所述锁定件在选择性地与所述段位配锁部锁合时处于所述锁合位置，所述释锁操作件连动所有所述锁定件一起做释锁运动，由任一所述锁定件脱离与所述段位配锁部锁合而处于所述释锁位置。

4.根据权利要求2或3所述的座椅高度调整机构，其特征在于，还包括复位弹性件，所述复位弹性件设于所述锁定件和具有该锁定件的承载座或固定件上，所述复位弹性件恒具有驱使所述锁定件由所述释锁位置切换至所述锁合位置的趋势。

5.根据权利要求4所述的座椅高度调整机构，其特征在于，所述锁定件及段位配锁部中至少一者具有相对所述承载座的滑移方向倾斜的倾斜结构，在所述承载座向上滑移过程中，借由所述倾斜结构而使所述锁定件由所述锁合位置切换至所述释锁位置。

6.根据权利要求5所述的座椅高度调整机构，其特征在于，安装于所述承载座上的锁定件之倾斜结构位于该锁定件的上侧，对应地，所述固定件所开设的段位配锁部之倾斜结构位于该段位配锁部的上侧；或者，安装于所述固定件上的锁定件之倾斜结构位于该锁定件的下侧，对应地，所述承载座所开设的段位配锁部之倾斜结构位于该段位配锁部的下侧。

7.根据权利要求2或3所述的座椅高度调整机构，其特征在于，所述锁定件呈滑移布置，所述锁定件的滑移方向与所述承载座的滑移方向相交错。

8.根据权利要求7所述的座椅高度调整机构，其特征在于，所述释锁操作件与所述锁定件共同为一体式结构。

9.根据权利要求7所述的座椅高度调整机构，其特征在于，所述释锁操作件与所述锁定件之间彼此独立。

10.根据权利要求9所述的座椅高度调整机构，其特征在于，还包括柔性的牵引件，所述释锁操作件通过所述牵引件连动所述锁定件。

11.根据权利要求10所述的座椅高度调整机构，其特征在于，所述牵引件的第一端与安装在所述车架上的释锁操作件连接，所述牵引件的第二端与安装在所述固定件上的锁定件连接。

12.根据权利要求11所述的座椅高度调整机构，其特征在于，还包括枢接于所述车架上的转盘，所述转盘具有分布于所述转盘之中心线两侧的第一安装部和第二安装部，所述释锁操作件与所述第一安装部连接，所述牵引件的第一端与所述第二安装部连接。

13.根据权利要求12所述的座椅高度调整机构，其特征在于，还包括推拉杆，所述推拉杆沿所述承载座的滑移方向滑设于所述固定件或承载座上，所述牵引件的第二端安装于所述推拉杆上，所述推拉杆与所述锁定件连动。

14.根据权利要求10所述的座椅高度调整机构，其特征在于，所述牵引件的第一端与安装在所述座椅上的释锁操作件连接，所述牵引件的第二端与安装在所述承载座上的锁定件连接。

15.根据权利要求14所述的座椅高度调整机构，其特征在于，还包括活动设于所述座椅上的传动件，所述传动件与所述释锁操作件连动，所述牵引件的第一端安装于所述传动件上。

16.根据权利要求15所述的座椅高度调整机构，其特征在于，所述释锁操作件及传动件各滑设于所述座椅上，且所述释锁操作件与所述传动件两者的滑设方向相交。

17.根据权利要求2或3所述的座椅高度调整机构，其特征在于，所述锁定件呈枢摆布置，所述释锁操作件与所述锁定件共同为一体式结构。

18.根据权利要求2或3所述的座椅高度调整机构，其特征在于，所述锁定件及释锁操作件二者各可枢摆地安装于所述承载座或固定件上，借助所述释锁操作件的枢摆而连动所述锁定件做释锁运动。

19.根据权利要求1所述的座椅高度调整机构，其特征在于，所述段位锁合部为槽孔结构。

20.根据权利要求1所述的座椅高度调整机构，其特征在于，所述承载座绕一枢转中心线枢接于所述车架，所述承载座至少具有沿所述承载座的旋转方向彼此隔开的第一组接头和第二组接头，所述第一组接头至所述枢转中心线的距离与所述第二组接头至所述枢转中心线的距离相异，所述座椅可拆卸地安装于所述第一组接头或第二组接头。

21.根据权利要求20所述的座椅高度调整机构，其特征在于，所述第一组接头与所述第二组接头之间所夹的圆心角为90度。

22.一种婴儿推车，包括车架和座椅，所述车架包含前脚、后脚和车手，所述前脚、后脚和车手三者之间可展收操作，其特征在于，所述婴儿推车还包括座椅高度调整机构，所述座椅高度调整机构包含承载座，所述承载座沿所述车架的上下方向滑设于所述车架上，所述座椅组接于所述承载座上，借由所述承载座相对所述车架的上下滑移而调整所述承载座上的座椅在所述车架上的高度位置。

23.根据权利要求22所述的婴儿推车，其特征在于，所述承载座沿所述车架的上下方向滑设于所述车手、前脚或后脚上。

24.根据权利要求22所述的婴儿推车，其特征在于，所述座椅高度调整机构还包括锁定件、与所述锁定件连动的释锁操作件及安装于所述车架上的固定件，所述承载座滑设于所述固定件，所述锁定件安装于所述固定件及承载座中的一者并至少具有一锁合位置和一释锁位置，所述固定件及承载座中的另一者至少设有两个沿所述承载座的滑移方向彼此间隔开的段位配锁部，所述锁定件在选择性地与任一所述段位配锁部锁合时处于所述锁合位

置，所述释锁操作件连动所述锁定件脱离与任一所述段位配锁部锁合，以使所述锁定件处于所述释锁位置。

25.根据权利要求22所述的婴儿推车，其特征在于，所述座椅高度调整机构还包括至少两个沿所述承载座的滑移方向彼此间隔开的锁定件、同时与所有所述锁定件一起连动的释锁操作件及安装于所述车架上的固定件，所述承载座滑设于所述固定件，所述锁定件安装于所述固定件及承载座中的一者并至少具有一锁合位置和一释锁位置，所述固定件及承载座中的另一者设有段位配锁部，任一所述锁定件在选择性地与所述段位配锁部锁合时处于所述锁合位置，所述释锁操作件连动所有所述锁定件一起做释锁运动，由任一所述锁定件脱离与所述段位配锁部锁合而处于所述释锁位置。

26.根据权利要求24或25所述的婴儿推车，其特征在于，所述座椅高度调整机构还包括复位弹性件，所述复位弹性件设于所述锁定件和具有该锁定件的承载座或固定件上，所述复位弹性件恒具有驱使所述锁定件由所述释锁位置切换至所述锁合位置的趋势。

27.根据权利要求26所述的婴儿推车，其特征在于，所述锁定件及段位配锁部中至少一者具有相对所述承载座的滑移方向倾斜的倾斜结构，在所述承载座向上滑移过程中，借由所述倾斜结构而使所述锁定件由所述锁合位置切换至所述释锁位置。

28.根据权利要求27所述的婴儿推车，其特征在于，安装于所述承载座上的锁定件之倾斜结构位于该锁定件的上侧，对应地，所述固定件所开设的段位配锁部之倾斜结构位于该段位配锁部的上侧；或者，安装于所述固定件上的锁定件之倾斜结构位于该锁定件的下侧，对应地，所述承载座所开设的段位配锁部之倾斜结构位于该段位配锁部的下侧。

29.根据权利要求24或25所述的婴儿推车，其特征在于，所述锁定件呈滑移布置，所述锁定件的滑移方向与所述承载座的滑移方向相交错。

30.根据权利要求29所述的婴儿推车，其特征在于，所述释锁操作件与所述锁定件共同为一体式结构，所述座椅与所述承载座可拆卸地组接。

31.根据权利要求29所述的婴儿推车，其特征在于，所述座椅高度调整机构还包括柔性的牵引件，所述释锁操作件与所述锁定件之间彼此独立，所述释锁操作件通过所述牵引件连动所述锁定件。

32.根据权利要求31所述的婴儿推车，其特征在于，所述牵引件的第一端与安装在所述车手上的释锁操作件连接，所述牵引件的第二端与安装在所述固定件上的锁定件连接。

33.根据权利要求32所述的婴儿推车，其特征在于，所述座椅高度调整机构还包括枢接于所述车手上的转盘，所述转盘具有分布于所述转盘之中心线两侧的第一安装部和第二安装部，所述释锁操作件与所述第一安装部连接，所述牵引件的第一端与所述第二安装部连接，所述座椅与所述承载座可拆卸地组接。

34.根据权利要求33所述的婴儿推车，其特征在于，所述座椅高度调整机构还包括推拉杆，所述推拉杆沿所述承载座的滑移方向滑设于所述固定件或承载座上，所述牵引件的第二端安装于所述推拉杆上，所述推拉杆与所述锁定件连动。

35.根据权利要求31所述的婴儿推车，其特征在于，所述座椅高度调整机构还包括活动设于所述座椅上的传动件，所述传动件与所述释锁操作件连动，所述牵引件的第一端安装于所述传动件上，所述牵引件的第二端与安装在所述承载座上的锁定件连接。

36.根据权利要求35所述的婴儿推车，其特征在于，所述释锁操作件及传动件各滑设于

所述座椅上，且所述释锁操作件与所述传动件两者的滑设方向相交。

37.根据权利要求24或25所述的婴儿推车，其特征在于，所述锁定件呈枢摆布置，所述释锁操作件与所述锁定件共同为一体式结构。

38.根据权利要求24或25所述的婴儿推车，其特征在于，所述锁定件及释锁操作件二者各可枢摆地安装于所述承载座或固定件上，借助所述释锁操作件的枢摆而连动所述锁定件做释锁运动。

39.根据权利要求22所述的婴儿推车，其特征在于，所述承载座绕一枢转中心线枢接于所述车架，所述承载座至少具有沿所述承载座的旋转方向彼此隔开的第一组接头和第二组接头，所述第一组接头至所述枢转中心线的距离与所述第二组接头至所述枢转中心线的距离相异，所述座椅可拆卸地安装于所述第一组接头或第二组接头。

婴儿推车及其座椅高度调整机构

技术领域

[0001] 本发明涉及婴幼儿用品领域，尤其涉及一种婴儿推车及其座椅高度调整机构。

背景技术

[0002] 随着经济的不断发展及科学技术的不断进步，为人们的生活提供极其丰富的物质消费品，而婴儿推车就是诸多的物质消费品中的一种。

[0003] 其中，使用者通过婴儿推车的使用，十分便于使用者对婴儿外出的照顾，因此，使得婴儿推车受到人们所追捧。

[0004] 但是，在现有的婴儿推车中，其座椅在车架上的位置是不可调整的，因此，使得现有的座椅无法根据婴儿的身高变化而调整座椅在车架上的高度位置，故使得现有的婴儿推车的通用性差。

[0005] 因此，急需要一种能根据婴儿的身高变化而灵活调整座椅高度位置的婴儿推车及其座椅高度调整机构来克服上述的。

发明内容

[0006] 本发明的一目的在于提供一种能根据婴儿的身高变化而灵活调整座椅高度位置的座椅高度调整机构。

[0007] 本发明的另一目的在于提供一种能根据婴儿的身高变化而灵活调整座椅高度位置的婴儿推车。

[0008] 为实现上述目的，本发明的座椅高度调整机构设于婴儿推车的车架上，包括用于与座椅组接的承载座。承载座沿车架的上下方向滑设于车架上，借由承载座相对车架的上下滑移而调整承载座上的座椅在车架上的高度位置。

[0009] 较佳地，本发明的座椅高度调整机构还包括锁定件、与锁定件连动的释锁操作件及安装于车架上的固定件，承载座滑设于固定件，锁定件安装于固定件及承载座中的一者并至少具有一锁合位置和一释锁位置，固定件及承载座中的另一者至少设有两个沿承载座的滑移方向彼此间隔开的段位配锁部，锁定件在选择性地与任一段位配锁部锁合时处于锁合位置，释锁操作件连动锁定件脱离与任一段位配锁部锁合，以使锁定件处于释锁位置。

[0010] 较佳地，本发明的座椅高度调整机构还包括至少两个沿承载座的滑移方向彼此间隔开的锁定件、同时与所有锁定件一起连动的释锁操作件及安装于车架上的固定件，承载座滑设于固定件，锁定件安装于固定件及承载座中的一者并至少具有一锁合位置和一释锁位置，固定件及承载座中的另一者设有段位配锁部，任一锁定件在选择性地与段位配锁部锁合时处于锁合位置，释锁操作件连动所有锁定件一起做释锁运动，由任一锁定件脱离与段位配锁部锁合而处于释锁位置。

[0011] 较佳地，本发明的座椅高度调整机构还包括复位弹性件，复位弹性件设于锁定件和具有该锁定件的承载座或固定件上，复位弹性件恒具有驱使锁定件由释锁位置切换至锁合位置的趋势。

[0012] 较佳地，锁定件及段位配锁部中至少一者具有相对承载座的滑移方向倾斜的倾斜结构，在承载座向上滑移过程中，借由倾斜结构而使锁定件由锁合位置切换至释锁位置。

[0013] 较佳地，安装于承载座上的锁定件之倾斜结构位于该锁定件的上侧，对应地，固定件所开设的段位配锁部之倾斜结构位于该段位配锁部的上侧；或者，安装于固定件上的锁定件之倾斜结构位于该锁定件的下侧，对应地，承载座所开设的段位配锁部之倾斜结构位于该段位配锁部的下侧。

[0014] 较佳地，锁定件呈滑移布置，锁定件的滑移方向与承载座的滑移方向相交错。

[0015] 较佳地，释锁操作件与锁定件共同为一体式结构。

[0016] 较佳地，释锁操作件与锁定件之间彼此独立。

[0017] 较佳地，本发明的座椅高度调整机构还包括柔性的牵引件，释锁操作件通过牵引件连动锁定件。

[0018] 较佳地，牵引件的第一端与安装在车架上的释锁操作件连接，牵引件的第二端与安装在固定件上的锁定件连接。

[0019] 较佳地，本发明的座椅高度调整机构还包括枢接于车架上的转盘，转盘具有分布于转盘之中心线两侧的第一安装部和第二安装部，释锁操作件与第一安装部连接，牵引件的第一端与第二安装部连接。

[0020] 较佳地，本发明的座椅高度调整机构还包括推拉杆，推拉杆沿承载座的滑移方向滑设于固定件或承载座上，牵引件的第二端安装于推拉杆上，推拉杆与锁定件连动。

[0021] 较佳地，牵引件的第一端与安装在座椅上的释锁操作件连接，牵引件的第二端与安装在承载座上的锁定件连接。

[0022] 较佳地，本发明的座椅高度调整机构还包括活动设于座椅上的传动件，传动件与释锁操作件连动，牵引件的第一端安装于传动件上。

[0023] 较佳地，释锁操作件及传动件各滑设于座椅上，且释锁操作件与传动件两者的滑设方向相交。

[0024] 较佳地，锁定件呈枢摆布置，释锁操作件与锁定件共同为一体式结构。

[0025] 较佳地，锁定件及释锁操作件二者各可枢摆地安装于承载座或固定件上，借助释锁操作件的枢摆而连动锁定件做释锁运动。

[0026] 较佳，段位锁合部为槽孔结构。

[0027] 较佳地，承载座绕一枢转中心线枢接于车架，承载座至少具有沿承载座的旋转方向彼此隔开的第一组接头和第二组接头，第一组接头至枢转中心线的距离与第二组接头至枢转中心线的距离相异，座椅可拆卸地安装于第一组接头或第二组接头。

[0028] 较佳地，第一组接头与第二组接头之间所夹的圆心角为90度。

[0029] 为实现上述的目的，本发明的婴儿推车包括车架、座椅及座椅高度调整机构。车架包含前脚、后脚和车手，前脚、后脚和车手三者之间可展收操作；座椅高度调整机构包含承载座，承载座沿车架的上下方向滑设于车架上，座椅组接于承载座上，借由承载座相对车架的上下滑移而调整承载座上的座椅在车架上的高度位置。

[0030] 较佳地，承载座沿车架的上下方向滑设于车手、前脚或后脚上。

[0031] 较佳地，座椅高度调整机构还包括锁定件、与锁定件连动的释锁操作件及安装于车架上的固定件，承载座滑设于固定件，锁定件安装于固定件及承载座中的一者并至少具

有一锁合位置和一释锁位置，固定件及承载座中的另一者至少设有两个沿承载座的滑移方向彼此间隔开的段位配锁部，锁定件在选择性地与任一段位配锁部锁合时处于锁合位置，释锁操作件连动锁定件脱离与任一段位配锁部锁合，以使锁定件处于释锁位置。

[0032] 较佳地，座椅高度调整机构还包括至少两个沿承载座的滑移方向彼此间隔开的锁定件、同时与所有锁定件一起连动的释锁操作件及安装于车架上的固定件，承载座滑设于固定件，锁定件安装于固定件及承载座中的一者并至少具有一锁合位置和一释锁位置，固定件及承载座中的另一者设有段位配锁部，任一锁定件在选择性地与段位配锁部锁合时处于锁合位置，释锁操作件连动所有锁定件一起做释锁运动，由任一锁定件脱离与段位配锁部锁合而处于释锁位置。

[0033] 较佳地，座椅高度调整机构还包括复位弹性件，复位弹性件设于锁定件和具有该锁定件的承载座或固定件上，复位弹性件恒具有驱使锁定件由释锁位置切换至锁合位置的趋势。

[0034] 较佳地，锁定件及段位配锁部中至少一者具有相对承载座的滑移方向倾斜的倾斜结构，在承载座向上滑移过程中，借由倾斜结构而使锁定件由锁合位置切换至释锁位置。

[0035] 较佳地，安装于承载座上的锁定件之倾斜结构位于该锁定件的上侧，对应地，固定件所开设的段位配锁部之倾斜结构位于该段位配锁部的上侧；或者，安装于固定件上的锁定件之倾斜结构位于该锁定件的下侧，对应地，承载座所开设的段位配锁部之倾斜结构位于该段位配锁部的下侧。

[0036] 较佳地，锁定件呈滑移布置，锁定件的滑移方向与承载座的滑移方向相交错。

[0037] 较佳地，释锁操作件与锁定件共同为一体式结构，座椅与承载座可拆卸地组接。

[0038] 较佳地，座椅高度调整机构还包括柔性的牵引件，释锁操作件与锁定件之间彼此独立，释锁操作件通过牵引件连动锁定件。

[0039] 较佳地，牵引件的第一端与安装在车手上的释锁操作件连接，牵引件的第二端与安装在固定件上的锁定件连接。

[0040] 较佳地，座椅高度调整机构还包括枢接于车手上的转盘，转盘具有分布于转盘之中心线两侧的第一安装部和第二安装部，释锁操作件与第一安装部连接，牵引件的第一端与第二安装部连接，座椅与承载座可拆卸地组接。

[0041] 较佳地，座椅高度调整机构还包括推拉杆，推拉杆沿承载座的滑移方向滑设于固定件或承载座上，牵引件的第二端安装于推拉杆上，推拉杆与锁定件连动。

[0042] 较佳地，座椅高度调整机构还包括活动设于座椅上的传动件，传动件与释锁操作件连动，牵引件的第一端安装于传动件上，牵引件的第二端与安装在承载座上的锁定件连接。

[0043] 较佳地，释锁操作件及传动件各滑设于座椅上，且释锁操作件与传动件两者的滑设方向相交。

[0044] 较佳地，锁定件呈枢摆布置，释锁操作件与锁定件共同为一体式结构。

[0045] 较佳地，锁定件及释锁操作件二者各可枢摆地安装于承载座或固定件上，借助释锁操作件的枢摆而连动锁定件做释锁运动。

[0046] 较佳地，承载座绕一枢转中心线枢接于车架，承载座至少具有沿承载座的旋转方向彼此隔开的第一组接头和第二组接头，第一组接头至枢转中心线的距离与第二组接头至

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枢转中心线的距离相异，座椅可拆卸地安装于第一组接头或第二组接头。

[0047] 与现有技术相比，由于承载座沿车架的上下方向滑设车架，故借由承载座相对车架的上下滑移而调整承载座上的座椅在车架上的高度位置，因此，可以根据婴儿的身高而灵活地通过承载座相对车架的上下滑移，从而达到调整承载座上的座椅在车架上的高度位置，一方面便于操作人员的调整操作，另一方面提高通用性。

附图说明

[0048] 图1是本发明第一实施例的婴儿推车的立体结构示意图。

[0049] 图2是图1所示的婴儿推车在另一角度时的立体结构示意图。

[0050] 图3是图1所示的婴儿推车在隐藏座椅后的立体结构示意图。

[0051] 图4是图2所示的婴儿推车在隐藏座椅后的立体结构示意图。

[0052] 图5是图1所示的婴儿推车中的固定件的立体结构示意图。

[0053] 图6是图1所示的婴儿推车中的锁定件与释锁操作件共同为一体的立体结构示意图。

[0054] 图7是对图1所示的婴儿推车剖切并显示出锁定件在与段位配锁部锁合而处于锁合位置时的内部结构示意图。

[0055] 图8是对图1所示的婴儿推车剖切并显示出锁定件在与段位配锁部释锁而处于释锁位置时的内部结构示意图。

[0056] 图9是本发明第二实施例的婴儿推车的立体结构示意图。

[0057] 图10是图9所示的婴儿推车在另一角度时的立体结构示意图。

[0058] 图11是图9所示的婴儿推车在又一角度时的立体结构示意图。

[0059] 图12是本发明第三实施例的婴儿推车在隐藏部分前脚后的立体结构示意图。

[0060] 图13是图12所示的婴儿推车在另一角度时的立体结构示意图。

[0061] 图14是图12所示的婴儿推车在又一角度时的立体结构示意图。

[0062] 图15是图14所示的婴儿推车在隐藏座椅后的立体结构示意图。

[0063] 图16是图12所示的婴儿推车中的承载座、锁定件及释锁操作件安装在一起时的立体结构示意图。

[0064] 图17是本发明第四实施例的婴儿推车的立体结构示意图。

[0065] 图18是图17所示的婴儿推车中的释锁操作件、转盘、牵引件、推拉杆及锁定件在连动时的结构示意图。

[0066] 图19是图17所示的婴儿推车在隐藏后脚时的立体结构示意图。

[0067] 图20是图19中A部分的放大图。

[0068] 图21是本发明第五实施例的婴儿推车在座椅组接于第一组接头上时的立体结构示意图。

[0069] 图22是本发明第五实施例的婴儿推车在座椅组接于第二组接头上时的立体结构示意图。

[0070] 图23是图21所示的婴儿推车在隐藏座椅后的立体结构示意图。

[0071] 图24是图22所示的婴儿推车在隐藏座椅后的立体结构示意图。

[0072] 图25是本发明第六实施例的婴儿推车的立本结构示意图。

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[0073] 图26是图25所示的婴儿推车在另一角度时的立体结构示意图。

[0074] 图27是图25所示的婴儿推车在又一角度时的立体结构示意图。

[0075] 图28是图25所示的婴儿推车在隐藏座椅后的立体结构示意图。

[0076] 图29本发明第六实施例的婴儿推车中的释锁操作件、传动件及牵引件安装在一起时的立体结构示意图。

[0077] 图30本发明第六实施例的婴儿推车在锁定件与一个段位配锁部锁合时的立体结构示意图。

[0078] 图31本发明第六实施例的婴儿推车在锁定件与一个段位配锁部释锁时的立体结构示意图。

[0079] 图32是图30所示的婴儿推车的立体分解图。

[0080] 图33是图31所示的婴儿推车的立体分解图。

具体实施方式

[0081] 为了详细说明本发明的技术内容、构造特征，以下结合实施方式并配合附图作进一步说明。

[0082] 请参阅图1至图8，本发明第一实施例的婴儿推车100a包车架10、座椅20及座椅高度调整机构30。车架10包含前脚11、后脚12和车手13，前脚11、后脚12和车手13三者之间可展收操作，以便于车架10的收折操作；较优的是，车手13向下依次与后脚12及前脚11枢接，使得车手13与前脚11的枢接处位于车手13与后脚12的枢接处的前下方，在确保车架10收折操作便捷的条件下简化前脚11、后脚12和车手13三者枢接的结构，但不以此为限。座椅高度调整机构30包含承载座31，承载座31活动地设于车架10，座椅20组接于承载座31上，使得座椅20通过承载座31而组装于车架10上，因此，借由承载座31相对车架10的活动，从而调整承载座31上的座椅20在车架10上的高度位置。具体地，于本实施例中，承载座31是沿车架10的上下方向滑设于车手13，使得承载座31可沿着车手13做上下滑移，故在承载座31沿着车手13上下滑移过程中，使得承载座31相对车架10的上下滑移，从而调整承载座31上的座椅20在车架10上的高度位置。可理解的是，根据实际需要，承载座31还可沿车架10的上下方向滑设于前脚11或后脚12上，故不以此为限。当车架10不包含前脚11、后脚12及车手13时，此时的承载座31便是沿车架10的上下方向滑设于车架10上，借由承载座31相对车架10的上下滑移而调整承载座31上的座椅20在车架10上的高度位置，故不以上述的举例为限。更具体地，如下：

[0083] 如图3至图8所示，为确保调整后的承载座31在车手13上的位置可靠性，还便于操作人员对承载座31的调整操作，座椅高度调整机构30还包括锁定件32、与锁定件32连动的释锁操作件33及安装于车手13上的固定件34。承载座31滑设于固定件34，以使得承载座31通过滑设于固定件34上而达到滑设于车手13处的目的；较优的是，承载座31还与固定件34相互套装配合，且固定件34为直杆结构，以增加承载座31与固定件34之间滑动可靠性，但不以此为限。锁定件32安装于承载座31上，由承载座31为锁定件32提供支撑，且锁定件32至少具有如图7所示的锁合位置和图8所示的释锁位置，固定件34至少设有两个沿承载座31的滑移方向（见图5中双箭头B所指）彼此间隔开的段位配锁部35。锁定件32在选择性地与任一段位配锁部35锁合时处于锁合位置，状态见图7所示；释锁操作件33连动锁定件32脱离与任一

段位配锁部35锁合，以使锁定件32处于释锁位置，状态见图8所示；举例而言，段位配锁部35为槽孔结构，例如凹槽、盲孔或通孔，它的形状是与锁定件32的形状相匹配，但这都是本领域所熟知的，故在此不再详述。

[0084] 如图7及图8所示，为使锁定件32在常态下能自动地往锁合位置切换，座椅高度调整机构30还包括复位弹性件36，复位弹性件36恒具有驱使锁定件32由释锁位置切换至锁合位置的趋势；具体地，由于锁定件32是安装于承载座31上，故复位弹性件36设于锁定件32和具有该锁定件32的承载座31上，以简化复位弹性件36、锁定件32及承载座31三者的安装关系，当锁定件32安装于固定件34上时，此时的复位弹性件36却是设于锁定件32与固定件34上，故不以此为限；举例而言，锁定件32呈滑移布置，锁定件32的滑移方向（见图7及图8中双箭头D所指）与承载座31的滑移方向（见图7及图8中双箭头B所指）相交错，这样设计能简化锁定件32对承载座31的厚度占用量。由于锁定件32呈滑移布置，对应的，复位弹性件36选择为压缩弹簧或拉伸弹簧，以进一步地简化复位弹性件36、锁定件32及承载座31三者的安装关系，但不限于此。可理解的是，根据实际需要，锁定件32还可安装于固定件34处，对应地，承载座31开设有至少两个段位配锁部35，一样能实现承载座31的段位调整及锁定的目的，但不以此为限。另，当承载座31滑设于前脚11时，此时的固定件34安装于车架10的前脚11上，当承载座31滑设于后脚11时，此时的固定件34安装于后脚11上，故不以上述的举例为限。

[0085] 如图5至图8所示，锁定件32具有相对承载座31的滑移方向倾斜的倾斜结构321，段位配锁部35也具有相对承载座31的滑移方向倾斜的倾斜结构351，在承载座31向上滑移过程中，借由倾斜结构321、351而使锁定件32由锁合位置切换至释锁位置，这样设计的目的是：在承载座31向上调整时，此时不需要使用者对释锁操作件33进行操作，只需要使用者直接向上拉动座椅20，即可以实现承载座31向上的调整目的，这是由于锁定件32的倾斜结构321与段位配锁部35的倾斜结构351在承载座31向上滑移过程中相互顶推，从而使锁定件32克服复位弹性件36的弹力而滑移内缩，因而使得锁定件32与对齐的段位配锁部35之间释锁，因而允许承载座31向上调整。具体地，安装于承载座31上的锁定件32之倾斜结构321位于该锁定件32的上侧，对应地，固定件34所开设的段位配锁部35之倾斜结构351位于该段位配锁部35的上侧，状态见图7或图8所示。需要说明的是，根据实际需要，可将安装于固定件34上的锁定件32之倾斜结构321设计成位于该锁定件32的下侧，对应地，可将承载座31所开设的段位配锁部35之倾斜结构351设计成位于该段位配锁部351的下侧，但不以此为限；另，根据实际需要，可由锁定件32或段位配锁部35所具有倾斜结构，一样能实现“使用者不需要对释锁操作件33进行操作，只需要使用者向上直接拉动座椅20的上端便可向上调整承载座31”的目的，故不以此为限。

[0086] 如图6及图7所示，释锁操作件33与锁定件32共同为一体式结构，这样设计的目的是实现通过释锁操作件33对锁定件32进行近距离释锁的目的，并简化释锁操作件33与锁定件32两者的结构；由于释锁操作件33与锁定件32共同一体式结构，此时的释锁操作件33通过锁定件32安装于承载座31处，但不以此为限。可理解的是，根据实际需要，可将与释锁操作件33共同为一体式结构的锁定件32呈枢摆布置，使得释锁操作件33和锁定件32一起相对承载座31枢摆而实现锁定件32与段位配锁部35之间的锁合或释锁的目的，但不以此为限。为便于用户装拆座椅20，第一实施例的婴儿推车100a中的座椅20与承载座31可拆卸地组

接，当然，根据实际需要，座椅20与承载座31可做成不可拆卸的，故不以此为限。

[0087] 结合图1至图8，对本发明第一实施例的婴儿推车100a的工作原理进行说明：当需要向上调整座椅20在车架10的高度位置时，使用者直接向上拉动座椅20，使得作用于座椅20上的作用力传递至承载座31处，从而使得承载座31具有向上滑移的趋势；而具有向上滑移趋势的承载座31借助锁定件32的倾斜结构321与段位配锁部35的倾斜结构351的相互顶推作用下，使得锁定件32克服复位弹性件36的弹力而滑移内缩，从而使得锁定件32与其对齐一个的段位配锁部35之间释锁，因而允许承载座31连同座椅20一起向上调整，直到锁定件32重新再与另一个段位配锁部35相对齐为止，此时的锁定件32在复位弹性件36的复位弹力作用下自动地与对齐的段位配锁部35相锁合，以固定调整位置后的承载座31在车手13上的位置。当要向下调整座椅20在车架10的高度位置时，由使用者对释锁操作件33进行操作，由释锁操作件33连同锁定件32一起克服复位弹性件36的弹性力而与对齐的段位配锁部35之间释锁，从而允许承载座31连同座椅20一起向下调整。

[0088] 请参阅图9至图11，本发明第二实施例的婴儿推车100b与第一实施例的婴儿推车100a的结构基本相同，区别点仅在于两者中的座椅高度调整机构30在车架10的安装位置稍有区别，具体如下：

[0089] 于第二实施例中，座椅高度调整机构30的承载座31是滑设于车架10的后脚12处，具体地，座椅高度调整机构30的固定件34安装于后脚12处，使得承载座31滑设于后脚12的固定件34处；而于第一实施例中，座椅高度调整机构30的承载座31是滑设于车架10的车手13处，具体是座椅高度调整机构30的固定件34安装于车手13处，使得承载座31滑设于车手13的固定件34处。

[0090] 虽然，第一实施例及第二实施例两者中的座椅高度调整机构30在车架10上的安装位置稍有区别，但是，第一实施例与第二实施例两者中的座椅高度调整机构30的结构完全相同，故两者的座椅10高度调整原理相同，故在此不再对第二实施例的婴儿推车100b的工作原理进行详细的描述。值得注意的是，虽然第一实施例及第二实施例中的座椅高度调整机构10仅展示承载座31滑设于车手13或后脚12处，当然，根据实际需要，第一实施例及第二实施例中的座椅高度调整机构10的承载座31还可以滑设于前脚11处，故不以上述的举例为限；此外，还需要说明的是，当承载座31滑设于前脚11处时，此时的固定件34是安装于前脚11处，以实现承载座31通过固定件34滑设于前脚11处的目的。

[0091] 请参阅图12至图16，本发明第三实施例的婴儿推车100c与第一实施例的婴儿推车100a的结构基本相同，区别点在于两者中的座椅高度调整机构的具体结构，下面就它们的区别处进行说明：

[0092] (1)于第三实施例中，座椅高度调整机构30`包含承载座31，该承载座31是滑设于前脚11，具体是滑设于前脚11的固定件34处，以借助滑设于固定件34而达到滑设于前脚11处的目的；

[0093] 而于第一实施例中，座椅高度调整机构30包含承载座31，承载座31是滑设于车手13处，具体是滑设于车手13的固定件34处。

[0094] 需要说明的是，根据实际需要，第三实施例的承载座31还可以滑设于后脚12或车手13处，故不以上述的举例为限。

[0095] (2)于第三实施例中，座椅高度调整机构30`包含释锁操作件33`和锁定件32`，释

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锁操作件33`与锁定件32`之间彼此独立，即释锁操作件33`为独立模块，锁定件32`也是独立模块，使得释锁操作件33`与锁定件32`之间通过连动结构而一起连动；而于第一实施例中，座椅高度调整机构30包含释锁操作件33和锁定件32，释锁操作件33和锁定件32共同为一体式结构，因此，第一实施例中的释锁操作件33与锁定件32之间不是通过第三方来实现连动关系。

[0096] (3)于第三实施例中，锁定件32`及释锁操作件33`二者各可枢摆地安装于承载座31，借助释锁操作件33`的枢摆而连动锁定件32`做释锁运动；具体是，如图15及图16所示，承载座31设有第一套装柱311及第二套装柱312，锁定件32`的中部套装于第一套装柱311处，释锁操作件33`套装于第二套装柱312处，释锁操作件33`还与锁定件32`相互嵌设及连动，复位弹性件36`套装于第一套装柱311，且复位弹性件36`的一端与锁定件32`抵接，复位弹性件36`的另一端与承载座31抵接，举例而言，复位弹性件36`为扭簧，当然，根据实际需要而选择为拉簧或压缩弹簧等，故不以此为限；因此，于第三实施例中，通过释锁操作件33`的枢摆去连动锁定件32`的枢摆，由枢摆的锁定件32`与段位配锁部35相释锁。可理解的是，当锁定件32`及释锁操作件33`二者各可枢摆地安装于固定件34处时，此时的第一套装柱311及第二套装柱312由固定件34所设有。

[0097] 而于第一实施例中，锁定件32呈滑移布置，锁定件32还与释锁操作件33共同为一体式结构，因此，于第一实施例中，通过释锁操作件33去带动锁定件32的滑移，从而由滑移锁定件32与段位配锁部35相释锁。

[0098] 除了上述的区别外，其它与第一实施例的相同，故在此不再赘述。

[0099] 结合图12至图16，对本发明第三实施例的婴儿推车100c的工作原理进行说明：当需要向上调整座椅20在车架10的高度位置时，使用者直接向上拉动座椅20，使得作用于座椅20上的作用力传递至承载座31处，从而使得承载座31具有向上滑移的趋势；具有向上滑移趋势的承载座31借助锁定件32`的倾斜结构321与段位配锁部35的倾斜结构351的相互顶推作用下，使得锁定件32`克服复位弹性件36`的弹力而枢摆内缩，从而使得锁定件32`与其对齐的一个段位配锁部35之间相释锁，因而允许承载座31连同座椅20一起向上调整，直到锁定件32`重新再与另一个段位配锁部35相对齐为止，此时的锁定件32`在复位弹性件36`的复位弹力作用下自动地与其对齐的另一个段位配锁部35相锁合，以固定调整位置后的承载座31在车手13上的位置。当要向下调整座椅20在车架10的高度位置时，由使用者对释锁操作件33`进行操作，由释锁操作件33`连动锁定件32`一起克服复位弹性件36`的弹性力而与对齐的段位配锁部35之间释锁，从而允许承载座31连同座椅20一起向下调整。

[0100] 请参阅图17至图20，本发明第四实施例的婴儿推车100d和第一实施例的婴儿推车100a两者的车架10及座椅20的结构相同，且第四实施例的婴儿推车100d和第一实施例的婴儿推车100a两者中的座椅高度调整机构都包含承载座31、锁定件32、释锁操作件33及固定件34，承载座31滑设于固定件34处，而固定件34安装于车手13处。不同点如下：

[0101] (1)于第四实施例中，锁定件32至少为两个并沿承载座31的滑移方向彼此间隔开，释锁操作件33同时与所有锁定件32一起连动，即是说，由同一释锁操作件33同时连动所有锁定件32一起运动，锁定件32安装于固定件34并至少具有一锁合位置(见图18和图20)和一释锁位置，承载座31设有段位配锁部35，因此，任一锁定件32在选择性地与段位配锁部35锁合时处于锁合位置，状态见图18及图20所示，而释锁操作件33连动所有锁定件32一起做释

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锁运动，由任一锁定件32脱离与段位配锁部35锁合而处于释锁位置；可理解的是，根据实际需要，锁定件32可安装于承载座31处，对应地，固定件34设有段位配锁部35处，故不以上述的举例为限。

[0102] 而于第一实施例中，锁定件32安装于承载座31上并至少具有一锁合位置和一释锁位置，固定件34至少设有沿承载座31的滑移方向彼此间隔开的段位配锁部35，锁定件32在选择性地与任一段位配锁部35锁合时处于锁合位置；释锁操作件33连动锁定件32脱离与任一段位配锁部35锁合。

[0103] (2)于第四实施例中，释锁操作件33与锁定件32之间彼此独立，即释锁操作件33为独立模块，锁定件32也是独立模块，使得释锁操作件33与锁定件32之间通过连动结构(如下面描述到的牵引件37、转盘38及推拉杆39a)而一起连动；而于第一实施例中，释锁操作件33与锁定件32共同为一体式结构，因此释锁操作件33与锁定件32之间不设有牵引件37、转盘38及推拉杆39a。

[0104] (3)于第四实施例中，座椅高度调整机构30``还包括柔性的牵引件37，释锁操作件33通过牵引件37连动锁定件32，以实现对锁定件32的远距离控制目的；具体地，牵引件37的第一端与安装在车手13上的释锁操作件33连接，牵引件37的第二端与安装在固定件34上的锁定件32连接；更具体地，座椅高度调整机构30``还包括枢接于车手13上的转盘38，转盘38具有分布于转盘38之中心线L两侧的第一安装部381和第二安装部382，释锁操作件33与第一安装部381连接，牵引件37的第一端与第二安装部382连接，以通过释锁操作件33的滑移而转换成转盘38绕中心线L的转动，从而由转动的转盘38通过牵引件37拉动锁定件32做释锁的目的；为更可靠地带动所有锁定件32一起运动，故座椅高度调整机构30``还包括推拉杆39a，推拉杆39a沿承载座31的滑移方向滑设于固定件34上，牵引件37的第二端安装于推拉杆39a上，推拉杆39a与锁定件32连动。

[0105] 而于第一实施例中，由于座椅高度调整机构30的锁定件32与释锁操作件33共同为一体式结构，锁定件32与释锁操作件33之间不设有牵引件37、转盘38及推拉杆39a，故高度调整机构30不设有牵引件37、转盘39及推拉杆39a。

[0106] (4)于第四实施例中，复位弹性件36直接设于推拉杆39a与固定件34之间，使得复位弹性件36通过推拉杆39a去带动锁定件32复位；而于第一实施例中，复位弹性件36直接设于锁定件32及该锁定件所在的承载座31或固定件34之间，故由复位弹性件36直接带动锁定件32复位。

[0107] (5)于第四实施例中，如图18及图20所示，仅由锁定件32具有倾斜结构321；而于第一实施例中，锁定件32及段位配锁部35各具有倾斜结构321、351。

[0108] 除了上述的区别外，其它与第一实施例相同，故在此不再赘述。需要说明的是，第四实施例的座椅高度调整机构30``中的承载座31根据实际需要还可以滑设于车架10的前脚11或后脚12，对应地，座椅高度调整机构30`中的固定件34安装于前脚11或后脚12，故不以上述的举例为限。

[0109] 结合图17至图20，对本发明第四实施例的婴儿推车100d的工作原理进行说明：当需要向上调整座椅20在车架10的高度位置时，使用者直接向上拉动座椅20，使得作用于座椅20上的作用力传递至承载座31处，从而使得承载座31具有向上滑移的趋势；具有向上滑移趋势的承载座31借助段位配锁部35对与该段位配锁部35相对齐的锁定件32之倾斜结构

321的顶推作用下，使得所有锁定件32一起滑移内缩的同时，还连动推拉杆39a克服复位弹性件36的弹性力而向上滑移，从而使得段位配锁部35和对齐该段位配锁部35的一个锁定件32之间释锁，因而允许承载座31连同座椅20一起向上调整，直到段位配锁部35重新与另一个锁定件32相对齐为止，此时的推拉杆39a在复位弹性件36的弹性力作用下向下滑移，由滑移的推拉杆39a连动段位配锁部35自动地与其对齐的一个锁定件32相锁合，以固定调整位置后的承载座31在车手13上的位置。当要向下调整座椅20在车架10的高度位置时，由使用者对释锁操作件33进行操作，由释锁操作件33带动转盘38绕中心线L转动，从而由转动的转盘38通过牵引件37拉动推拉杆39a克服复位弹性件36的弹性力而向上滑移，从而由向上滑移的推拉杆39a连动所有的锁定件32一起滑移内缩，使段位配锁部35与对齐该段位配锁部35的一个锁定件32释锁，从而允许承载座31连同座椅20一起向下调整。

[0110] 请参阅图21至图24，本发明第五实施例的婴儿推车100e包车架10、座椅20及座椅高度调整机构40。车架10包含前脚11、后脚12和车手13，前脚11、后脚12和车手13三者之间可展收操作，以便于车架10的收折操作；较优的是，车手13向下依次与后脚12及前脚11枢接，使得车手13与前脚11的枢接处位于车手13与后脚12的枢接处的前下方，以在确保车架10收折操作便捷的条件下简化前脚11、后脚12和车手13三者枢接的结构，但不以此为限。座椅高度调整机构40包含承载座41，承载座41绕一枢转中心线C枢接于车架10，承载座41至少具有沿承载座41的旋转方向彼此隔开的第一组接头41a和第二组接头41b，第一组接头41a至枢转中心线C的距离与第二组接头41b至枢转中心线C的距离相异，此时，座椅20可拆卸地安装于第一组接头41a或第二组接头41b；举例而言，第一组接头41a至枢转中心线C的距离小于第二组接头41b至枢转中心线C的距离，这样使得组接于第一组接头41a上的座椅20在车架10上的高度比组接于第二组接头41b上的座椅20在车架10上的高度低，因此，通过旋转承载座31，便于调换第一组接头41a和第二组接头41b之间的位置，所以，使得座椅20于车架10上的高度调整更方便；具体地，车手13、前脚11及承载座31三者同轴枢接，更便于承载座31的旋转操作；举例而言，第一组接头41a与第二组接头41b之间所夹的圆心角为90度，即是说，第一组接头41a与第二组接头41b之间的位置调换仅需要承载座31旋转90度即可，另，此角度设置能尽量地避免第一组接头41a及第二组接头41b中一者在第一组接头41a及第二组接头41b中另一者与座椅20组接时造成障碍。需要说明的是，座椅20在与第一组接头41a组接时，此时的第二组接头41b处于空闲状态，同理，当座椅20在与第二组接头41b组接时，此时的第一组接头41a处于空闲状态，因此，第五实施例的婴儿推车100e中的座椅20与承载座31之间设计成可拆卸式的。

[0111] 需要说明的是，于第一实施例中，座椅高度调整机构30中的承载座31是滑移布置；而于第五实施例中，座椅高度调整机构40的承载座41是枢摆布置，因此，为确保旋转后的承载座41的位置，可将第一至第四实施例中的座椅高度调整机构30除承载座31外的余下结构转用过来，即由释锁操作件33连动锁定件32对承载座41与固定件34之间的释锁目的。且可理解的是，根据实际需要，第五实施例中的座椅高度调整机构40之承载座41可枢绕一枢转中心线C枢接于车架10中的前脚11、后脚11或车手13处，故不以上述的举例为限。

[0112] 结合图21至图24，对本发明第五实施例的婴儿推车100e的工作原理进行说明：当将图21所示的座椅20调整至图22所示的位置时，此时先将座椅20从图21所示的第一组接头41a拆下；接着，逆时针旋转承载座41，使第一组接头41a与第二组接头41b互换位置；然后，

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再将座椅20组接于第二组接头41b处，状态见图22所示。当要将图22所示的座椅20位置调整至图21所示的位置时，此时先将座椅20从图22所示的第二组接头41a拆下；接着，顺时针旋转承载座41，使第一组接头41a与第二组接头41b互换位置；然后，再将座椅20组接于第一组接头41a处，状态见图21所示。

[0113] 请参阅图25至图33，本发明第六实施例的婴儿推车100f与第一实施例的婴儿推车100a两者的车架10及座椅20的结构相同，且第六实施例的婴儿推车100f和第一实施例的婴儿推车100a两者的座椅高度调整机构都包含承载座31、锁定件32、释锁操作件33及固定件34，承载座31滑设于固定件34处，而固定件34安装于车手13处。不同点如下：

[0114] (1)于第六实施例中，释锁操作件33与锁定件32之间彼此独立，即释锁操作件33为独立模块，锁定件32也是独立模块，使得释锁操作件33与锁定件32之间通过连动结构(如下面描述到的传动件39b及牵引件37)而一起连动。而于第一实施例中，释锁操作件33与锁定件32共同为一体式结构，故释锁操作件33与锁定件32之间不设有传动件39a和牵引件37。

[0115] (2)于第六实施例中，座椅高度调整机构30```还包括柔性的牵引件37，释锁操作件33通过牵引件37连动锁定件32，以实现对锁定件32的远距离控制目的；具体地，牵引件37的第一端与安装在座椅20上的释锁操作件33连接，牵引件37的第二端与安装在承载座31上的锁定件32连接；更具体地，座椅高度调整机构30```还包括活动设于座椅20上的传动件39a，传动件39a与释锁操作件33连动，牵引件32的第一端安装于传动件39a上，由释锁操作件33通过传动件39a和牵引件32去拉动锁定件32做释锁运动的目的。由于传动件39a与释锁操作件33之间的连动关系已为本领域所熟知的，故在此不再描述。举例而言，释锁操作件33及传动件39a各滑设于座椅20上，且释锁操作件33与传动件39a两者的滑设方向相交，因此，通过释锁操作件33的滑移而连动传动件39a做拉扯牵引件37的运动，或者松开对牵引件37拉扯的运动。由于第一实施例的释锁操作件33与锁定件32之间不设有牵引件37及传动件39a，故释锁操作件33与锁定件32之间不具有上述的连接关系。

[0116] (3)于第六实施例中，由于释锁操作件33安装于座椅20上，故此时的座椅20与承载座31不可拆组接。而于第一实施例中，座椅20与承载座31之间可以做成可拆卸的，当然，也可以做成不可拆的。

[0117] 除上述的区别外，其它与第一实施例相同，故在此不再赘述。另，需要说明的是，于第六实施例中，座椅高度调整机构30```中的承载座31根据实际需要而滑设于车架10的前脚11或后脚12，具体是座椅高度调整机构30```中的固定件34安装于车架10的前脚11或后脚12，从而使得承载座31通过滑设于固定件34而达到滑设于前脚11或后脚12处。

[0118] 结合图25至图32，对本发明第六实施例的婴儿推车100f的工作原理进行说明：当需要向上调整座椅20在车架10的高度位置时，使用者直接向上拉动座椅20，使得作用于座椅20上的作用力传递至承载座31处，从而使得承载座31具有向上滑移的趋势；具有向上滑移趋势的承载座31借助锁定件32的倾斜结构321与段位配锁部35的倾斜结构351之间的相互顶推作用，使得锁定件32克服复位弹性件36而滑移内缩，从而使得锁定件32与其对齐的一个段位配锁部35之间释锁，因而允许承载座31连同座椅20一起向上调整，直到锁定件32重新再与另一个段位配锁部35相对齐为止；此时，在复位弹性件36的弹性力作用下，使得锁定件32自动地与对齐的另一个段位配锁部35相锁合，以固定调整位置后的承载座31在车手13上的位置。当要向下调整座椅20在车架10的高度位置时，由使用者对释锁操作件33进行

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操作，由释锁操作件33带动通过传动件39a及牵引件37拉动锁定件32克服复位弹性件36而滑移内缩，使得锁定件32与其对齐的另一个段位配锁部35之间释锁，从而允许承载座31连同座椅20一起向下调整。

[0119] 与现有技术相比，由于承载座31、41沿车架10的上下方向滑设于车架10上，故借由承载座31、41相对车架10的上下滑移而调整承载座31、41上的座椅20在车架10上的高度位置，因此，可以根据婴儿的身高而灵活地通过承载座31、41相对车架10的上下滑移，从而达到调整承载座31、41上的座椅20在车架10上的高度位置，一方面便于操作人员的调整操作，另一方面提高通用性。

[0120] 上所揭露的仅为本发明的优选实施例而已，当然不能以此来限定本发明之权利范围，因此依本发明申请专利范围所作的等同变化，仍属本发明所涵盖的范围。

100a

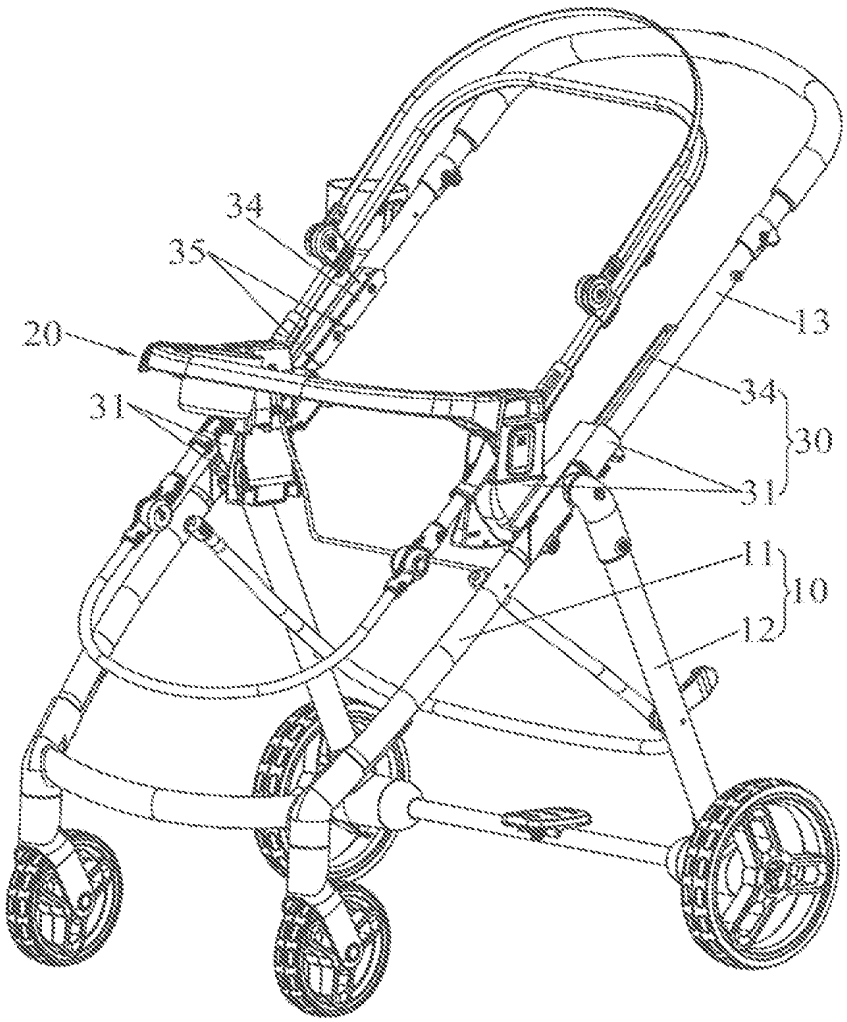


图1

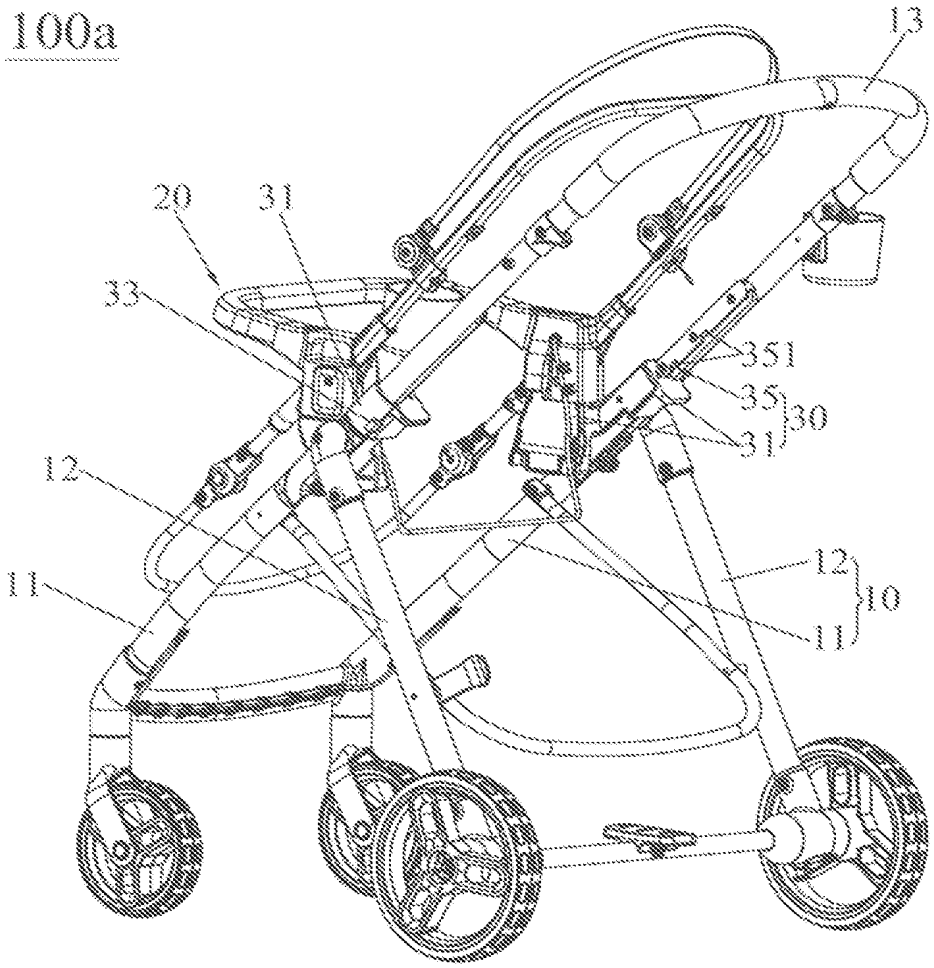


图2

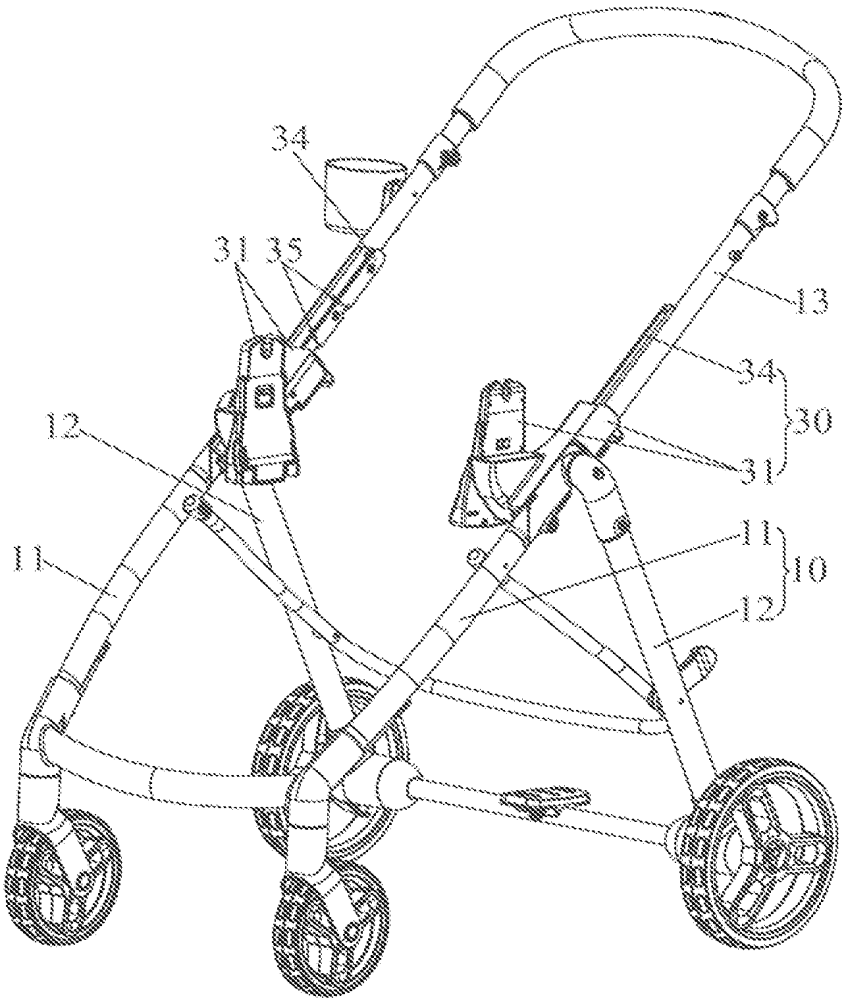


图3

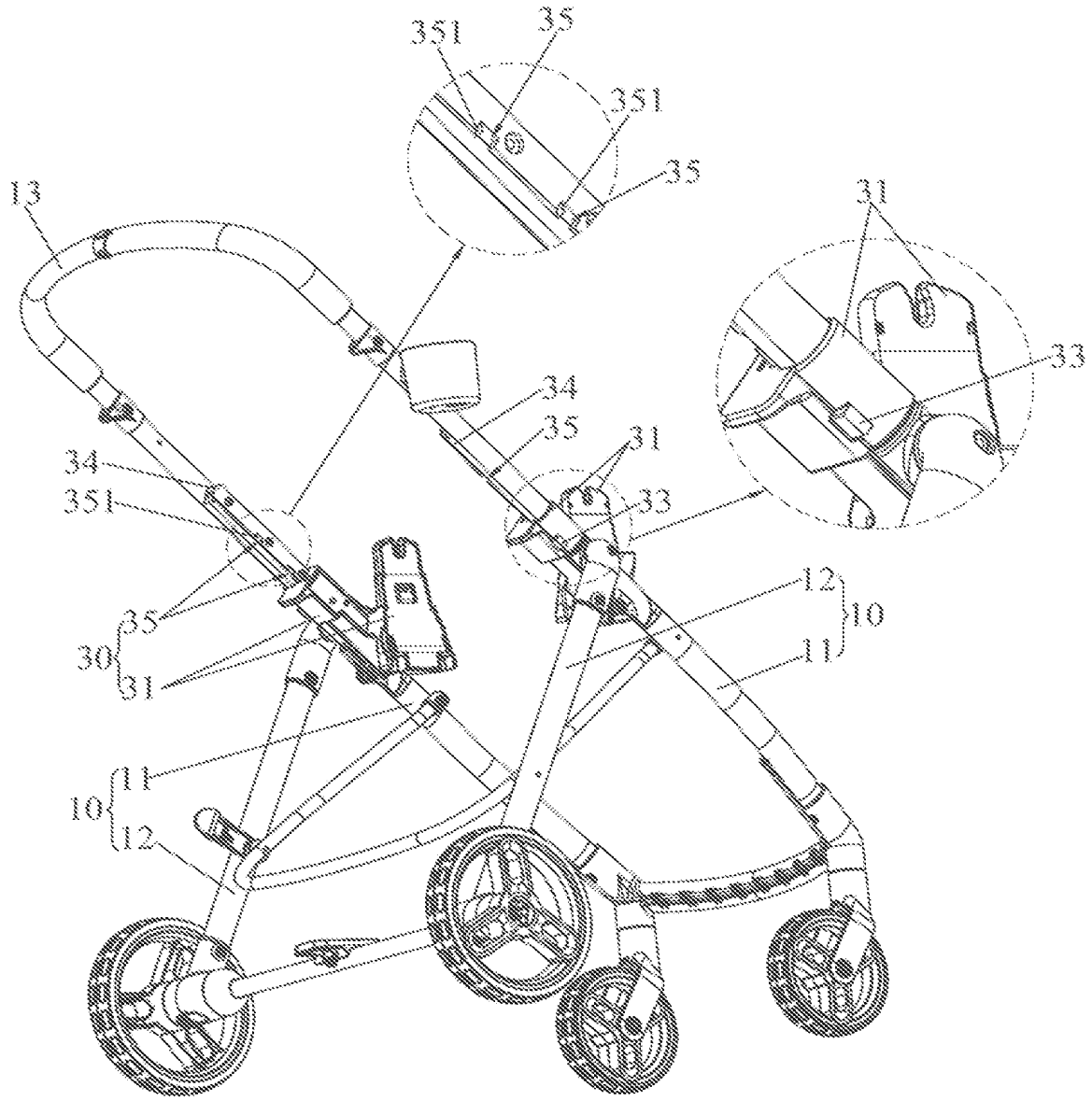


图4

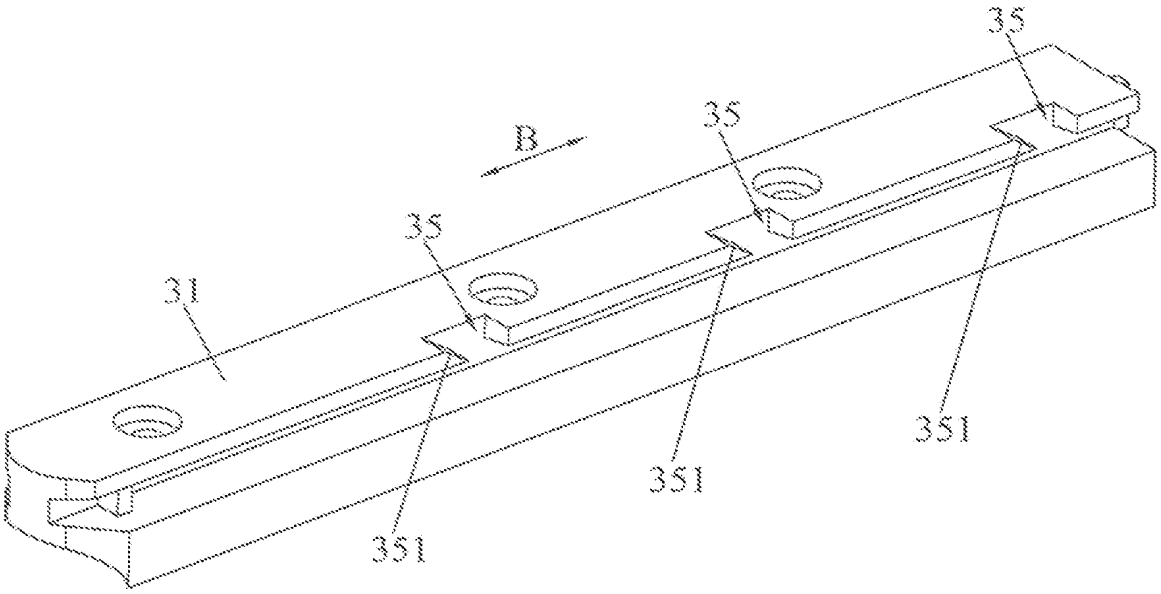


图5

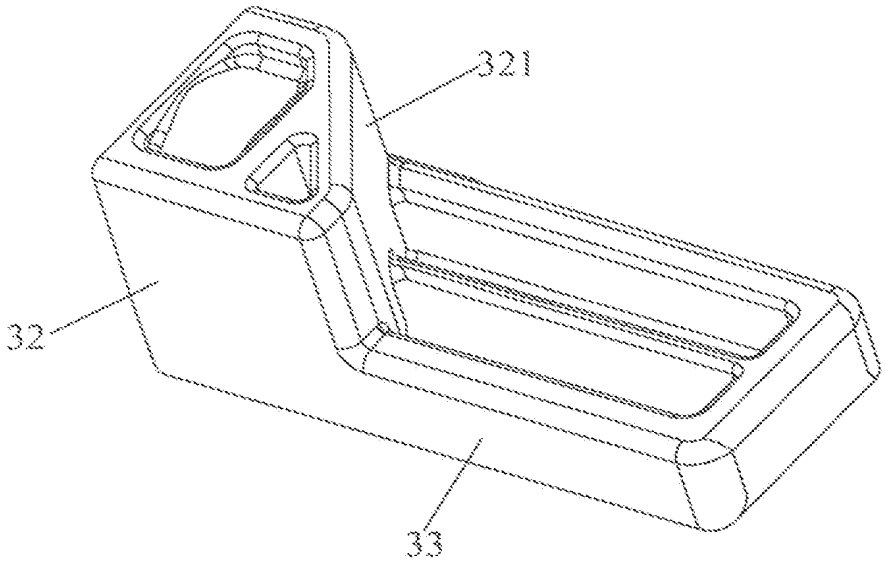


图6

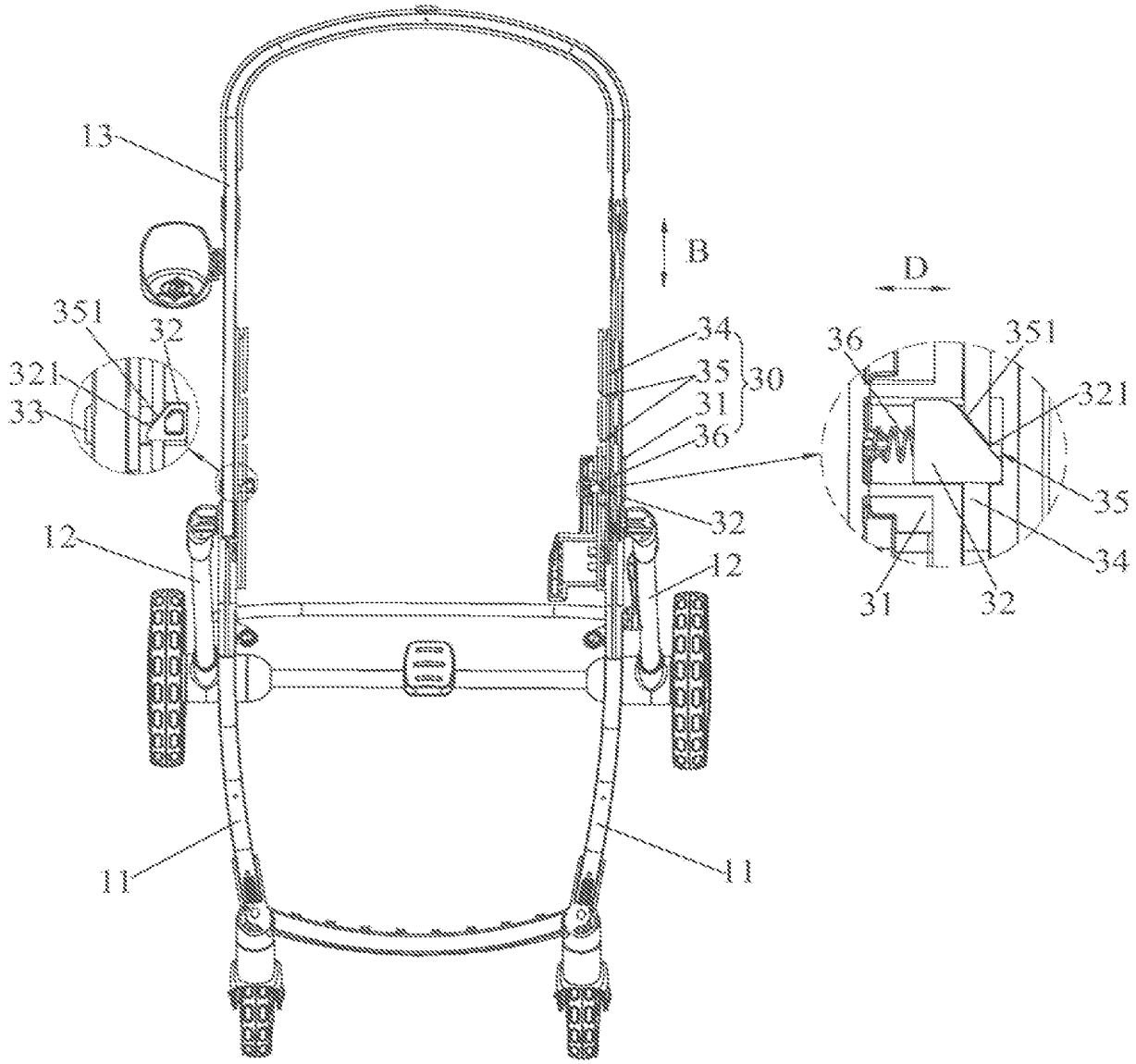

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图7

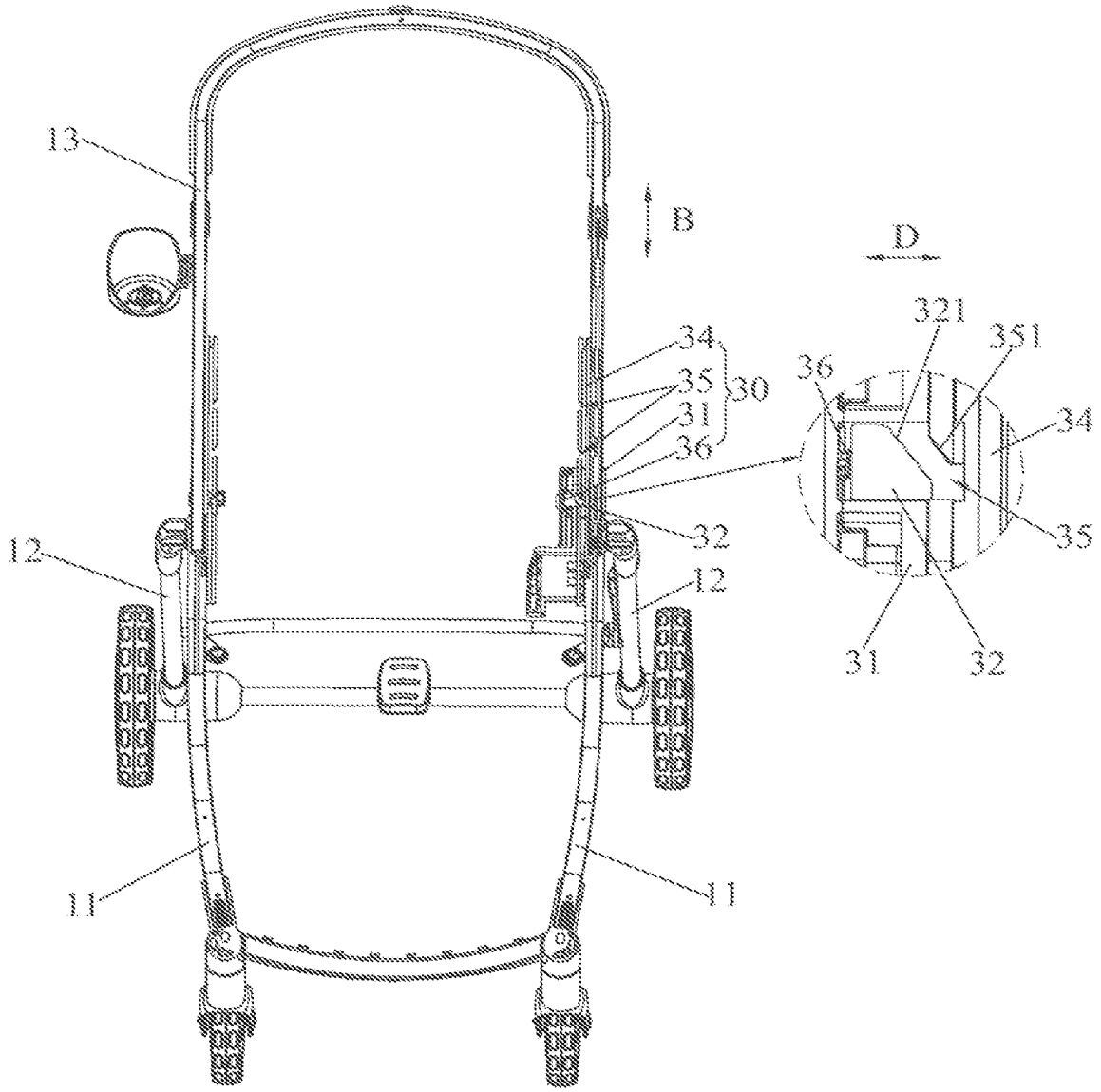


图8

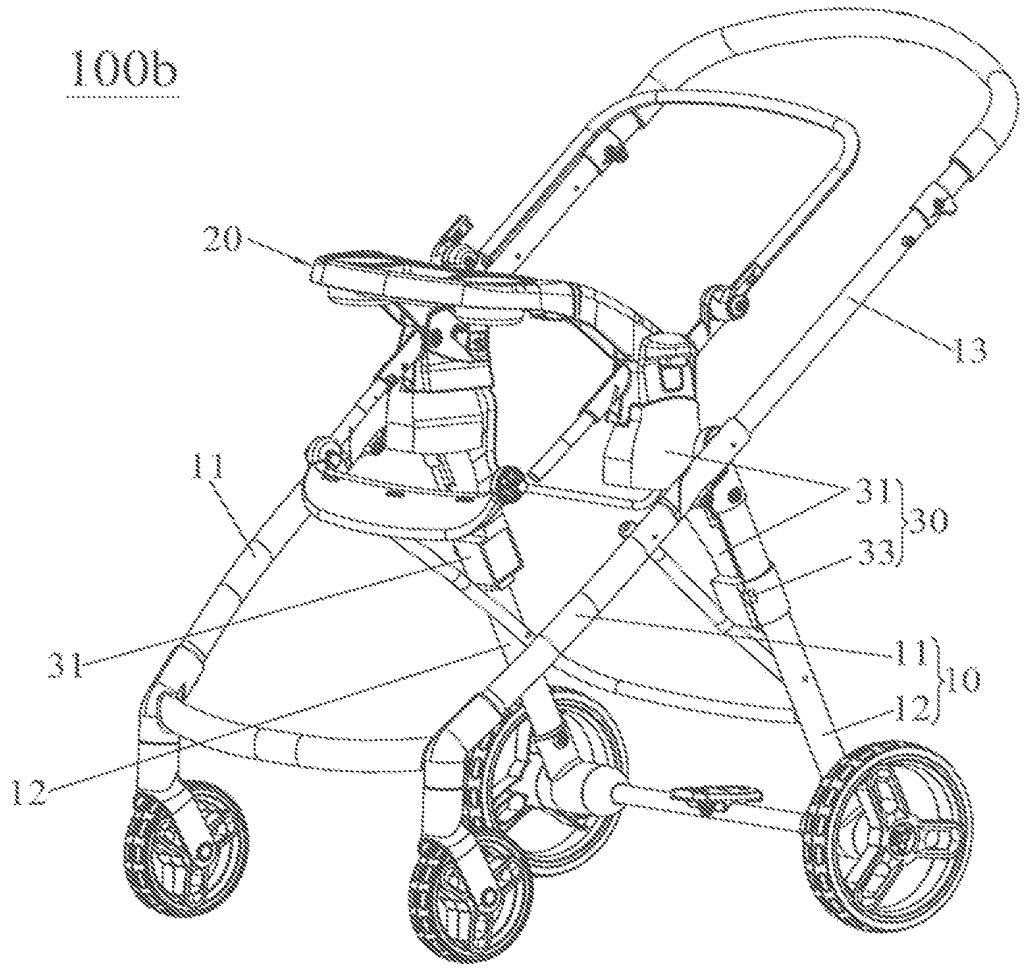


图9

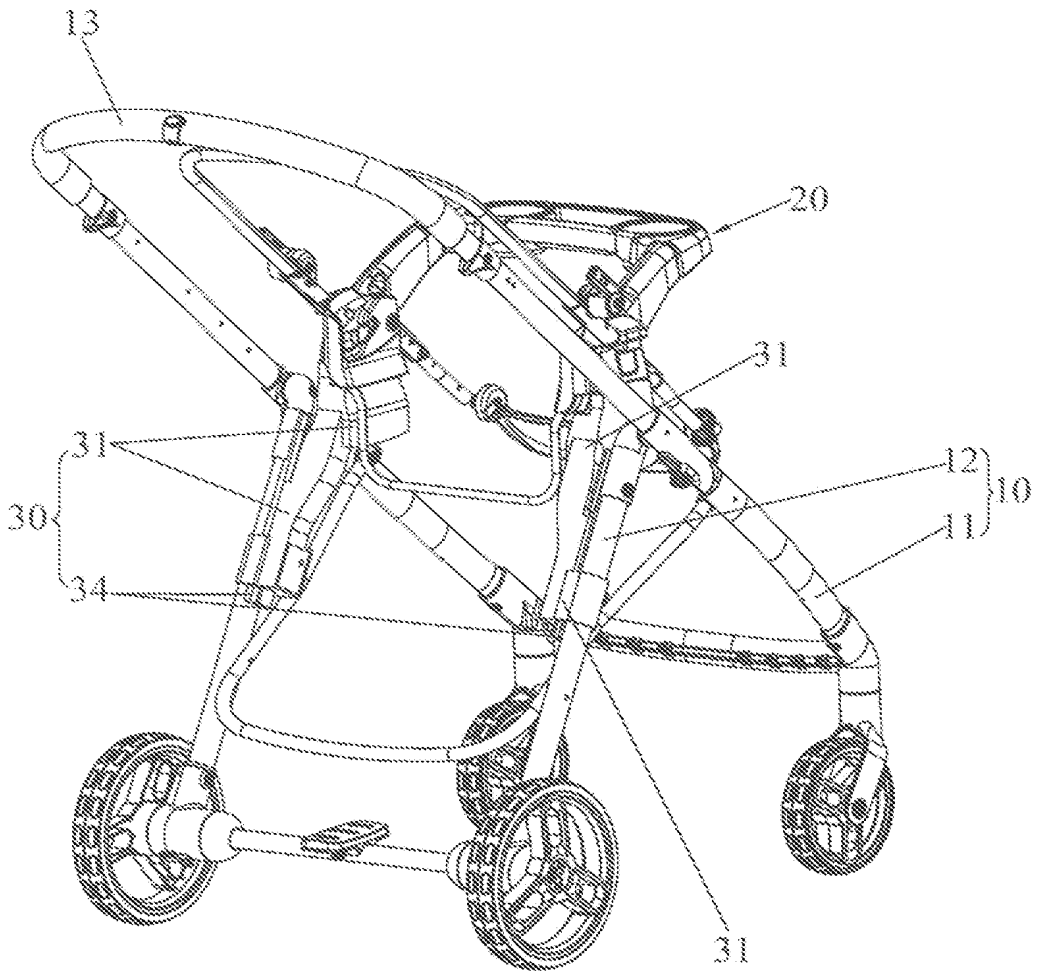


图10

100b

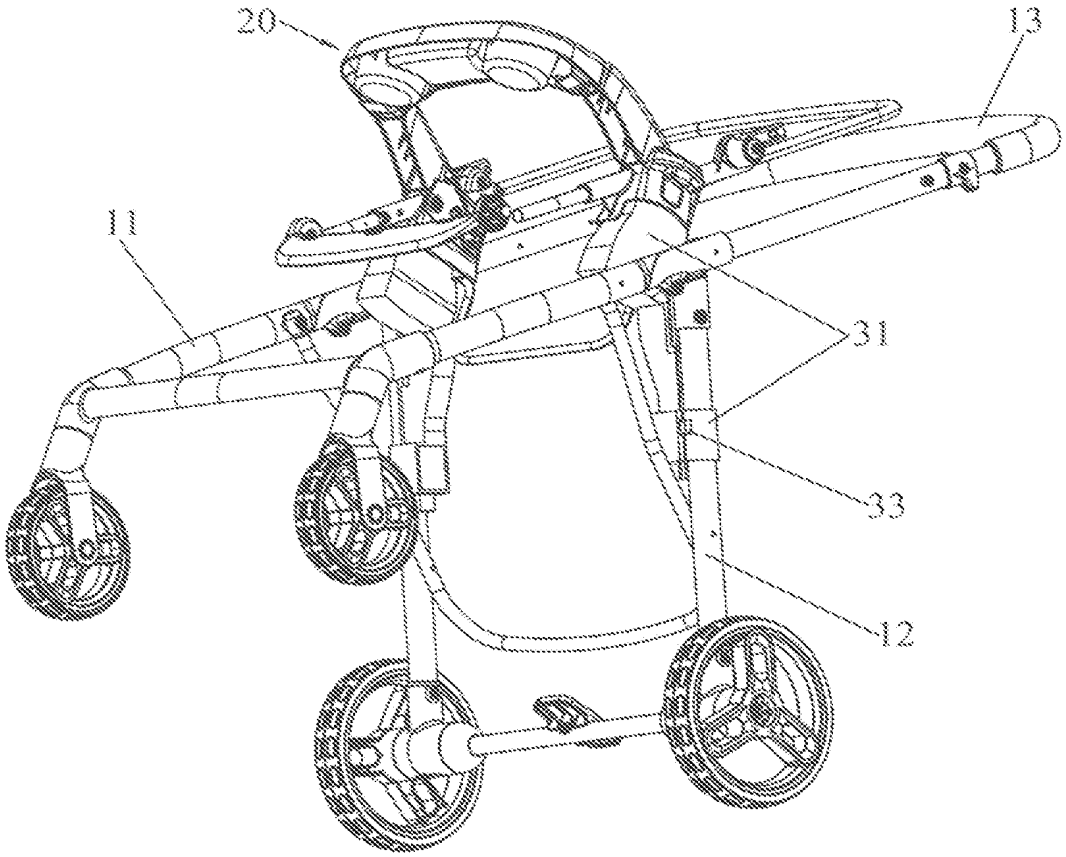


图11

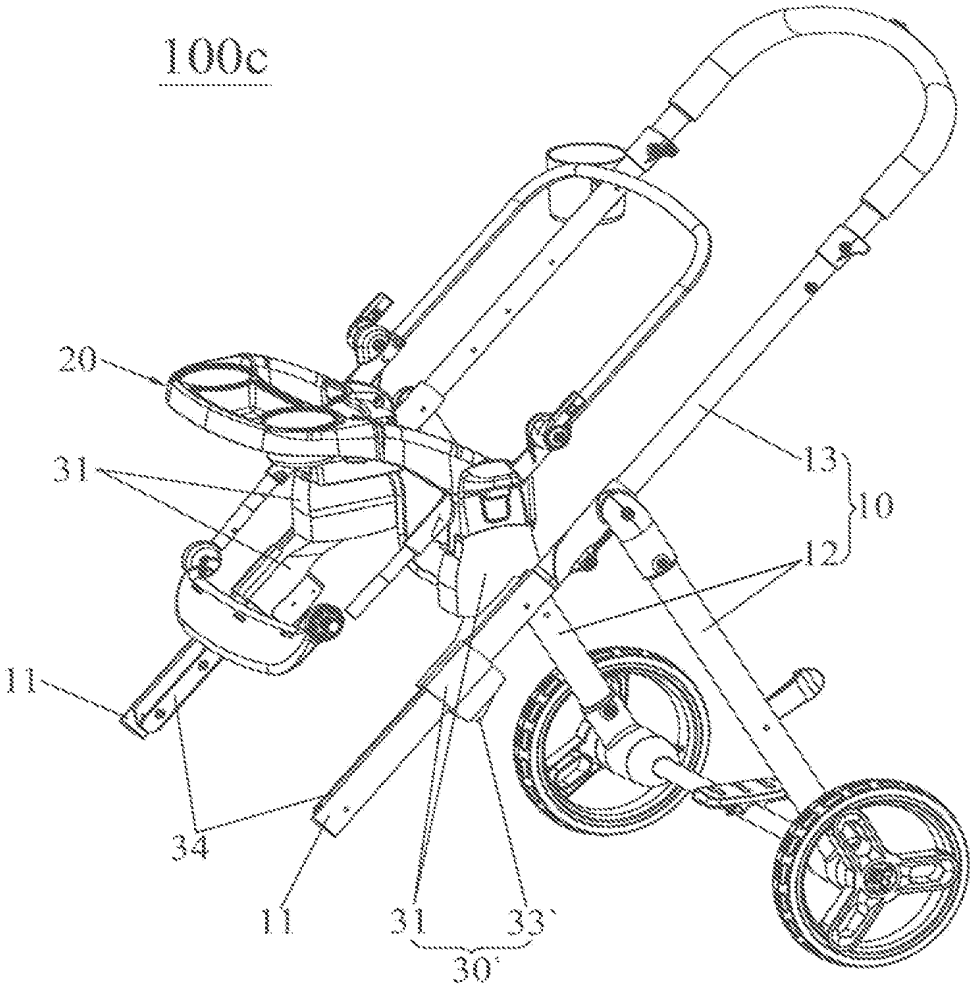


图12

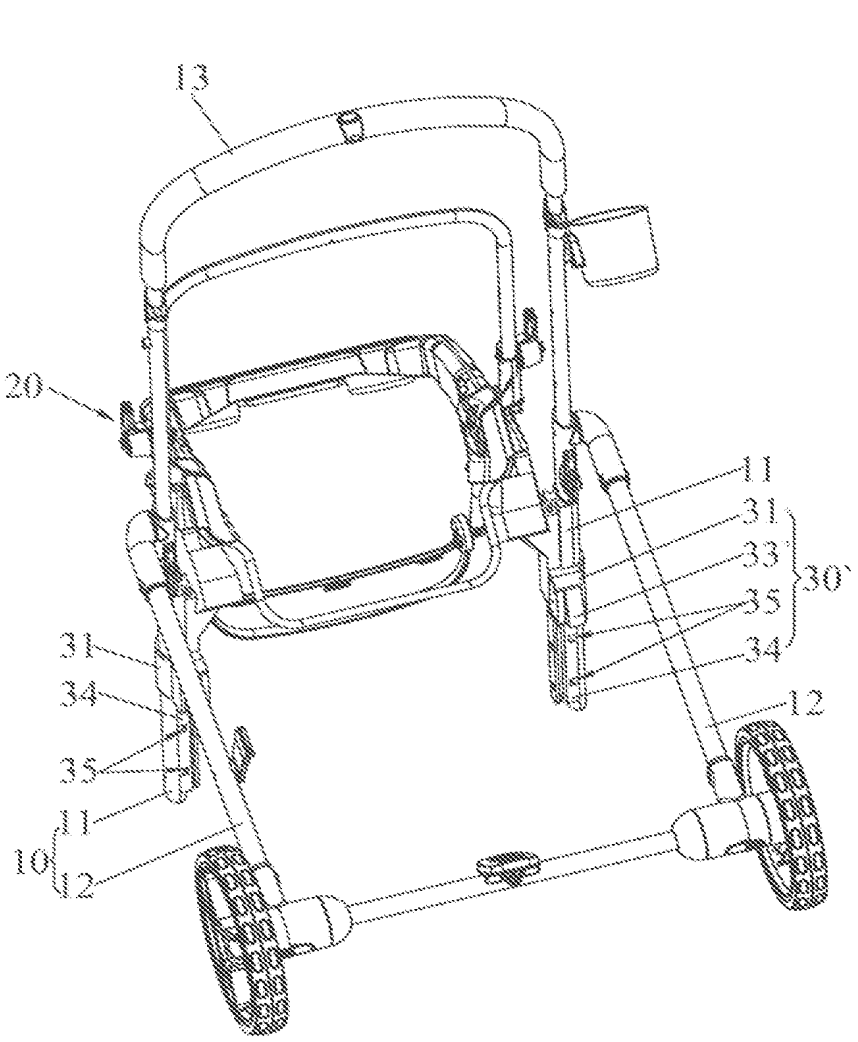


图13

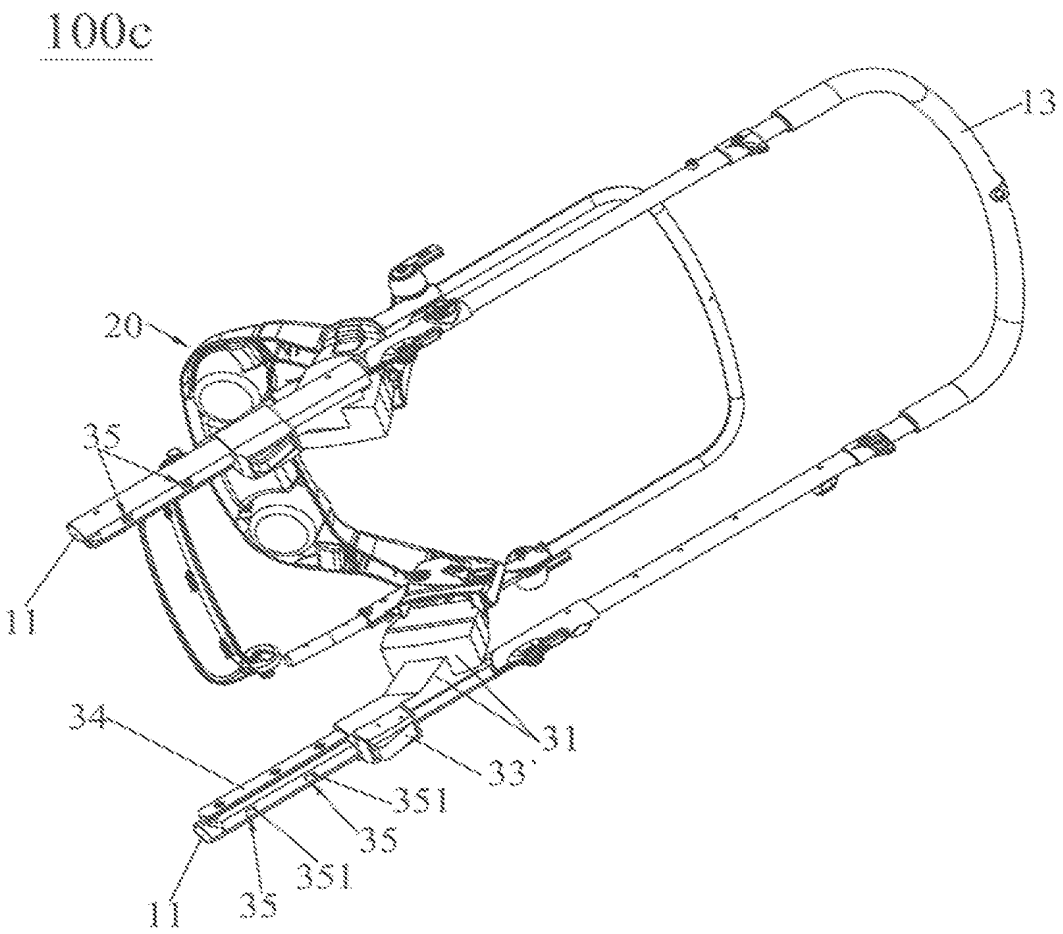


图14

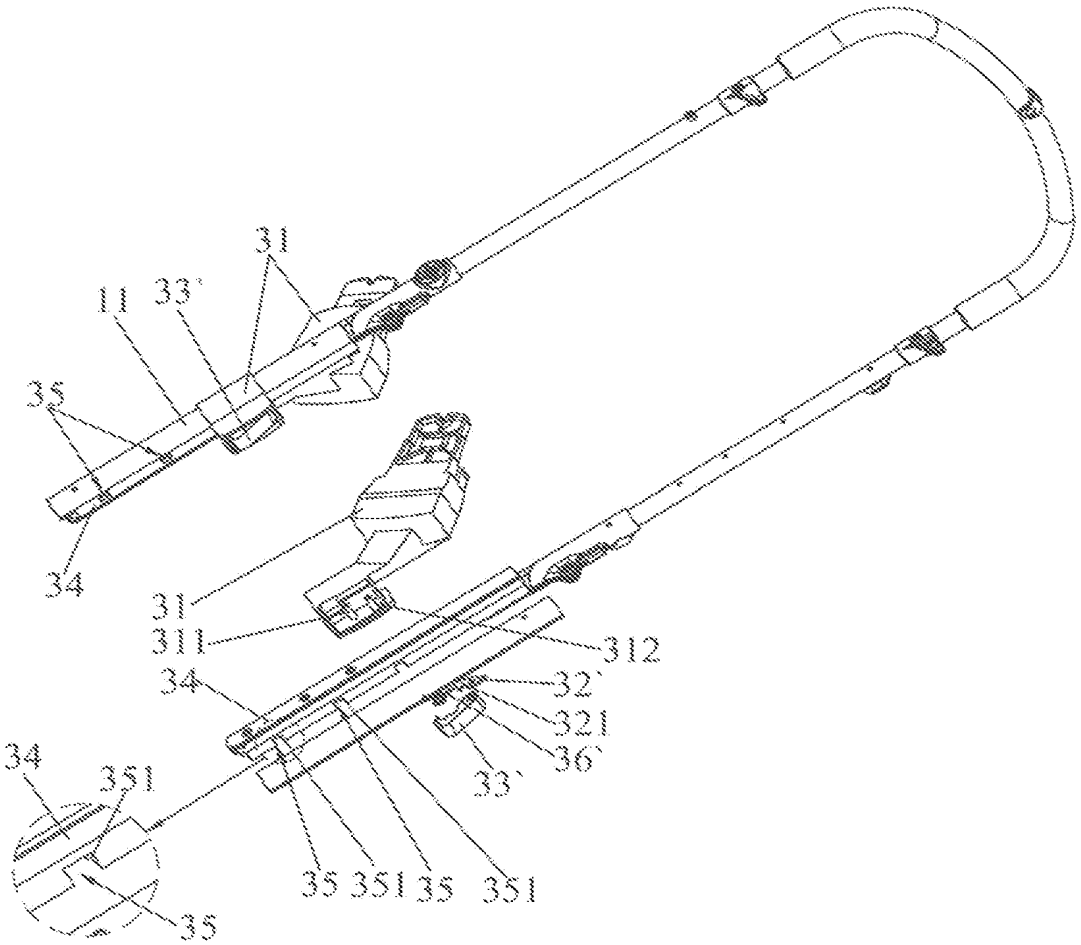


图15

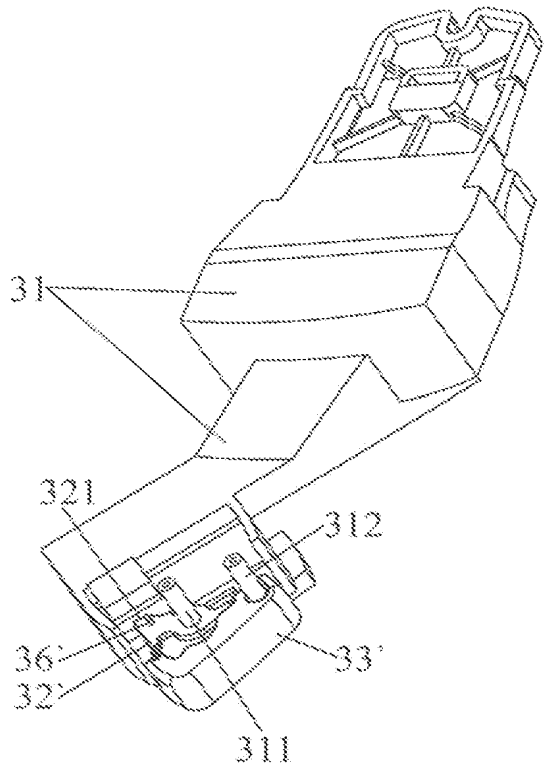


图16

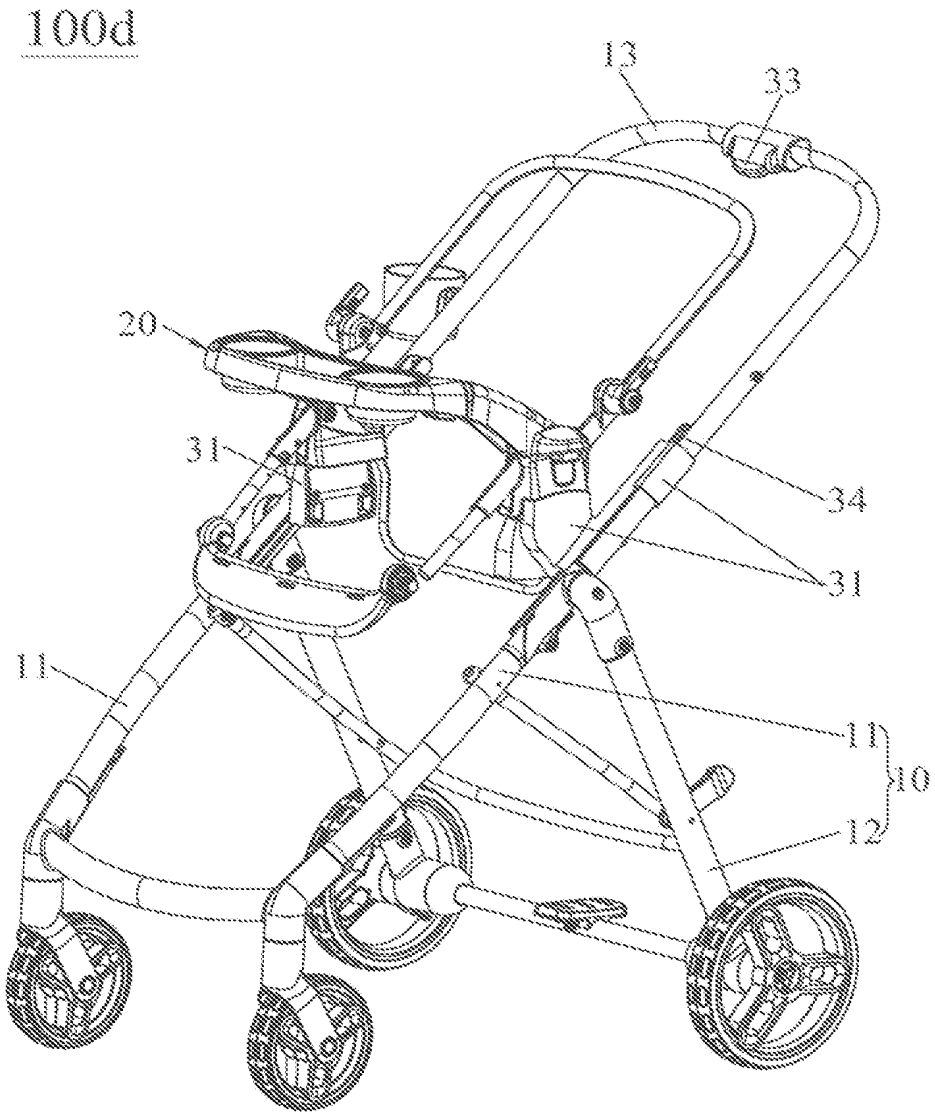


图17

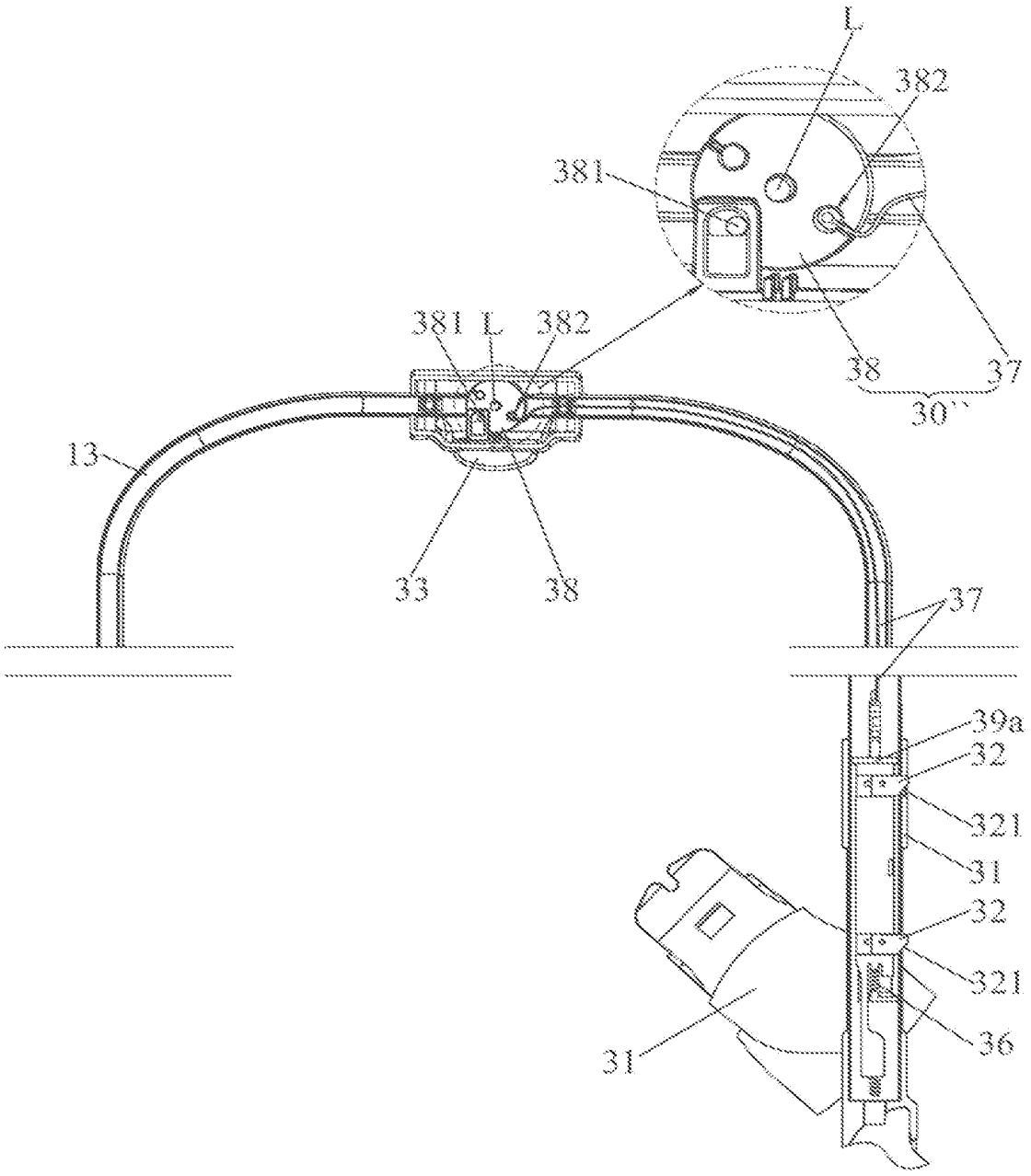


图18

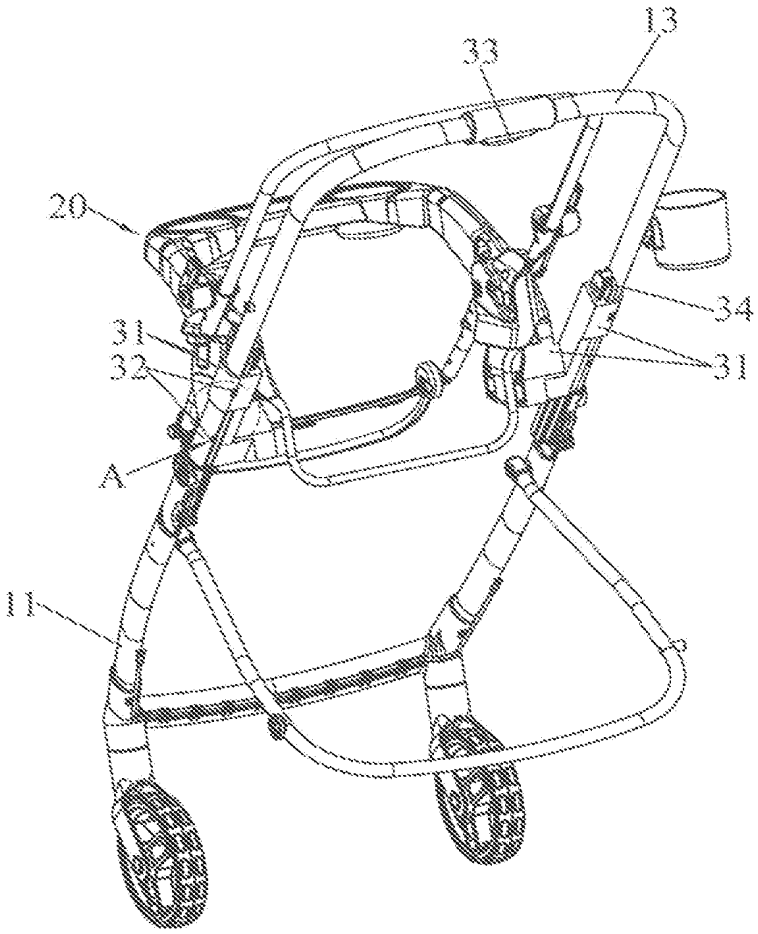


图19

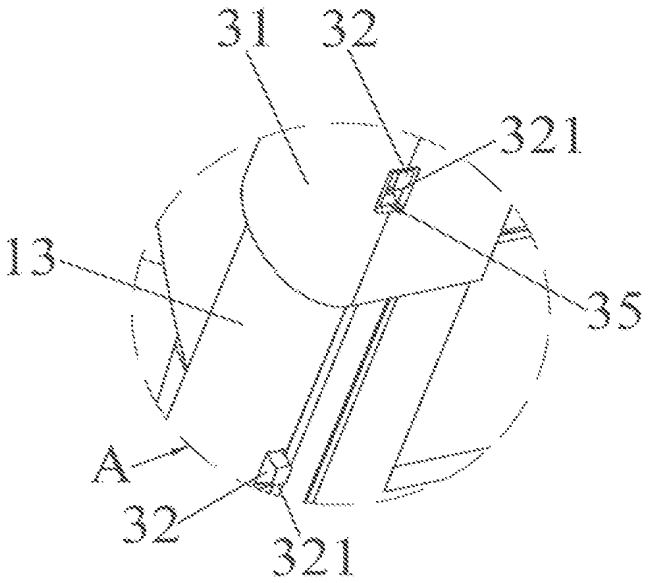


图20

100c

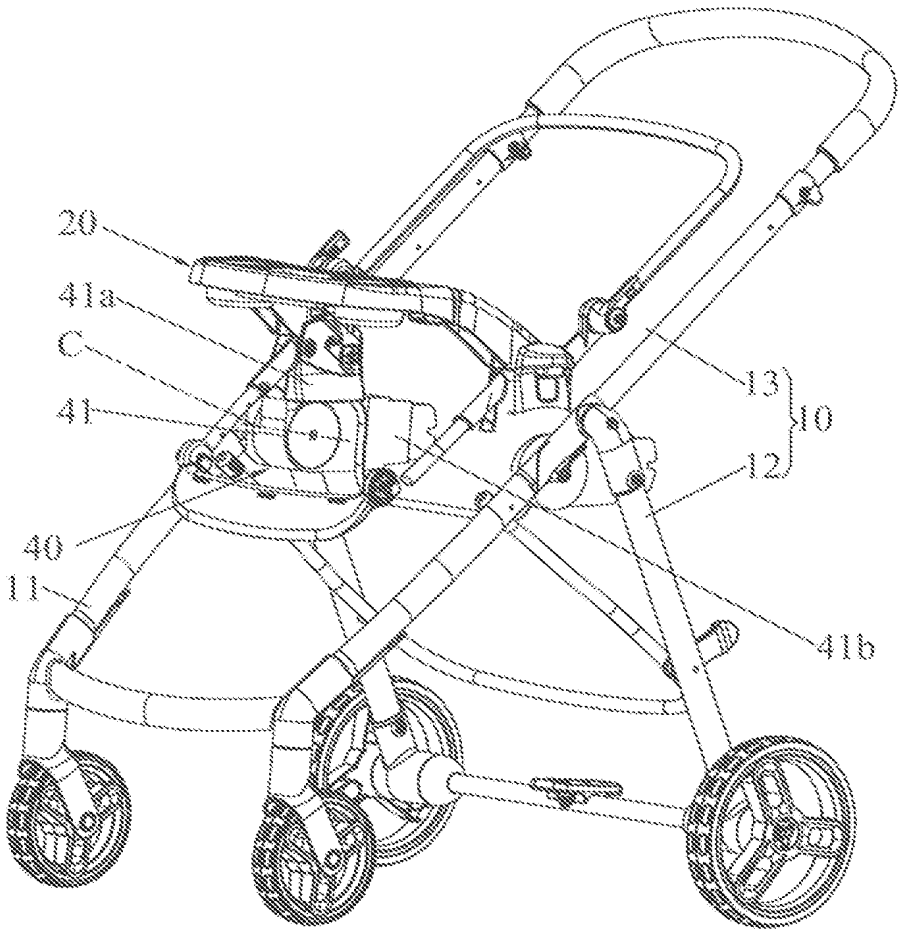


图21

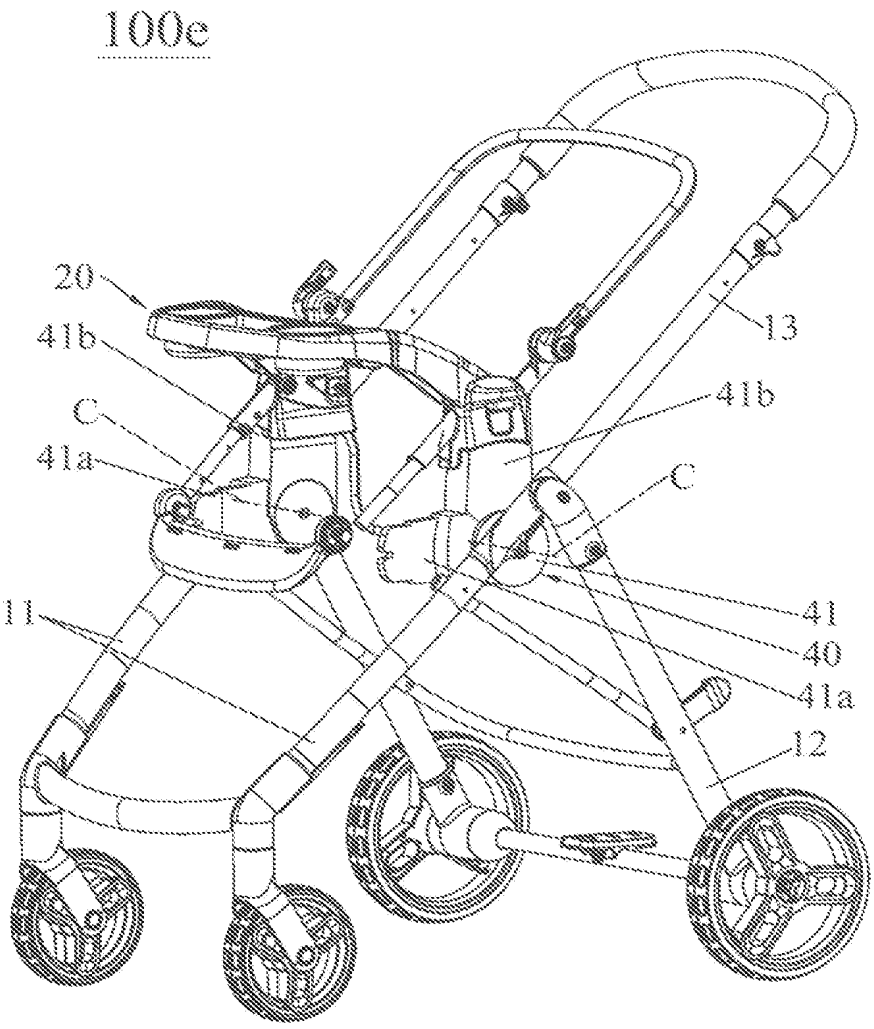


图22

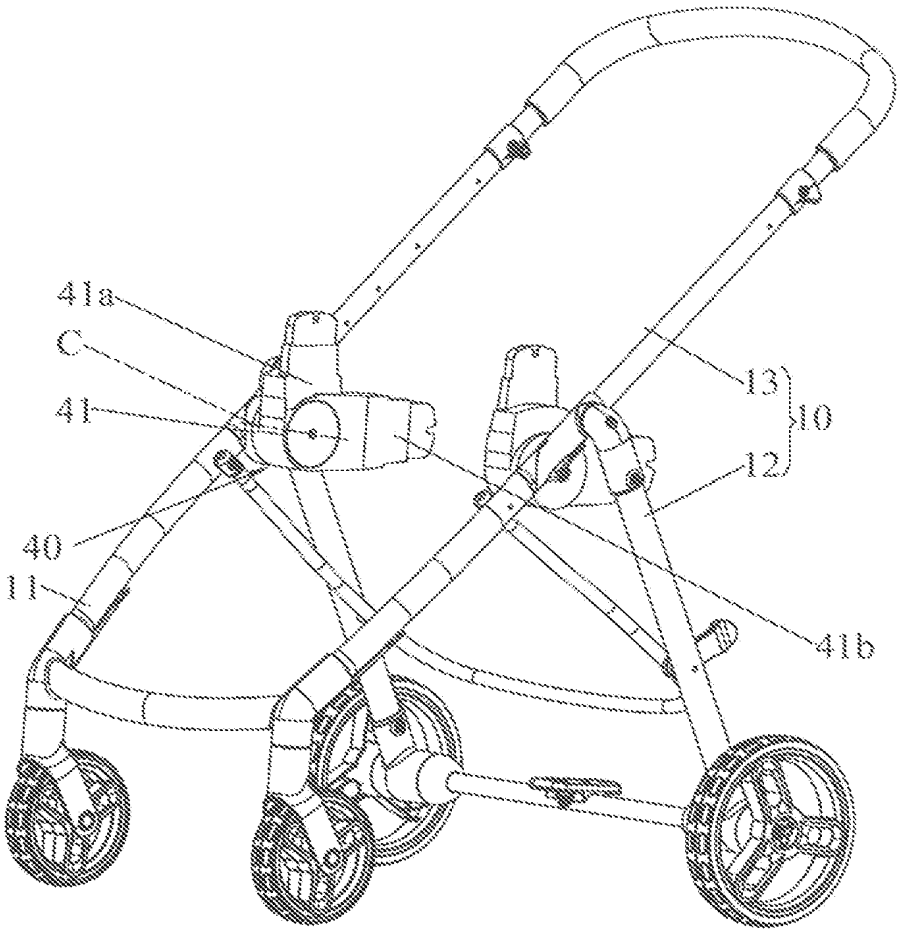


图23

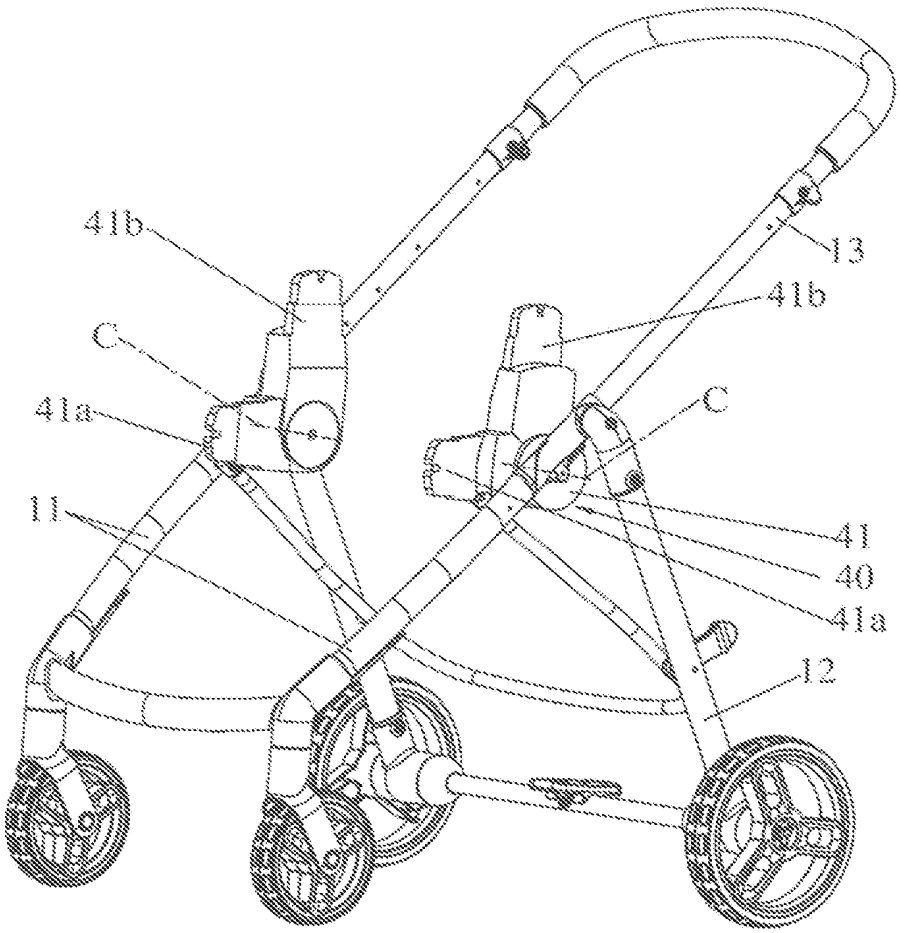


图24

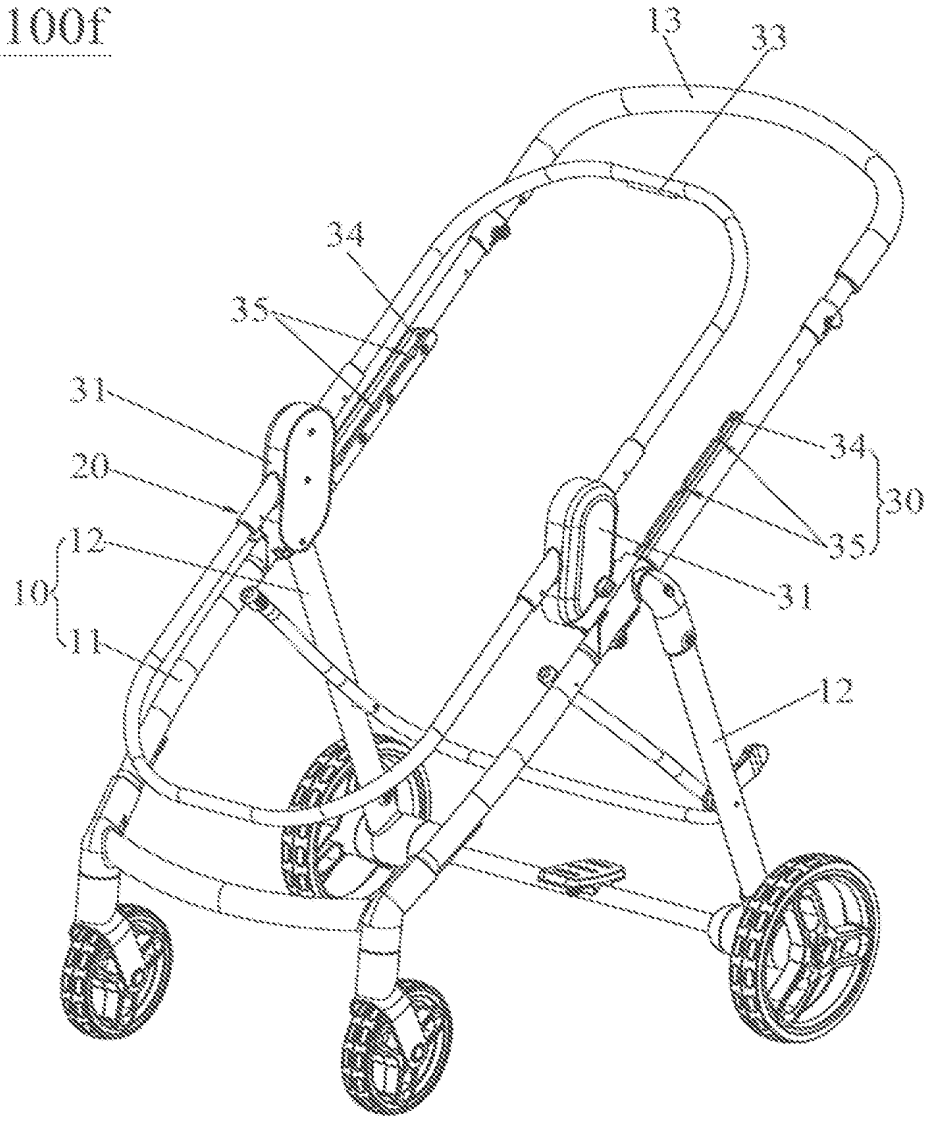


图25

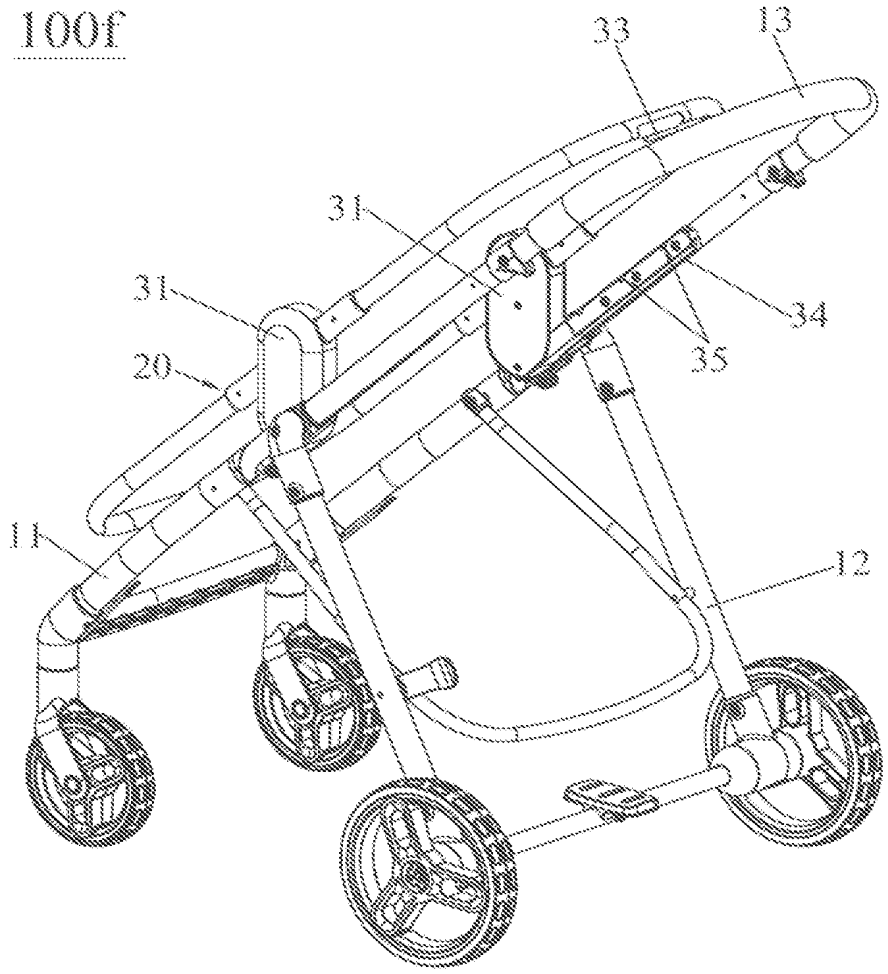


图26

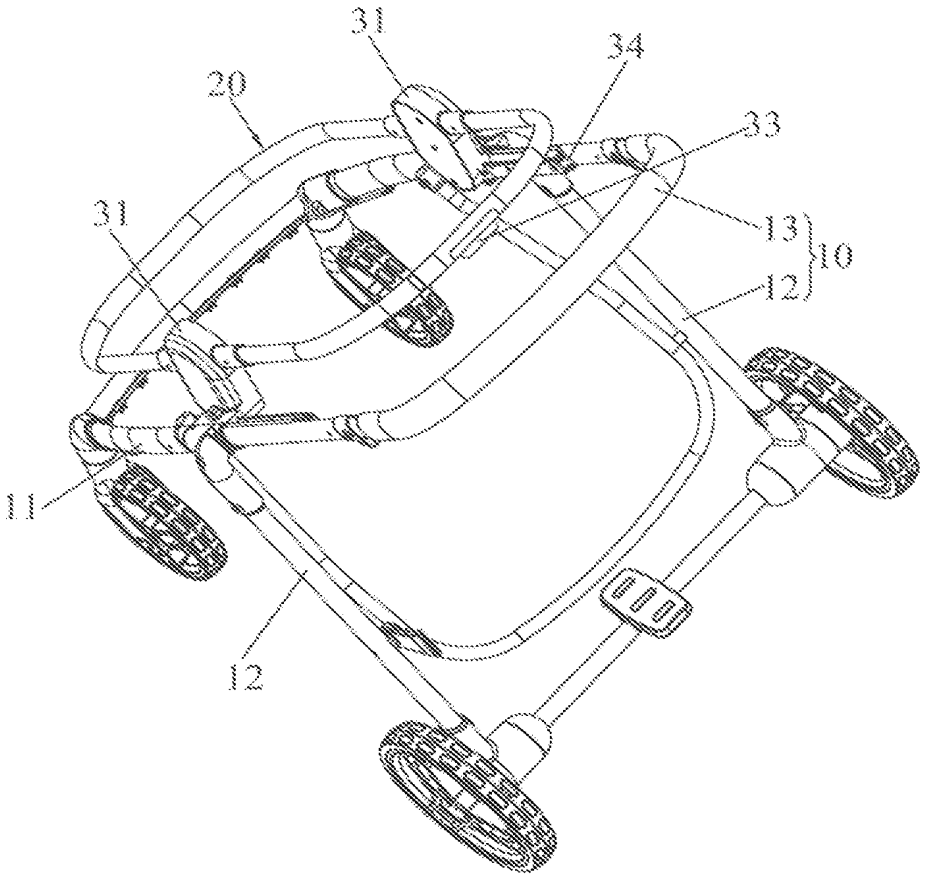


图27

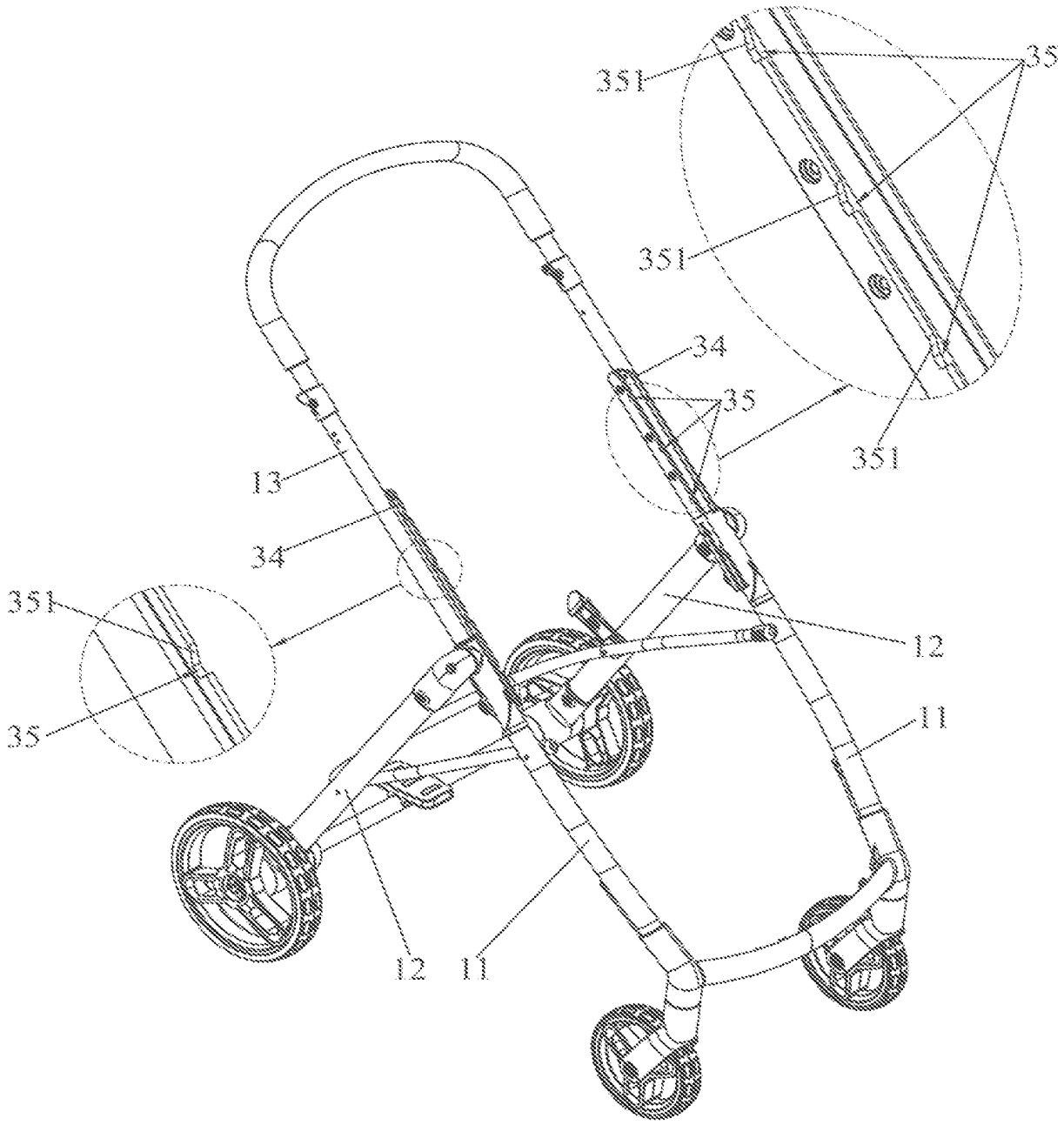


图28

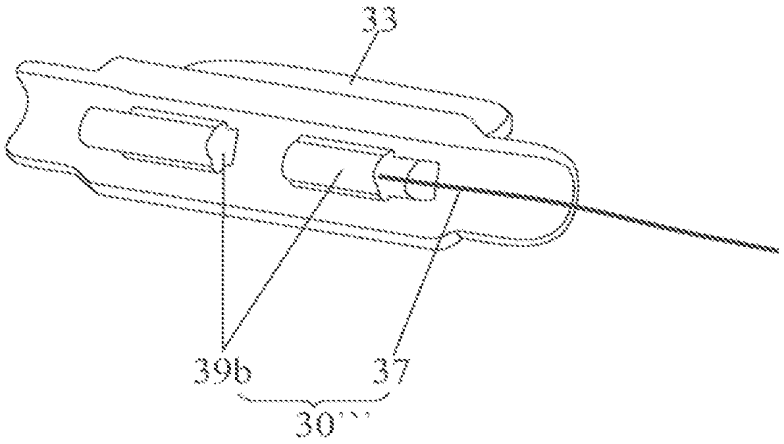


图29

100f

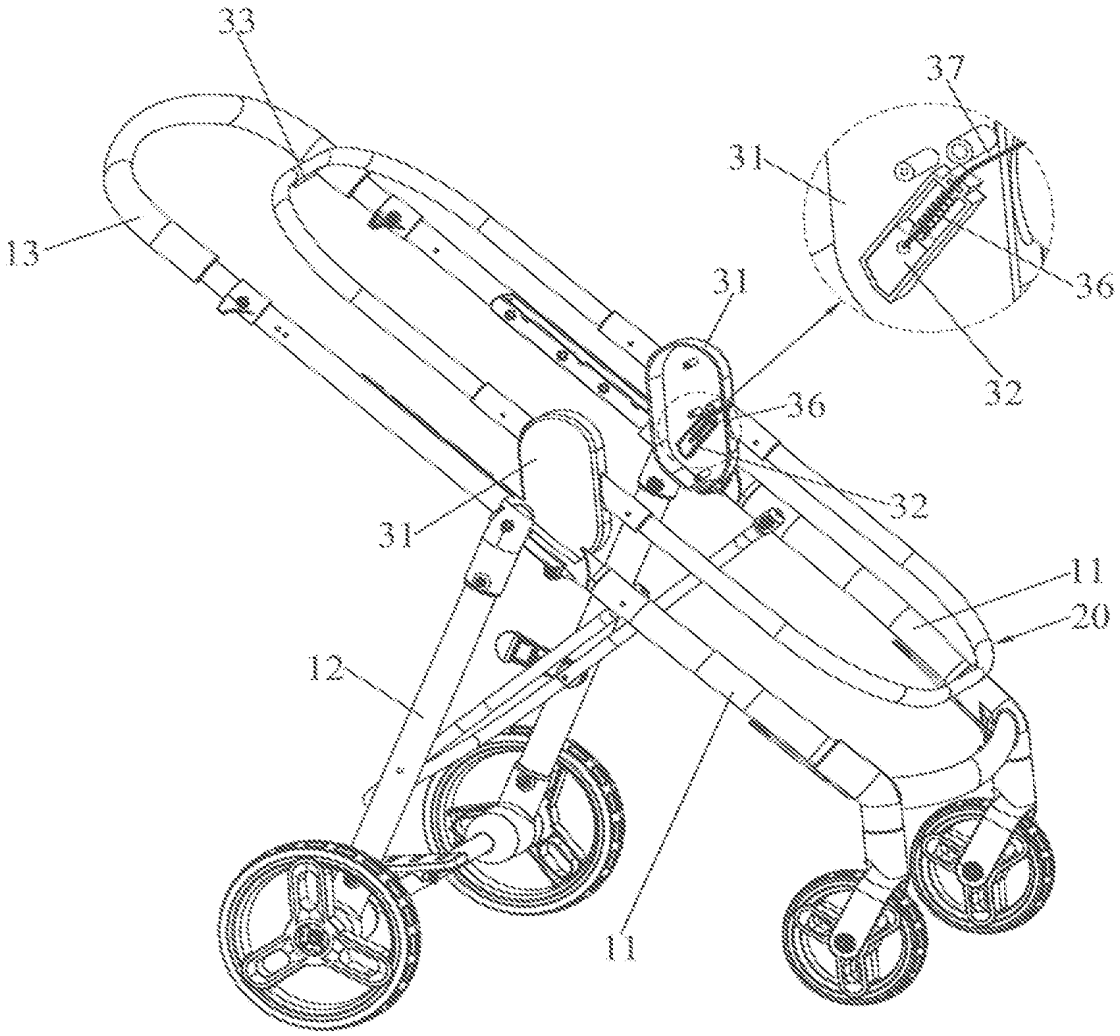


图30

100f

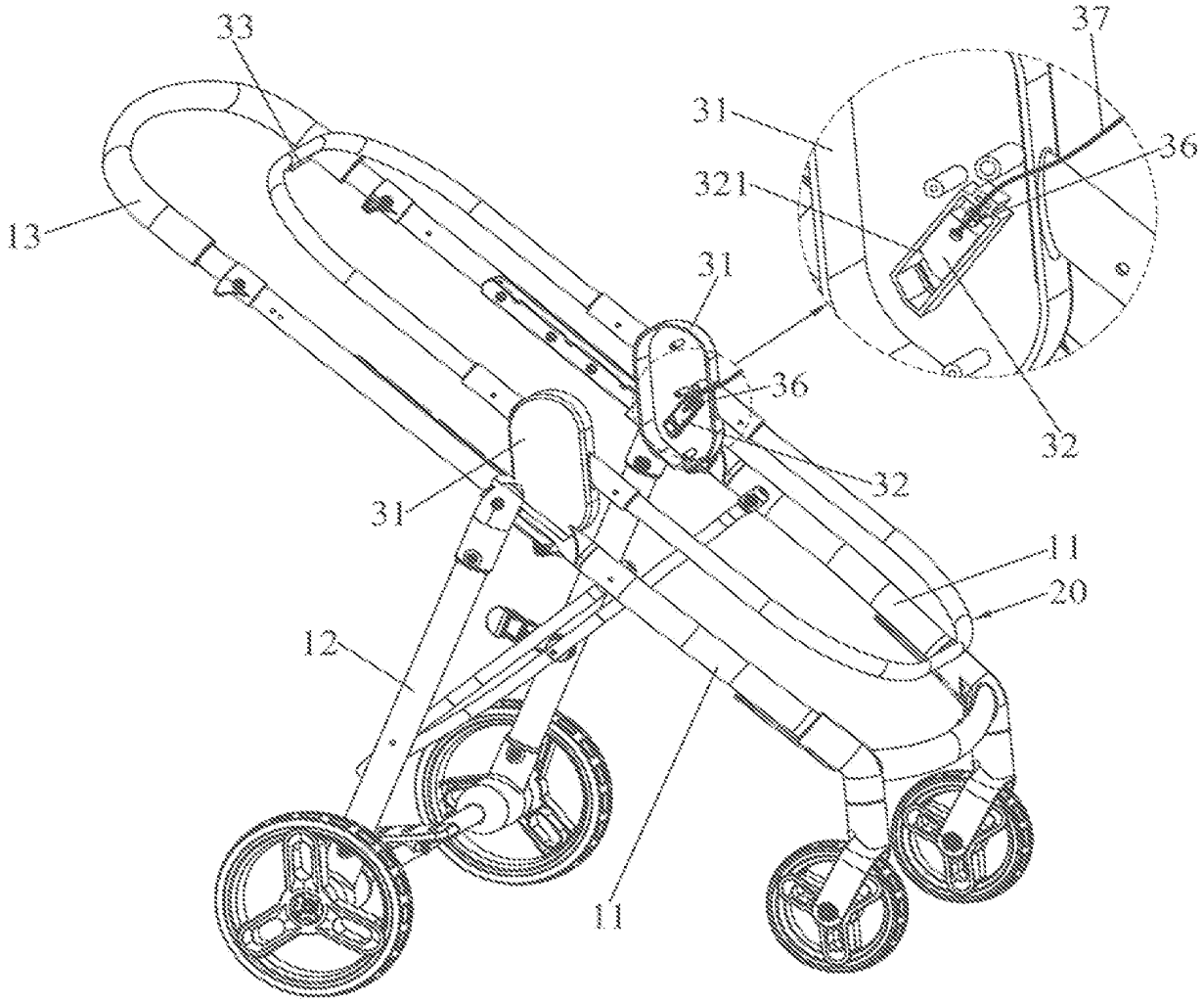


图31

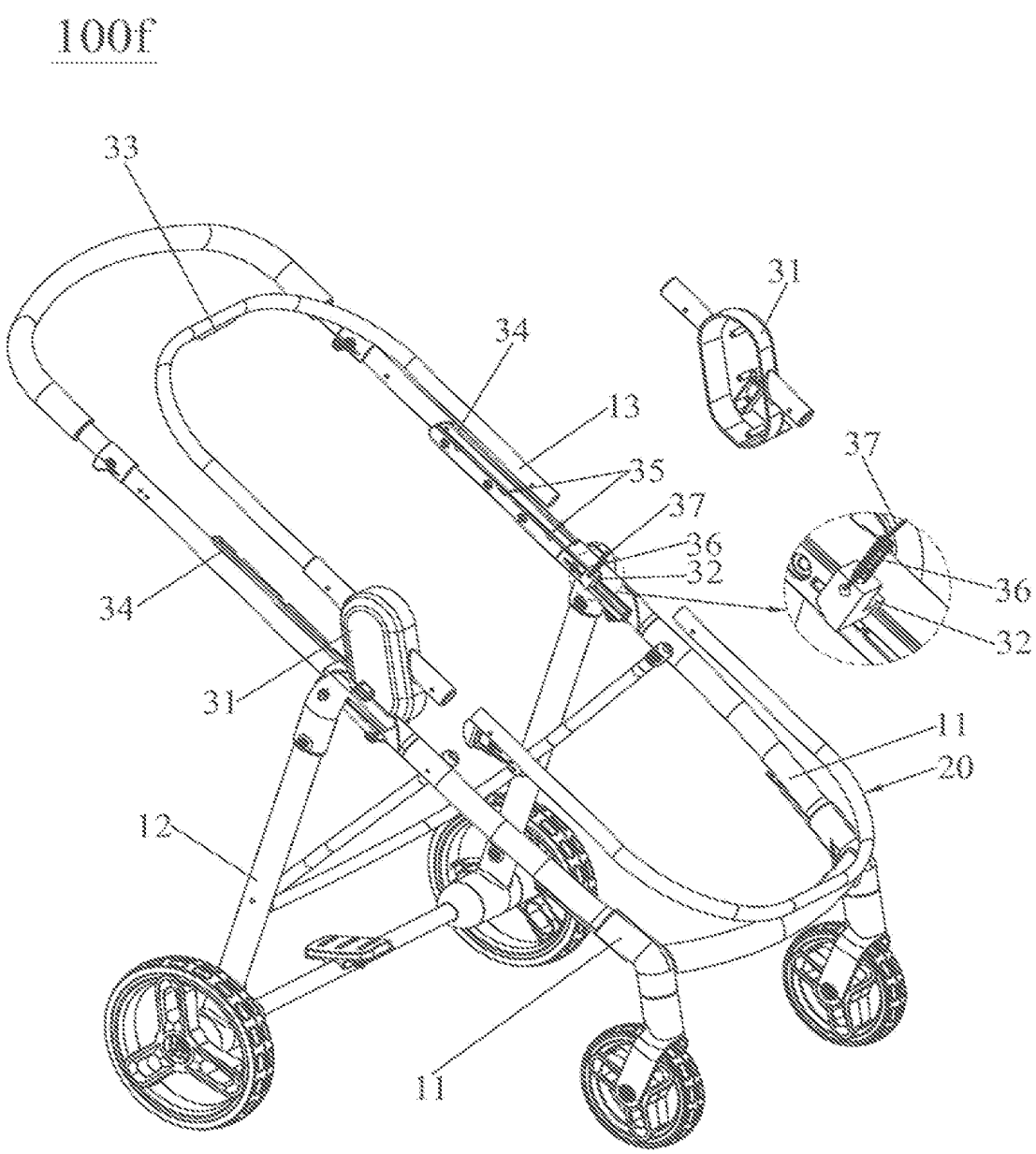


图32

100f

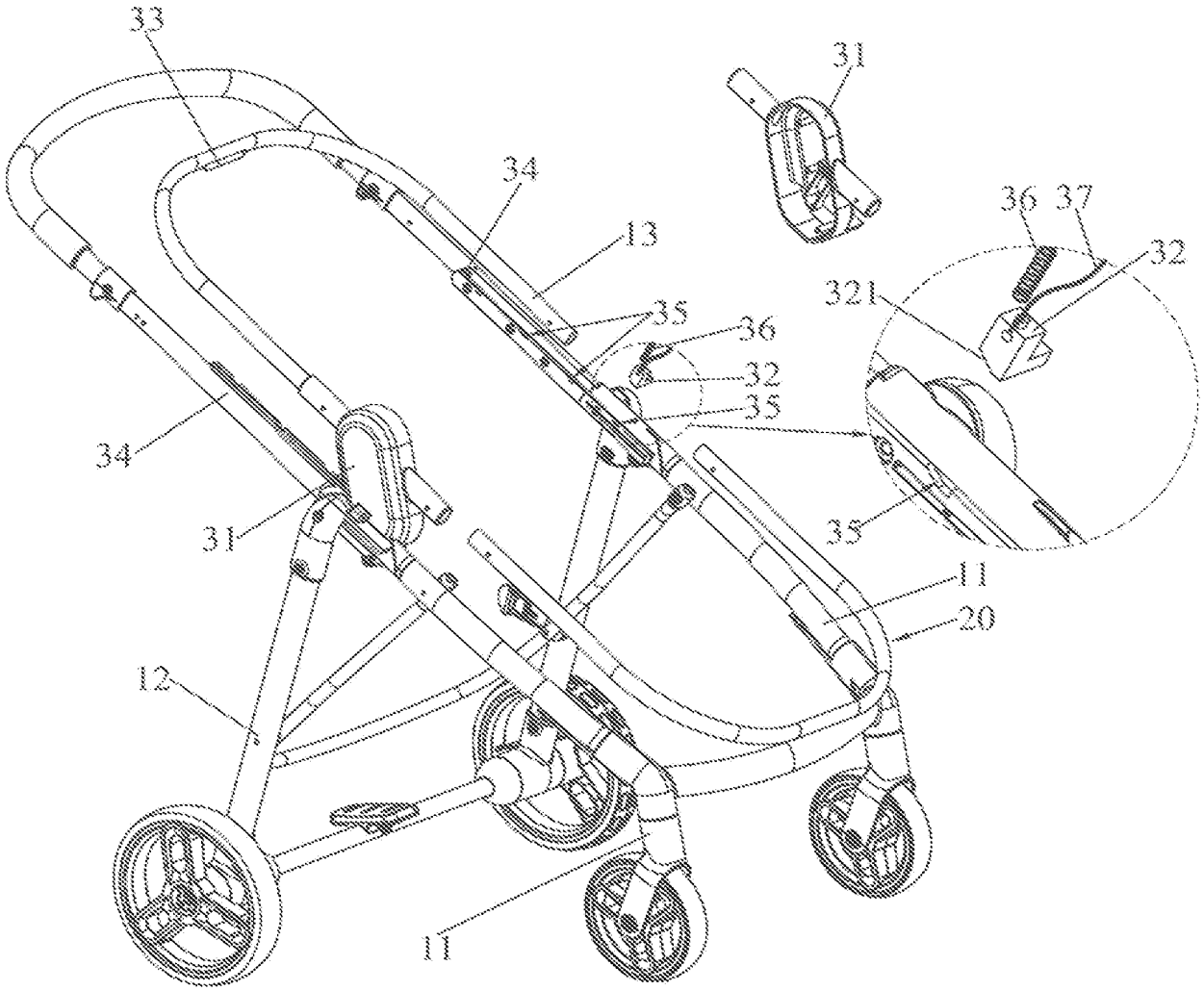


图33

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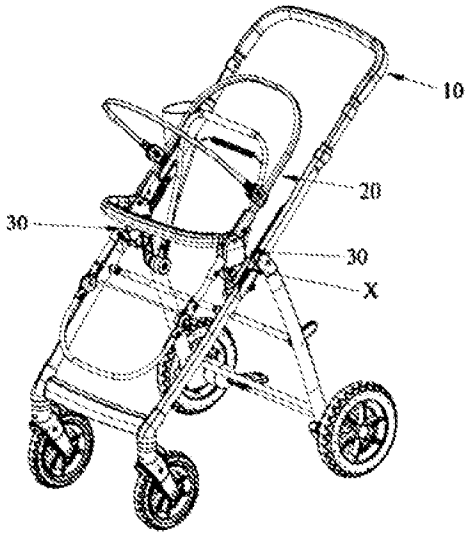
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Priority Data
201911289305.8 13.12.2019 CN

Title
[DE] Stroller apparatus



Abstract
[DE]
The present invention discloses a stroller comprising a frame, a support used for carrying a small child, and a height adjustment mechanism, wherein the height adjustment mechanism comprises a connecting base, an engagement member, an engaging member, and a release operating member, the connection base is mounted to the carrier and has a pressure structure, the engaging holder is mounted on the frame, wherein the engaging member has at least one first adjustment position and a second adjustment position above the first adjustment position with respect to the frame, a first step portion for engaging the engaging member is arranged on the frame to hold the engaging member in the second adjustment position, the engaging member is disposed on the engaging member, when the pressure structure is mounted on the frame for use of the carrier in the forward direction, the engaging member is pushed to disengage from the first step portion, and thus switch the engagement holder from the second adjustment position to the first adjustment position. In the stroller of the present invention, the relative height of the support in the frame can be limited and adjusted by the type of assembly The invention also relates to a method for producing the same. embedded image

Related patent documents
CN112960031

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Einstellposition und eine zu der ersten Einstellposition g
aufweist.

(19) Deutsches Patent- und Markenamt

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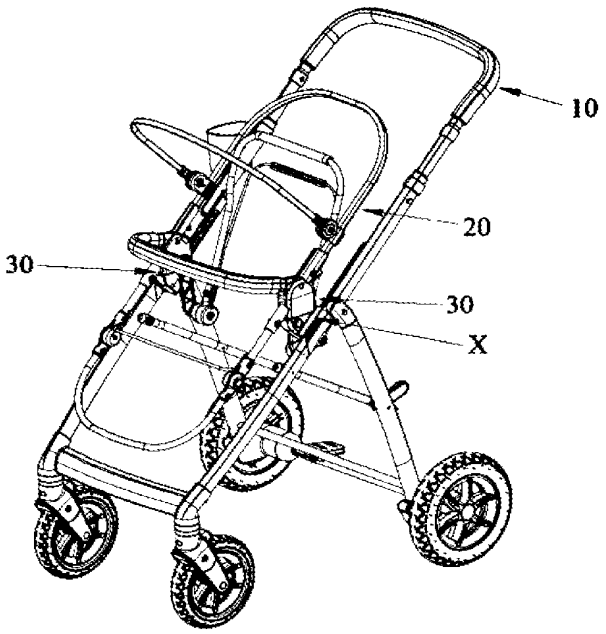
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Zhong, Zhiren, Guangdong, CN

Prüfungsantrag gemäß § 44 PatG ist gestellt.

Die folgenden Angaben sind den vom Anmelder eingereichten Unterlagen entnommen.

(54) Bezeichnung: **Kinderwagenvorrichtung**

(57) Zusammenfassung: Die vorliegende Erfindung offenbart einen Kinderwagen, der einen Rahmen, einen zum Tragen eines Kleinkindes genutzten Träger sowie einen Höhenverstellmechanismus umfasst, wobei der Höhenverstellmechanismus einen Verbindungssockel, einen Eingreifhalter, ein Eingreifbauteil sowie ein Freigabebedienelement umfasst, der Verbindungssockel am Träger montiert ist und eine Druckstruktur aufweist, der Eingreifhalter auf dem Rahmen montiert ist, wobei der Eingreifhalter mindestens eine erste Einstellposition und eine zweite Einstellposition über der ersten Einstellposition gegenüber dem Rahmen aufweist, an dem Rahmen ein erster Stufenabschnitt zum Eingreifen des Eingreifbauteils angeordnet ist, um den Eingreifhalter in der zweiten Einstellposition zu halten, das Eingreifbauteil an dem Eingreifhalter angeordnet ist, wobei, wenn die Druckstruktur zur Verwendung des Trägers in Vorwärtsrichtung auf dem Rahmen montiert ist, das Eingreifbauteil geschoben wird, um aus dem ersten Stufenabschnitt auszurasten, und so den Eingreifhalter von der zweiten Einstellposition in die erste Einstellposition umzuschalten. Bei dem Kinderwagen der vorliegenden Erfindung kann die durch die Art der Montage relative Höhe des Trägers im Rahmen begrenzt und eingestellt werden.



Beschreibung

Technisches Gebiet

[0001] Die vorliegende Erfindung betrifft das technische Gebiet Kinderartikel, insbesondere einen Kinderwagen.

Stand der Technik

[0002] Der herkömmliche Kinderwagen bietet im Wesentlichen eine Sitzmöglichkeit für Kleinkinder und wird von Erwachsenen geschoben. Wenn ein Kleinkind in einem Kinderwagen sitzt, befindet sich ein Erwachsener für gewöhnlich hinter der Sitzposition des Kleinkinds. Daher ist, wenn der Kinderwagen geschoben wird, die Vorderseite des Kleinkinds nicht zu sehen. Außerdem kann sich das Kleinkind sicherer fühlen, wenn es einen Fam ilienangehörigen sehen kann, während es im Kinderwagen sitzt. Um die vorstehend genannten Anforderungen zu erfüllen, haben Hersteller verschiedene Kinderwagen herausgebracht, die in Vorwärtsrichtung und in Rückwärtsrichtung verwendet werden können, wobei das Wesentliche dabei ist, dass der Kleinkindsitz sowohl für die Verwendung in Vorwärts richtung als auch in Rückwärtsrichtung montiert werden kann. Wenn der Kleinkindsitz in Vorwärtsrichtung verwendet wird, wird zumeist gewünscht, den Sitz etwas höher zu stellen, damit sich Fam ilienangehörige und Kleinkind näher sind, wird jedoch der Kleinkindsitz in Vorwärtsrichtung verwendet, und der Kleinkindsitz ist zu hoch eingestellt ist, kann der Wagen nur unter Schwierigkeiten den Stabilitätstest bestehen, weshalb es angesichts von Sicherheitsüberlegungen sinnvoll ist, die Höhe des Kleinkindsitzes bei Verwendung in Vorwärts richtung zu begrenzen. Jedoch ist es bei den derzeitigen Kinderwagen nicht möglich, die relative Höhe von Kleinkindsitzen zum Rahmen bei der Vorwärtsverwendung des Kleinkindsitzes auf dem Rahmen zu begrenzen.

[0003] Daher besteht ein dringender Bedarf für einen Kinderwagen, bei dem die relative Höhe zwischen Träger und Rahmen bei Verwendung des Trägers auf dem Rahmen in Vorwärts richtung begrenzt werden kann, um die vorstehend genannten Nachteile zu überwinden.

Gegenstand der Erfindung

[0004] Zweck dieser Erfindung ist es, einen Kinderwagen bereitzustellen, bei dem die relative Höhe zwischen Träger und Rahmen bei Verwendung des Trägers auf dem Rahmen in Vorwärtsrichtung begrenzt werden kann.

[0005] Um den vorstehend genannten Zweck zu erfüllen, umfasst der Kinderwagen gemäß der vorliegenden Erfindung einen Rahmen, einen zum Tragen eines Kleinkinds verwendeten Träger sowie einen Höhenverstellmechanismus zum Einstellen der Position des Trägers auf dem Rahmen, wobei der Höhenverstellmechanismus einen Verbindungssockel, einen Eingreifhalter und ein Eingreifbauteil sowie ein mit dem Eingreifbauteil verbundenes Freigabebedienelement umfasst, wobei der Verbindungssockel entweder an dem Träger oder dem Rahmen montiert ist und über eine Druckstruktur (Profil) zum selektiven Drücken des Eingreifbauteils zum Bewegen in eine Freigaberichtung umfasst, wobei der Eingreifhalter beweglich an dem anderen von Träger und Rahmen montiert ist, der Träger über einen lösbaren Eingriff mit dem Eingreifhalter zur Verwendung in Vorwärtsrichtung oder zur Verwendung in Rückwärtsrichtung am Rahmen montiert ist, wobei der Eingreifhalter gegenüber dem Rahmen oder dem Träger mindestens eine erste Einstellposition und eine zweite Einstellposition oberhalb der ersten Einstellposition aufweist, an dem Träger oder dem Rahmen, wo der Eingreifhalter angeordnet ist, ein erster Stufenabschnitt zum Eingreifen des Eingreifbauteils angeordnet ist, um den Eingreifhalter in der zweiten Einstellposition zu halten, wobei das Eingreifbauteil in dem Eingreifhalter montiert ist, wobei die Druckstruktur von dem Eingreifbauteil versetzt ist, wenn der Träger zur Verwendung in Rückwärtsrichtung auf dem Rahmen montiert wird, wobei die Druckstruktur, wenn der Träger zur Verwendung in Vorwärts richtung auf dem Rahmen montiert wird, das Eingreifbauteil zum Lösen des Eingriffs mit dem ersten Stufenabschnitt in Bewegung schiebt, wodurch der Eingreifhalter von der zweiten Einstellposition in die erste Einstellposition umgeschaltet wird.

[0006] Vorzugsweise hat außerdem der Träger oder Rahmen, wo der Eingreifhalter angeordnet ist, einen zweiten Stufenabschnitt zum Eingreifen des Eingreifbauteils zum Halten des Eingreifhalters in der ersten Einstellposition, und wenn der Träger am Rahmen zur Verwendung in Rückwärtsrichtung montiert ist, führt das Eingreifbauteil aufgrund der Verbindung des Freigabebedienelements eine Freigabebewegung durch, so dass der Eingreifhalter zwischen der ersten Einstellposition und der zweiten Einstellposition umgeschaltet wird.

[0007] Vorzugsweise ist das Eingreifbauteil in Eingriff mit dem zweiten Stufenabschnitt, wenn der Träger zur Verwendung in Vorwärtsrichtung auf dem Rahmen montiert ist und sich der Eingreifhalter in der ersten Einstellposition befindet.

[0008] Vorzugsweise umfasst das Eingreifbauteil ein Eingreifelement und ein Auslöseelement, wobei das Freigabebedienelement mit dem Eingreifelement verbunden ist, wobei das Eingreifelement teleskopisch in dem Eingreifhalter angeordnet ist, wobei das Eingreifelement selektiv in den ersten Stufenabschnitt oder den zweiten Stufenabschnitt eingreift, wobei

die Druckstruktur das Auslöseelement in Bewegung drückt, wenn der Träger zur Verwendung in Vorwärtsrichtung am Rahmen montiert wird, so dass das sich bewegende Auslöseelement mit dem Eingreifelement zum Einschieben in den Eingreifhalter koppelt.

[0009] Vorzugsweise ist das Auslöseelement verschieblich und teleskopisch an dem Eingreifhalter angeordnet.

[0010] Vorzugsweise umfasst das Eingreifbauteil ferner ein Verbindungselement, wobei das erste Ende des Verbindungselements mit dem Freigabebedienelement und das zweite Ende des Verbindungselements mit dem Eingreifelement verbunden ist.

[0011] Vorzugsweise drückt die Druckstruktur auf das Auslöseelement, so dass es in den Eingreifhalter gleitet, wenn der Träger für den Vorwärtseinsatz auf dem Rahmen montiert wird, wobei das Auslöseelement während des Gleitvorgangs in den Eingreifhalter das Verbindungselement derart in Bewegung schiebt, dass das sich bewegende Verbindungselement das Eingreifelement antreibt, sich in den Eingreifhalter zurückzuziehen.

[0012] Vorzugsweise kreuzt sich die Gleitrichtung des Auslöseelements mit der Bewegungsrichtung des Verbindungselements.

[0013] Vorzugsweise ist in dem Eingreifhalter eine Führungsschiene angeordnet, wobei das Auslöseelement verschieblich auf der Führungsschiene montiert ist.

[0014] Vorzugsweise umfasst das Eingreifbauteil außerdem ein zwischen dem Freigabebedienelement und dem Eingreifhalter angeordnetes Freigaberückstellelement, wobei das Freigaberückstellelement die stetige Tendenz hat, das Freigabebedienelement aus dem Eingreifhalter herauszuschieben.

[0015] Vorzugsweise umfasst das Eingreifbauteil außerdem ein zwischen dem Auslöseelement und dem Eingreifhalter angeordnetes Auslöserückstellelement, wobei das Auslöserückstellelement die stetige Tendenz hat das Auslöseelement aus dem Eingreifhalter herauszuschieben.

[0016] Vorzugsweise ist an dem Träger oder dem Rahmen, wo der Eingreifhalter angeordnet ist, eine Gleitschiene angebracht, wobei der Eingreifhalter gleitend an der Gleitschiene montiert ist, wobei der erste Stufenabschnitt und der zweite Stufenabschnitt an der Gleitschiene angeordnet sind.

[0017] Vorzugsweise sind an der Gleitschiene außerdem mehrere voneinander beabstandete Feineinstellungsstufenabschnitte angeordnet, wobei sich die Feineinstellungsstufenabschnitte zwischen dem ersten Stufenabschnitt und dem zweiten Stufenabschnitt befinden.

[0018] Vorzugsweise löst das Eingreifbauteil außerdem, wenn der Träger zur Verwendung in Vorwärtsrichtung am Rahmen montiert ist, das Eingreifen mit dem Feineinstellungsstufenabschnitt, der an den ersten Stufenabschnitt angrenzt, aus.

[0019] Vorzugsweise haben der erste Stufenabschnitt, der zweite Stufenabschnitt und die Feineinstellungsstufenabschnitte jeweils eine Schlitzstruktur.

[0020] Vorzugsweise weist die untere Seitenwand des ersten Stufenabschnitts und eine untere Seitenwand des an den ersten Stufenabschnitt angrenzenden Feineinstellungsstufenabschnitts jeweils eine Schräge zum nach vorne Herausgleiten auf, die von oben nach unten nach außen geneigt ist.

[0021] Vorzugsweise weist eine obere Seitenwand bei mindestens einem ersten Stufenabschnitt, zweiten Stufenabschnitt und/oder Feineinstellungsstufenabschnitt jeweils eine Schräge zum nach hinten Gleiten auf, die von oben nach unten nach innen geneigt ist, wobei das Eingreifelement eine dazu passende Schräge zum Gleiten hat, die mit der Schräge zum nach hinten Gleiten zusamm enwirkt.

[0022] Vorzugsweise weist der Verbindungssockel eine Eingreifeinführkammer auf, wobei sich die Druckstruktur in der Eingreifeinführkammer befindet, und der Eingreifhalter teilweise in der Eingreifeinführkammer eingeführt ist.

[0023] Vorzugsweise umfasst der Eingreifhalter eine Einführkammer, wobei der Verbindungssockel ein Montageteil und einen am Montageteil nach außen vorstehenden Eingriffskörperabschnitt umfasst, wobei sich die Druckstruktur an dem Montageteil befindet, wobei der Eingriffskörperabschnitt teilweise in die Einführkammer eingeführt ist.

[0024] Vorzugsweise ist die Druckstruktur ein Vorsprung, eine Rippe oder ein Anschlag.

[0025] Vorzugsweise ist das Auslöseelement schwenkbar an dem Eingreifhalter montiert, wobei das Auslöseelement ein Kontaktende und ein Druckende aufweist, wobei das Kontaktende teleskopisch an dem Eingreifhalter angeordnet ist, und das Druckende an das Eingreifelement anstößt.

[0026] Vorzugsweise umfasst das Eingreifbauteil außerdem ein zwischen dem Eingreifelement und dem Eingreifhalter montiertes Eingriffsrückstellelement, wobei das Eingriffsrückstellelement tendenziell

stets das Eingreifelement aus dem Eingreifhalter herausschiebt.

[0027] Vorzugsweise ist an dem Träger oder dem Rahmen, wo der Eingreifhalter angeordnet ist, eine Gleitschiene angeordnet, wobei der Eingreifhalter gleitend auf der Gleitschiene montiert ist, wobei der erste Stufenabschnitt an der Gleitschiene montiert ist.

[0028] Vorzugsweise weist das untere Ende der Gleitschiene ein Blockierungsteil auf, der das Herausgleiten dem Eingreifhalter blockiert.

[0029] Vorzugsweise ist der Träger ein Kindersitz, eine Babywanne oder ein Autosicherheitss itz.

[0030] Verglichen mit dem Stand der Technik umfasst der Höhenverstellmechanismus des Kinderwagens nach der vorliegenden Erfindung einen Verbindungssockel, einen Eingreifhalter, ein Eingreifbauteil sowie ein mit dem Eingreifbauteil verbundenes Freigabebedienelement, wobei der Verbindungssockel am Träger montiert ist und eine Druckstruktur zum selektiven Drücken des Eingreifbauteils in eine Freigaberichtung aufweist, wobei der Eingreifhalter beweglich auf dem Rahmen montiert ist, der Träger über einen lösbaren Eingriff mit dem Eingreifhalter zur Verwendung in Vorwärtsrichtung oder zur Verwendung in Rückwärtsrichtung am Rahmen montiert ist, wobei der Eingreifhalter mindestens eine erste Einstellposition und eine zweite Einstellposition über der ersten Einstellposition gegenüber dem Rahmen aufweist, wobei an dem Rahmen ein erster Stufenabschnitt zum Eingreifen des Eingreifbauteils angeordnet ist, um den Eingreifhalter in der zweiten Einstellposition zu halten, wobei das Eingreifbauteil an dem Eingreifhalter angeordnet ist, die Druckstruktur von dem Eingreifbauteil versetzt ist, wenn der Träger am Rahmen zur Verwendung in Rückwärtsrichtung montiert ist; wenn der Träger in Vorwärtsrichtung am Rahmen montiert wird, schiebt die Druckstruktur das Eingreifbauteil zum Lösen des Eingriffs mit dem ersten Stufenabschnitts in Bewegung, wodurch der Eingreifhalter von der zweiten Einstellposition in die erste Einstellposition umgeschaltet wird, so dass, wenn der Träger zur Verwendung in Vorwärtsrichtung am Rahmen montiert ist, automatisch die Einbauhöhe des Trägers am Rahmen begrenzt werden kann; wird der Träger zur Verwendung in Rückwärtsrichtung auf dem Rahmen montiert, wird die Einbauhöhe des Trägers am Rahmen nicht begrenzt, weshalb bei dem Kinderwagen, gemäß der vorliegenden Erfindung, die relative Höhe zwischen Träger und Rahmen bei Verwendung des Trägers auf dem Rahmen in Vorwärtsrichtung begrenzt wird.

Figurenliste

Fig. 1 ist ein schematisches Diagramm einer dreidimensionalen Struktur eines Kinderwagens, der auf einem Rahmen in einer Vorwärtsverwendungsposition in der ersten durch die vorliegende Erfindung bereitgestellten Ausführungsform zusammengebaut ist.

Fig. 2 ist ein schematisches Diagramm einer dreidimensionalen Struktur eines Kinderwagens, der auf einem Rahmen in einer Rückwärtsverwendungsposition in der ersten, durch die vorliegende Erfindung bereitgestellten Ausführungsform, aufgebaut ist.

Fig. 3 ist eine Vorderansicht des in **Fig. 1** dargestellten Kinderwagens.

Fig. 4 ist ein schematisches Diagramm der dreidimensionalen Struktur des Rahmens in dem Kinderwagen in der ersten Ausführungsform, die durch die vorliegende Erfindung bereitgestellt wird.

Fig. 5 ist eine schematische Ansicht der dreidimensionalen Struktur des in **Fig. 4** gezeigten Rahmens aus einem anderen Winkel.

Fig. 6 ist ein schematisches Diagramm der dreidimensionalen Struktur des Trägers in dem Kinderwagen in der ersten Ausführungsform, die durch die vorliegende Erfindung bereitgestellt wird.

Fig. 7 ist eine Unteransicht des in **Fig. 6** dargestellten Trägers.

Fig. 8 ist ein vergrößertes schematisches Diagramm der Struktur bei A in **Fig. 7**.

Fig. 9 ist ein dreidimensionales Strukturdiagramm des Eingreifhalters auf dem in **Fig. 5** gezeigten Rahmen, wobei die Gehäuseplatte auf einer Seite verborgen ist.

Fig. 10 ist ein vergrößertes schematisches Diagramm der Struktur bei B in **Fig. 9**

Fig. 11 ist eine Querschnittsansicht entlang der in **Fig. 9** dargestellten Linie C-C.

Fig. 12 ist eine vergrößerte schematische Darstellung der Struktur bei D in **Fig. 11**.

Fig. 13 ist schematische Darstellung der Struktur von **Fig. 11**, wenn sich der Eingreifhalter in der zweiten Einstellposition befindet und das Eingreifelement den ersten Stufenabschnitt verlässt und in Vorwärtsrichtung aus der geneigten Fläche herausgleitet.

Fig. 14 ist eine vergrößerte schematische Darstellung der Struktur bei E in **Fig. 13**.

Fig. 15 ist ein schematisches Diagramm der dreidimensionalen Struktur des Kinderwagens

in der zweiten Ausführungsform, die durch die vorliegende Erfindung bereitgestellt wird, in der der Träger in dem Kinderwagen zur Vorwärtsverwendung auf dem Rahmen montiert ist.

Fig. 16 ist ein schematisches Diagramm der dreidimensionalen Struktur eines Rahmens in dem Kinderwagen in der zweiten Ausführungsform der vorliegenden Erfindung.

Fig. 17 ist ein schematisches Diagramm der dreidimensionalen Struktur des Eingreifhalters auf dem in **Fig. 16** dargestellten Rahmen, wobei die Gehäuseplatte auf einer Seite verborgen ist.

Fig. 18 ist ein vergrößertes schematisches Diagramm der Struktur bei F in **Fig. 17**.

Fig. 19 ist ein schematisches Diagramm der dreidimensionalen Struktur des Trägers in dem Kinderwagen in der zweiten Ausführungsform der vorliegenden Erfindung.

Fig. 20 ist ein dreidimensionales Strukturdiagramm des in **Fig. 16** gezeigten Rahmens, wobei der obere Griff, der untere Griff, der untere Stützgriff und die Räder verborgen sind.

Fig. 21 ist eine Querschnittsansicht entlang der in **Fig. 20** dargestellten Linie G-G.

Fig. 22 ist ein vergrößertes schematisches Diagramm der Struktur bei H in **Fig. 21**.

Fig. 23 ist ein schematisches Diagramm der Struktur, wenn das Eingreifelement in der ersten Einstellposition einrastet, wenn der Eingreifhalter von **Fig. 21** in der zweiten Einstellposition gehalten wird.

Fig. 24 ist ein vergrößertes schematisches Diagramm der Struktur bei I in **Fig. 21**

Fig. 25 ist ein schematisches Diagramm der Struktur, wenn nur der erste Positionsabschnitt auf der Gleitschiene des in **Fig. 21** gezeigten Rahmens angeordnet ist und der Eingreifhalter in der ersten Einstellposition gehalten wird.

Fig. 26 ist ein vergrößertes schematisches Diagramm der Struktur bei J in **Fig. 25**.

Fig. 27 ist ein schematisches Diagramm der Struktur, wenn das Eingreifelement bei dem ersten Stufenabschnitt einrastet, der in **Fig. 25** gezeigte Eingreifhalter in der zweiten Einstellposition gehalten wird.

Fig. 28 ist ein vergrößertes schematisches Diagramm der Struktur bei K in **Fig. 27**.

Konkrete Ausführungsformen

[0031] Zur genaueren Beschreibung des technischen Inhalts, der Konstruktionsmerkmale der vorliegenden Erfindung wird im Folgenden anhand von Ausführungsformen und den zugehörigen Figuren eine eingehendere Beschreibung vorgenommen.

[0032] Wie **Fig. 1** bis **Fig. 10** zeigen, umfasst der Kinderwagen **100** der vorliegenden Erfindung einen Rahmen **10**, einen zum Tragen eines Kleinkinds genutzten Träger **20** sowie einen Höhenverstellmechanismus **30** zum Einstellen der Position des Trägers **20** im Rahmen **10**, wobei der Höhenverstellmechanismus **30** einen Verbindungssockel **31**, einen Eingreifhalter **32** und ein Eingreifbauteil **33** sowie ein mit dem Eingreifbauteil **33** verbundenes Freigabebedienelement **34** umfasst, wobei der Verbindungssockel **31** am Träger **20** montiert ist und ein, zum wahlweisen Schieben des Eingreifbauteils **33** in Richtung der Entriegelung, bewegliches Profil **311** aufweist, wobei der Eingreifhalter **32** beweglich an dem Rahmen **10** montiert ist, wobei der Träger **20** über einen lösbaren Eingriff zwischen dem Verbindungssockel **31** und dem Eingreifhalter **32** zur Verwendung in Vorwärtsrichtung oder zur Verwendung in Rückwärtsrichtung am Rahmen **10** montiert ist, wobei der Eingreifhalter **32** mindestens eine erste Einstellposition X und eine zweite Einstellposition Y über der ersten Einstellposition X relativzum Rahmen **10** aufweist, wobei an dem Rahmen **10** ein erster Stufenabschnitt **11** zum Eingreifen des Eingreifbauteils **33** angeordnet ist, um den Eingreifhalter **32** in der zweiten Einstellposition Y zu halten, wobei das Eingreifbauteil an dem Eingreifhalter angeordnet ist, wobei das Profil **311** von dem Eingreifbauteil **33** versetzt ist, wenn der Träger **20** am Rahmen **10** zur Verwendung in Rückwärtsrichtung montiert wird; wenn das Profil **311** zur Verwendung des Trägers **20** in Vorwärtsrichtung am Rahmen **10** montiert wird, wird das Eingreifbauteil **33** verschoben, um den Eingriff mit dem ersten Stufenabschnitt **11** zu lösen, um so den Eingreifhalter **32** von der zweiten Einstellposition Y in die erste Einstellposition X umzuschalten, so dass, wenn der Träger **20** zur Verwendung in Vorwärtsrichtung am Rahmen **10** montiert ist, automatisch die Einbauhöhe des Trägers **20** am Rahmen **10** begrenzt werden kann, und wenn der Träger **20** zur Verwendung in Rückwärtsrichtung am Rahmen **10** montiert ist, die Einbauhöhe des Trägers **20** am Rahmen **10** nicht begrenzt wird, weshalb bei dem Kinderwagen **100** der vorliegenden Erfindung die relative Höhe zwischen Träger **20** und Rahmen **10** bei Verwendung des Trägers **20** auf dem Rahmen **10** in Vorwärts richtung begrenzt werden kann.

[0033] Vorzugsweise kann je nach tatsächlichem Bedarf der Verbindungssockel **31** am Rahmen **10** montiert sein, wobei der Eingreifhalter **32** beweglich auf dem Träger **20** montiert ist, entsprechend weist der Eingreifhalter **32** mindestens eine erste Einstellposition X sowie eine zweite Einstellposition Y auf, die oberhalb der Einstellposition X relativ zum Träger **20** angeordnet sind, und auf dem Träger **20** ist ein erster Stufenabschnitt **11** angeordnet, um den Eingreifhalter **32** in der zweiten Einstellposition Yzu hal-

ten, gleichermaßen kann die Höheneinstellung des Trägers **20** relativ zum Rahmen **10** vorgenommen werden, ohne darauf beschränkt zu sein. Beispielsweise gibt das Freigabebedienelement **34** während des Zurückziehens die Befestigung des Eingreifbauteils **33** am Rahmen **10** und am Träger **20** frei, um die Einstellung des Eingreifhalters **32** zwischen der ersten Einstellposition X und der zweiten Einstellposition Yzu ermöglichen und die Einstellung der Höhe des Trägers **20** am Rahmen **10** zu erleichtern, und während das Freigabebedienelement **34** aus dem Eingreifhalter **32** herausfährt, rastet das Eingreifbauteil **33** in dem Träger **20** ein, um ein Bewegen des Eingreifhalters **32** an dem Rahmen **10** zu verhindern, und führt so dazu, dass der Träger **20** in einer bestimmten Position am Rahmen **10** gehalten wird, ohne jedoch darauf beschränkt zu sein. Außerdem gibt es im Wesentlichen zwei Arten Träger **20**, wobei eine Art einen Kleinkindsitz als Träger **20** bereitgestellt ist, wie beispielsweise der in **Fig. 6** gezeigten Sitz, natürlich kann es auch ein Autosicherheitssitz sein, der in einem Auto verwendet wird, ohne jedoch darauf beschränkt zu sein; die andere Art stellt einen Träger **20** mit einer Babywanne zum Hineinlegen eines Kleinkinds bereit, ohne jedoch darauf beschränkt zu sein. Da die Struktur des Trägers **20** in dem Fachgebiet gut bekannt ist, dürfte es zu verstehen sein, dass daher hier nicht im Detail darauf eingegangen wird. Konkrete Beschreibung wie folgt:

[0034] Wie **Fig. 4**, **Fig. 5** und **Fig. 11** bis **Fig. 14** zeigen, ist an dem Rahmen **10** außerdem ein zweiter Stufenabschnitt **12** für das Eingreifbauteil **33** angeordnet, um den Eingreifhalter **32** in der ersten Einstellposition X zu halten, wobei, wenn der Träger **20** zur Verwendung in Rückwärtsrichtung auf dem Rahmen **10** montiert ist, das Eingreifbauteil **33** bei Betätigen des Freigabebedienelements **34** eine Ausrast- oder Einrastbewegung ausführt, um den Eingreifhalter **32** zwischen der ersten Einstellposition X und der zweiten Einstellposition Y umzuschalten, und sofort bewirkt, dass, wenn der Eingreifhalter **32** die erste Einstellposition X erreicht hat, das Eingreifbauteil **33** in den zweiten Stufenabschnitt **12** eingreifen kann, wobei, wenn der Eingreifhalter **32** die zweite Einstellposition Y erreicht hat, das Eingreifbauteil **33** in den ersten Stufenabschnitt **11** eingreifen und so die feste und stabile Montage des Trägers **20** auf dem Rahmen **10** zur Verwendung in Rückwärtsrichtung gewährleisten kann. Konkret bedeutet das, dass der Träger **20**, wenn er zur Verwendung in Vorwärts richtung auf dem Rahmen **10** montiert ist, das Eingreifbauteil **33** in den zweiten Stufenabschnitt **12** einrastet, wenn sich der Eingreifhalter **32** an der ersten Einstellposition X befindet, so dass das Eingreifbauteil **33** in den zweiten Stufenabschnitt **12** einrastet und ein Herunterrutschen des Trägers **20** vom Rahmen **10** verhindert und bewirkt, dass der Träger **20** fest und stabil auf dem Rahmen **10** befestigt ist, wenn der Träger **20** zur Verwendung in Rückwärtsrichtung die zweite Einstellposition Y erreicht hat.

[0035] Wie **Fig. 4** bis **Fig. 14** zeigen, umfasst das Eingreifbauteil **33** ein Eingreifelement **331**, ein Auslöseelement **332** und ein Verbindungselement **333**, wobei das Freigabebedienelement **34** sich mit dem Eingreifelement **331** bewegt, wobei das Eingreifelement **331** teleskopisch in dem Eingreifhalter **32** angeordnet ist, wobei das Eingreifelement **331** wahlweise in den ersten Stufenabschnitt **11** oder zweiten Stufenabschnitt **12** einrastet, so dass das Profil **311** das Auslöseelement **332** in Bewegung drückt, wenn der Träger **20** zur Verwendung in Vorwärtsrichtung am Rahmen **10** montiert wird, wobei das bewegliche Auslöseelement **332** das Eingreifelement **331** in den Eingreifhalter **32** zurückzieht, weshalb die Struktur des Eingreifbauteils **33** einfach, leicht zu arrangieren und zu montieren ist. Konkret gesagt, ist das erste Ende des Verbindungselements **333** mit dem Freigabebedienelement **34** und das zweite Ende des Verbindungselements **333** mit dem Eingreifelement **331** verbunden, um die Bewegung von Freigabebedienelement **34** und Eingreifelement **331** zu synchronisieren und ein schnelles Entriegeln zu erleichtern. Vorzugsweise bestehen Eingreifelement **331**, Auslöseelement **332** und Verbindungselement **333** aus Metall oder sind in einem Stück gegossen, ohne darauf beschränkt zu sein.

[0036] Wie **Fig. 7** bis **Fig. 10** zeigen, ist das Auslöseelement **332** gleitend und teleskopisch an dem Eingreifhalter **32** angeordnet, so dass sich das Auslöseelement **332** noch schneller zusammen mit dem Eingreifelement **331** bewegt, beispielsweise ist in dem Eingreifhalter **32** eine Führungsschiene **321** angeordnet, wobei das Auslöseelement **332** gleitend auf der Führungsschiene **321** montiert ist, wobei natürlich je nach tatsächlichem Bedarf die Führungsschiene **321** auch durch das Auslöseelement **332** selbst bereitgestellt sein kann, so dass sie hierauf nicht beschränkt ist. Konkret gesagt, schiebt das Profil **311** das Auslöseelement **332** gleitend in den Eingreifhalter **32**, wenn der Träger **20** zur Verwendung in Vorwärtsrichtung am Rahmen **10** montiert wird, wobei das Auslöseelement **332** auf das Verbindungselement **333** drückt, um sich zu bewegen, während es in den Eingreifhalter **32** gleitet, und das sich bewegende Verbindungselement **333** treibt das Eingreifelement **331** an, sich in den Eingreifhalter **32** zurückzuziehen, so dass sich das Eingreifbauteil **33** während des Entriegelns glatt und kontinuierlich bewegt, und in Abhängigkeit des Drucks des Auslöseelements **332** auf das Verbindungselement **333** wird bewirkt, dass das Eingreifelement **331** glatt in den Eingreifhalter **32** für die Entriegelung zurückgezogen werden kann. Genauer gesagt, kreuzt sich die Gleitrichtung des Auslöseelements **332** mit der Bewegungsrichtung des Verbindungselements **333** und bewirkt, dass sich Auslöseelement **332** und Verbindungsele-

ment **333** nicht gegenseitig beeinträchtigen und das Eingreifelement **331** effektiv und reibungslos bewegt werden kann. Um das in den Eingreifhalter **32** zurückgezogene Freigabebedienelement **34** und das Auslöseelement **332** automatisch herauszuziehen und die Position zurückzusetzen, umfasst das Eingreifbauteils **33** außerdem ein zwischen dem Freigabebedienelement **34** und dem Eingreifhalter **32** angeordnetes Freigaberückstellelement **334** sowie ein zwischen Auslöseelement **332** und Eingreifhalter **32** angeordnetes Auslöserückstellelement **335**, wobei das Freigaberückstellelement **334** tendenziell stets das Freigabebedienelement **34** aus dem Eingreifhalter **32** herausschiebt, und das Auslöserückstellelement **335** tendenziell stets das Auslöseelement **332** aus dem Eingreifhalter **32** herausschiebt. Beispielsweise sind das Freigaberückstellelement **334** und/oder das Auslöserückstellelement **335** elastische Elemente, wie beispielsweise Druckfedern oder Zugfedern ohne darauf beschränkt zu sein, natürlich können je nach tatsächlichem Bedarf Freigaberückstellelement **334** und Auslöserückstellelement **335** wahlweise auch magnetische Elemente sein, und durch Montieren eines magnetischen Elements an dem Eingreifhalter **32** und eines anderen magnetischen Elements an dem entsprechenden Freigabebedienelement **34** und/oder Auslöseelement **332**, kann mithilfe der Abstoßung der Pole ein automatisches Zurücksetzen des Auslöseelements **332** und des Freigabebedienelements **34** erreicht werden, ohne jedoch darauf beschränkt zu sein.

[0037] Wie **Fig. 4**, **Fig. 5** und **Fig. 9** bis **Fig. 14** zeigen, ist am Rahmen **10** eine Gleitschiene **13** montiert, der Eingreifhalter **32** ist verschiebbar auf der Gleitschiene **13** angeordnet, der erste Stufenabschnitt **11** und der zweite Stufenabschnitt **12** sind auf der Gleitschiene **13** montiert, wodurch die Positionseinstellung des Eingreifhalters **32** auf dem Rahmen **10** erleichtert wird. Beispielsweise ist die Gleitschiene **13** hervorstehend am oberen Lenkgriff des Rahmens **10** montiert, um die Montage der Gleitschiene **13** zu erleichtern, ohne jedoch darauf beschränkt zu sein. Konkret gesagt, sind auf der Gleitschiene **13** außerdem mehrere voneinander beabstandete Feineinstellungsstufenabschnitte **14** angeordnet, wobei sich die Feineinstellungsstufenabschnitte **14** zwischen dem ersten Stufenabschnitt **11** und dem zweiten Stufenabschnitt **12** befinden, so dass, wenn der Träger **20** auf dem Rahmen **10** montiert wird, das Eingreifbauteil **33** abgesehen von einem wahlweisen Eingreifen in den ersten Stufenabschnitt **11** oder den zweiten Stufenabschnitt **12** auch wahlweise in einen der Feineinstellungsstufenabschnitte **14** einrasten kann, um die Position des Trägers **20** auf dem Rahmen **10** flexibler einzustellen. Beispielsweise sind zwischen dem ersten Stufenabschnitt **11** und dem zweiten Stufenabschnitt **12** drei Feineinstellungsstufenabschnitte **14** angeordnet, was dazu führt, dass der Eingreifhalter **32** auf dem Rahmen **10** in fünf Positionen eingestellt werden kann, was die Verwendung des Trägers **20** noch flexibler und veränderbarer macht. Wenn insbesondere der Träger **20** zur Verwendung in Vorwärtsrichtung auf dem Rahmen **10** montiert ist, rastet das Eingreifbauteil **33** aus dem an den ersten Stufenabschnitt **11** angrenzenden Feineinstellungsstufenabschnitt **14** aus, und beschränkt im nächsten Schritt die Höhe, wenn der Träger **20** zur Verwendung in Vorwärtsrichtung am Rahmen **10** montiert ist, um die Sicherheit bei der Verwendung des Kinderwagens **100** zu gewährleisten. Beispielsweise weisen der erste Stufenabschnitt **11**, der zweite Stufenabschnitt **12** und die Feineinstellungsstufenabschnitte **14** Schlitzstrukturen auf, so dass das Eingreifelement **331** einfach wahlweise in den ersten Stufenabschnitt **11**, den zweiten Stufenabschnitt **12** oder einen der Feineinstellungsstufenabschnitte **14** einrasten kann, um den Eingreifhalter **32** in einer bestimmten Position auf dem Rahmen **10** zu halten.

[0038] Wie **Fig. 7** bis **Fig. 14** zeigen, weisen die untere Seitenwand des ersten Stufenabschnitts **11** sowie die untere Seitenwand des an den ersten Stufenabschnitt **11** angrenzenden Feineinstellungsstufenabschnitts **14** jeweils eine Schräge zum nach vorne Herausgleiten **15** auf, die schräg von oben nach unten nach außen angeordnet ist und wenn der Träger **20** zur Verwendung in Vorwärtsrichtung am Rahmen **10** montiert wird und das Eingreifelement **331** sich bis zum ersten Stufenabschnitt **11** oder bis zu dem an den ersten Stufenabschnitt **11** angrenzenden Feineinstellungsstufenabschnitt **14** erstreckt, zieht sich das bewegliche Auslöseelement **332** aufgrund des Drucks des Profils **311** auf das Auslöseelement **332** und damit verbundene Eingreifelement **331** in den Eingreifhalter **32** zurück, wobei zu diesem Zeitpunkt das Eingreifelement **331** nach außen gleitet und schließlich an Schräge zum nach vorne Herausgleiten **15** anstößt, so dass das Eingreifelement **331** automatisch nach unten weggleitet und nur in eines der darunterliegenden Feineinstellungsstufenabschnitte **14** oder den zweiten Stufenabschnitt **12** einrasten kann, wodurch automatisch, je nach Montageart des Trägers **20**, die Höhe zwischen dem Träger **20** und dem Rahmen **10** begrenzt wird. Um sicherzustellen, dass das Eingreifelement **331**, wenn der Träger **20** rückwärts auf dem Rahmen montiert ist, so ausgewählt werden kann, dass es in einem ersten Stufenabschnitt **11**, einem zweiten Stufenabschnitt **12** oder einem der Feineinstellungsstufenabschnitte **14** einrastet, erstreckt sich die Schräge zum nach vorne Herausgleiten **15** nicht bis zur Unterseite des Schlitzes, weshalb zwischen der Schräge zum nach vorne Herausgleiten **15** und der Unterseite des Schlitzes zusätzlich eine Stützseitenwand **16** angeordnet ist; wird der Träger **20** in Rückwärts richtung auf dem Rahmen **10** montiert, wird das sich am ersten Stufenabschnitt **11** oder am sich daran angrenzenden Feineinstellungsstufenabschnitt **14** befindende Eingreifelement **331** von der Stützseitenwand **16** getra-

gen, so dass das Eingreifelement **331** stabil in einem beliebigen Schlitz zum Einrasten gebracht werden kann, und es wird sichergestellt, wenn der Träger **20** in Rückwärtsrichtung auf dem Rahmen **10** montiert ist, dass der Eingreifhalter **32** den Zweck einer fünfstufigen Positionseinstellung relativ zum Rahmen **10** erfüllen kann. Konkret bedeutet das, dass die oberen Seitenwände von mindestens einem der ersten Stufenabschnitte **11**, des zweiten Stufenabschnitts **12** und des Feineinstellungsstufenabschnitts **14** jeweils eine Schräge zum nach hinten Gleiten **17** aufweisen, die schräg von oben nach unten nach innen angeordnet ist, wobei das Eingreifelement **331** eine mit der Schräge zum nach hinten Gleiten **17** zusammenpassende Schräge zum Gleiten **3311** aufweist, so dass, wenn der Träger **20** in Rückwärtsrichtung auf dem Rahmen **10** montiert ist, und wenn das Eingreifelement **331** von der niedrigen Position des Schlitzes auf die obere Position des Schlitzes umgestellt wird, kann das Eingreifelement **331** leicht aus der unteren Position des Schlitzes, in der es sich befindet, gelöst werden, da die Schräge zum nach hinten Gleiten **17** mit der entsprechenden Schräge zum Gleiten **3311** synchron gleitet, so dass während des gesamten Bedienvorgangs das Freigabebedienelement **34** nicht gedrückt werden muss, und der Träger **20** direkt nach oben bewegt werden kann, wodurch die Bedienung einfach und schnell ist.

[0039] Wie **Fig. 7** bis **Fig. 10** zeigen, weist der Verbindungssockel **31** eine Einsteckkammer **312** auf, wobei sich das Profil **311** in der Einsteckkammer **312** befindet, der Eingreifhalter **32** teilweise in die Einsteckkammer **312** eingeführt ist, wobei vorzugsweise zu diesem Zeitpunkt das Profil **311** und das Auslöseelement **332** gegenständig angeordnet sind, so dass der Verbindungssockel **31** und der Eingreifhalter **32** schnell und gleichmäßig das Auslöseelement **332** in den Eingreifhalter **32** drücken, wenn sie eingerastet sind, und es ist verständlich, dass die Strukturen des Verbindungssockels **31** und des Eingreifhalters **32** auf dem Fachgebiet wohlbekannt sind und daher nicht weiter im Detail beschrieben werden. Beispielsweise ist das Profil **311** eine in der Einsteckkammer **312** angeordnete Rippe, so dass die Struktur des Profils **311** einfach ist und sie leicht zu montieren und anzuordnen ist. Natürlich kann je nach tatsächlichem Bedarf das Profil **311** auch als ein Vorsprung oder Block in der Einsteckkammer **312** angeordnet sein, wodurch der gleiche Effekt bewirkt werden kann, das Auslöseelem ent 332 zu drücken, ohne jedoch darauf beschränkt zu sein.

[0040] Nachstehend wird, wie in **Fig. 1** bis **Fig. 14** gezeigt, die Funktionsweise der ersten Ausführungsform beschrieben, wobei, wenn der Träger **20** zur Verwendung in Rückwärtsrichtung auf dem Rahmen **10** montiert ist, der Eingreifhalter **32** teilweise in die Einsteckkammer **312** eingeführt wird, zu diesem Zeitpunkt das Profil **311** und das Auslöseelement **332** in der Einsteckkammer **312** versetzt zueinander sind, das Eingreifelement **331** wahlweise in den ersten Stufenabschnitt **11**, den zweiten Abschnitt **12** oder einen der Feineinstellungsstufenabschnitte **14** einrasten kann.

[0041] Das Freigabebedienelement **34** wird bedient, um sich in Richtung des Eingreifhalters **32** zurückzuziehen, und das Freigabebedienelement **34**, das eine Rückzugsbewegung ausführt, bewegt sich in Verbindung mit dem Verbindungselement **333**, wobei das sich bewegende Verbindungselement **333** die Bewegung auf das Eingreifelement **331** überträgt, um zu bewirken, sich in den Eingreifhalter **32** zurückzuziehen, so dass das Eingreifelement **331** aus dem Schlitz, in dem es sich befindet, gelöst wird, woraufhin der Träger **20** leicht bedient werden kann, um sich relativ zum Rahmen **10** auf und ab zu bewegen und die Montageposition auf dem Rahmen **10** einstellen zu können; der Eingreifhalter **32** kann daraufhin in fünf Stufenpositionen relativ zum Rahmen eingestellt werden und das Eingreifelement **331** kann wahlweise in einen der fünf Schlitze einrasten. Danach wird das Freigabebedienelement **34** gelöst, wobei durch die Einwirkung des Freigaberückstellelements **334** das Eingreifelement **331** und das Freigaberückstellelement **334** erneut aus dem Eingreifhalter **32** herausgeschoben werden, wobei das Eingreifelement **331** in den dazu ausgerichteten Schlitz eingeführt wird und in diesen Schlitz einrastet und so die Höheneinstellung des Trägers **20** vollendet. Natürlich kann zu diesem Zeitpunkt die Position des Trägers **20** auf dem Rahmen **10** auch durch direktes Schieben des Trägers **20** nach oben eingestellt werden.

[0042] Wenn der Träger **20** zur Verwendung in Vorwärtsrichtung auf dem Rahmen **10** montiert ist, ist der Eingreifhalter **32** teilweise in die Einsteckkammer **312** des Verbindungssockels **31** eingeführt, zu diesem Zeitpunkt ist das sich in der Einsteckkammer **312** befindende Profil **311** dem Auslöseelement **332** direkt gegenüberliegend angeordnet, das Profil **311** drückt auf das Auslöseelement **332**, um in den Eingreifhalter **32** zu gleiten, und während der Gleitbewegung des Auslöseelements **332** in den Eingreifhalter **32**, wird der Verbindungssockel **31** angeschoben, und das sich bewegende Verbindungselement **333** treibt das Eingreifelement **331** in den Eingreifhalter **32** hinein, so dass, wenn sich das Eingreifelement **331** bis zum ersten Stufenabschnitt **11** oder dem an den ersten Stufenabschnitt **11** angrenzenden Feineinstellungsstufenabschnitt **14** erstreckt, erstreckt sich das Eingreifelement **331** nach außen und stößt an der Schräge zum nach vorne Herausgleiten **15** an, so dass das Eingreifelement **331** automatisch nach unten weggleitet und nur in eines der darunterliegenden Feineinstellungsstufenabschnitte **14** oder den zweiten Stufenabschnitt **12** eingreifen kann, wodurch automatisch, je nach Montageart des Trägers **20**, die

Höhe zwischen dem Träger **20** und dem Rahmen **10** begrenzt wird.

[0043] Das Funktionsprinzip ist wie vorstehend beschrieben.

[0044] Wie **Fig. 15** bis **Fig. 24** zeigen, entspricht die Struktur des Kinderwagens **100'** der zweiten Ausführungsform im Wesentlichen der Struktur des Kinderwagens **100** der ersten Ausführungsform mit den folgenden Unterschieden:

(1) Der Höhenverstellm echanism us 30' umfasst einen Verbindungssockel **31'**, einen Eingreifhalter **32'** und ein Eingreifbauteil **33'**, wobei das Auslöseelement **332'** schwenkbar in dem Eingreifhalter **32** montiert ist, wobei das Auslöseelement **332'** ein Kontaktende **3321** und ein Druckende **3322** aufweist, wobei das Kontaktende **3321** teleskopisch an dem Eingreifhalter **32** angeordnet ist, und das Druckende **3332** an das Eingreifelement **331** anstößt und das Freigabebedienelement **34** am Eingreifelement **331** montiert und damit verbunden ist;

(2) Wenn bei der vorliegenden Ausführungsform der Träger **20** zur Verwendung in Vorwärtsrichtung am Rahmen **10** montiert wird, ist das Eingreifbauteil **33'**, wenn sich der Eingreifhalter **32'** in der ersten Einstellposition X befindet, vom zweiten Stufenabschnitt **12** getrennt;

(3) Das Eingreifbauteil **33'** umfasst außerdem ein zwischen dem Eingreifelement **331** und dem Eingreifhalter **32'** montiertes Freigaberückstellelement **334'**, wobei das Freigaberückstellelement **334'** tendenziell stets das Eingreifelement **331** aus dem Eingreifhalter **32** herausschiebt;

(4) Der Eingreifhalter **32'** verfügt über eine Einführkammer **321'**, der Verbindungssockel **31'** umfasst ein Montageteil **311'** und einen am Montageteil **311'** nach außen vorstehenden Eingriffskörper **312'**, wobei sich das Profil **311** an dem Montageteil **311'** befindet, und der Eingriffskörper **312'** teilweise in die Einführkammer **321'** eingeführt ist, und das Profil **311** ein Vorsprung oder Block ist, ohne jedoch darauf beschränkt zu sein;

(6) Das untere Ende der Gleitschiene 13weist einen Blockierungsteil **131** auf, der das Herausgleiten des Eingreifhalters **32'** blockiert.

[0045] Außer den vorstehend genannten Unterschieden entspricht der Rest der ersten Ausführungsform und wird daher hier nicht wiederholt.

[0046] Im Folgenden wird beispielhaft die Arbeitsweise der zweiten Ausführungsform beschrieben: Wie **Fig. 14** bis **Fig. 24** zeigen, wird der Eingriffskörper **312'** an dem Verbindungssockel **31'** in der Einführkammer **321'** im Eingreifhalter **32'** eingeführt, wenn der Träger **20** zur Verwendung in Rückwärtsrichtung am Rahmen **10** montiert ist, wobei zu diesem Zeitpunkt das sich an dem Montageteil **311'** befindende Profil **311** zu dem Kontaktende **3221** in dem Auslöseelement **332'** versetzt ist und das Eingreifelement **331** wahlweise in den ersten Stufenabschnitt **11** oder den zweiten Stufenabschnitt **12** eingreift.

[0047] Das Freigabebedienelement **34** wird betätigt, um sich in den Eingreifhalter **32** zurückzuziehen, und das Freigabebedienelement **34**, das mit dem Eingreifelement **331** verbunden ist und eine Bewegung zum Einziehen in den Eingreifhalter **32'** ausführt, bewirkt, dass das Eingreifelement **331** sich aus dem Schlitz, in dem es sich befindet, löst, woraufhin der Träger **20** leicht bedient werden kann, um sich relativ zum Rahmen **10** auf und ab zu bewegen, und um die Montageposition auf dem Rahmen **10** einstellen zu können, so dass zu dem Zeitpunkt der Eingreifhalter **32** relativ zum Rahmen in zwei Höhenpositionen eingestellt und wahlweise in einen der zwei Schlitze einrasten kann.

[0048] Danach wird das Freigabebedienelement **34** gelöst, wobei durch die Einwirkung des Freigaberückstellelements **334** das Eingreifelement **331** und das Freigaberückstellelement **334** erneut aus dem Eingreifhalter **32** herausgeschoben werden, wobei das Eingreifelement **331** in den dazu ausgerichteten Schlitz eingeführt wird und in diesen Schlitz eingreift und so die Höheneinstellung des Trägers **20** vollendet. Natürlich kann zu diesem Zeitpunkt die Position des Trägers **20** auf dem Rahmen **10** auch durch direktes Schieben des Trägers **20** nach oben eingestellt werden.

[0049] Wenn der Träger **20** zur Verwendung in Vorwärts richtung auf dem Rahmen **10** montiert ist, wobei der Verbindungssockel **31'** teilweise in die Einführkammer **321'** in dem Eingreifhalter **32'** eingeführt ist, sind zu diesem Zeitpunkt das sich am Montageteil **311'** befindende Profil **311** und das Kontaktende **3321** im Auslöseelement **332'** gegenständig angeordnet, wobei das Profil **311** das Auslöseelement **332'** umdreht und bewirkt, dass das Kontaktende **3321** im Auslöseelement **332'** in den Eingreifhalter gedreht wird, wobei das Druckende **3322** in dem Auslöseelement **332'** dementsprechend das Eingreifelement **331** in den Eingreifhalter **32'** zurückzieht, und wenn der Träger **20** zur Verwendung in Vorwärts richtung auf dem Rahmen **10** montiert ist, das Eingreifelement **331** deshalb überhaupt nicht in den ersten Stufenabschnitt **11** oder den zweiten Stufenabschnitt **12** einrasten kann, wobei der Eingreifhalter **32'** in der ersten Einstellposition X gehalten wird, der Eingreifhalter **32'** aber von dem Blockierungsteil **131** blockiert wird und nicht aus der Gleitschiene **13** herausgleiten kann. Das Funktionsprinzip ist wie vorstehend beschrieben.

[0050] Wie in **Fig. 25** bis **Fig. 28** dargestellt, kann auf der Grundlage der vorliegenden Ausführungs-

form je nach tatsächlichem Bedarf die Montage des zweiten Stufenabschnitts **12** an der Gleitschiene **13** weggelassen werden und es kann nur der erste Stufenabschnitt **11** angeordnet werden, um die Struktur des Kinderwagens **100'** noch weiter zu vereinfachen. Wenn der Träger **20** zur Verwendung in Rückwärtsrichtung auf dem Rahmen **10** montiert ist, ist der Verbindungssockel **31'** teilweise in die Einführkammer **321'** in den Eingreifhalter **32'** eingeführt, wobei zu diesem Zeitpunkt das sich an dem Montageteil **311'** befindende Profil **311** von dem Kontaktende **3221** in dem Auslöseelement **332'** versetzt ist und das Eingreifelement **331** wahlweise in den ersten Stufenabschnitt **11** einrastet und die Position in der zweiten Einstellposition Y hält, wobei der Eingreifhalter **32'** auch durch das Blockierungsteil **131** getragen werden kann und die Position in der ersten Einstellposition X hält, wobei zu diesem Zeitpunkt der Eingreifhalter **32'** wahlweise durch Verwenden einer Befestigung wie einer Bindung befestigt sein und die Position in der ersten Einstellposition X halten kann, ohne jedoch darauf beschränkt zu sein. Wenn der Träger **20** zur Verwendung in Vorwärts richtung auf dem Rahmen **10** montiert ist, wobei der Eingriffskörper **312'** teilweise in die Einführkammer **321'** in dem Eingreifhalter **32'** eingeführt ist, sind zu diesem Zeitpunkt das sich am Montageteil **311'** befindende Profil **311** und das Auslöseelement332' im Kontaktelement gegenständig angeordnet, wobei das Profil **311** das Auslöseelement **332'** umdreht und bewirkt, dass das Kontaktende **3321** im Auslöseelement **332'** in den Eingreifhalter gedreht wird, wobei das Druckende **3322** in dem Auslöseelement **332'** dementsprechend das Eingreifelement **331** in den Eingreifhalter **32'** zurückzieht, und wenn der Träger **20** zur Verwendung in Vorwärtsrichtung auf dem Rahmen **10** montiert ist, das Eingreifelement **331** daher überhaupt nicht in den ersten Stufenabschnitt **11** oder den zweiten Stufenabschnitt **12** einrasten kann, wobei der Eingreifhalter **32'** in der ersten Einstellposition X gehalten wird, der Eingreifhalter **32'** aber von dem Blockierungsteil **131** blockiert wird und nicht aus der Gleitschiene **13** herausgleiten kann, wobei der Eingreifhalter **32'** in der Position der ersten Einstellposition X gehalten wird, wobei zu diesem Zeitpunkt der Eingreifhalter **32'** wahlweise durch Verwenden einer Befestigung wie einer Bindung befestigt und die Position in der ersten Einstellposition X halten kann, ohne jedoch darauf beschränkt zu sein.

[0051] Verglichen mit dem Stand der Technik ist, kann die Montagehöhe des Trägers **20** auf dem Rahmen **10** automatisch begrenzt werden, und wenn der Träger **20** in Rückwärtsrichtung auf dem Rahmen **10** montiert ist, wird die Montagehöhe des Trägers **20** auf dem Rahmen **10** nicht begrenzt, so dass der Kinderwagen **100** (**100'**) der vorliegenden Erfindung die Höhe des Trägers **20** relativ zum Rahmen **10** gemäß der Vorwärtsverwendung des Trägers **20** auf dem Rahmen **10** begrenzen kann, da der Höhenverstellmechanismus **30** des Kinderwagens **100** (**100'**) nach der vorliegenden Erfindung einen Verbindungssockel **31** (**31'**), einen Eingreifhalter **32** (**32'**), ein Eingreifbauteil **33** (**33'**) sowie ein sich mit dem Eingreifbauteil 33 (**33'**) gemeinsam bewegendes Freigabebedienelement **34** umfasst, wobei der Verbindungssockel **31** (**31'**) am Träger **20** montiert ist und ein Profil **311** aufweist, das wahlweise das Eingreifbauteil33 (**33'**) in Richtung Ausrasten drückt, wobei der Eingreifhalter **32** (**32'**) beweglich in dem Rahmen **10** montiert ist, der Träger **20** mithilfe des abnehmbaren Eingreifbauteils zwischen Verbindungssockel **31** (**31'**) und Eingreifhalter **32** (**32'**) zur Verwendung in Vorwärtsrichtung oder zur Verwendung in Rückwärtsrichtung auf dem Rahmen **10** montiert ist, wobei der Eingreifhalter **32** (**32'**) mindestens eine erste Einstellposition X und eine zweite Einstellposition Y über der ersten Einstellposition X relativ zum Rahmen **10** aufweist, an dem Rahmen **10** ein erster Stufenabschnitt **11** zum Eingreifen des Eingreifbauteils **33** (**33'**) angeordnet ist, um den Eingreifhalter **32** (**32'**) in der zweiten Einstellposition Y zu halten, wobei das Eingreifbauteil **33** (**33'**) in dem Eingreifhalter **32** (**32'**) angeordnet ist, das Profil **311** von dem Eingreifbauteil **33** (**33'**) versetzt angeordnet ist, wenn der Träger **20** auf dem Rahmen **10** zur Verwendung in Rückwärtsrichtung montiert wird; wenn das Profil **311** zur Verwendung des Trägers **20** in Vorwärtsrichtung auf dem Rahmen **10** montiert ist, wird das Eingreifbauteils **33** (**33'**) geschoben, sich aus dem ersten Stufenabschnitt **11** zu lösen, um so den Eingreifhalter **32** (**32'**) von der zweiten Einstellposition Y in die erste Einstellposition X umzuschalten, so dass, wenn der Träger **20** zur Verwendung in Vorwärtsrichtung auf dem Rahmen **10** montiert ist, automatisch die Einbauhöhe des Trägers **20** auf dem Rahmen **10** begrenzt werden kann, und ist der Träger **20** zur Verwendung in Rückwärtsrichtung auf dem Rahmen **10** montiert, wird die Einbauhöhe des Trägers **20** auf dem Rahmen **10** nicht begrenzt, sodass bei dem Kinderwagen **100** (**100'**) gemäß der vorliegenden Erfindung die relative Höhe zwischen Träger **20** und Rahmen **10** bei Verwendung des Trägers **20** auf dem Rahmen **10** in Vorwärtsrichtung begrenzt werden kann.

[0052] Die vorstehenden Offenbarungen sind nur bevorzugte Ausführungsformen der vorliegenden Erfindung und können nicht dazu dienen den Umfang der vorliegenden Erfindung einzuschränken. Daher fallen äquivalente Änderungen, die gemäß den Patentansprüchen der vorliegenden Erfindung vorgenommen werden, unter den Umfang der vorliegenden Erfindung.

Patentansprüche

1. Kinderwagen, umfassend einen Rahmen, einen Träger zum Tragen eines Babys sowie einen Höhenverstellmechanismus zum Einstellen der Position des Trägers auf dem Rahmen, **dadurch gekenn-**

zeichnet, dass der Höhenverstellmechanismus einen Verbindungssockel, einen Eingreifhalter, ein Eingreifbauteil und ein mit dem Eingreifbauteil verbundenes Freigabebedienelement umfasst, der Verbindungssockel entweder an dem Träger oder dem Rahmen montiert ist und eine Druckstruktur zum selektiven Drücken des Eingreifbauteils zum Bewegen in eine Freigaberichtung umfasst,
wobei der Eingreifhalter beweglich an dem anderen von Träger und Rahmen montiert ist, der Träger über einen lösbaren Eingriff mit dem Eingreifhalter zur Verwendung in Vorwärtsrichtung oder zur Verwendung in Rückwärtsrichtung am Rahmen montiert ist,
wobei der Eingreifhalter gegenüber dem Rahmen oder dem Träger, wo der Eingreifhalter angeordnet ist, mindestens eine erste Einstellposition und eine zweite Einstellposition über der ersten Einstellposition aufweist,
an dem Träger oder dem Rahmen, wo der Eingreifhalter angeordnet ist, ein erster Stufenabschnitt zum Eingreifen des Eingreifbauteils angeordnet ist, um den Eingreifhalter in der zweiten Einstellposition zu halten,
wobei das Eingreifbauteil in dem Eingreifhalter montiert ist, wobei die Druckstruktur von dem Eingreifbauteil versetzt ist, wenn der Träger zur Verwendung in Rückwärtsrichtung auf dem Rahmen montiert ist; und
wobei die Druckstruktur, wenn der Träger zur Verwendung in Vorwärtsrichtung auf dem Rahmen montiert ist, das Eingreifbauteil zum Lösen des Eingriffs mit dem ersten Stufenabschnitt schiebt, wodurch der Eingreifhalter von der zweiten Einstellposition in die erste Einstellposition umgeschaltet wird.

2. Kinderwagen nach Anspruch 1, wobei der Träger oder der Rahmen, wo der Eingreifhalter angeordnet ist, ferner mit einem zweiten Stufenabschnitt zum Eingreifen des Eingreifbauteils zum Halten des Eingreifhalters in der ersten Einstellposition ausgestattet ist, und wenn der Träger am Rahmen zur Verwendung in Rückwärtsrichtung montiert ist, führt das Eingreifbauteil aufgrund der Verbindung des Freigabebedienelements eine Freigabebewegung durch, so dass der Eingreifhalter zwischen der ersten Einstellposition und der zweiten Einstellposition umgeschaltet wird.

3. Kinderwagen nach Anspruch 2, wobei, wenn der Träger zur Verwendung in Vorwärtsrichtung auf dem Rahmen montiert ist, das Eingreifbauteil in Eingriff mit dem zweiten Stufenabschnitt ist, wenn sich der Eingreifhalter in der ersten Einstellposition befindet.

4. Kinderwagen nach Anspruch 2, wobei das Eingreifbauteil ein Eingreifelement und ein Auslöseelement umfasst, wobei das Freigabebedienelement mit dem Eingreifelement verbunden ist, wobei das Eingreifelement teleskopisch in dem Eingreifhalter angeordnet ist, wobei das Eingreifelement selektiv mit dem ersten Stufenabschnitt oder dem zweiten Stufenabschnitt in Eingriff steht, wobei die Druckstruktur das Auslöseelement in Bewegung drückt, wenn der Träger zur Verwendung in Vorwärtsrichtung am Rahmen montiert ist, so dass das sich bewegende Auslöseelement mit dem Eingreifelement zum Zurückziehen in den Eingreifhalter verbunden ist.

5. Kinderwagen nach Anspruch 4, wobei das Auslöseelement verschieblich und teleskopisch an dem Eingreifhalter angeordnet ist.

6. Kinderwagen nach Anspruch 4, wobei das Eingreifbauteil ferner ein Verbindungselement umfasst, wobei das erste Ende des Verbindungselements mit dem Freigabebedienelement und das zweite Ende des Verbindungselements mit dem Eingreifelement verbunden ist.

7. Kinderwagen nach Anspruch 6, wobei die Druckstruktur auf das Auslöseelement drückt, so dass es in den Eingreifhalter gleitet, wenn der Träger zur Verwendung in Vorwärtsrichtung auf dem Rahmen montiert ist, wobei das Auslöseelement während des Gleitvorgangs in den Eingreifhalter das Verbindungselement derart in Bewegung schiebt, dass das sich bewegende Verbindungselement das Eingreifelement antreibt, sich in den Eingreifhalter zurückzuziehen.

8. Kinderwagen nach Anspruch 6, wobei sich die Gleitrichtung des Auslöseelements mit der Bewegungsrichtung des Verbindungselements kreuzt.

9. Kinderwagen nach Anspruch 5, wobei in dem Eingreifhalter eine Führungsschiene angeordnet ist und das Auslöseelement verschieblich an der Führungsschiene montiert ist.

10. Kinderwagen nach Anspruch 4, wobei das Eingreifbauteil ferner ein zwischen dem Freigabebedienelement und dem Eingreifhalter angeordnetes Freigaberückstellelement umfasst, und das Freigaberückstellelement die stetige Tendenz hat, das Freigabebedienelement dazu zu treiben, sich aus dem Eingreifhalter heraus zu erstrecken.

11. Kinderwagen nach Anspruch 4, wobei das Eingreifbauteil ferner ein zwischen dem Auslöseelement und dem Eingreifhalter angeordnetes Auslöserückstellelement umfasst, wobei das Auslöserückstellelement eine stetige Tendenz hat, das Auslöseelement dazu zu treiben, sich aus dem Eingreifhalter heraus zu erstrecken.

12. Kinderwagen nach Anspruch 2, wobei an dem Träger oder dem Rahmen, wo der Eingreifhalter angeordnet ist, eine Führungsschiene angebracht ist, wobei der Eingreifhalter gleitend an der Führungsschiene montiert ist, wobei der erste Stufenabschnitt

und der zweite Stufenabschnitt an der Führungsschiene angeordnet sind.

13. Kinderwagen nach Anspruch 12, wobei an der Führungsschiene außerdem mehrere voneinander beabstandete Feineinstellungsstufenabschnitte angeordnet sind, wobei sich die Feineinstellungsstufenabschnitte zwischen dem ersten Stufenabschnitt und dem zweiten Stufenabschnitt befinden.

14. Kinderwagen nach Anspruch 13, wobei das Eingreifbauteil, wenn der Träger zur Verwendung in Vorwärts richtung am Rahmen montiert ist, auch den Eingriff mit dem Feineinstellungsstufenabschnitt, der an den ersten Stufenabschnitt angrenzt, löst.

15. Kinderwagen nach Anspruch 13, wobei der erste Stufenabschnitt, der zweite Stufenabschnitt und die Feineinstellungsstufenabschnitte jeweils eine Schlitzstruktur haben.

16. Kinderwagen nach Anspruch 13, wobei eine untere Seitenwand des ersten Stufenabschnitts und eine untere Seitenwand des an den ersten Stufenabschnitt angrenzenden Feineinstellungsstufenabschnitts jeweils eine Schräge zum nach vorne Herausgleiten aufweist, die von oben nach unten nach außen geneigt ist.

17. Kinderwagen nach Anspruch 13, wobei eine obere Seitenwand des ersten Stufenabschnitts, zweiten Stufenabschnitts und/oder zumindest eines Feineinstellungsstufenabschnitts jeweils eine Schräge zum nach hinten Gleiten aufweist, die von oben nach unten nach innen geneigt ist, wobei das Eingreifelement eine dazu passende Schräge zum Gleiten hat, die mit der Schräge zum nach hinten Gleiten zusammenwirkt.

18. Kinderwagen nach Anspruch 1, wobei der Verbindungssockel eine Eingreifeinführkammer aufweist, die Druckstruktur sich in der Eingreifeinführkammer befindet, und der Eingreifhalter teilweise in der Eingreifeinführkammer eingeführt ist.

19. Kinderwagen nach Anspruch 1, wobei der Eingreifhalter eine Einführkammer aufweist, der Verbindungssockel ein Montageteil und einen am Montageteil nach außen vorstehenden Eingriffskörperabschnitt umfasst, wobei sich die Druckstruktur an dem Montageteil befindet, und der Eingriffskörperabschnitt teilweise in die Einführkammer eingeführt ist.

20. Kinderwagen nach Anspruch 1, wobei die Druckstruktur ein Vorsprung, eine Rippe oder ein Anschlag ist.

21. Kinderwagen nach Anspruch 4, wobei das Auslöseelement schwenkbar in dem Eingreifhalter montiert ist, das Auslöseelement ein Kontaktende und ein Druckende aufweist, das Kontaktende teleskopisch an dem Eingreifhalter angeordnet ist und das Druckende an das Eingreifelement anstößt.

22. Kinderwagen nach Anspruch 4, wobei das Eingreifbauteil ferner ein zwischen dem Eingreifelement und dem Eingreifhalter angeordnetes Eingriffsrückstellelement umfasst, und das Eingriffsrückstellelement die stetige Tendenz hat, das Eingreifelement dazu zu treiben, sich aus dem Eingreifhalter heraus zu erstrecken.

23. Kinderwagen nach Anspruch 1, wobei an dem Träger oder dem Rahmen, wo der Eingreifhalter angeordnet ist, eine Gleitschiene angebracht ist, der Eingreifhalter gleitend auf der Gleitschiene montiert ist, und der erste Stufenabschnitt an der Gleitschiene angeordnet ist.

24. Kinderwagen nach Anspruch 12 oder Anspruch 23, wobei ein unteres Ende der Gleitschiene einen Blockierungsteil aufweist, der das Herausgleiten aus dem Eingreifhalter blockiert.

25. Kinderwagen nach Anspruch 1, wobei der Träger ein Kindersitz, eine Babywanne oder ein Autosicherheitssitz ist.

Es folgen 28 Seiten Zeichnungen

Anhängende Zeichnungen

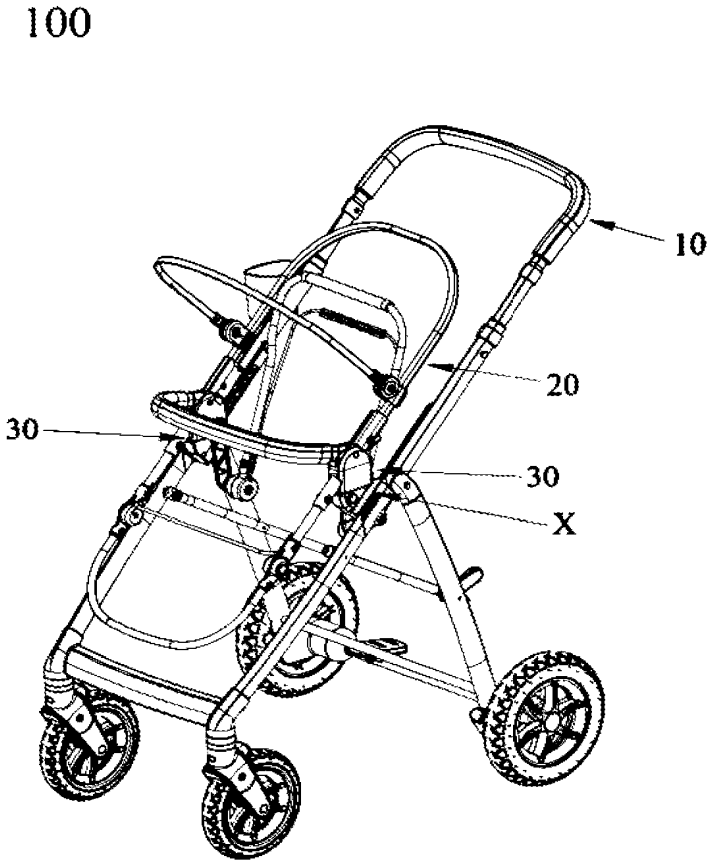


FIG. 1

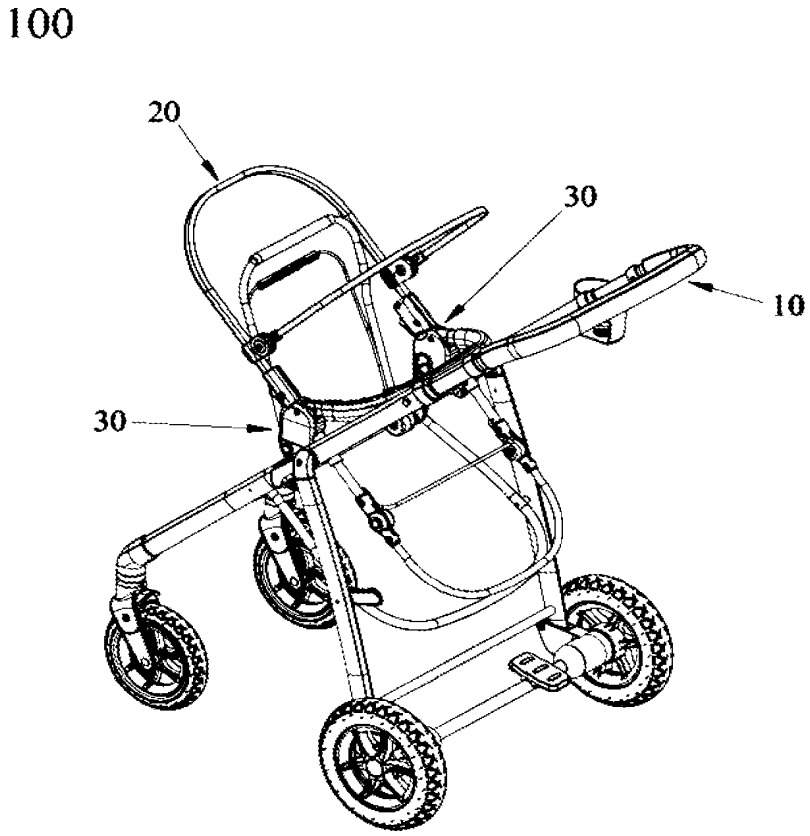


FIG. 2

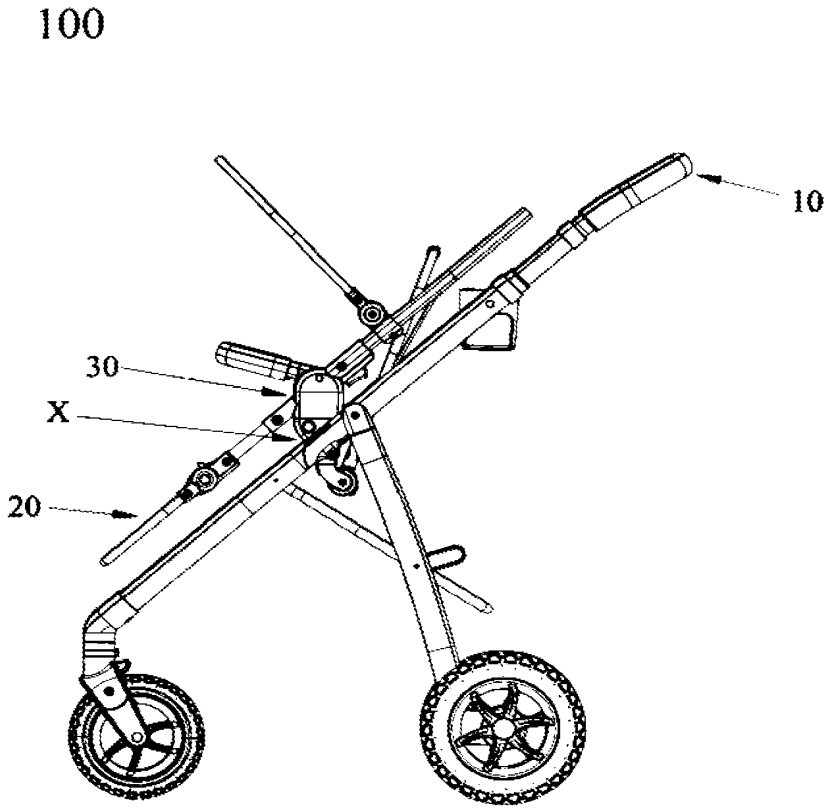


FIG. 3

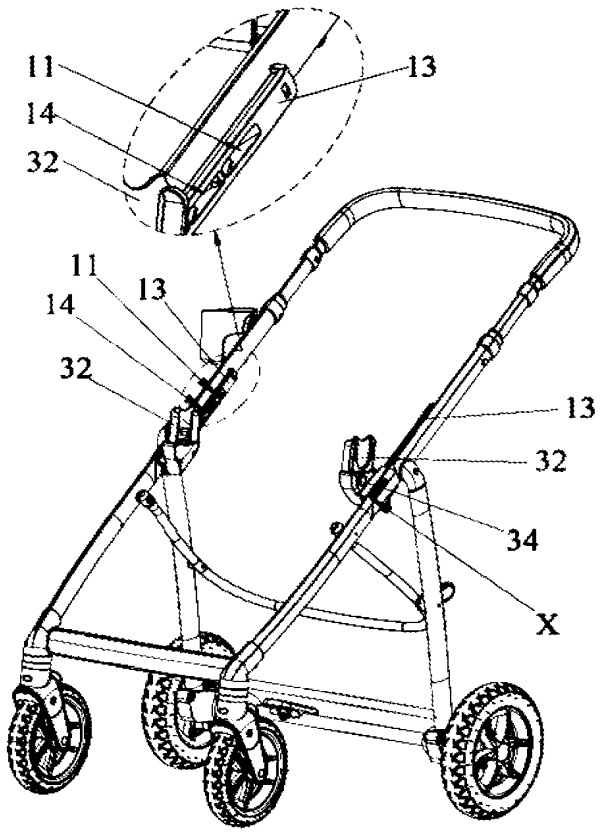


FIG. 4

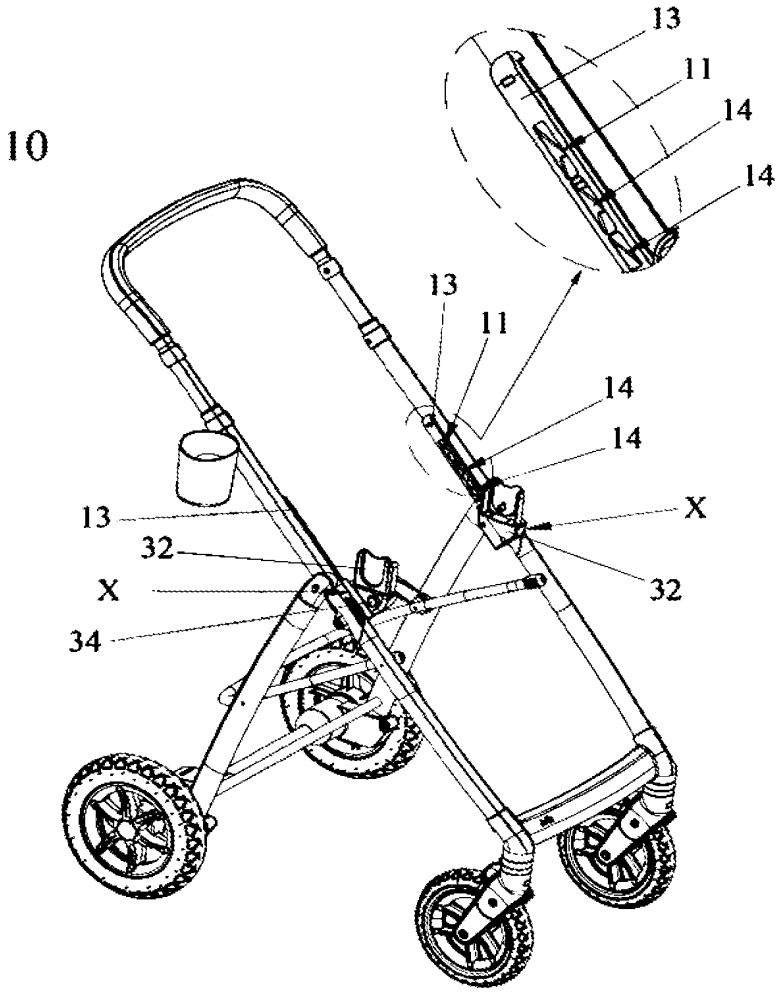


FIG. 5

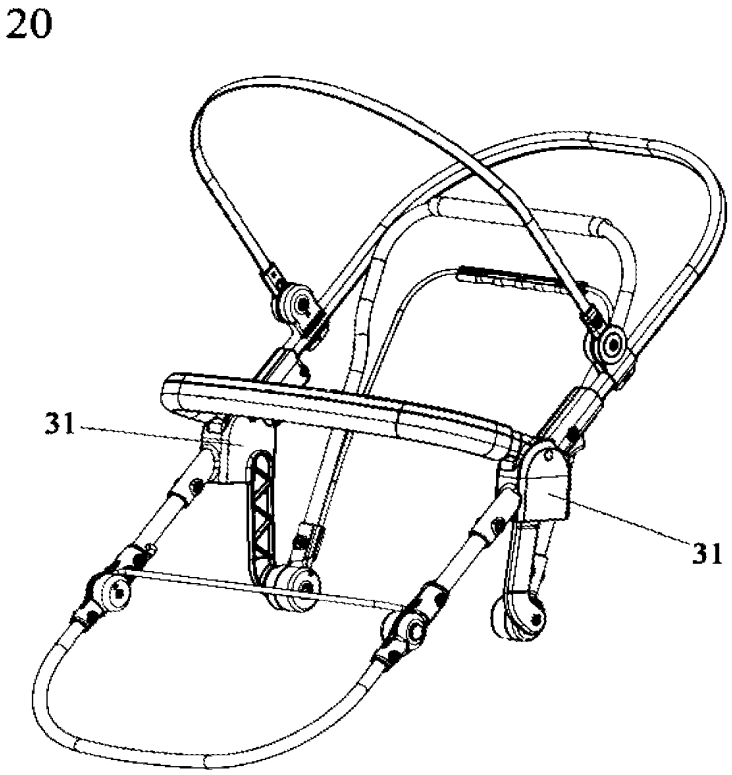


FIG. 6

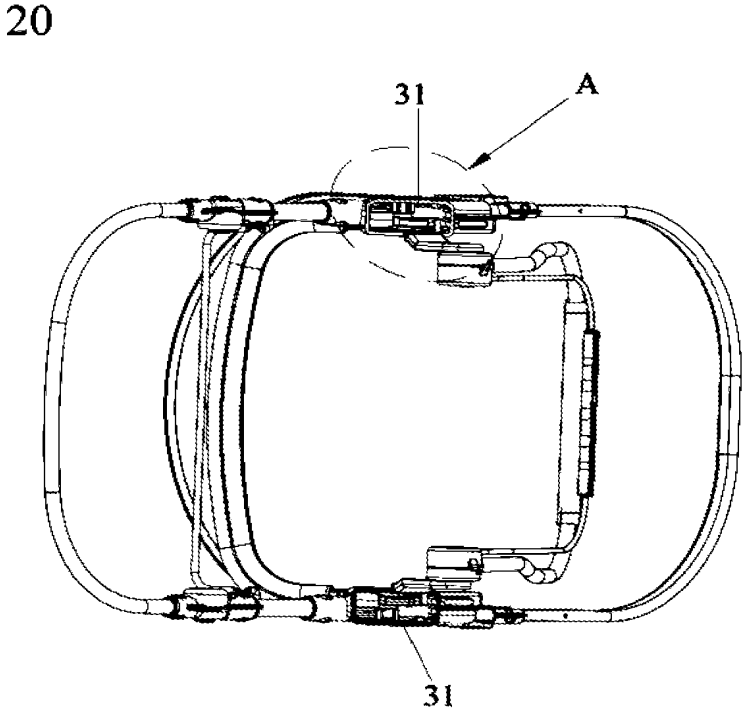


FIG. 7

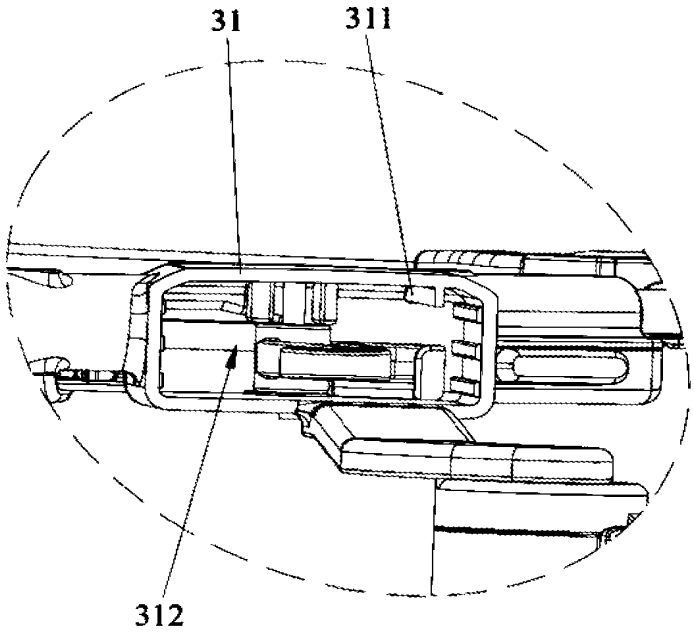


FIG. 8

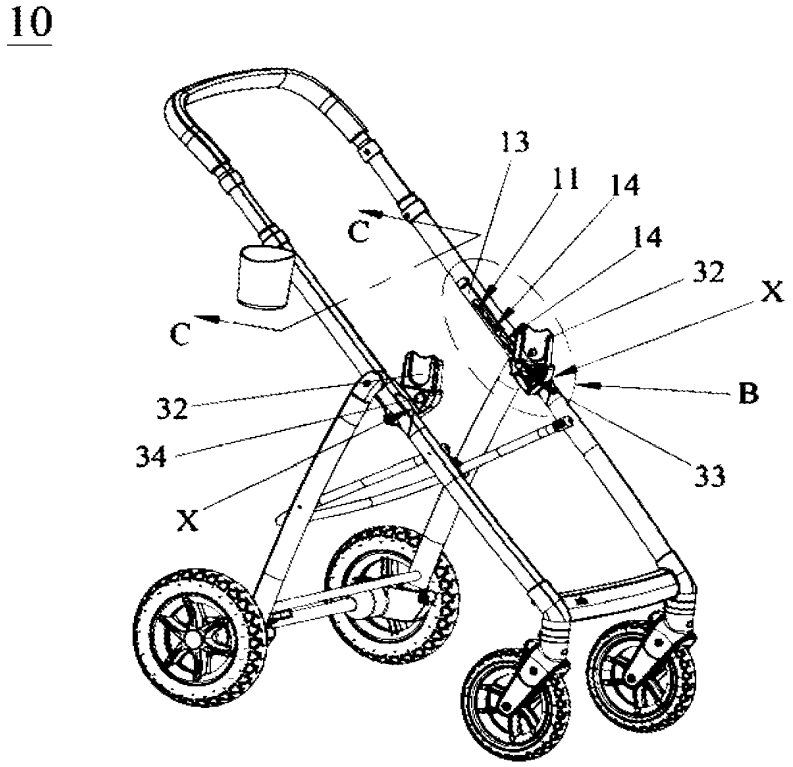


FIG. 9

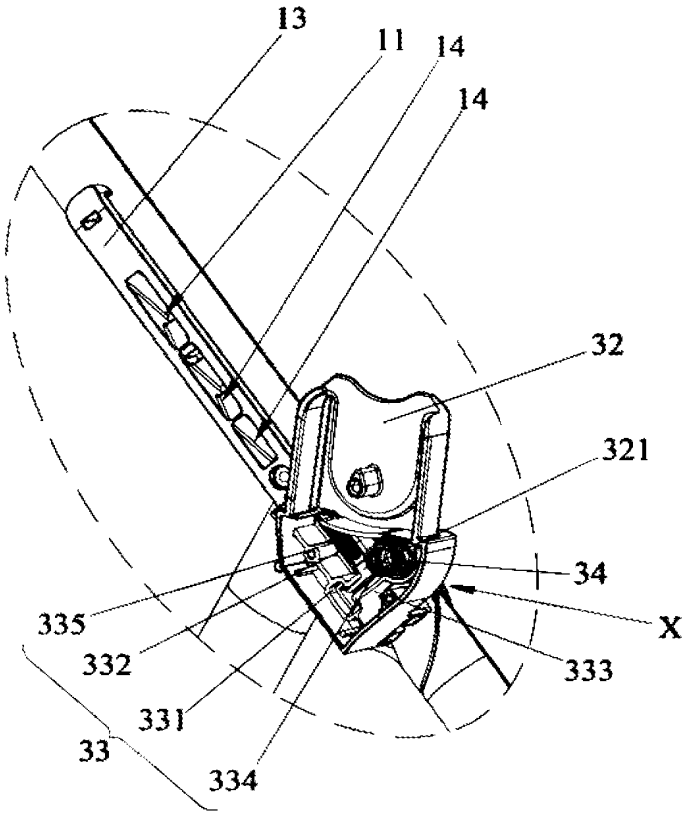


FIG. 10

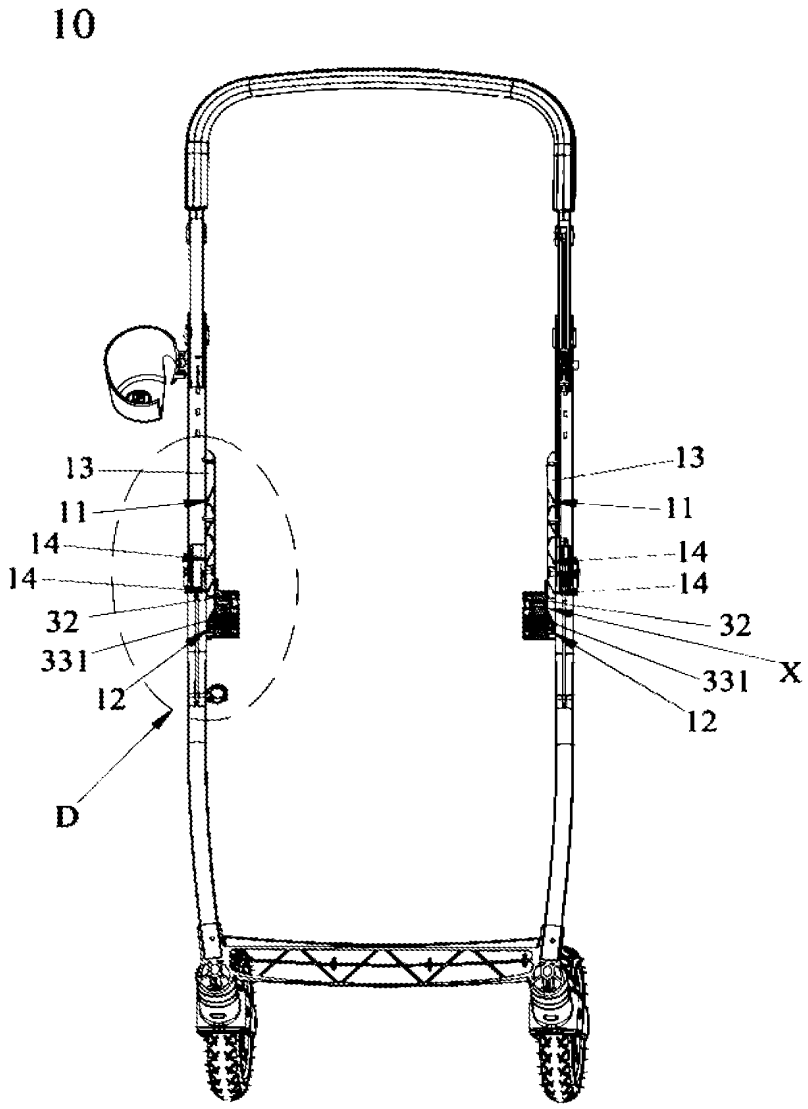


FIG. 11

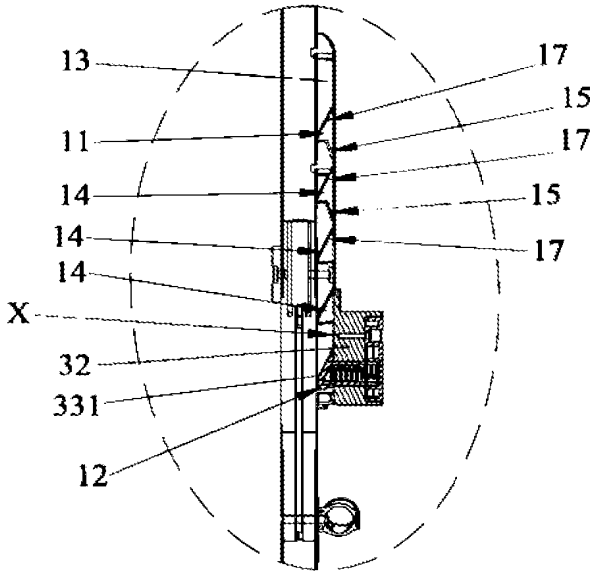


FIG. 12

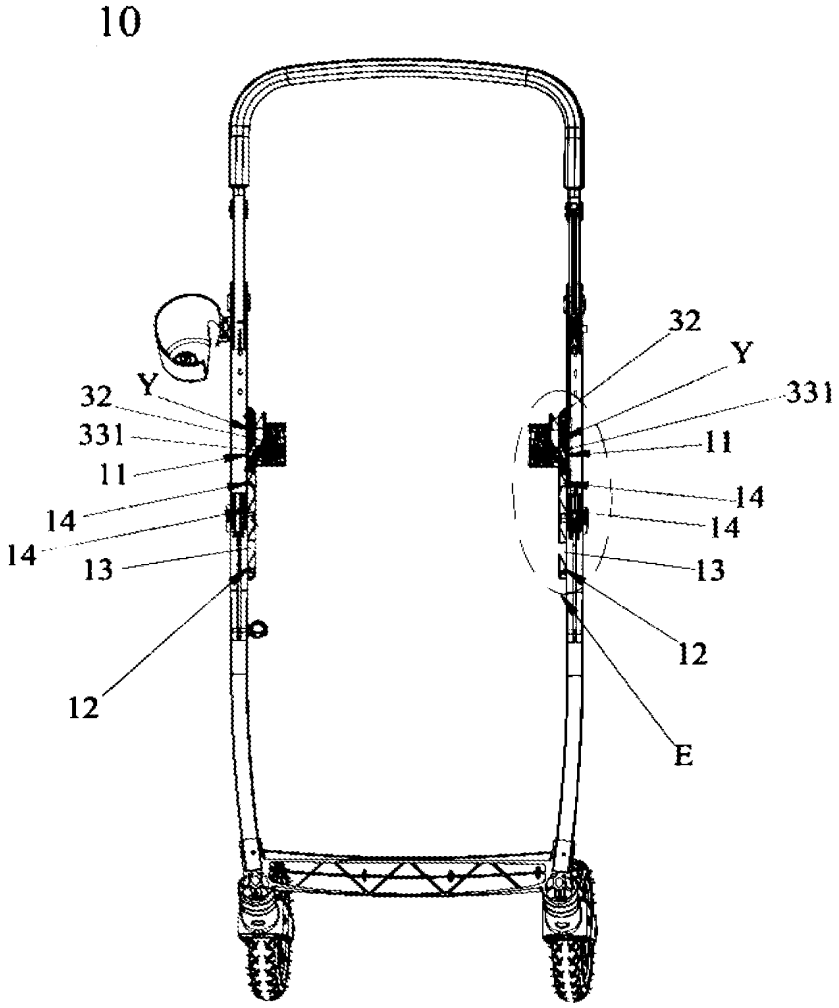


FIG. 13

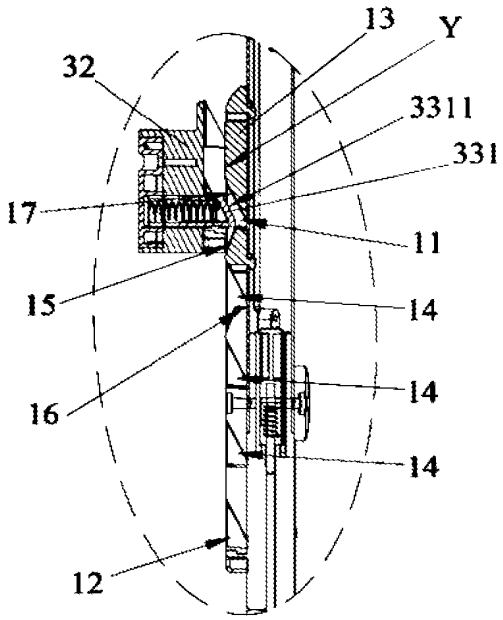


FIG. 14

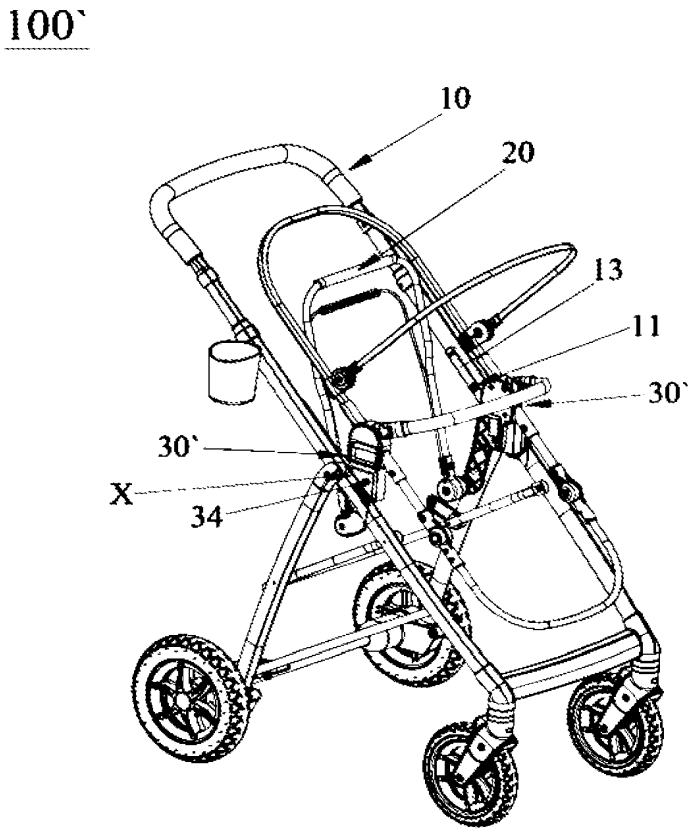


FIG. 15

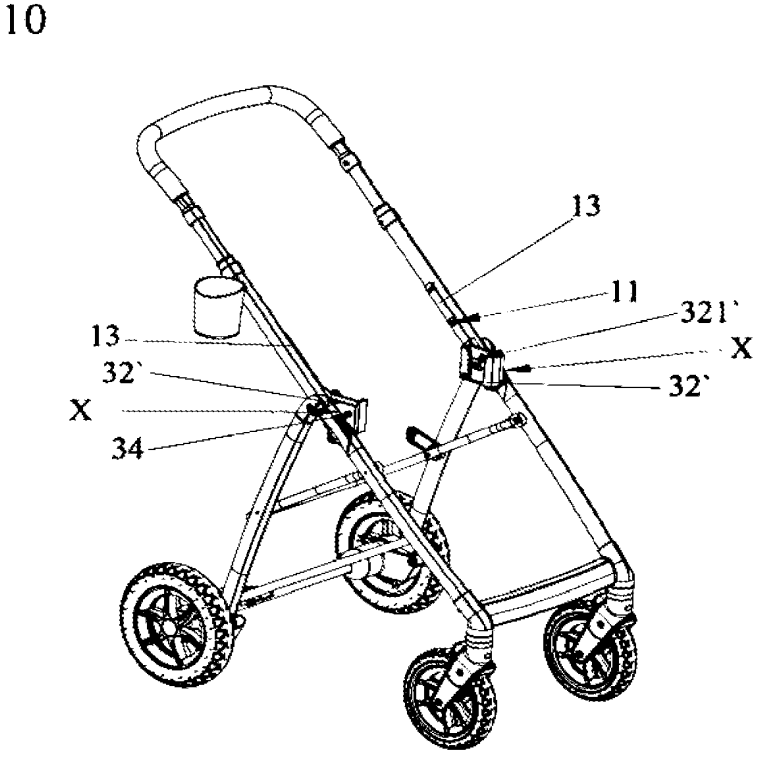


FIG. 16

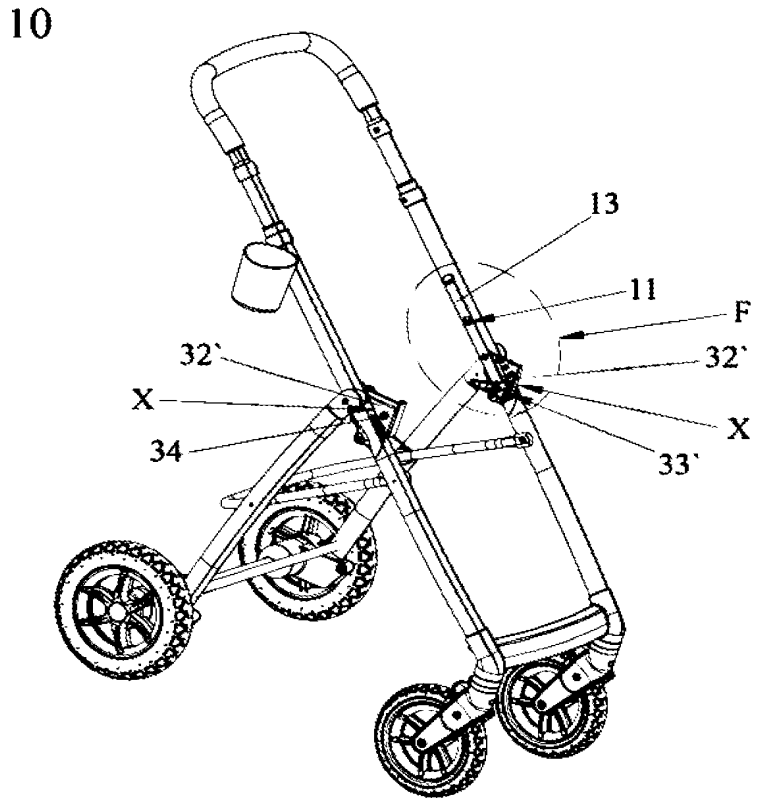


FIG. 17

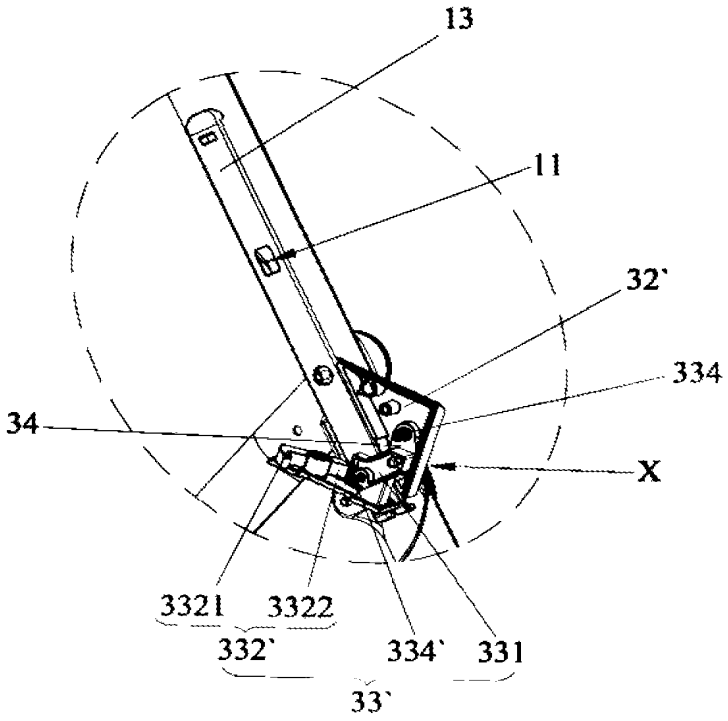


FIG. 18

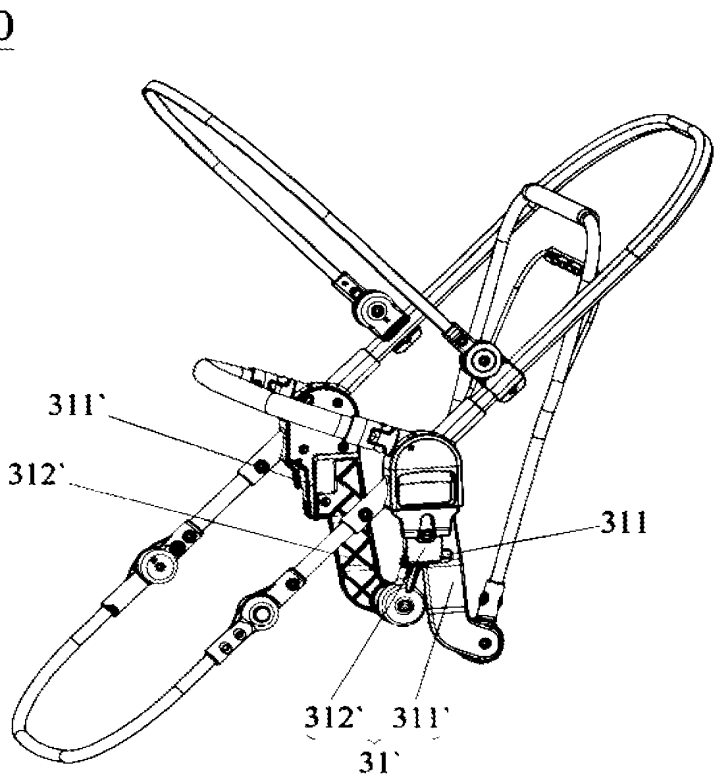


FIG. 19

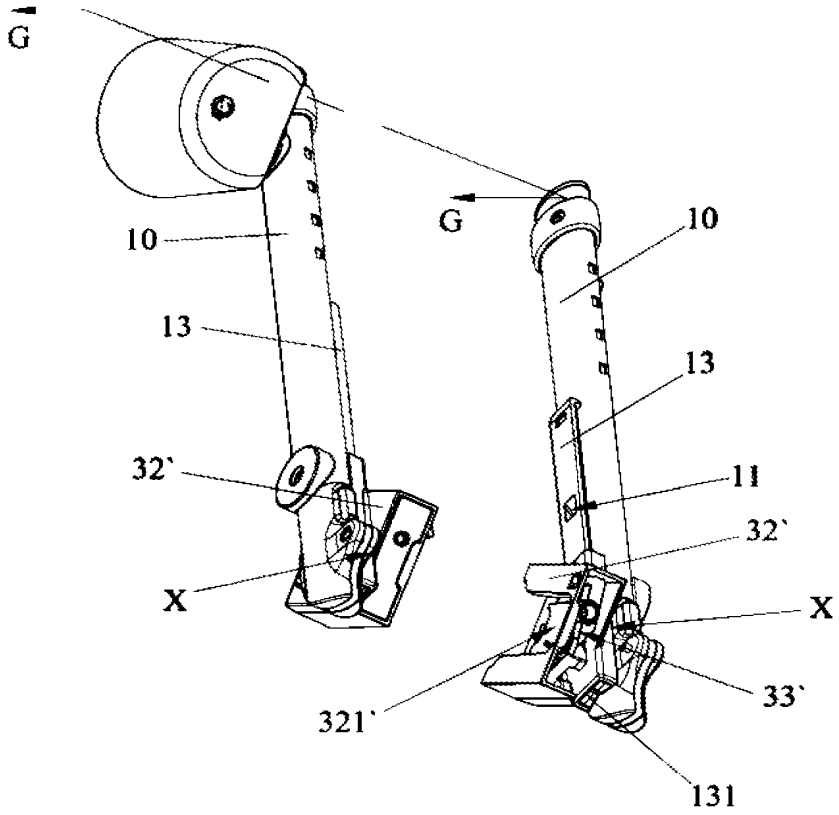


FIG. 20

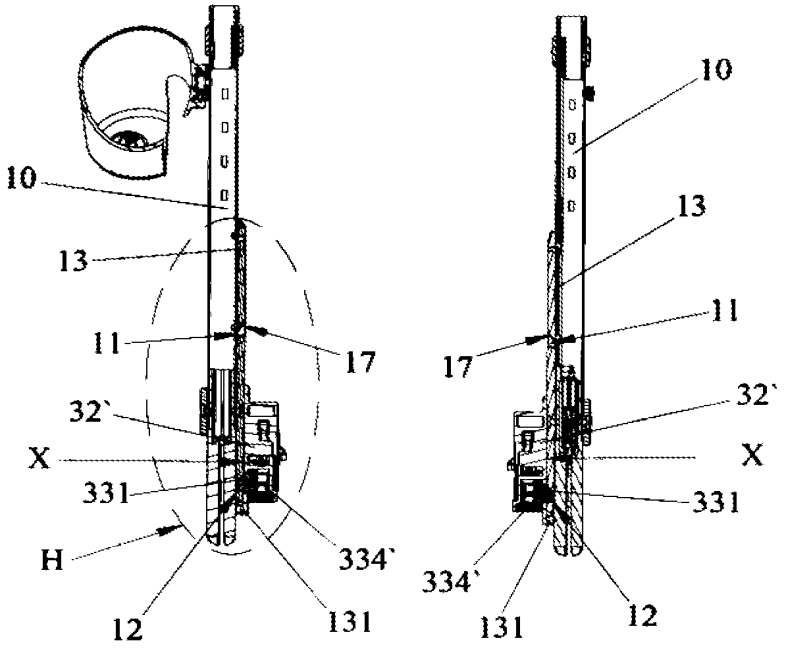


FIG. 21

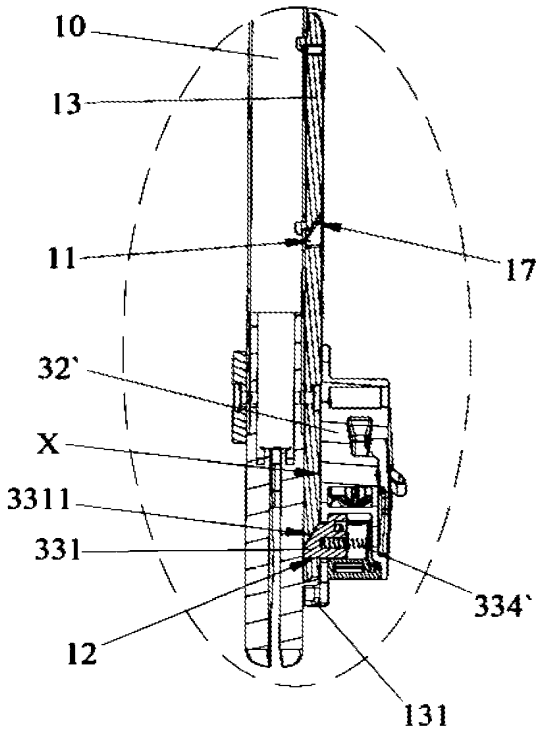


FIG. 22

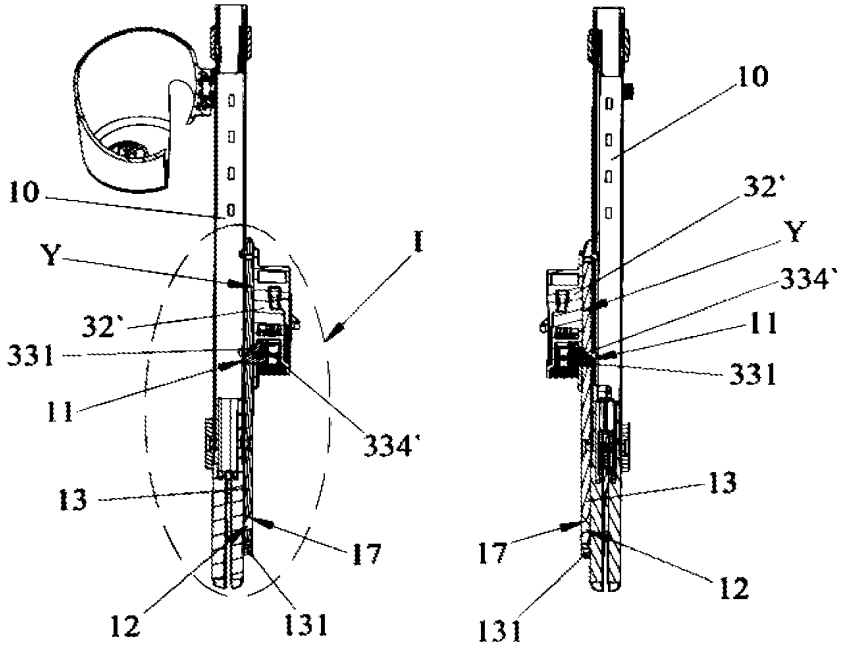


FIG. 23

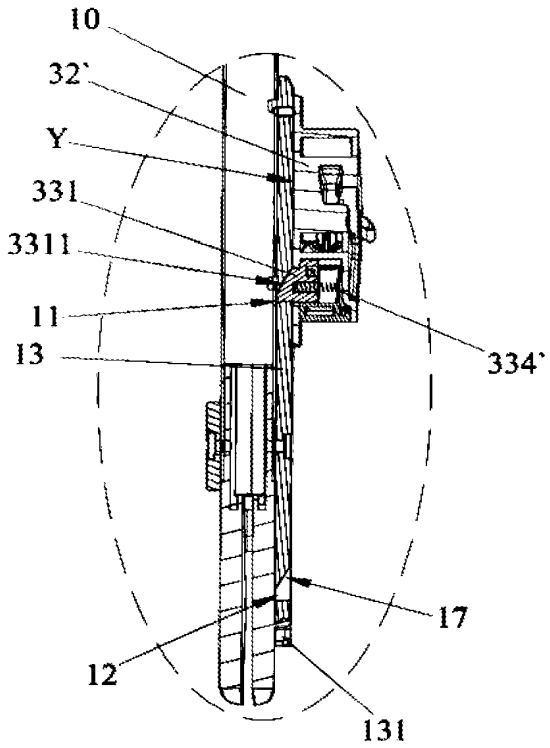


FIG. 24

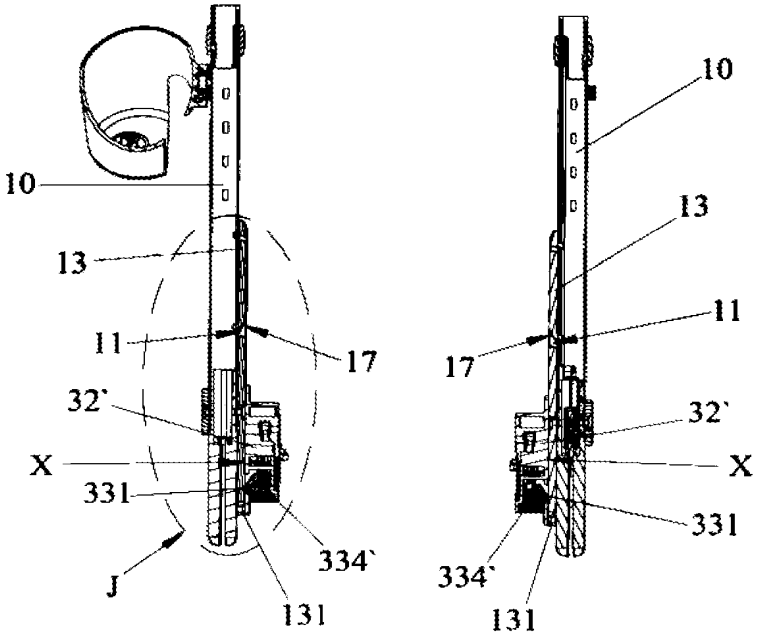


FIG. 25

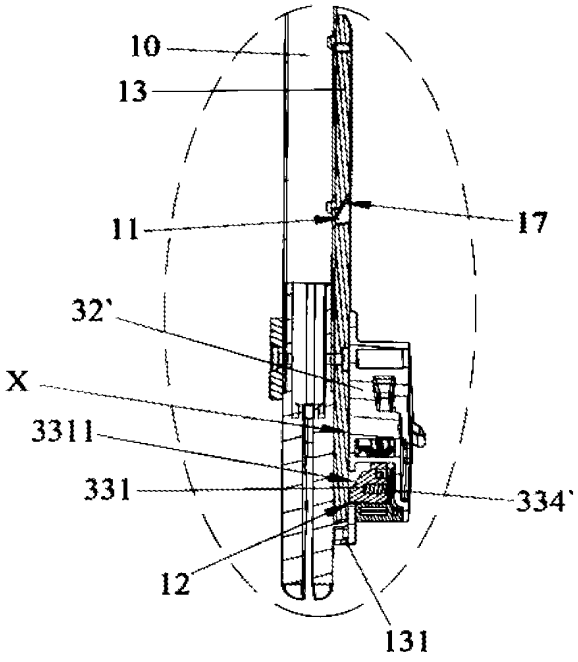


FIG. 26

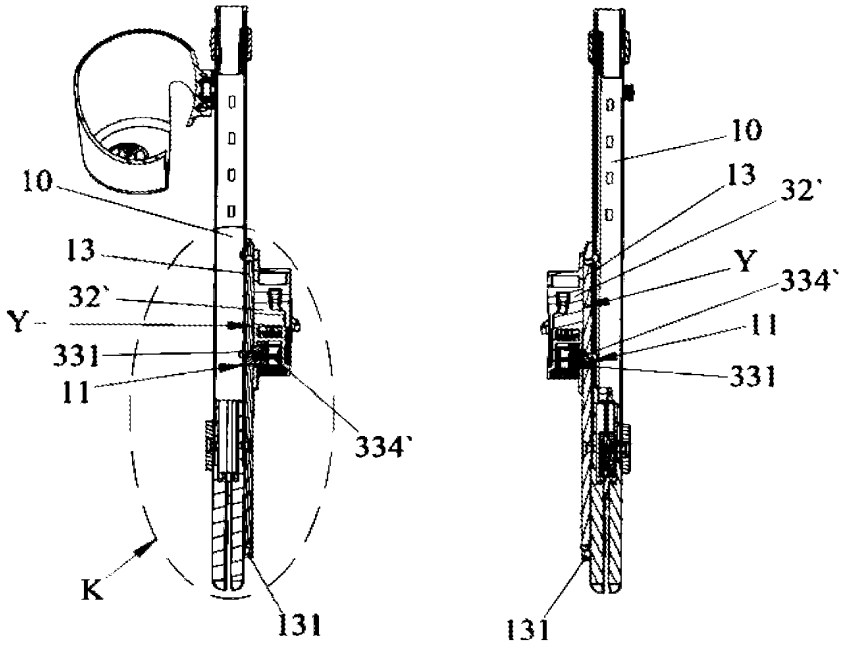


FIG. 27

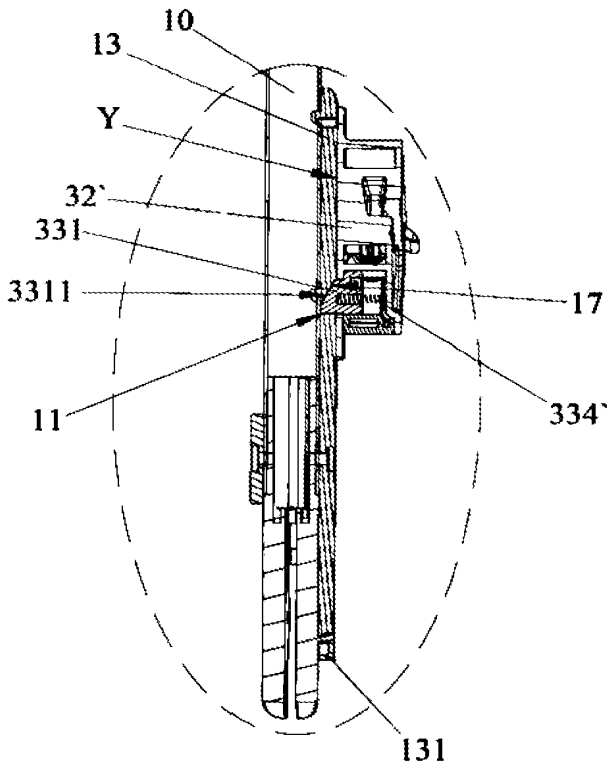


FIG. 28

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US 9346479 B1

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INT CL **B62B**
Other: **EPODOC, WPI**
updated as appropriate

Additional Fields
Other: **None**

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United Kingdom

GB 2544377 B

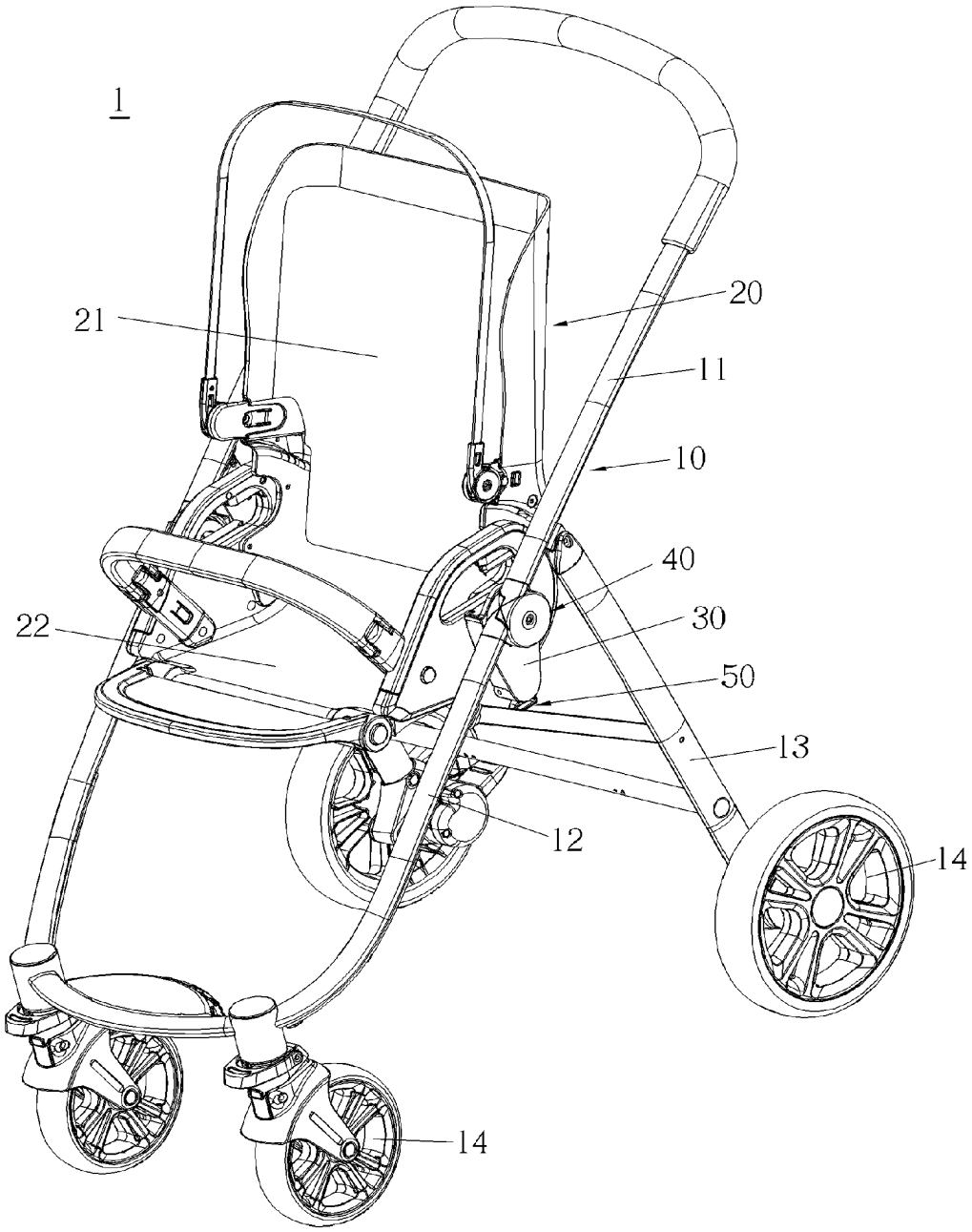


FIG. 1

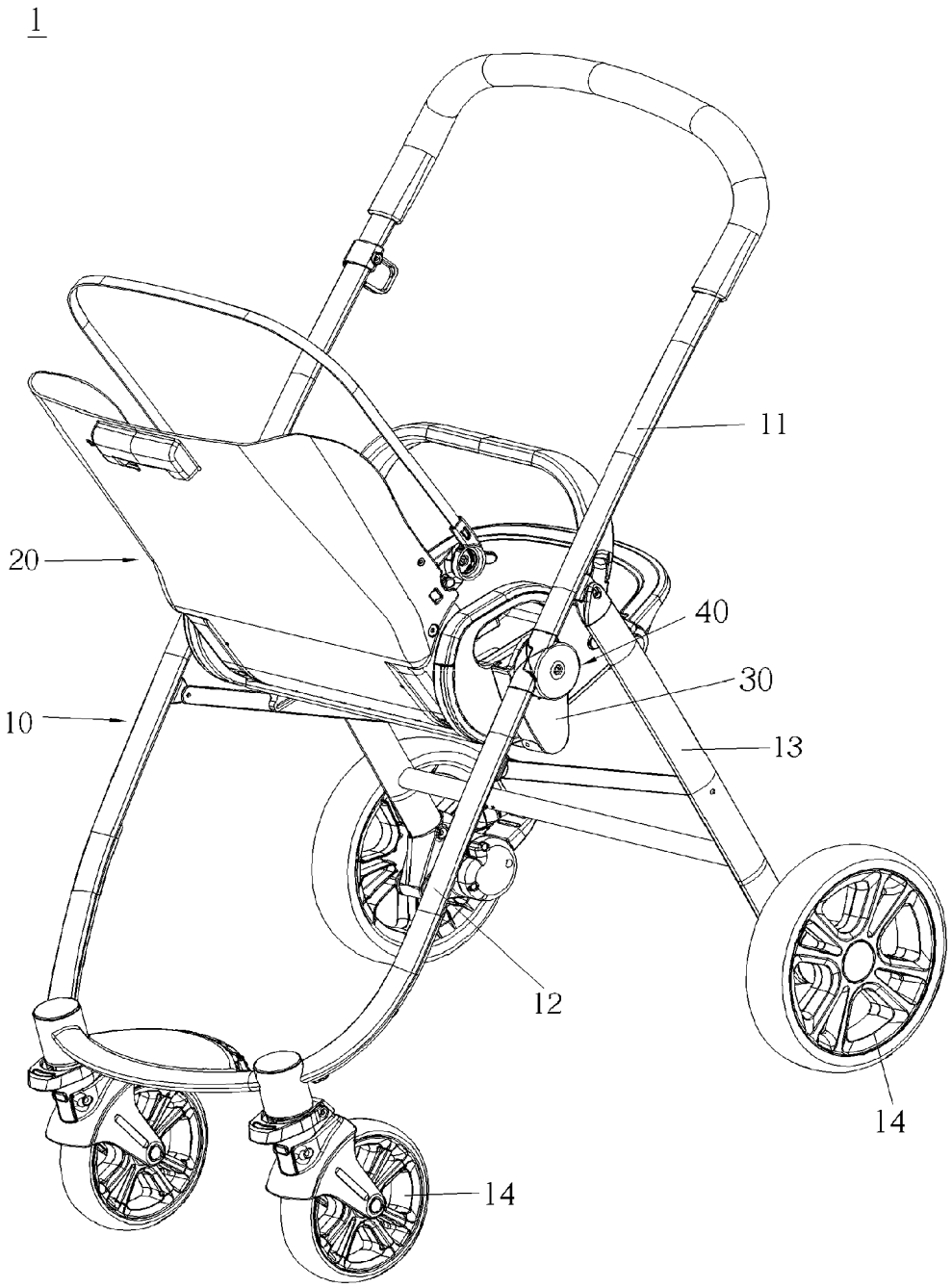


FIG. 2

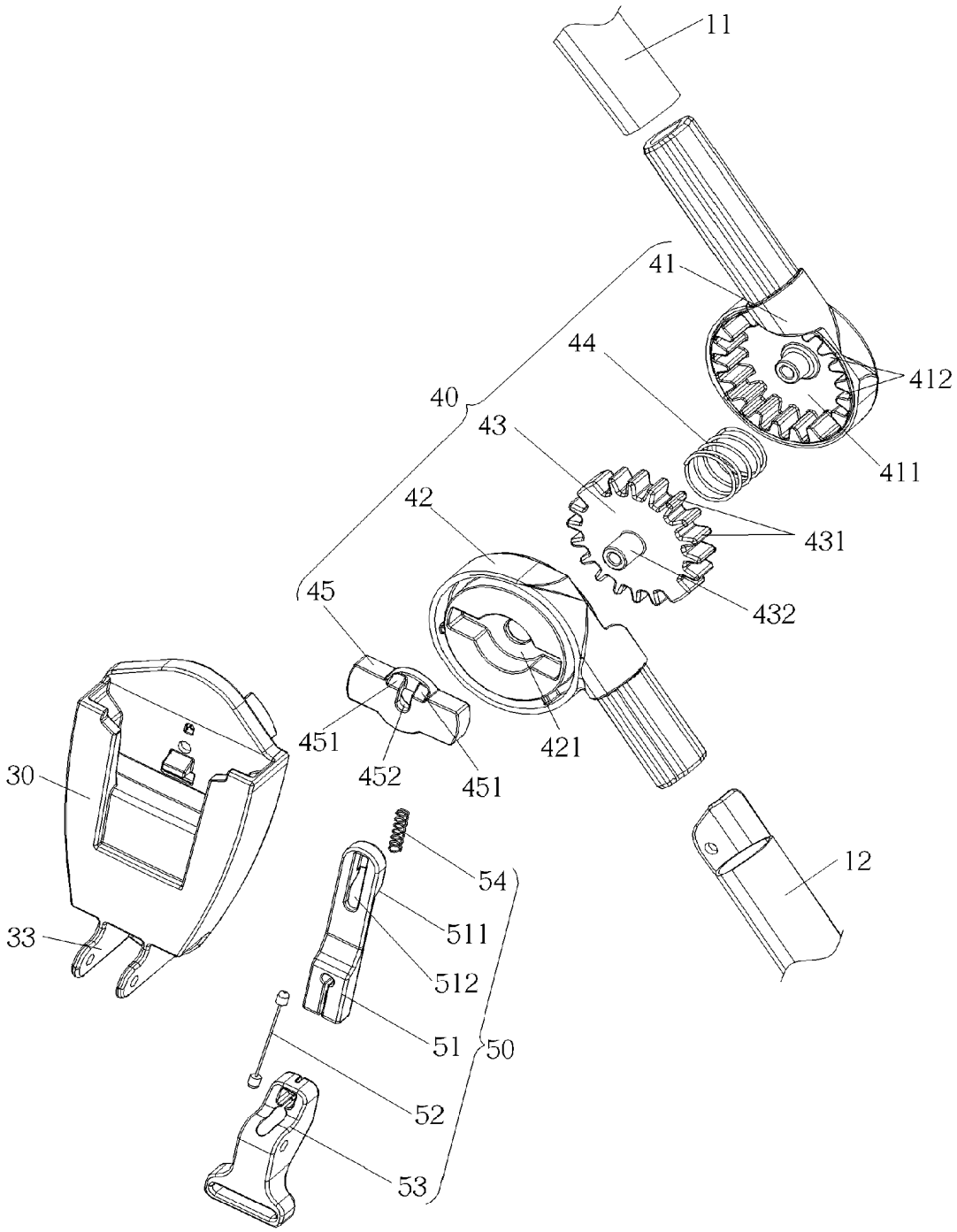

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FIG. 3

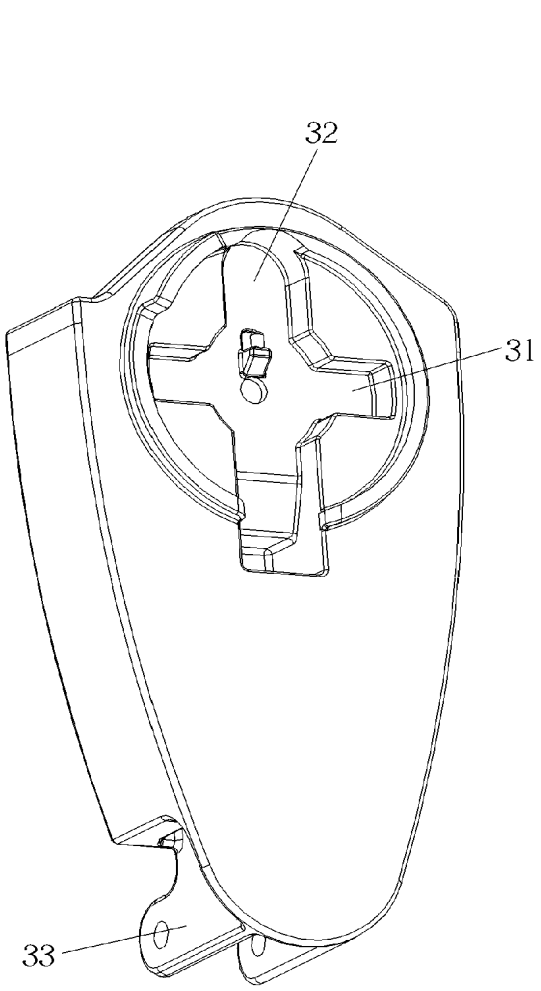


FIG. 4

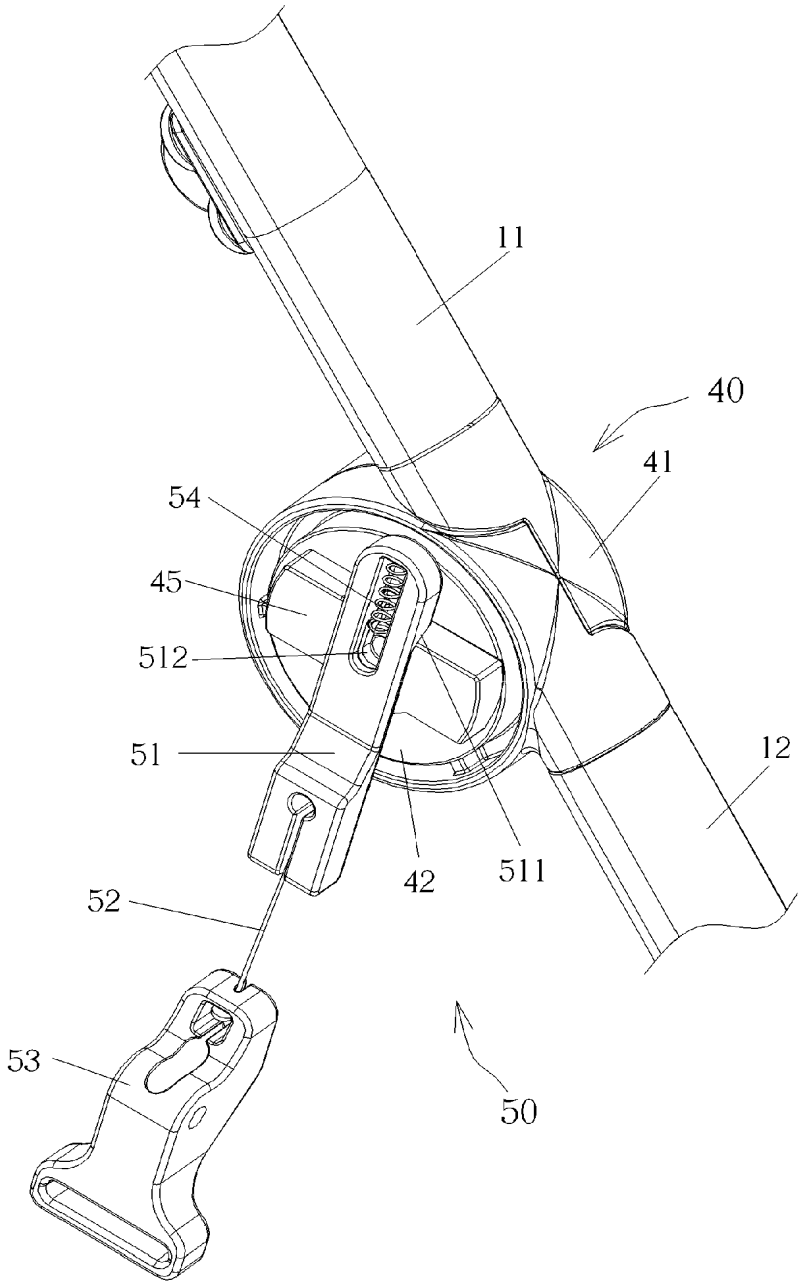


FIG. 5

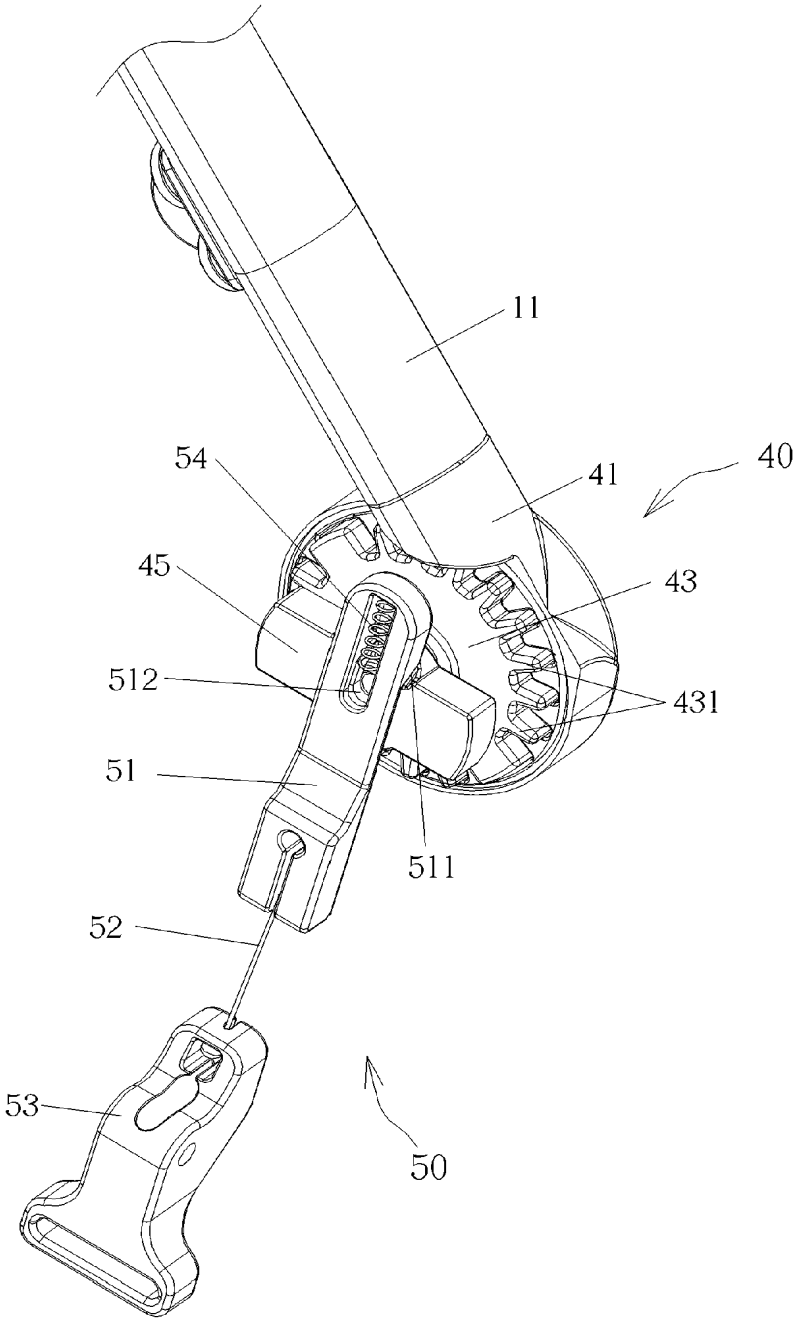


FIG. 6

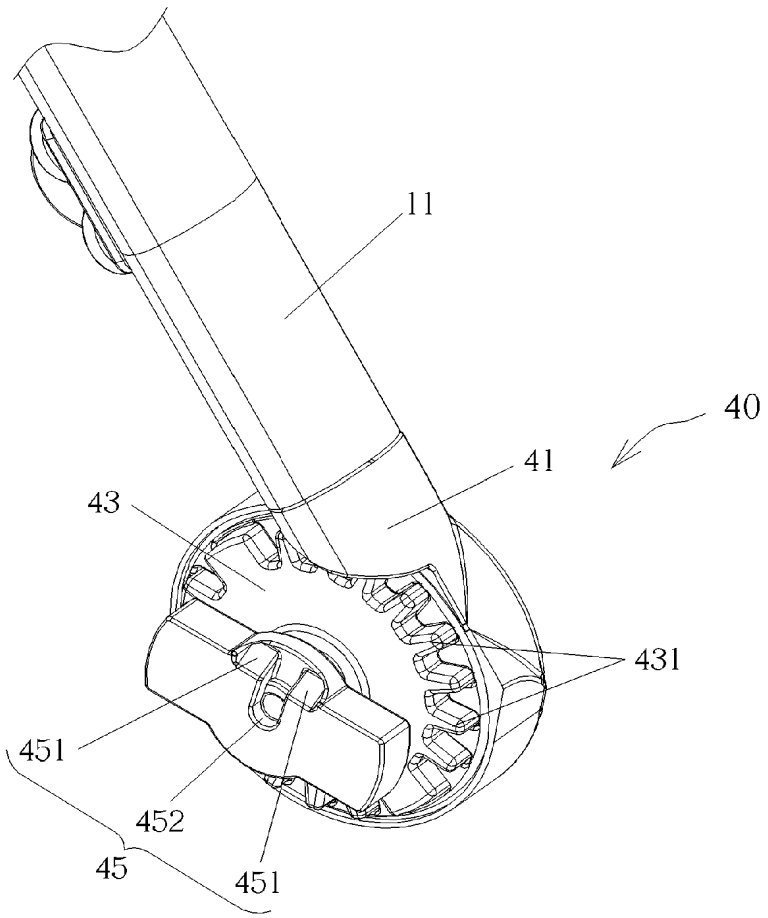


FIG. 7

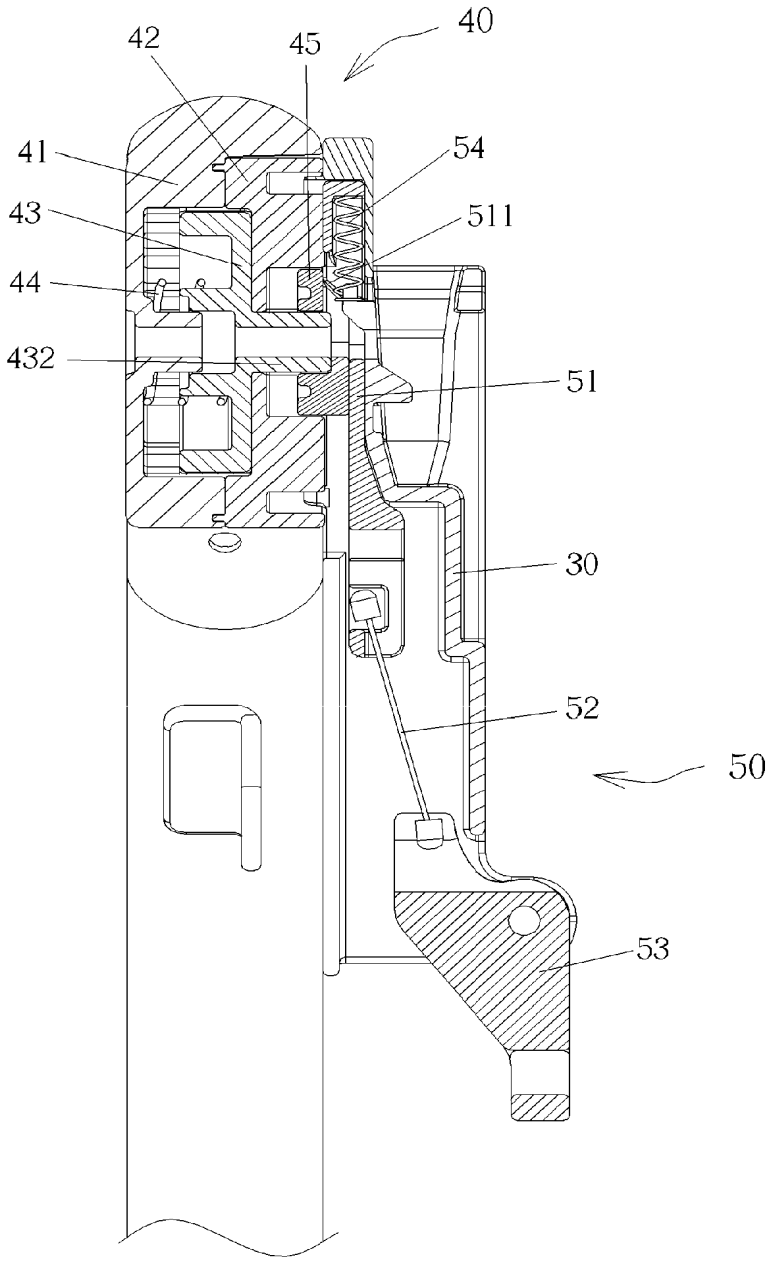


FIG. 8

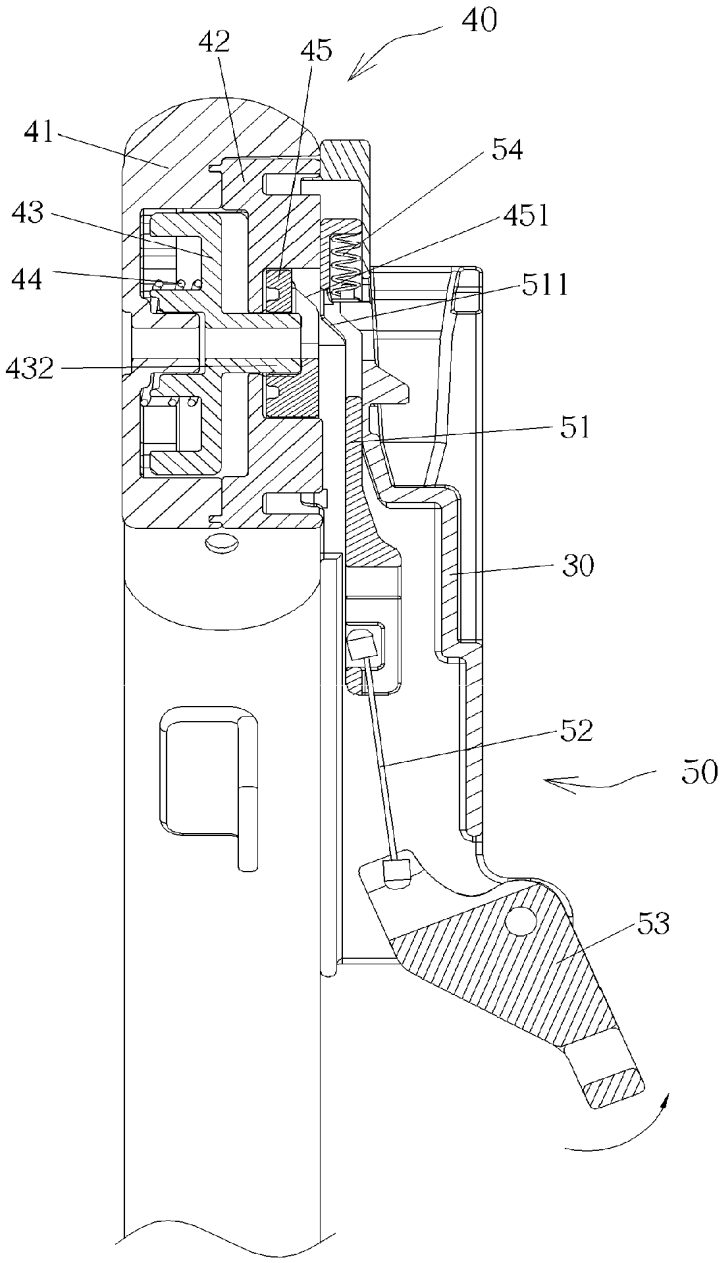


FIG. 9

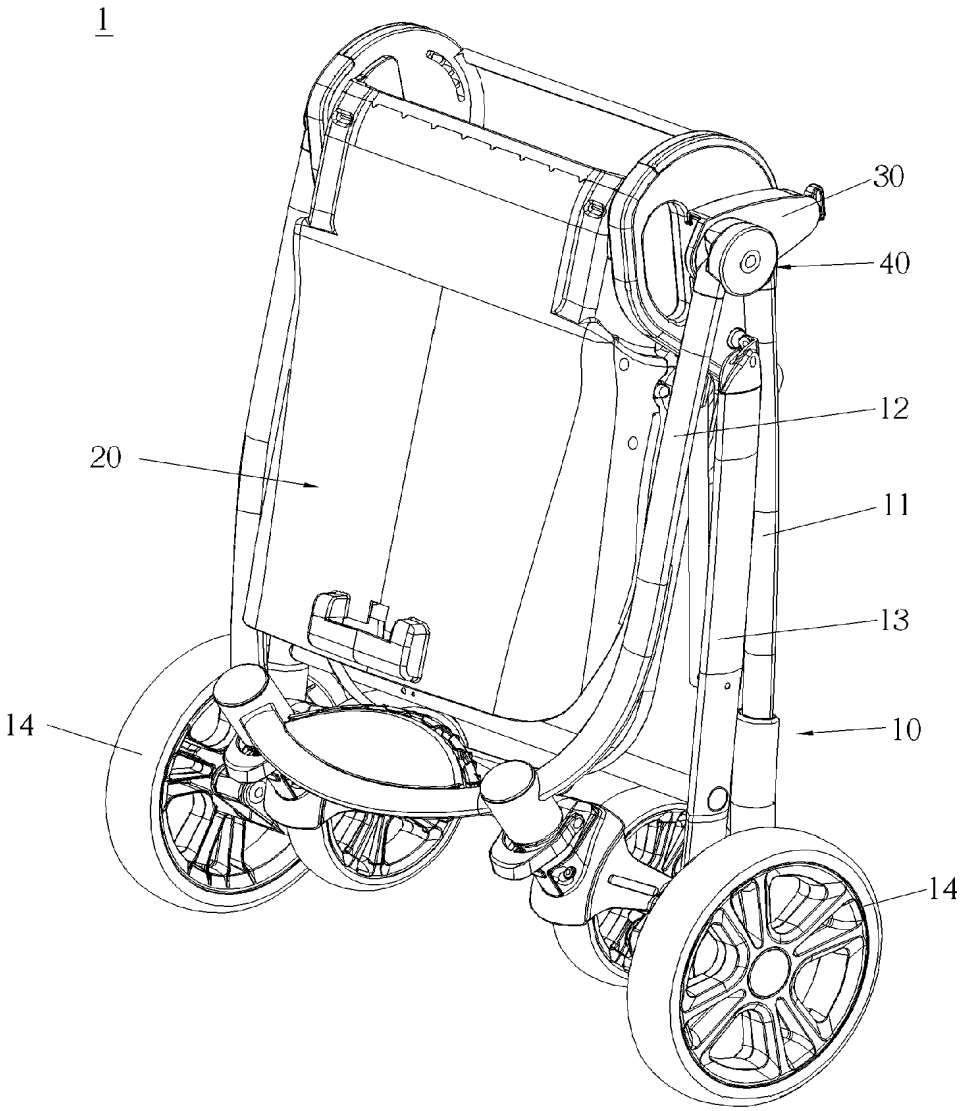


FIG. 10

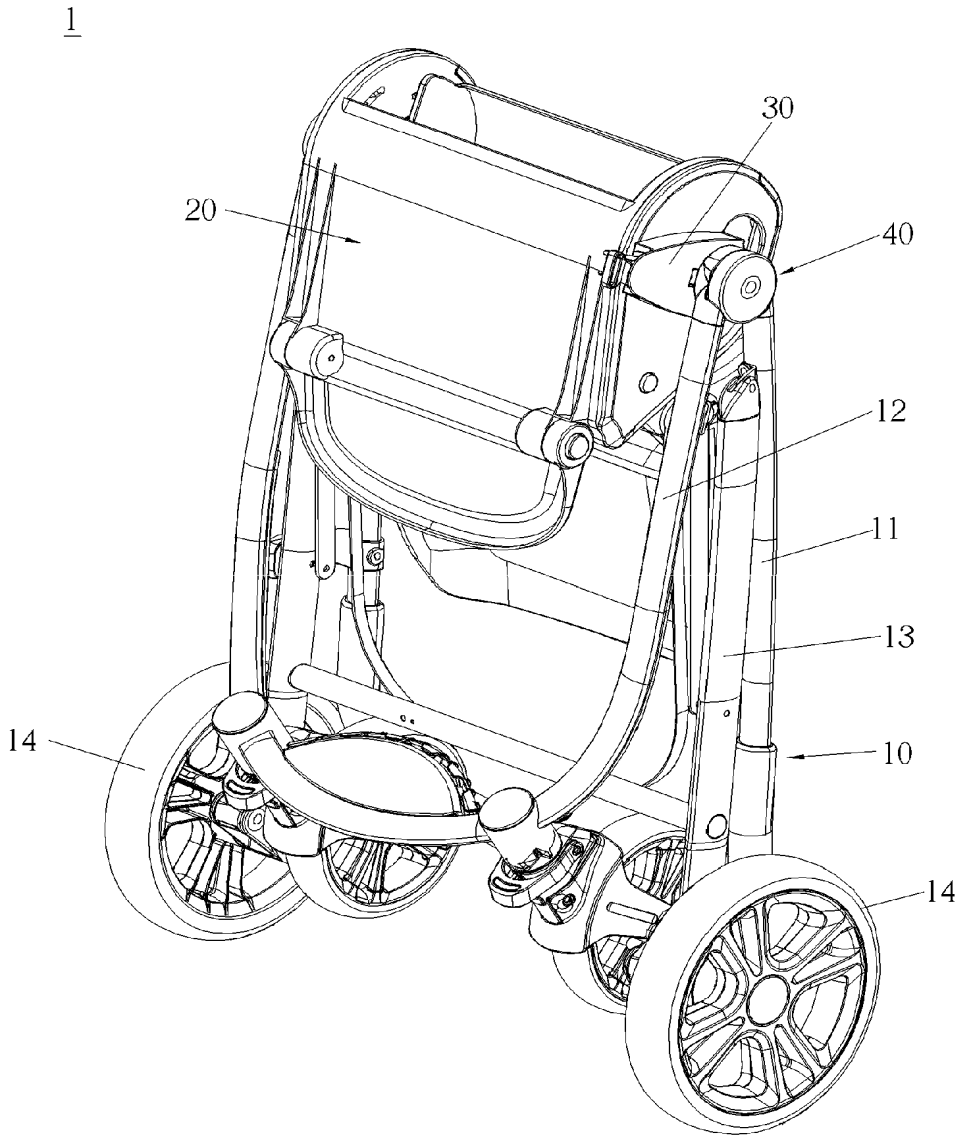


FIG. 11

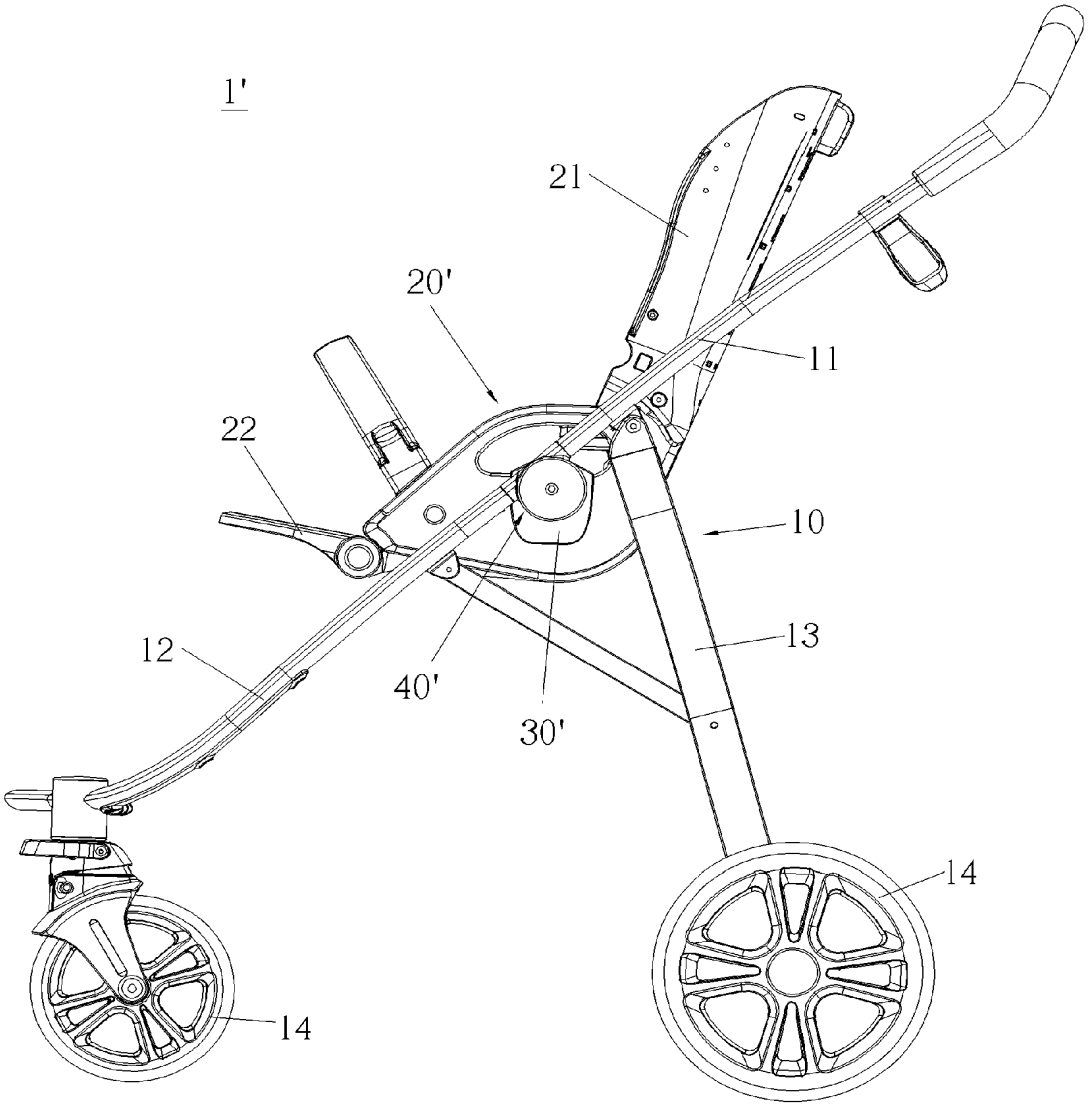


FIG. 12

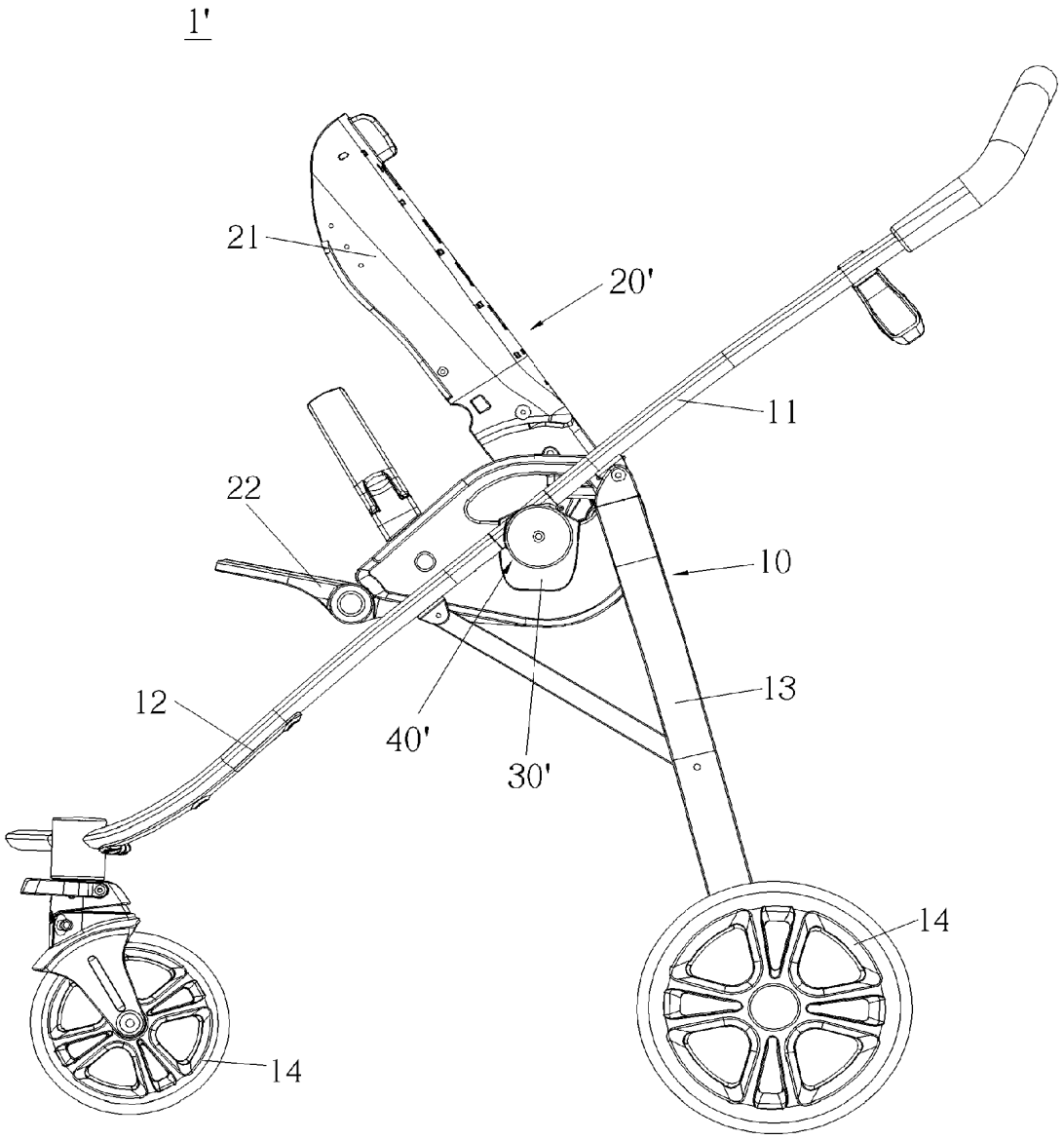


FIG. 13

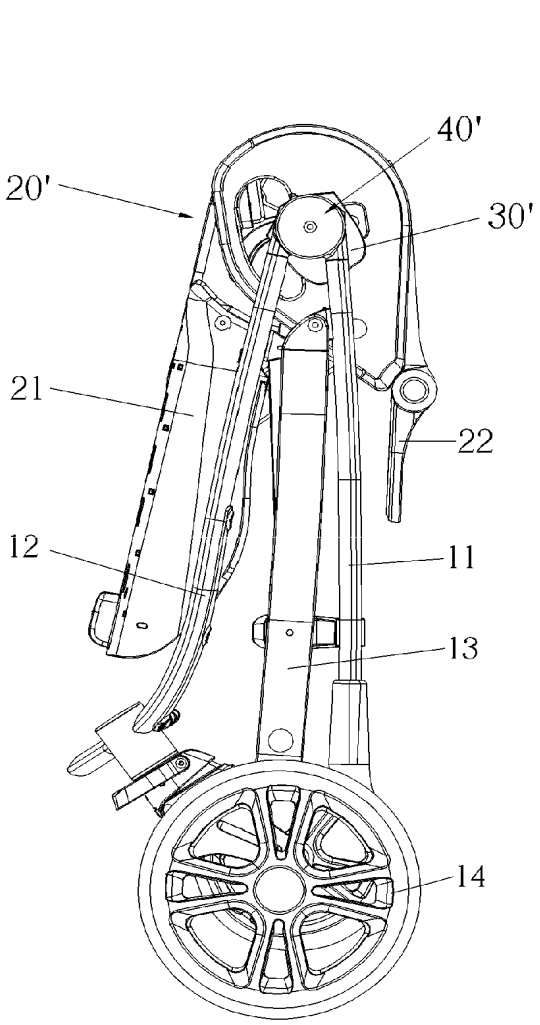


FIG. 14

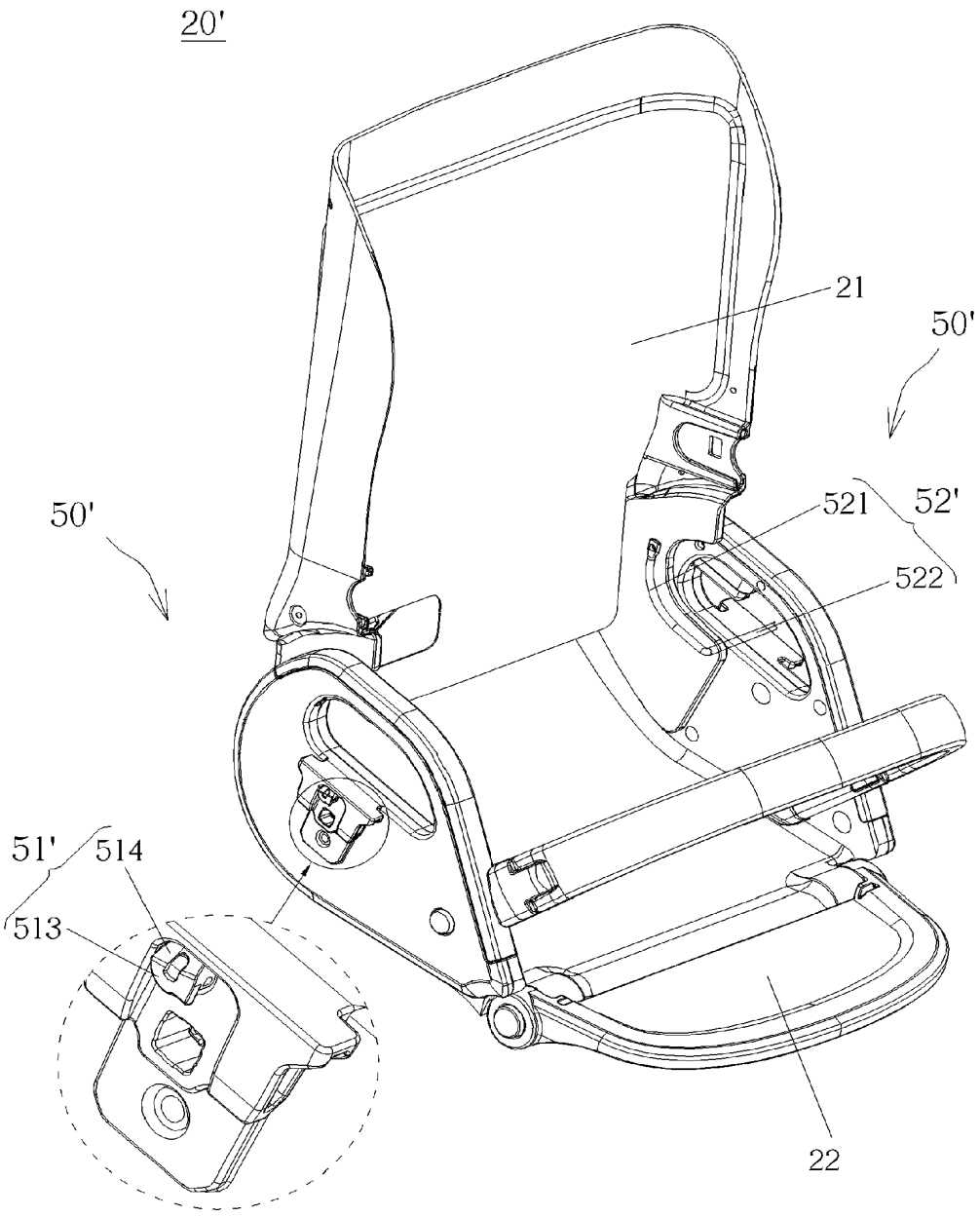


FIG. 15

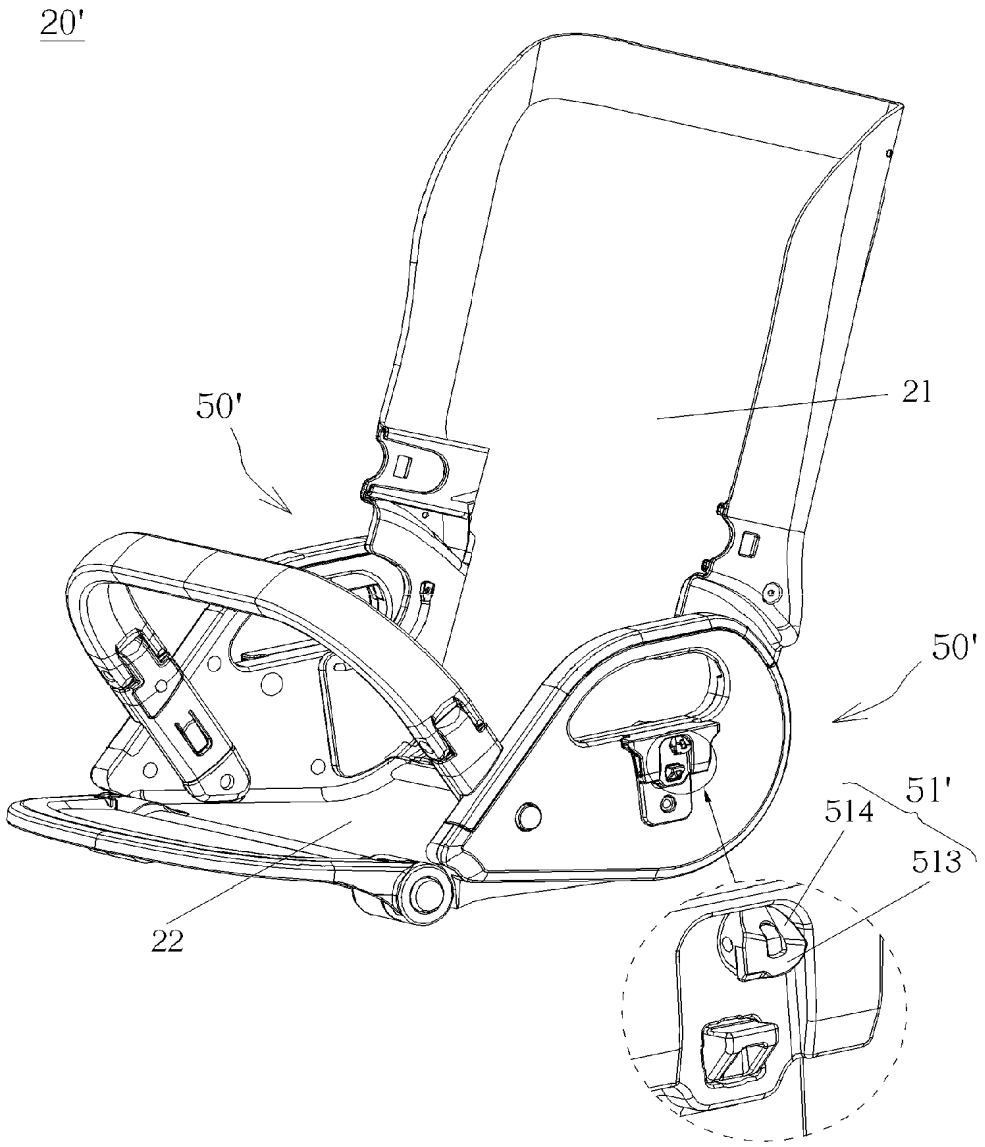


FIG. 16

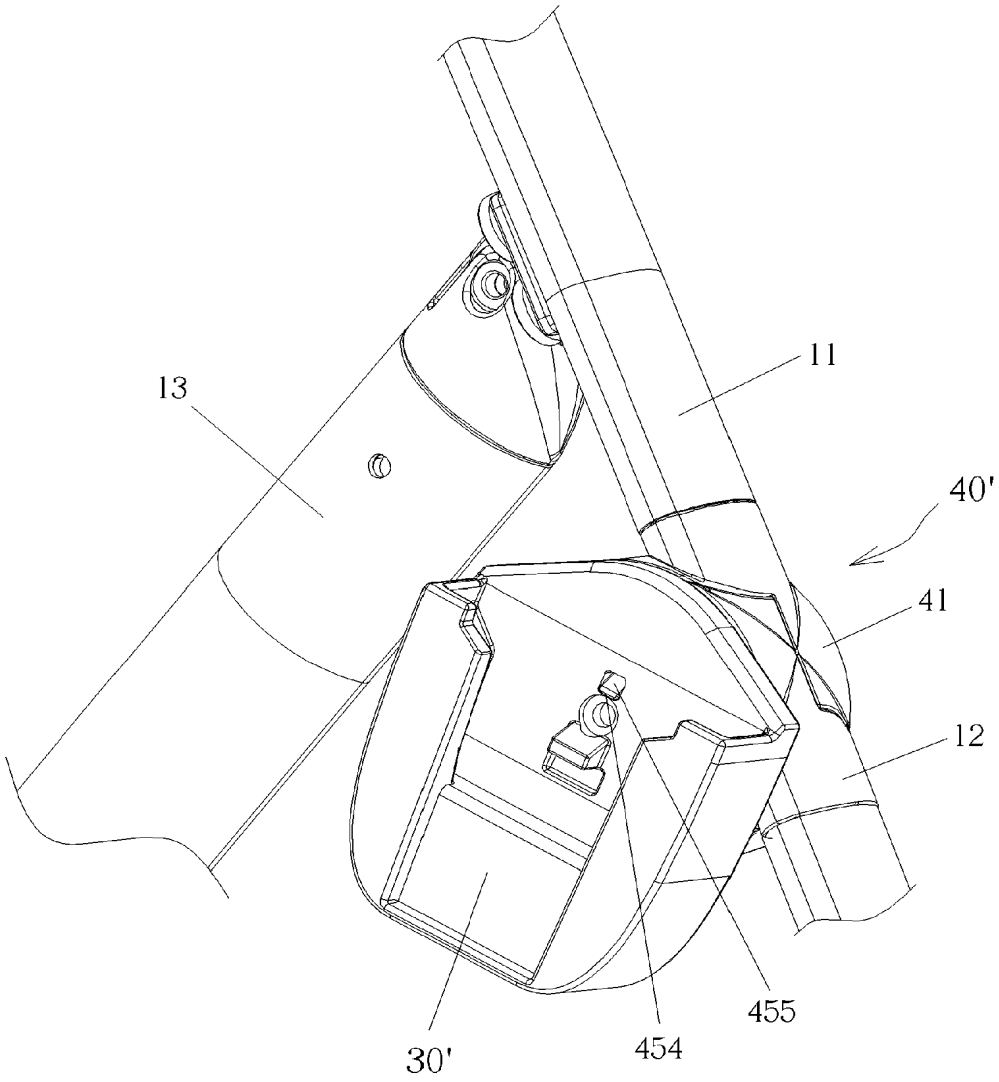


FIG. 17

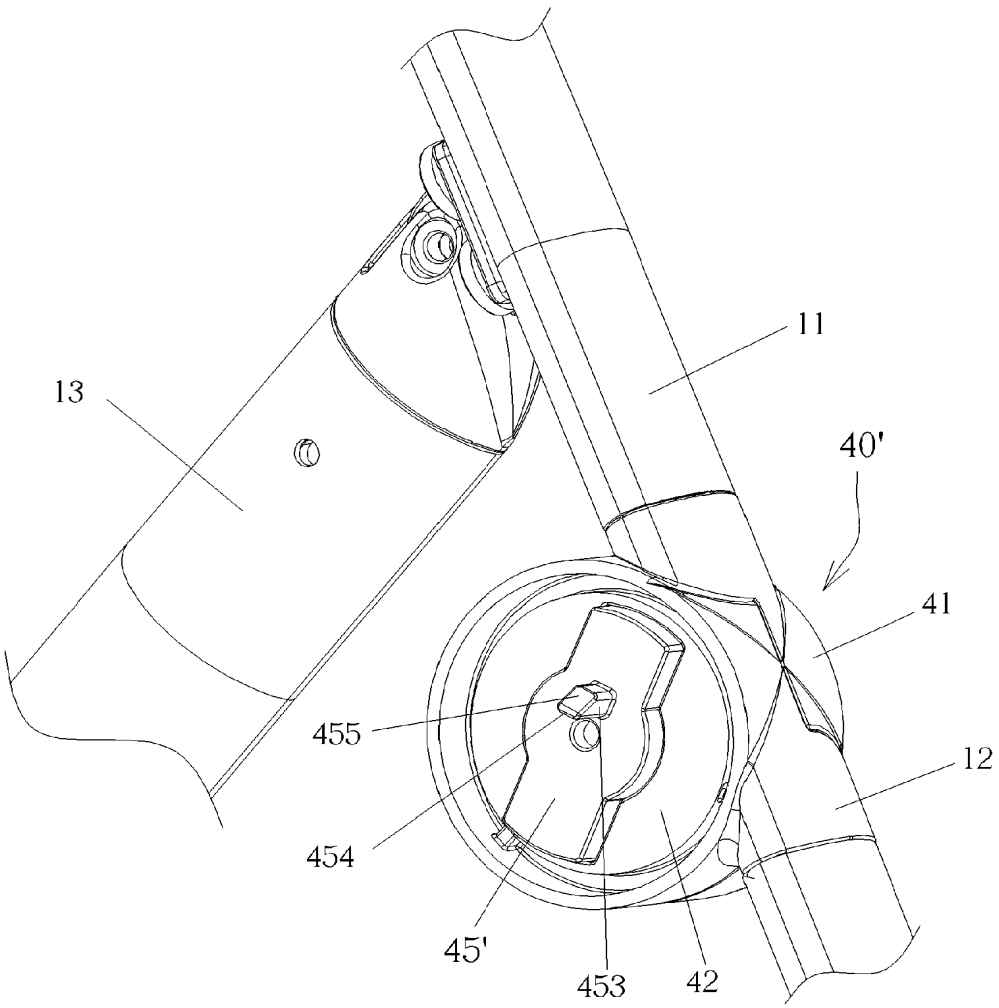


FIG. 18

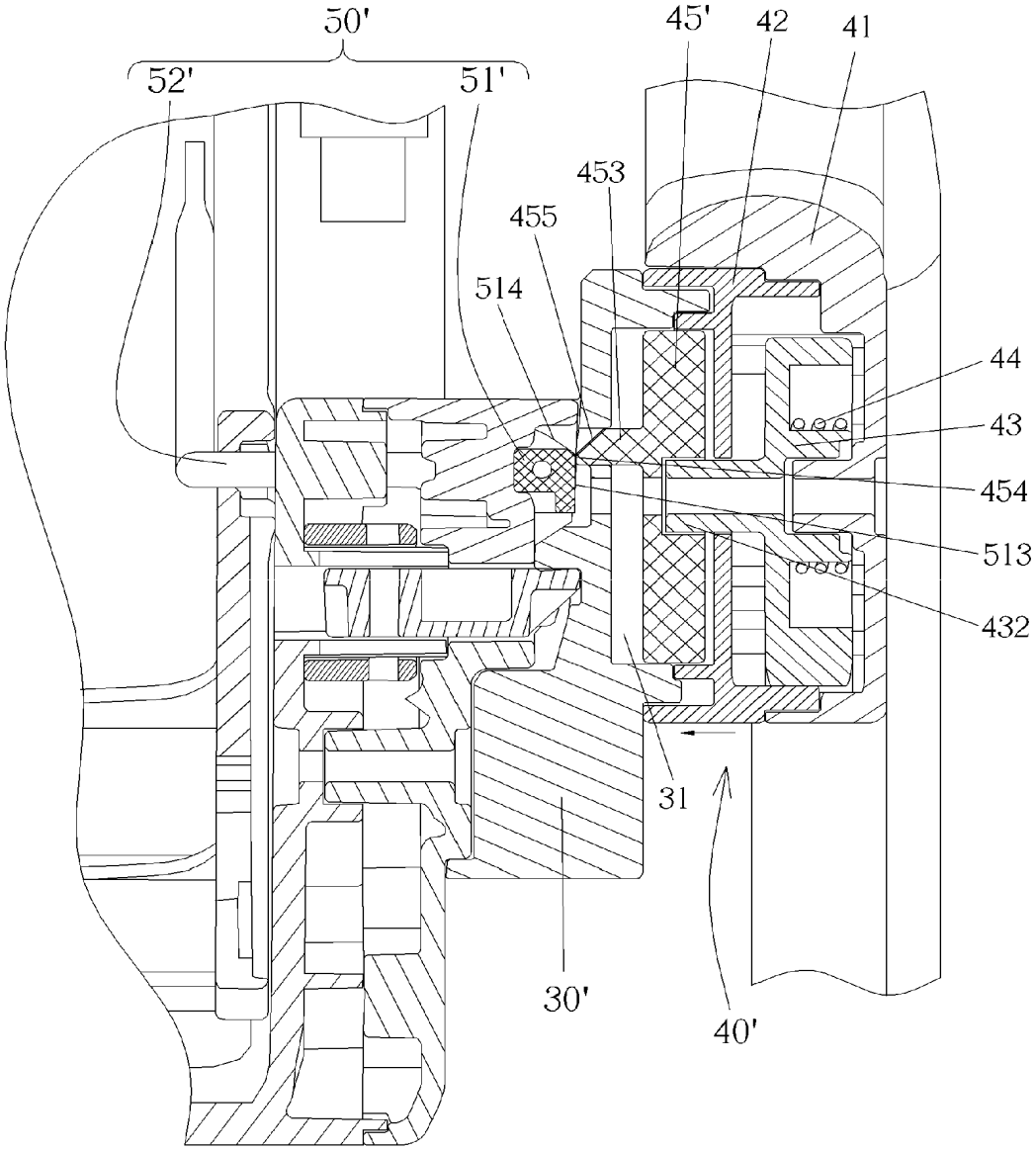


FIG. 19

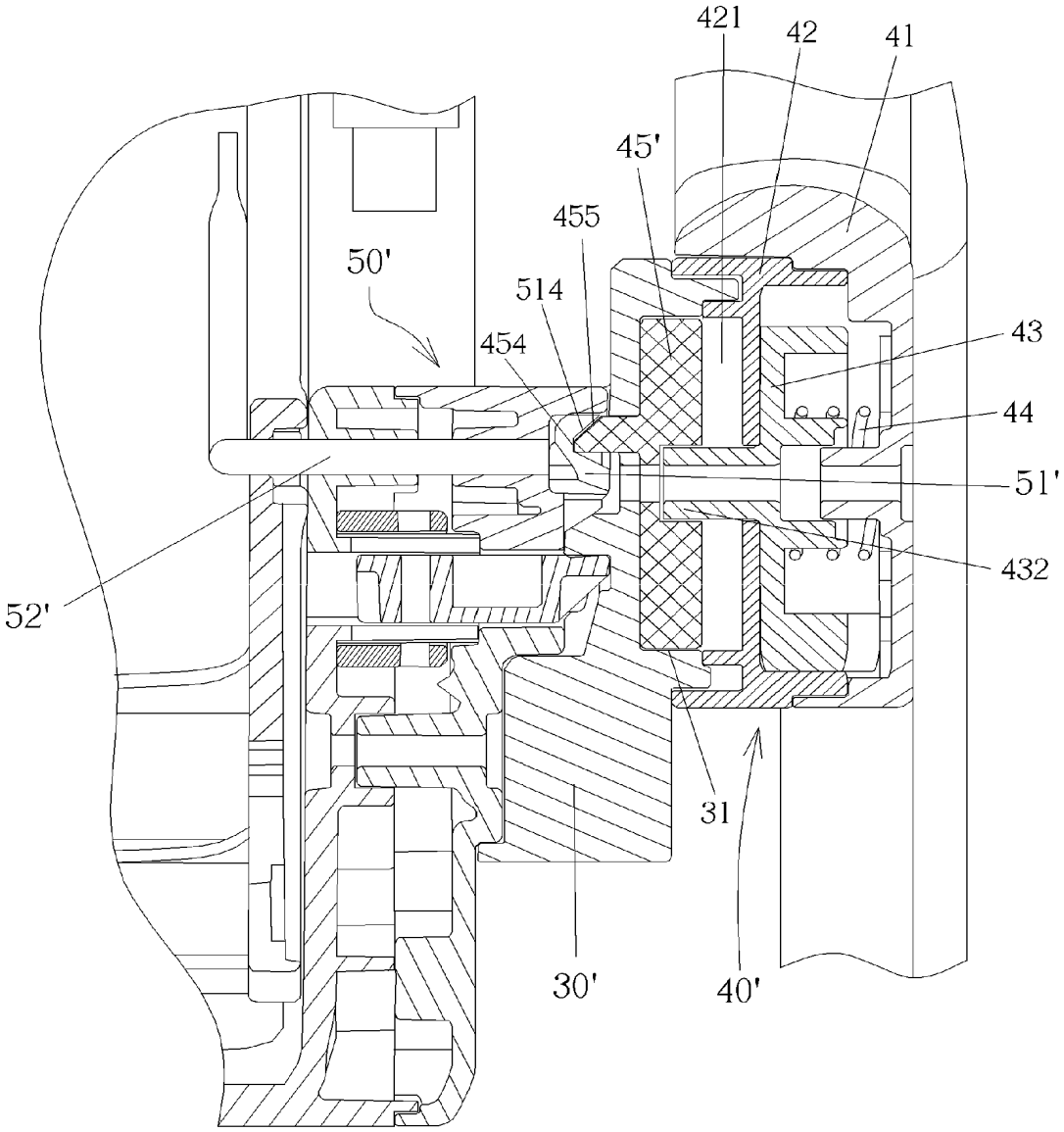


FIG. 20

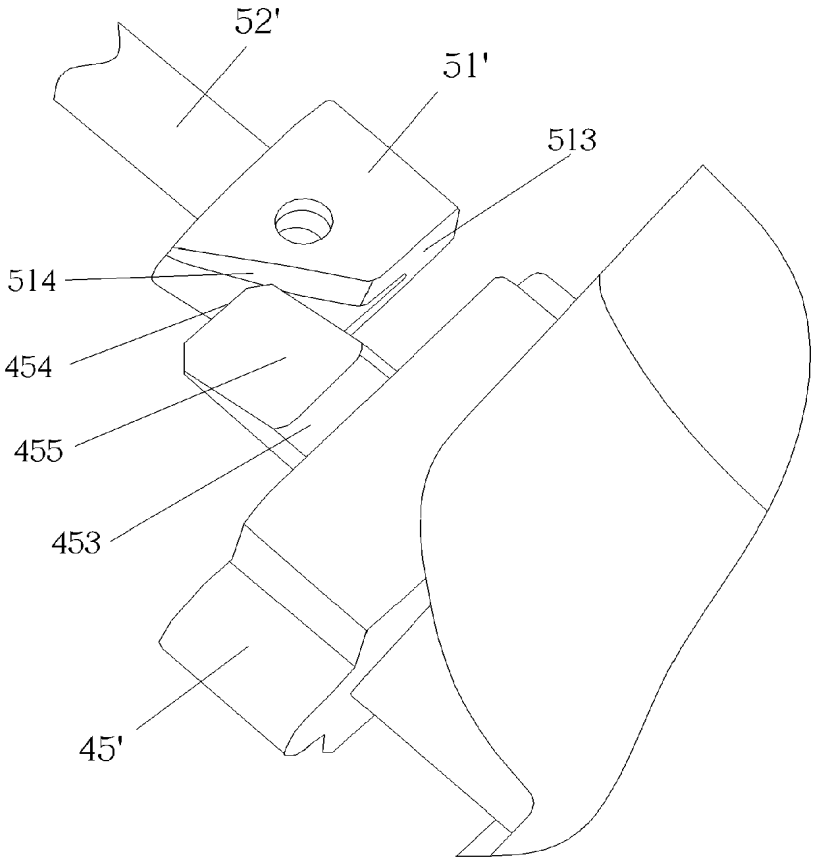


FIG. 21

Title

INFANT CARRIER

Background of the Invention

1. Field of the Invention

The present invention relates to an infant carrier, and more particularly, to an infant carrier capable of being folded easily and having a reduced folded volume.

2. Description of the Prior Art

Infant carriers are widely used in families with children. Taking strollers for example, frames of the strollers are usually designed to be foldable, and therefore, the strollers can be folded for easy storage and transportation when the strollers are not in use.

However, when it is desired to fold a conventional stroller, the seat has to be detached from the frame before folding the frame, which complicates a folding operation. Furthermore, it is required to find an additional space for storing the seat. Therefore, it brings difficulty in storage and transportation.

Besides, there is another conventional stroller, which can be folded without detaching the seat in advance. The frame can drive the seat to move along with the frame when the frame is folded. However, since the seat is not foldable, a folded volume of such stroller is not small enough, which also brings difficulty in storage and transportation.

Therefore, there is a need to provide an infant carrier capable of being folded easily and having a reduced folded volume for solving aforementioned problems.

Summary of the Invention

Therefore, an objective of the present invention is to provide an infant carrier capable of being folded easily and having a reduced folded volume for solving aforementioned problems.

In order to achieve the aforementioned problems, the present invention discloses an infant carrier including a frame and a seat. The frame includes a handle, a front leg, and a rear leg. The front leg is pivoted to the handle. The rear leg is pivoted to a lower end of the handle. The seat engages with the frame. The seat includes a seat portion, a back portion, and a releasing mechanism. The back portion is pivoted to the seat portion. The releasing mechanism includes a driving component. When the seat portion pivots relative to the back portion for folding the seat, the driving component is driven to release the frame, so that the frame is folded along with the seat.

Preferably, the releasing mechanism further includes a linking component connected between the driving component and the seat, and the seat drives the linking component to move the driving component when the seat is folded.

Preferably, the driving component is rotatably or slidably connected to the seat, and the seat drives the linking component to rotate or slide the driving component for releasing the frame when the seat is folded.

Preferably, the releasing mechanism further includes a rotating component connected between the linking component and the seat, and the seat drives the rotating component to rotate to pull the linking component when the seat is folded.

Preferably, the releasing mechanism further includes a resilient component for driving the driving component to recover.

Preferably, the driving component includes a driving inclined surface, and the driving component slides to drive the driving inclined surface to release the frame.

Preferably, the driving component includes a locking surface and a releasing inclined surface.

Preferably, the driving component rotates to drive the locking surface or the releasing inclined surface to interact with the frame for locking or releasing the frame, respectively.

Preferably, the infant carrier further includes a connecting mechanism, and the driving component is for releasing the connecting mechanism.

Preferably, the connecting mechanism includes a first pivoting joint, a second pivoting joint, and an engaging component. The first pivoting joint is fixed on the handle of the frame. A first accommodating chamber is formed in the first pivoting joint. The second pivoting joint is fixed on the front leg of the frame and pivoted to the first pivoting joint by a pivoting shaft. A second accommodating chamber is formed in the second pivoting joint. The engaging component is slidably disposed between the first accommodating chamber and the second accommodating chamber for locking the first pivoting joint and the second pivoting joint, and the driving component driving the engaging component to slide for releasing the first pivoting joint and the second pivoting joint.

Preferably, the engaging component is slidably disposed on the pivoting shaft. The frame is locked when the engaging component engages with both of the first pivoting joint and the second pivoting joint, and the frame is released when the engaging component slides along the pivoting shaft to disengage from the first pivoting joint or the second pivoting joint.

Preferably, the connecting mechanism further includes an engaging tooth protruding from the engaging component. An engaging slot is formed on an inner wall of each of the first accommodating chamber and the second accommodating chamber and corresponding to the engaging tooth.

Preferably, the engaging component slides to disengage the engaging tooth from the engaging slot on the first accommodating chamber or the engaging slot on the second accommodating chamber for releasing the frame.

Preferably, the infant carrier further includes a recovering component abutting between the engaging component and the first pivoting joint.

Preferably, the connecting mechanism further includes a positioning component disposed between the engaging component and the driving component, and the driving component drives the engaging component to move by the positioning component.

Preferably, the positioning component is disposed on the second pivoting joint. The connecting mechanism further includes a post protruding from the engaging component. The post passes through the second pivoting joint to abut against the positioning component.

Preferably, the positioning component moves to drive the driving component to disengage from the first pivoting joint or the second pivoting joint.

Preferably, the connecting mechanism further includes a protruding column protruding from the positioning component. The protruding column includes a locking end and an avoiding inclined surface. The driving component interacts with the locking end to lock the first pivoting joint and the second pivoting joint, and the driving component rotates to drive the positioning component to slide so as to drive the engaging component to slide for releasing the first pivoting joint and the second pivoting joint.

Preferably, the positioning component includes a driven inclined surface. The driving component includes a driving inclined surface. The driving component slides to drive the positioning component to slide by interaction of the driving inclined surface of the driving component and the driven inclined surface of the positioning component.

Preferably, the infant carrier further includes a connector disposed on the frame. The positioning component is disposed between the connector and the second pivoting joint for positioning the connector, and the seat detachably engaging with the connector.

In summary, the infant carrier of the present invention utilizes the foldable seat and the driving component to release the frame, so that the frame can be folded when the seat is folded. Therefore, it is very convenient for users to fold the infant carrier, and the infant carrier has a reduced folded volume for easy storage and transportation.

These and other objectives of the present invention will no doubt become obvious to those of ordinary skill in the art after reading the following detailed description of the preferred embodiment that is illustrated in the various figures and drawings.

Brief Description of the Drawings

FIG. 1 is a schematic diagram of an infant carrier according to a first embodiment of the present invention.

FIG. 2 is another schematic diagram of the infant carrier as a seat engages with a frame rearwardly according to the first embodiment of the present invention.

FIG. 3 is a partial exploded diagram of a connector, a connecting mechanism, and a releasing mechanism according to the first embodiment of the present invention.

FIG. 4 is a diagram of the connector according to the first embodiment of the present invention.

FIG. 5 is a diagram of the connecting mechanism and the releasing mechanism according to the first embodiment of the present invention.

FIG. 6 is a diagram of the connecting mechanism and the releasing mechanism without illustrating a second pivoting joint according to the first embodiment of the present invention.

FIG. 7 is a diagram of a positioning component and an engaging component according to the first embodiment of the present invention.

FIG. 8 is a sectional diagram of the connecting mechanism and the releasing mechanism at locking positions according to the first embodiment of the present invention.

FIG. 9 is a sectional diagram of the connecting mechanism and the releasing mechanism at releasing positions according to the first embodiment of the present invention.

FIG. 10 is a diagram of the infant carrier at a folding position as the seat engages with the frame forwardly according to the first embodiment of the present invention.

FIG. 11 is a diagram of the infant carrier at another folding position as the seat engages with the frame rearwardly according the first embodiment of the present invention.

FIG. 12 is a lateral view diagram of an infant carrier according to a second embodiment of the present invention.

FIG. 13 is a lateral view diagram of the infant carrier having not been folded completely according to the second embodiment of the present invention.

FIG. 14 is a lateral view diagram of the infant carrier at a folding position according to the second embodiment of the present invention.

FIG. 15 is a diagram of the seat according to the second embodiment of the present invention.

FIG. 16 is a diagram of the seat at another view according to the second embodiment of the present invention.

FIG. 17 is a diagram of a connecting mechanism and a connector according to the second embodiment of the present invention.

FIG. 18 is a diagram of the connecting mechanism according to the second embodiment of the present invention.

FIG. 19 is a sectional diagram of the connecting mechanism and the releasing mechanism at locking positions according to the second embodiment of the present invention.

FIG. 20 is a sectional diagram of the connecting mechanism and the releasing mechanism at releasing positions according to the second embodiment of the present invention.

FIG. 21 is a diagram of the driving component and the positioning component according to the second embodiment of the present invention.

Detailed Description

In order to illustrate technical specifications and structural features as well as achieved purposes and effects of the present invention, relevant embodiments and figures are described as follows.

Please refer to FIG. 1. FIG. 1 is a schematic diagram of an infant carrier 1 according to a first embodiment of the present invention. As shown in FIG. 1, the infant carrier 1 includes a frame 10, a seat 20, a pair of connectors 30, and a pair of connecting mechanisms 40. The frame 10 includes a handle 11, a front leg 12, a rear leg 13, and a plurality of wheels 14. The handle 11 is pivoted to the front leg 12 by the pair of the connecting mechanisms 40. The rear leg 13 is pivoted to a lower end of the handle 11. The plurality of wheels 14 is pivoted to lower ends of the front leg 12 and the rear leg 13. Each of the pair of connectors 30 is disposed on the corresponding connecting mechanism 40.

The seat 20 includes a back portion 21, a seat portion 22, and a pair of engaging mechanism, which is not shown in figures. The seat portion 22 is pivoted to the back portion 21. The pair of engaging mechanism is disposed on a side of the seat 20 for detachably engaging with the pair of connectors 30. The seat 20 further includes a pair of releasing mechanisms 50. The pair of releasing mechanisms 50 is located a position corresponding to the pair of connecting mechanisms 40. The seat 20 drives the pair of releasing mechanisms 50 to release the pair of connecting mechanisms 40 for folding the frame 10. However, the numbers and the configurations of the connector 30, the connecting mechanism 40, and the releasing mechanism 50 are not limited to this embodiment. In another embodiment, the infant carrier 1 can include one connector 30, one connecting mechanism 40, and the seat 20 can include one releasing mechanism 50.

Please refer to FIG. 1 and FIG. 2. FIG. 2 is another schematic diagram of the infant carrier 1 as the seat 20 engages with the frame 10 rearwardly according to the first embodiment of the present invention. In this embodiment, the seat 20 also can engage with the frame 10 forwardly, as shown in FIG. 1, or rearwardly, as shown in FIG. 2. It depends on practical demands.

Please refer to FIG. 3. FIG. 3 is a partial exploded diagram of the connector 30, the connecting mechanism 40, and the releasing mechanism 50 according to the first embodiment of the present invention. In this embodiment, the pair of connecting mechanisms 40 is symmetrically disposed at two sides of the frame 10. One of the pair of connecting mechanisms 40 at one side of the frame 10 has the same structure and configuration as the ones of the other one of the pair of connecting mechanisms 40 at the other side of the frame 10. For simplicity, the connecting mechanism 40 at one side of the frame 10 is introduced as follows. As shown in FIG. 3, the connecting mechanism 40 includes a first pivoting joint 41, a second pivoting joint 42, an engaging component 43, and a recovering component 44. The first pivoting joint 41 is fixed on the lower end of the handle 11, and a first accommodating chamber 411 is formed on the first pivoting joint 41. The second pivoting joint 42 is fixed on an upper end of the front leg 12, and a second accommodating chamber, which is not shown in figures, is formed on the second pivoting joint 42. The first pivoting joint 41 and the second pivoting joint 42 are pivoted to each other by a pivoting shaft. The engaging component 43 is slidably disposed on the pivoting shaft and between the first accommodating chamber 411 and the second accommodating chamber. The frame 10 is locked when the engaging component 43 is located between the first

accommodating chamber 411 and the second accommodating chamber to engage with both of the first pivoting joint 41 and the second pivoting joint 42. The frame 10 is released when the engaging component 43 is disengaged from one of first pivoting joint 41 and the second pivoting joint 42, and is received in the other one of the first pivoting joint 41 and the second pivoting joint 42.

In this embodiment, when the engaging component 43 slides along the pivoting shaft to disengage from the second pivoting joint 42, the first pivoting joint 41 and the second pivoting joint 42 are rotatable relative to each other, so that the frame 10 can be released for being folded. The recovering component 44 is disposed between the engaging component 43 and the first pivoting joint 41 for recovering the engaging component 43. Preferably, in this embodiment, the recovering component 44 can be a spring. However, it is not limited thereto.

The connecting mechanism 40 further includes a plurality of engaging teeth 431 and a post 432. The plurality of engaging teeth 431 protrudes from the engaging component 43 radially. The post 432 protrudes from a center of the engaging component 43 and passes through the second pivoting joint 42. A plurality of engaging slots 412 is formed on an inner wall of the first accommodating chamber 411 and corresponding to the plurality of engaging teeth 431. Similarly, a plurality of engaging slots, which is not shown in figures, is formed on an inner wall of the second accommodating chamber and corresponding to the plurality of engaging teeth 431. The frame 10 is locked when the plurality of engaging teeth 431 on the engaging component 43 engages with the plurality of engaging slots 412 on the first accommodating chamber 411 and the plurality of engaging slots on the second accommodating chamber. The frame

10 is released when the plurality of engaging teeth 431 disengages from the plurality of engaging slots on the second accommodating chamber. However, the numbers and the configurations of the engaging teeth 431 and the engaging slot are not limited to those illustrated in the figures in this embodiment. In another embodiment, the connecting mechanism 40 also can include only one engaging tooth 431. Furthermore, one engaging slot 412 is formed on the first accommodating chamber 411, and another engaging slot is formed on the second accommodating chamber.

The connector 30 is disposed on the second pivoting joint 42. The connecting mechanism 40 further includes a positioning component 45 slidably disposed between the connector 30 and the second pivoting joint 42. The positioning component 45 is used for positioning the connector 30. The positioning component 45 abuts against the post 432 on the engaging component 43. The releasing mechanism 50 drives the positioning component 45 to slidably move the engaging component 43 for releasing the frame 10.

Please refer to FIG. 4. FIG. 4 is a diagram of the connector 30 according to the first embodiment of the present invention. A first positioning slot 31 is formed on the connector 30. A second positioning slot 421 is formed on the second pivoting joint 42. The positioning component 45 is movably disposed between the first positioning slot 31 and the second positioning slot 421. The positioning component 45 engages with both of the first positioning slot 31 and the second positioning slot 421 for preventing the connector 30 from rotating relative to the connecting mechanism 40. The positioning component 45 slides to disengage from the first positioning slot 31 for releasing the connector 30 to allow rotation of the connector 30 relative to the connecting

mechanism 40.

In this embodiment, the positioning component 45 is substantially formed in a rod shape. Shapes of the first positioning slot 31 and the second positioning slot 421 are corresponding to a shape of the positioning component 45.

As shown in FIG. 3, in this embodiment, the pair of releasing mechanisms 50 is symmetrically disposed at two sides of the seat 20. One of the pair of releasing mechanisms 50 at one side of the seat 20 has the same structure and configuration as the ones of the other one of the pair of releasing mechanisms 50 at the other side of the seat 20. For simplicity, the releasing mechanism 50 at one side of the seat 20 is introduced as follows.

Specifically, the releasing mechanism 50 includes a driving component 51 and a linking component 52. The driving component 51 is slidably disposed in the connector 30 and abuts against the positioning component 45. The linking component 52 is connected to the driving component 51 and the seat 20. The seat 20 drives the linking component 52 to pull the driving component 51 to slide, so that the driving component 51 slides to drive the positioning component 45 to move the engaging component 43.

In this embodiment, the releasing mechanism 50 further includes a rotating component 53 and a resilient component 54. The rotating component 53 is pivoted to a lower end of the connector 30 and connected to the seat 20. For example, the rotating component 53 can be connected to the seat 20 by a wire or a strap component. However, it is not limited thereto. The linking component 52 is connected between the rotating component 53 and the driving component 51. The resilient

component 54 abuts between the driving component 51 and the connector 30. The seat 20 drives the rotating component 53 to rotate to pull the linking component 52 to slide the driving component 51. The resilient component 54 is for recovering the driving component 51.

Preferably, in this embodiment, the linking component 52 can be a steel wire, and the resilient component 54 can be a spring. However, it is not limited thereto.

As shown in FIG. 4, a third positioning slot 32 is formed on the connector 30 vertically for installing the driving component 51. The third positioning slot 32 intersects with the first positioning slot 31. In this embodiment, the third positioning slot 32 and the first positioning slot 31 are substantially formed in a cross shape, a pair of connecting lugs 33 is disposed on the lower end of the connector 30, and the rotating component 53 is pivoted to the pair of connecting lugs 33.

Please refer to FIG. 3 and FIG. 5 to FIG. 7. FIG. 5 is a diagram of the connecting mechanism 40 and the releasing mechanism 50 according to the first embodiment of the present invention. FIG. 6 is a diagram of the connecting mechanism 40 and the releasing mechanism 50 without illustrating the second pivoting joint 42 according to the first embodiment of the present invention. FIG. 7 is a diagram of the positioning component 45 and the engaging component 43 according to the first embodiment of the present invention. The driving component 51 includes a driving inclined surface 511. A long hole 512 is formed on an upper end of the driving component 51 and at a location corresponding to the driving inclined surface 511. The positioning component 45 includes a driven inclined surface 451. A long slot 452 is formed on a middle

portion of the positioning component 45 and penetrates an upper surface of the positioning component 45. In this embodiment, the driving inclined surface 511 and the driven inclined surface 451 can be flat surfaces.

The driving component 51 is slidably disposed in the connector 30. The upper end of the driving component 51 engages with the third positioning slot 32. The driving inclined surface 511 abuts against the driven inclined surface 451. The long hole 512 is corresponding to the long slot 452. The resilient component 54 is received in the long slot 452, and two ends of the resilient component 54 abut against the driving component 51 and the connector 30, respectively. When the driving component 51 slides downwardly, the driving inclined surface 511 pushes the driven inclined surface 451, so that the positioning component 45 slides horizontally to disengage from the connector 30. At this moment, the positioning component 45 pushes the post 432 on the engaging component 43, so that the plurality of engaging teeth 431 on the engaging component 43 disengages from the plurality of engaging slots on the second accommodating chamber. Therefore, the frame 10 can be released to be folded. During the aforementioned process, the resilient component 54 is compressed. The compressed resilient component 54 resiliently recovers the driving component 51 when the driving component 51 is released.

As shown in FIG. 3, FIG. 5, and FIG. 6, a middle portion of the rotating component 53 is pivoted to the pair of connecting lugs 33 on the connector 30. An upper end of the rotating component 53 is connected to a lower end of the driving component 51 by the linking component 52. A lower end of the rotating component 53 extends out of the connector 30 for connecting the seat 20. When the seat 20 is folded, the seat

20 drives the rotating component 53 to rotate, so that the rotating component 53 can pull the driving component 51 to slide downwardly by the linking component 52.

Please refer to FIG. 8 and FIG. 9. FIG. 8 is a sectional diagram of the connecting mechanism 40 and the releasing mechanism 50 at locking positions according to the first embodiment of the present invention. FIG. 9 is a sectional diagram of the connecting mechanism 40 and the releasing mechanism 50 at releasing positions according to the first embodiment of the present invention. When the frame 10 is locked, the engaging component 43 is located between the first pivoting joint 41 and the second pivoting joint 42 to engage with both of the first pivoting joint 41 and the second pivoting joint 42. Furthermore, the positioning component 45 is located between the second pivoting joint 42 and the connector 30 to engage with both of the second pivoting joint 42 and the connector 30. Therefore, the frame 10 cannot be folded rotatably, and the connector 30 cannot rotate relative to the frame 10 either.

When it is desired to fold the frame 10, the back portion 21 is operated to pivot relative to the seat portion 22 for folding the seat 20, so as to drive the rotating component 53 to rotate along an arrow direction shown in FIG. 9. The rotating component 53 pulls the driving component 51 to slide downwardly by the linking component 52. When the driving component 51 slides downwardly, the driving inclined surface 511 pushes the driven inclined surface 451, so that the positioning component 45 moves horizontally along the pivoting shaft. Therefore, the positioning component 45 disengages from the first positioning slot 31 on the connector 30, which releases the connector 30. At this moment, the positioning component 45 pushes the post 432 on the engaging

component 43, so that the engaging component 43 slides along the pivoting shaft to disengage from the second pivoting joint 42, which releases the frame 10. Therefore, the frame 10 can be rotatably folded. During the aforementioned process, the recovering component 44 and the resilient component 54 are compressed, as shown in FIG. 9.

When the seat 20 is unfolded, the rotating component 53 is released, so that the compressed resilient component 54 pushes the driving component 51 to recover upwardly. Furthermore, since the driving inclined surface 511 of the driving component 51 does not push the driven inclined surface 451 of the positioning component 45 during the unfolding process, the recovering component 44 pushes the engaging component 43 and the positioning component 45 to recover, as shown in FIG. 8.

Please refer to FIG. 1 to FIG. 2 and FIG. 10 to FIG. 11. FIG. 10 is a diagram of the infant carrier 1 at a folding position as the seat 20 engages with the frame 10 forwardly according to the first embodiment of the present invention. FIG. 11 is a diagram of the infant carrier 1 at another folding position as the seat 20 engages with the frame 10 rearwardly according the first embodiment of the present invention. When the frame 10 is released, the handle 11 can be operated to move downwardly. The handle 11 rotates relative to the front leg 12 and the rear leg 13, so that the front leg 12 and the rear leg 13 move toward each other. The handle 11 rotates downwardly until an upper end of the handle 11 is adjacent to the wheel 14. During the aforementioned process, since the connector 30 is released to rotate, the folded seat 20 can rotate along with the connector 30. As a result, the infant carrier 1 with the seat 20 engaging with the frame 10 forwardly can be folded to the folding position, as shown in FIG. 10,

and the infant carrier with the seat 20 engaging with the frame 10 rearwardly can be folded to the position, as shown in FIG. 11. Therefore, the infant carrier 1 of the present invention is folded easily and has a reduced folded volume.

Please refer to FIG. 12 to FIG. 15. FIG. 12 is a lateral view diagram of an infant carrier 1' according to a second embodiment of the present invention. FIG. 13 is a lateral view diagram of the infant carrier 1' having not been folded completely according to the second embodiment of the present invention. FIG. 14 is a lateral view diagram of the infant carrier 1' at a folding position according to the second embodiment of the present invention. FIG. 15 is a diagram of a seat 20' according to the second embodiment of the present invention. The infant carrier 1 includes the frame 10, the seat 20', a pair of connectors 30', and a pair of connecting mechanisms 40'. The seat 20' includes the back portion 21, the seat portion 22, and a pair of releasing mechanism 50', shown in FIG. 15. Structures and configurations of the frame 10 and the back portion 21 and the seat portion 22 of the seat 20' of the infant carrier 1' in the second embodiment are the same as the ones of the infant carrier 1 in the first embodiment, and further description is omitted herein for simplicity.

Please refer to FIG. 17 to FIG. 18. FIG. 17 is a diagram of the connecting mechanism 40' and the connector 30' according to the second embodiment of the present invention. FIG. 18 is a diagram of the connecting mechanism 40' according to the second embodiment of the present invention. As shown in FIG. 17 to FIG. 18, the connecting mechanism 40' includes the first pivoting joint 41, the second pivoting joint 42, the engaging component 43, the recovering component 44, shown in FIG. 19, and a positioning component 45'. Structures and configuration

of the first pivoting joint 41, the second pivoting joint 42, the engaging component 43, and the recovering component 44 of the connecting mechanism 40' in the second embodiment are the same as the ones of the connecting mechanism 40 in the first embodiment, and further description is omitted herein for simplicity. The positioning component 45' is slidably disposed between the connector 30' and the second pivoting joint 42. The connecting mechanism 40' further includes a protruding column 453 protruding from the positioning component 45'. The protruding column 453 includes a locking end 454 and an avoiding inclined surface 455. A through hole is formed on the connector 30' and at a position corresponding to the protruding column 453. After the connector 30' is installed, the positioning component 45' is located between the first positioning slot 31 of the connector 30' and the second positioning slot 421 of the second pivoting joint 42. The protruding column 453 passes through the through hole, so that the locking end 454 is exposed out of a side wall of the connector 30', as shown in FIG. 17.

Please refer to FIG. 15 and FIG. 16. FIG. 16 is a diagram of the seat 20' at another view according to the second embodiment of the present invention. Each of the pair of releasing mechanisms 50' includes a driving component 51' and a linking component 52'. The linking component 52' includes a first portion 521 and a second portion 522 substantially perpendicular to each other. The first portion 521 is formed in an arc shape and fixed on the back portion 21 of the seat 20'. The second portion 522 passes through a lateral wall of the seat 20'. The driving component 51' is fixed on an end of the second portion 522 and located at the lateral wall of the seat 20'. When the seat 20' engages with the frame 10, the

driving component 51’ abuts against the locking end 454. The engaging component 43 locks the first pivoting joint 41 and the second pivoting joint 42 when the frame 10 is locked, and the engaging component 43 slides to release the frame 10 when the driving component 51’ rotates to drive the positioning component 45’ to slide.

Preferably, in this embodiment, the linking component 52’ can be a steel wire. However, it is not limited thereto.

The driving component 51’ includes a locking surface 513 and a releasing inclined surface 514 disposed adjacent to each other. The locking surface 513 is parallel to the lateral wall of the seat 20’. When the locking surface 513 abuts against the locking end 454 of the positioning component 45, the frame 10 is locked. When the driving component 51’ rotates by a predetermined angle, the releasing inclined surface 514 abuts against the locking end 454, so that the frame 10 is released.

Please refer to FIG. 12 to FIG. 14 and FIG. 19 to FIG. 21. FIG. 19 is a sectional diagram of the connecting mechanism 40’ and the releasing mechanism 50’ at locking positions according to the second embodiment of the present invention. FIG. 20 is a sectional diagram of the connecting mechanism 40’ and the releasing mechanism 50’ at releasing positions according to the second embodiment of the present invention. FIG. 21 is a diagram of the driving component 51’ and the positioning component 45’ according to the second embodiment of the present invention. When the seat 20’ engages with the connector 30’ at a unfolded position, the locking surface 513 of the driving component 51’ abuts against the locking end 454 of the positioning component 45’, so that the positioning component 45’ is located between the first positioning slot

31 of the connector 30' and the second positioning slot 421 of the second pivoting joint 42. At this moment, the positioning component 45' pushes the post 432 of the engaging component 43, so the engaging component 43 engages with both of the first pivoting joint 41 and the second pivoting joint 42 for locking the frame 10, as shown in FIG. 19.

When the seat 20' is folded, the back portion 21 is operated to rotate toward the seat portion 22, as shown in FIG. 13. The back portion 21 rotates to drive the linking component 52' to rotate the driving component 51'. When the driving component 51' rotates by a predetermined angle, the releasing inclined surface 514 abuts against the locking end 454, as shown in FIG. 21. By cooperation of the locking end 454 and the releasing inclined surface 514, the positioning component 45' slides toward the seat 20' along an arrow direction shown in FIG. 19 until the positioning component 45' is received in the first positioning slot 31, and the protruding column 453 protrudes out of the through hole, as shown in FIG. 20. Furthermore, due to sliding of the positioning component 45', the engaging component 43 does not abut against the positioning component 45' accordingly, so that the engaging component 43 can slide along the pivoting shaft to disengage from the first pivoting joint 41 by a resilient force of the recovering component 44, as shown in FIG. 20. As a result, the frame 10 is released to fold. The infant carrier 1' in the second embodiment has the same folding operation as one of the infant carrier 1 in the first embodiment, and the folded infant carrier 1' is shown in FIG. 14.

When the seat 20' is unfolded, the back portion 21 rotates to drives the linking component 52' to rotate the driving component 51'. The releasing inclined surface 514 of the

driving component 51' pushes the locking end 454 of the protruding column 453, as shown in FIG. 21, so as to slide the positioning component 45'. During the aforementioned process, the positioning component 45' pushes the post 432 of the engaging component 43 to slide to engage with both of the first pivoting joint 41 and the second pivoting joint 42, and the recovering component 44 is compressed. When the back portion 21 is unfolded completely, the locking surface 513 abuts against the locking end 454 of the protruding column 453, so that the frame 10 is locked, as shown in FIG. 19.

In contrast to the prior art, the infant carrier of the present invention utilizes the foldable seat and the driving component to release the frame, so that the frame can be folded when the seat is folded. Therefore, it is very convenient for users to fold the infant carrier, and the infant carrier has a reduced folded volume for easy storage and transportation.

Those skilled in the art will readily observe that numerous modifications and alterations of the device and method may be made while retaining the teachings of the invention. Accordingly, the above disclosure should be construed as limited only by the metes and bounds of the appended claims.

Claims

What is claimed is:

1. An infant carrier comprising:

a frame comprising:

a handle;

a front leg pivoted to the handle; and

a rear leg pivoted to a lower end of the handle; and

a seat engaging with the frame, the seat comprising:

a seat portion;

a back portion pivoted to the seat portion; and

a releasing mechanism comprising a driving component;

wherein when the seat portion pivots relative to the back portion for folding the seat, the driving component is driven to release the frame, so that the frame is folded along with the seat.

2. The infant carrier of claim 1, wherein the releasing mechanism further comprises a linking component connected between the driving component and the seat, and the seat drives the linking component to move the driving component when the seat is folded.

3. The infant carrier of claim 2, wherein the driving component is rotatably or slidably connected to the seat, and the seat drives the linking component to rotate or slide the driving component for releasing the frame when the seat is folded.

4. The infant carrier of claim 2, wherein the releasing mechanism further comprises a rotating component connected between the linking component and the seat, and the seat drives the rotating component to rotate to pull the linking component when the seat is folded.

5. The infant carrier of claim 4, wherein the releasing mechanism further comprises a resilient component for driving the driving component to recover.

6. The infant carrier of claim 1, wherein the driving component comprises a driving inclined surface, and the driving component slides to drive the driving inclined surface to release the frame.

7. The infant carrier of claim 1, wherein the driving component comprises a locking surface and a releasing inclined surface.

8. The infant carrier of claim 7, wherein the driving component rotates to drive the locking surface or the releasing inclined surface to interact with the frame for locking or releasing the frame, respectively.

9. The infant carrier of claim 1, further comprising a connecting mechanism, and the driving component being for releasing the connecting mechanism.

10. The infant carrier of claim 9, wherein the connecting mechanism comprises:

a first pivoting joint fixed on the handle of the frame, a first accommodating chamber being formed in the first pivoting joint;

a second pivoting joint fixed on the front leg of the frame and pivoted to the first pivoting joint by a pivoting shaft, a second accommodating chamber being formed in the second pivoting joint; and

an engaging component slidably disposed between the first accommodating chamber and the second accommodating chamber for locking the first pivoting joint and the

second pivoting joint, and the driving component driving the engaging component to slide for releasing the first pivoting joint and the second pivoting joint.

11. The infant carrier of claim 10, wherein the engaging component is slidably disposed on the pivoting shaft, the frame is locked when the engaging component engages with both of the first pivoting joint and the second pivoting joint, and the frame is released when the engaging component slides along the pivoting shaft to disengage from the first pivoting joint or the second pivoting joint.

12. The infant carrier of claim 10, wherein the connecting mechanism further comprises an engaging tooth protruding from the engaging component, an engaging slot is formed on an inner wall of each of the first accommodating chamber and the second accommodating chamber and corresponding to the engaging tooth.

13. The infant carrier of claim 12, wherein the engaging component slides to disengage the engaging tooth from the engaging slot on the first accommodating chamber or the engaging slot on the second accommodating chamber for releasing the frame.

14. The infant carrier of claim 10, further comprising a recovering component abutting between the engaging component and the first pivoting joint.

15. The infant carrier of claim 10, wherein the connecting mechanism further comprises a positioning component disposed between the engaging component and the driving

component, and the driving component drives the engaging component to move by the positioning component.

16. The infant carrier of claim 15, wherein the positioning component is disposed on the second pivoting joint, the connecting mechanism further comprises a post protruding from the engaging component, the post passes through the second pivoting joint to abut against the positioning component.

17. The infant carrier of claim 16, wherein the positioning component moves to drive the driving component to disengage from the first pivoting joint or the second pivoting joint.

18. The infant carrier of claim 15, wherein the connecting mechanism further comprises a protruding column protruding from the positioning component, the protruding column comprises a locking end and an avoiding inclined surface, the driving component interacts with the locking end to lock the first pivoting joint and the second pivoting joint, and the driving component rotates to drive the positioning component to slide so as to drive the engaging component to slide for releasing the first pivoting joint and the second pivoting joint.

19. The infant carrier of claim 15, wherein the positioning component comprises a driven inclined surface, the driving component comprises a driving inclined surface, the driving component slides to drive the positioning component to slide by interaction of the driving inclined surface of the driving component and the driven inclined surface of the positioning component.

20. The infant carrier of claim 15, further comprising a connector disposed on the frame, the positioning component being disposed between the connector and the second pivoting joint for positioning the connector, and the seat detachably engaging with the connector.

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1. CN107082083 - FOLDING SEAT OF BABY STROLLER

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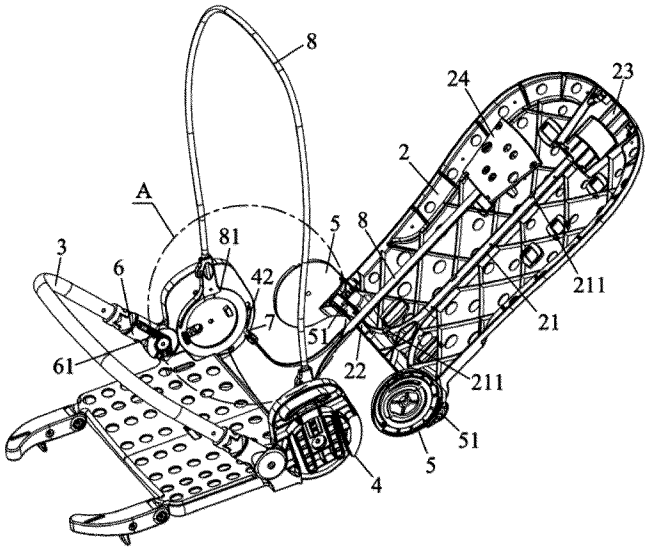
IPC
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Applicants
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Title
(EN) Folding seat of baby stroller
(ZH) 一种折叠婴儿推车座椅



Abstract

(EN) The invention discloses a folding seat of a baby stroller, which comprises a seat plate, a backrest plate and a front armrest assembly, wherein bases are arranged at the rear part of both sides of the base plate; first joints are arranged at the front part of the bases; connecting seats are arranged at the lower part of both sides of the backrest plate and can be respectively and pivotally mounted at the inner side of the corresponding base; second joints are arranged at both ends of the front armrest assembly and can be pivotally mounted at the corresponding first joint; the connecting seats are provided with locking pins; first locking grooves matched with the locking pins are arranged at positions corresponding to the locking pins at the inner side of the bases; the locking pins can move along the connecting seats from the position where the locking pins are inserted into the first locking grooves to the position where the locking pins exit from the first locking grooves; when the locking pins are inserted into the first locking grooves, the bases and the connecting seats can be locked; the backrest plate is provided with a pull bar and a pull bar driving mechanism which is provided with a driving button; and the lower end of the pull bar is connected with the locking pins and the upper end of the pull bar is connected with the pull bar driving mechanism. The folding seat of the baby stroller realizes the folding and unfolding operation by one hand and has the advantages of convenient operation and high efficiency.

(ZH) 本发明公开一种折叠婴儿推车座椅，包括座板、背靠板以及前扶手组件，座板两侧的后部设有基座，基座的前部设有第一关节，背靠板两侧的下部设有连接座，连接座分别可枢转装于对应基座的内侧；前扶手组件的两端设有第二关节，第二关节可枢转装于对应的第一关节，连接座装有锁定销，基座的内侧与锁定销对应的位置开设有与锁定销相适配的第一锁定槽，锁定销可沿连接座在卡入第一锁定槽和退出第一锁定槽的位置之间移动，锁定销卡入第一锁定槽时，可将基座和连接座锁定，背靠板上设有拉条和具有驱动按钮的拉条驱动机构，拉条的下端

与锁定销相连，上端则与拉条驱动机构相连。本发明可单手实现折叠和展开操作，操作方便且效率高。

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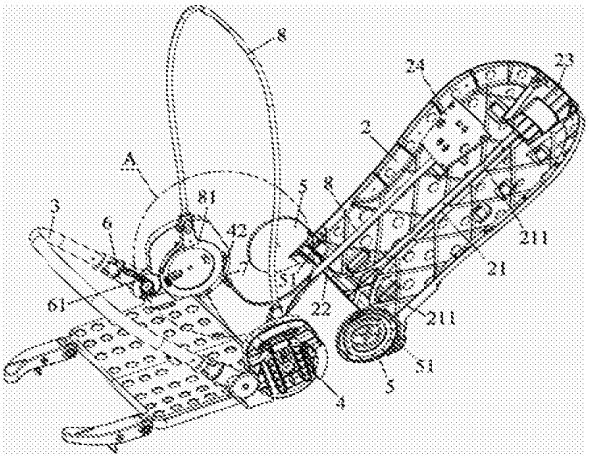
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(54)发明名称

一种折叠婴儿推车座椅

(57)摘要

本发明公开一种折叠婴儿推车座椅，包括座板、背靠板以及前扶手组件，座板两侧的后部设有基座，基座的前部设有第一关节，背靠板两侧的下部设有连接座，连接座分别可枢转装于对应基座的内侧；前扶手组件的两端设有第二关节，第二关节可枢转装于对应的第一关节，连接座装有锁定销，基座的内侧与锁定销对应的位置开设有与锁定销相适配的第一锁定槽，锁定销可沿连接座在卡入第一锁定槽和退出第一锁定槽的位置之间移动，锁定销卡入第一锁定槽时，可将基座和连接座锁定，背靠板上设有拉条和具有驱动按钮的拉条驱动机构，拉条的下端与锁定销相连，上端则与拉条驱动机构相连。本发明可单手实现折叠和展开操作，操作方便且效率高。



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1.一种折叠婴儿推车座椅，包括座板、背靠板以及前扶手组件，座板两侧的后部设有基座，基座的前部设有第一关节，背靠板两侧的下部设有连接座，连接座分别可枢转装于对应基座的内侧；前扶手组件的两端设有第二关节，第二关节可枢转装于对应的第一关节，其特征在于：连接座装有锁定销，基座的内侧与锁定销对应的位置开设有与锁定销相适配的第一锁定槽，锁定销可沿连接座在卡入第一锁定槽和退出第一锁定槽的位置之间移动，锁定销卡入第一锁定槽时，可将基座和连接座锁定，背靠板上设有拉条和具有驱动按钮的拉条驱动机构，拉条的下端与锁定销相连，上端则与拉条驱动机构相连，按压拉条驱动机构的驱动按钮时，可驱使拉条将锁定销拉出第一锁定槽，以解除锁定销对基座和连接座的锁定，此时，可推动背靠板并带动前扶手组件往座板的承力面方向折叠；而当座椅处于完全展开状态并撤去按压驱动按钮的压力后，拉条驱动机构则驱使拉条复位，并驱使锁定销卡入第一锁定槽，将基座和连接座锁定。

2.如权利要求1所述的折叠婴儿推车座椅，其特征在于：背靠板的承力面上设有由上倾斜向下延伸的导向槽，拉条可滑动置于导向槽中，拉条包括基条以及从基条的下端向两侧的锁定销延伸的支条，支条包括上端与基条的下端相连的弯折段以及一端与弯折段的下端相连的直线段，所述直线段的另一端直接或者通过中间件与锁定销相连，通过拉条驱动机构驱使拉条沿导向槽运动时，可驱动锁定销在插入第一锁定槽和退出第一锁定槽的位置之间移动。

3.如权利要求2所述的折叠婴儿推车座椅，其特征在于：每个连接座开设有与第一锁定槽相对的导向通孔，背靠板对应导向通孔的位置开设有与导向通孔相连的导滑槽，直线段的所述另一端有连接块，连接块装于导滑槽中，所述锁定销位于导滑槽内的部分的侧壁开设环形卡槽，每个连接块设有两个向导向通孔的方向延伸至环形卡槽外侧的第一限位板，所述第一限位板设有延伸至卡入环形卡槽的卡部，拉条拉动连接块沿导滑槽移动时，连接块可通过卡部带动锁定销沿导向通孔在插入第一锁定槽和退出第一锁定槽的位置之间移动。

4.如权利要求1所述的折叠婴儿推车座椅，其特征在于：基座的内侧的边缘开设有开口滑槽，开口滑槽中装有锁定块，第二关节设有与锁定块相适配的第二锁定槽，锁定块卡入第二锁定槽时，可将第二关节和基座锁定，锁定块的后部设有向连接座方向延伸的第一导柱，连接座与第一导柱相对的区域开设有供第一导柱插入的第一驱动凹槽，第一驱动凹槽包括圆弧形的始段和非圆弧形的驱动段，始段和驱动段相连，且始段的始端壁与第一导柱相抵时，座椅处于完全展开的状态，在连接座相对基座转动过程中，第一驱动凹槽和第一导柱相对滑动，当第一导柱与第一驱动凹槽的始段相对滑动时，第一导柱在开口滑槽内保持静止，而当第一导柱与第一驱动凹槽的驱动段相对滑动时，第一导柱在非圆弧形的驱动段的槽壁的推动下，沿开口滑槽前后移动，并带动锁定块在插入第二锁定槽或者退出第二锁定槽的位置之间移动。

5.如权利要求4所述的折叠婴儿推车座椅，其特征在于：连接座通过枢轴可枢转安装于基座的内侧，并可绕枢轴的轴线转动，圆弧形始段的圆心与连接座的转动中心位于同一直线上，所述第一驱动凹槽还包括从驱动段的末端延伸而出的圆弧形缓冲段。

6.如权利要求2所述的折叠婴儿推车座椅，其特征在于：背靠板位于导向槽上方的位置设有安装槽，拉条驱动机构包括驱动按钮以及复位顶簧，所述驱动按钮包括安装在安装槽

内并可沿安装槽上下移动的主体以及从主体向后延伸出安装槽的驱动部，所述复位顶簧的上端与安装槽的顶壁相抵，下端与主体相抵，向上按压驱动部时，可驱使主体克服复位顶簧的顶力并沿安装槽向上移动，并驱使拉条将锁定销拉出第一锁定槽，而撤去按压驱动部的压力后，复位顶簧则可推动主体沿安装槽下行，并驱使拉条将锁定销推进第一锁定槽。

7.如权利要求1所述的折叠婴儿推车座椅，其特征在于：第二关节通过枢轴可枢转连接于第一关节上，并可绕枢轴的轴线转动，枢轴上套设有复位扭簧，复位扭簧的一端与第一关节弹性相抵，另一端与第二关节弹性相抵，当背靠板往远离座板的承力面的方向转动时，复位扭簧推动第二关节随连接座转动。

8.如权利要求1至7中任意一项所述的折叠婴儿推车座椅，其特征在于：还包括帆架杆，所述帆架杆的两端分别设有安装座，安装座可枢转安装于基座上。

9.如权利要求8所述的折叠婴儿推车座椅，其特征在于：安装座可枢转安装于基座和连接座之间，其与基座和连接座的接合区域呈环状，连接座朝向安装座的表面开设有第二驱动凹槽，所述安装座朝向连接座的表面设有伸入第二驱动凹槽的第二导柱，当第二导柱与第二驱动凹槽的始端壁相抵时，座椅处于完全展开的状态，当背靠板往座板的承力面方向折叠转动到一定位置后，第二驱动凹槽的末端与第二导柱相抵，当背靠板继续往座板的承力面方向折叠转动时，则可带动第二导柱转动，并使安装座以及帆架杆随背靠板往座板的承力面方向折叠转动。

10.如权利要求8所述的折叠婴儿推车座椅，其特征在于：基座朝向连接座的一侧在对应座椅完全折叠时锁定销所处的位置处开设有与锁定销适配的插槽，当座椅完全折叠后，插槽与锁定销相对，撤去按压驱动按钮的压力后，锁定销即可插入插槽，并将连接座和基座锁合。

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一种折叠婴儿推车座椅

技术领域

[0001] 本发明涉及婴儿推车技术领域，特别一种折叠婴儿推车座椅。

背景技术

[0002] 婴儿推车是一种针对婴儿(或者幼童)所设计的承载移动工具，方便大人携带婴儿外出游玩或者购物等，同时还可适当盛放轻便的小物品，深受广大家长喜爱。

[0003] 传统的折叠婴儿推车座椅主要由柔性的纺织面料(必要时，纺织面料内可填充棉絮)制成。且其座垫和靠背垫分别通过位于车架两侧的座垫承载管和后支撑杆承力，使用时，柔性的座垫和靠背垫会因受力而中部严重凹陷变形，受力极不均匀，因此，婴儿坐、卧的舒适度较差，且不美观。

[0004] 为此，现有技术也出现了坐卧较为舒适的折叠婴儿推车座椅，其包括承力面垫设有柔性座垫的座板、承力面设有柔性靠垫的背靠板，其中，座板的两侧的后设有连接座，连接座通过关节组件连接有扶手管组件以及所述背靠板，所述座板和所述背靠板是采用塑料制成的板状结构，结构强度以及稳定性较好，使用时，不会因受力(即婴儿坐卧于其上)而发生严重的凹陷变形，因此，可提高婴儿坐卧的舒适度，且整体外形更为美观。但现有的这种折叠婴儿推车座椅仍有不足之处，原因在于，这种折叠婴儿推车座椅不具有单手连动收展的功能，收折及展开过程需两手操作，存在收展效率低且不方便的问题。

发明内容

[0005] 本发明的主要目的是提出一种折叠婴儿推车座椅，旨在实现折叠婴儿推车座椅的单手连动收展操作，以提高婴儿推车座椅收展操作的方便性。

[0006] 为实现上述目的，本发明提出一种折叠婴儿推车座椅，包括座板、背靠板以及前扶手组件，座板两侧的后部设有基座，基座的前部设有第一关节，背靠板两侧的下部设有连接座，连接座分别可枢转装于对应基座的内侧；前扶手组件的两端设有第二关节，第二关节可枢转装于对应的第一关节，连接座装有锁定销，基座的内侧与锁定销对应的位置开设有与锁定销相适配的第一锁定槽，锁定销可沿连接座在卡入第一锁定槽和退出第一锁定槽的位置之间移动，锁定销卡入第一锁定槽时，可将基座和连接座锁定，背靠板上设有拉条和具有驱动按钮的拉条驱动机构，拉条的下端与锁定销相连，上端则与拉条驱动机构相连，按压拉条驱动机构的驱动按钮时，可驱使拉条将锁定销拉出第一锁定槽，以解除锁定销对基座和连接座的锁定，此时，可推动背靠板并带动前扶手组件往座板的承力面方向折叠；而当座椅处于完全展开状态并撤去按压驱动按钮的压力后，拉条驱动机构则驱使拉条复位，并驱使锁定销卡入第一锁定槽，将基座和连接座锁定。

[0007] 本发明技术方案在连接座上安装有可沿安装座在卡入第一锁定槽和退出第一锁定槽的位置之间移动的锁定销，并在背靠板上设有下端与锁定销连接的拉条以及用于驱动拉条运动的拉条驱动机构。需要折叠本发明折叠婴儿推车座椅时，可单手按压拉条驱动机构的驱动按钮，以驱使拉条运动并将锁定销拉出第一锁定槽，并解除锁定销对基座和连接

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座的锁定，此后，单手将背靠板往座板的承力面方向推动，即可带动前扶手组件向座板方向折叠翻转，直至折叠操作完成，整个折叠过程，单手即可连动实现，操作方便且效率高。而需要展开座椅时，则可单手反向拉动背靠板，使背靠板往远离座板承力面的方向摆动，直至座椅完全展开后，撤去按压驱动按钮的压力(即松开驱动按钮)，此时，拉条驱动机构则驱使拉条复位，并驱使锁定销移动至卡入第一锁定槽，以将基座和连接座重新锁定，防止在使用过程中，背靠板和座板相对转动。整过展开并锁定的过程，同样单手即可连动实现，操作方便且效率高。

附图说明

[0008] 图1为本发明折叠婴儿推车座椅展开状态的立体图；

图2为本发明折叠婴儿推车座椅展开状态并分离盖板后的示意图；

图3是本发明折叠婴儿推车座椅的部分分解示意图；

图4为图3的A部分的放大详图；

图5为本发明折叠婴儿推车座椅展开状态的右视图；

图6为本发明折叠婴儿推车座椅折叠至背靠板刚驱动前扶手组件转动时右视图；

图7为本发明折叠婴儿推车座椅完全折叠后的右视图；

图8为本发明折叠婴儿推车座椅的背靠板的左视图；

图9为本发明折叠婴儿推车座椅的安装座的立体示意图；

图10为本发明折叠婴儿推车座椅的拉条和锁定销的连接示意图。

具体实施方式

[0009] 下面将结合附图，对本发明实施例中的技术方案进行清楚、完整地描述，显然，所描述的实施例仅仅是本发明的一部分实施例，而不是全部的实施例。基于本发明中的实施例，本领域普通技术人员在没有作出创造性劳动前提下所获得的所有其他实施例，都属于本发明保护的范围。

[0010] 需要说明，若本发明实施例中有涉及方向性指示(诸如上、下、左、右、前、后、顶、底、内、外、垂向、横向、纵向，逆时针、顺时针、周向、径向、轴向……)，则该方向性指示仅用于解释在某一特定姿态(如附图所示)下各部件之间的相对位置关系、运动情况等，如果该特定姿态发生改变时，则该方向性指示也相应地随之改变。

[0011] 另外，若本发明实施例中有涉及“第一”或者“第二”等的描述，则该“第一”或者“第二”等的描述仅用于描述目的，而不能理解为指示或暗示其相对重要性或者隐含指明所指示的技术特征的数量。由此，限定有“第一”、“第二”的特征可以明示或者隐含地包括至少一个该特征。另外，各个实施例之间的技术方案可以相互结合，但是必须是以本领域普通技术人员能够实现为基础，当技术方案的结合出现相互矛盾或无法实现时应当认为这种技术方案的结合不存在，也不在本发明要求的保护范围之内。

[0012] 本发明提出一种折叠婴儿推车座椅。

[0013] 如图1至10所示，本发明实施例中，该折叠婴儿推车座椅，包括座板1、背靠板2以及前扶手组件3，座板1两侧的后部设有基座4，基座4的前部设有第一关节41，背靠板2两侧的下部设有连接座55，连接座55分别可枢转装于对应基座4的内侧(这里所指的内侧，指基座4

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朝向座板1中部的侧壁)，基座4的外侧则与折叠婴儿推车的车架(未图示)连接；前扶手组件3呈U型管状结构，两端设有第二关节6，第二关节6可枢转安装(或称铰接)于对应的第一关节41，连接座5装有锁定销7，基座4的内侧与锁定销7对应的位置开设有与锁定销7相适配的第一锁定槽42，锁定销7可沿连接座5在卡入第一锁定槽42和退出第一锁定槽42的位置之间移动，锁定销7卡入第一锁定槽42时(此时，座椅处于展开状态)，可将基座4和连接座5锁定，使连接座5无法相对基座4转动，背靠板2上还设有拉条10和具有驱动按钮91的拉条驱动机构9，拉条10的下端与锁定销7相连，上端则与拉条驱动机构9相连，需要折叠本发明折叠婴儿推车座椅时，可按压拉条驱动机构9的驱动按钮91，并由拉条驱动机构9驱使拉条10将锁定销7拉出第一锁定槽42，以解除锁定销7对基座4和连接座5的锁定，此时，可推动背靠板2并带动前扶手组件3往座板1的承力面(或称座板的顶面)方向折叠翻转，直至折叠操作完成；而需要展开座椅时，则可单手反向拉动背靠板2，使背靠板2往远离座板1承力面的方向摆动，直至座椅处于完全展开状态后，撤去按压驱动按钮91的压力，以使拉条驱动机构9驱使拉条10复位，并驱使锁定销7卡入第一锁定槽42，将基座4和连接座5锁定。防止在使用过程中，背靠板2和座板1相对转动。整个折叠和展开的过程，单手即可连动实现，操作方便且效率高。

[0014] 应当说明的是，座板1和背靠板2可优先采用塑料制成，采用塑料制成，具有成型方便，成本低的优点。同时，为使婴儿坐卧舒适，最好在座板1的承力面和背靠板2的承力面分别垫设由柔性的座垫和靠垫，以供婴儿坐卧。

[0015] 在本发明实施例中，如图2、图3和图10所示，所述背靠板2的承力面上设有由上倾斜向下延伸的导向槽21，所述拉条10可滑动置于导向槽21中，拉条10包括基条101以及从基条101的下端向两侧的锁定销7延伸的支条，所述支条包括上端与基条101的下端相连的弯折段102以及一端与弯折段102的下端相连的直线段103，所述直线段103的另一端直接或者通过中间件与锁定销7相连，通过拉条驱动机构9驱使拉条10沿导向槽21运动时，可驱动锁定销7在插入第一锁定槽42和退出第一锁定槽42的位置之间移动，以将基座4和连接座5锁定，或者解除对基座4和连接座5的锁定。具体地，每个连接座5开设有与第一锁定槽42相对的导向通孔51，背靠板2对应导向通孔51的位置开设有与导向通孔51相连的导滑槽22(见图3、图4)，直线段103的所述另一端有连接块104，连接块104装于导滑槽22中，所述锁定销7位于导滑槽22内的部分的侧壁开设环形卡槽71，每个连接块104设有两个向导向通孔51的方向延伸至环形卡槽外侧的第一限位板，所述第一限位板设有延伸至卡入环形卡槽71的卡部105，拉条10拉动连接块104沿导滑槽22移动时，连接块104可通过卡部105带动锁定销7沿导向通孔51在插入第一锁定槽42和退出第一锁定槽42的位置之间移动。此连接方式，便于拆装锁定销7。应当说明的是，在不影响使用的情况下，锁定销7也可直接与连接块固连。

[0016] 进一步地，如图2、图3所示，导向槽21的侧壁设有第二限位板211，该第二限位板211延伸至部分与拉条10的前表面接触，以对拉条10进行限位，防止拉条10在使用过程中，脱出导向槽21。

[0017] 具体地，如图1至3所示，连接座5通过枢轴(或称铰轴，如铆钉或者螺杆，未图示)可枢转安装(或称铰接)于基座4的内侧，并可绕枢轴的轴线转动。

[0018] 在本发明实施例中，如图3、图4以及图8所示，所述基座4的内侧(即朝向座板1中部的一侧的侧壁)的边缘开设有开口滑槽43，开口滑槽43中装有锁定块11，第二关节6设有与

锁定块11相适配的第二锁定槽(未图示),锁定块11卡入第二锁定槽时,可将第二关节6和基座4锁定,锁定块11的后部设有向连接座5方向延伸的第一导柱111,连接座5与第一导柱111相对的区域开设有供第一导柱111插入的第一驱动凹槽52,所述第一驱动凹槽52包括圆弧形的始段521和非圆弧形的驱动段522,始段521和驱动段522相连,且始段521的始端壁与第一导柱111相抵时,座椅处于完全展开的状态,在连接座5相对基座4转动过程中,第一驱动凹槽52和第一导柱111相对滑动。当第一导柱111与第一驱动凹槽52的始段521相对滑动时,第一导柱111在开口滑槽43内保持静止,而当第一导柱111与第一驱动凹槽52的驱动段522相对滑动时,第一导柱111在非圆弧形的驱动段522的槽壁的推动下,沿开口滑槽43前后移动,并带动锁定块11在插入第二锁定槽(未图示)或者退出第二锁定槽的位置之间移动。从而自动将第二关节6和基座4锁定或者解除第二关节6和基座4的锁定,从而实现背靠板2和前扶手组件3的连动折叠和展开操作,并提高折叠和展开操作的效率。

[0019] 具体地,如图3、图4以及图8所示,圆弧形始段521的圆心与连接座5的转动中心位于同一直线(即均位于枢轴的轴线)上,以保证第一导柱111与第一驱动凹槽52的始段521相对滑动时,第一导柱111在开口滑槽43内保持静止。进一步地,所述第一驱动凹槽52还包括从驱动段522的末端延伸而出的圆弧形缓冲段523,该缓冲段523最好也与连接座5的转动中心位于同一直线上,以对第一导柱111沿开口滑槽43的滑动进行缓冲,当第一导柱111与第一驱动凹槽52的缓冲段523相对滑动时,第一导柱111在开口滑槽43内保持静止,防止第一导柱111移动过急而出现卡死现象。

[0020] 进一步地,如图1至4以及图9所示,本发明折叠婴儿推车座椅还包括帆架杆8,所述帆架杆8的两端分别设有安装座81,安装座81可枢转安装于基座4上,背靠板2往座板1的承力面方向折叠转动到一定位置后(见图6),可驱使安装座81带动帆架杆8往座板1的承力面方向折叠,直至座椅折叠完成(见图7)。具体地,所述安装座81可枢转安装于基座4和连接座5之间,其与基座4和连接座5的接合区域呈环状,设置成环状主要是为了不阻碍安装座81的转动。同时,也应当注意不阻碍锁定销7的移动。所述连接座5朝向安装座81的表面开设有第二驱动凹槽53,所述安装座81朝向连接座5的表面设有伸入第二驱动凹槽53的第二导柱811,当第二导柱811与第二驱动凹槽53的始端壁相抵时,座椅处于完全展开的状态(见图5),当背靠板2往座板1的承力面方向折叠转动到一定位置后,第二驱动凹槽53的末端与第二导柱811相抵,当背靠板2继续往座板1的承力面方向折叠转动时,则可带动第二导柱811转动,并使安装座81以及帆架杆8随背靠板2往座板1的承力面方向折叠转动,直至折叠操作完成(见图7)。

[0021] 进一步地,如图1、图4以及图9所示,安装座81朝向连接座5的一侧设有连接座5的方向延伸的圆弧形限位围板812或者圆弧形限位凹槽(未图示),所述连接座5置于圆弧形限位围板812或者圆弧形限位凹槽,并可相对圆弧形限位围板812或者圆弧形限位凹槽转动。

[0022] 进一步地,如图2至图4所示,基座4朝向连接座5的一侧在对应座椅完全折叠时锁定销7所处的位置处开设有与锁定销7适配的插槽44,当座椅完全折叠后,插槽44与锁定销7相对,撤去按压驱动按钮91的压力后,锁定销7即可插入插槽44,并将连接座5和基座4锁合,以防止在不使用的情况下,座椅自行展开。而需要展开座椅时,则可先按压驱动按钮91,以通过拉条10将锁定销7拉出插槽44后,即可往远离座板1承力面的方向转动背靠板2,直到座椅完全展开,此后,撤去按压驱动按钮91的压力,使拉条10驱动锁定销7卡入第一锁定槽42

后，即可将展开状态的座椅锁定。

[0023] 本发明实施例中，如图1至5所示，背靠板2位于导向槽21上方的位置设有安装槽23，拉条驱动机构9包括驱动按钮91以及复位顶簧92，所述驱动按钮91包括安装在安装槽23内并可沿安装槽23上下移动的主体以及从主体向后延伸出安装槽23的驱动部911，所述复位顶簧92的上端与安装槽23的顶壁相抵，下端与主体相抵，向上按压驱动部911时，可驱使主体克服复位顶簧92的顶力并沿安装槽23向上移动，并驱使拉条10将锁定销7拉出第一锁定槽42，以解对除基座4和连接座5的锁定，而撤去按压驱动部911的压力后，复位顶簧92则可推动主体沿安装槽23下行，并驱使拉条10将锁定销7推进第一锁定槽42，以将基座4和连接座5锁定。具体地，所述安装槽23的前侧可拆卸固设有可将安装槽23的前侧覆盖的盖板24，以对所述主体进行限位，防止主体脱出安装槽23。

[0024] 在本发明实施例中，如图1、图2所示，拉条10的顶端伸入安装槽23，并与主体固连或者卡接。卡接的方式，便于拆装。而固连的方式，则结构稳定性较高，可根据需要而选择。

[0025] 在本发明实施例中，如图1、图3以及图4所示，第二关节6同样可通过枢轴(或称铰轴，如铆钉，螺杆等)可枢转连接(或称铰接)于第一关节41上，并可绕枢轴的轴线转动。进一步地，所述枢轴上套设有复位扭簧61，复位扭簧61的一端与第一关节41弹性相抵，另一端与第二关节6弹性相抵，当背靠板2往远离座板1的承力面的方向转动时，复位扭簧61推动第二关节6随连接座5转动，直到转动到预定的位置为止，此后，锁定块11在连接座5的第一驱动凹槽52驱动段521的驱动下，逐渐卡入第二关节6的锁定槽(未图示)，以将第二关节6锁定在基座4上。

[0026] 以上所述仅为本发明的优选实施例，并非因此限制本发明的专利范围，凡是在本发明的发明构思下，利用本发明说明书及附图内容所作的等效结构变换，或直接/间接运用在其他相关的技术领域均包括在本发明的专利保护范围内。

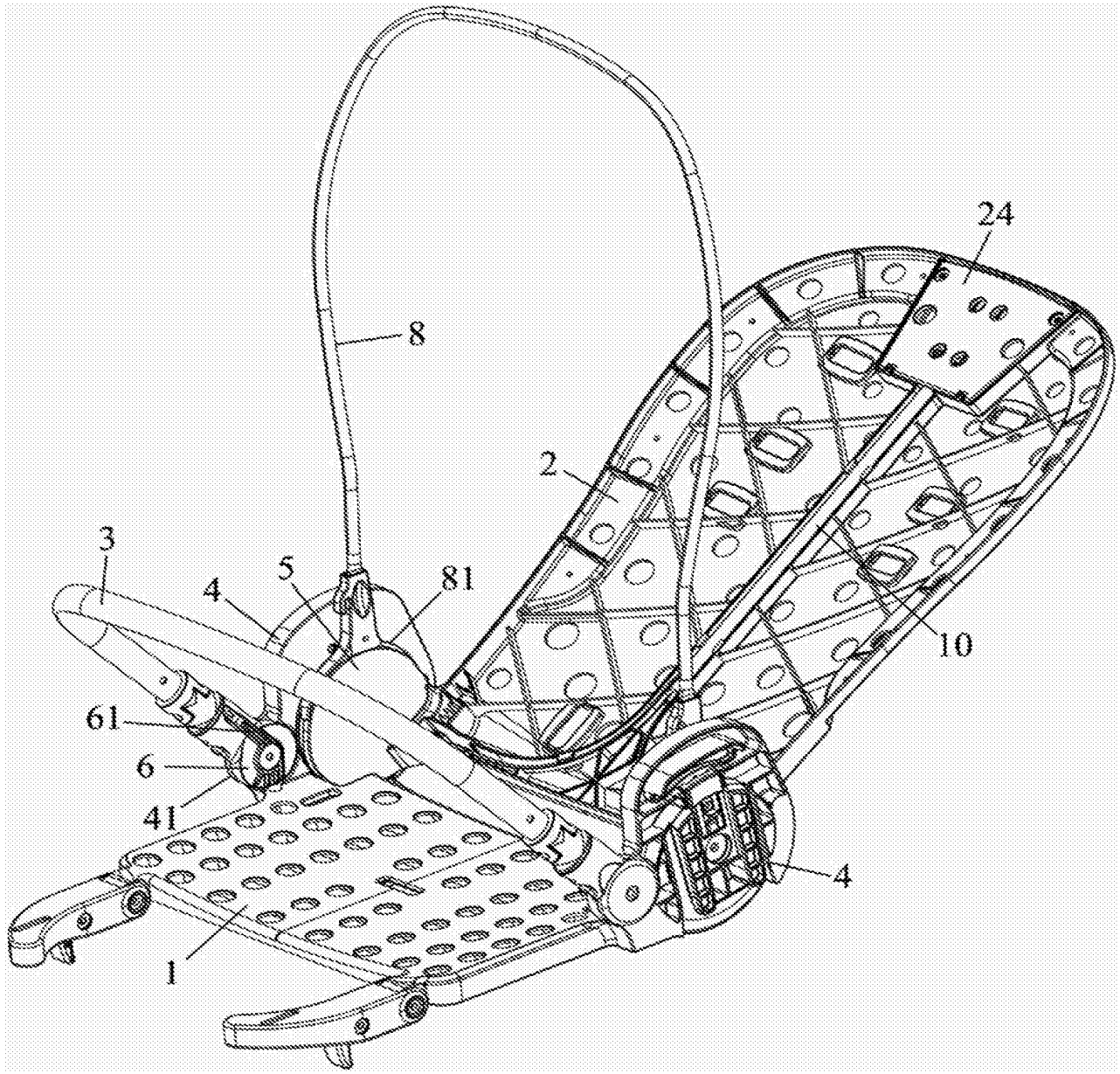


图1

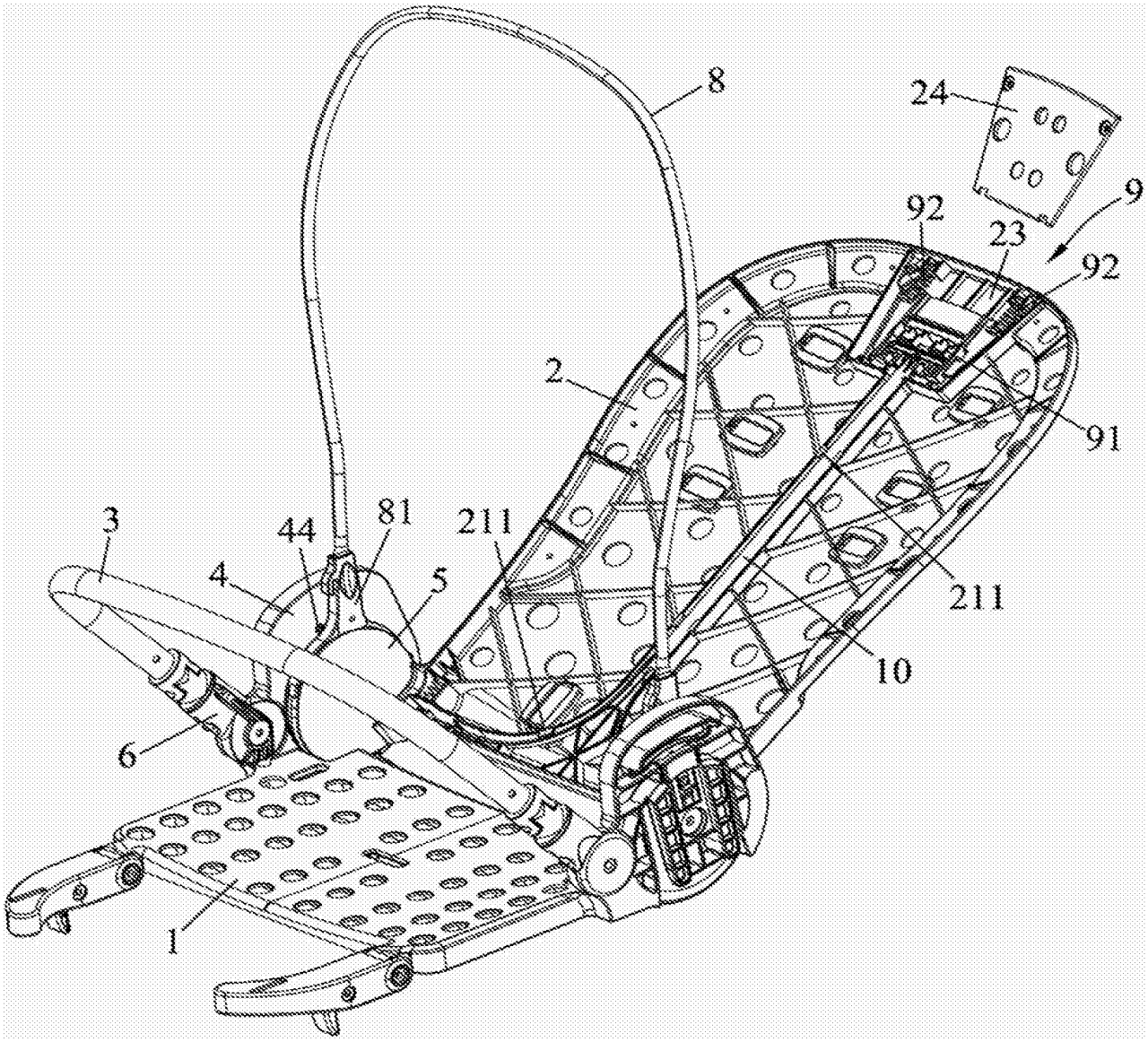


图2

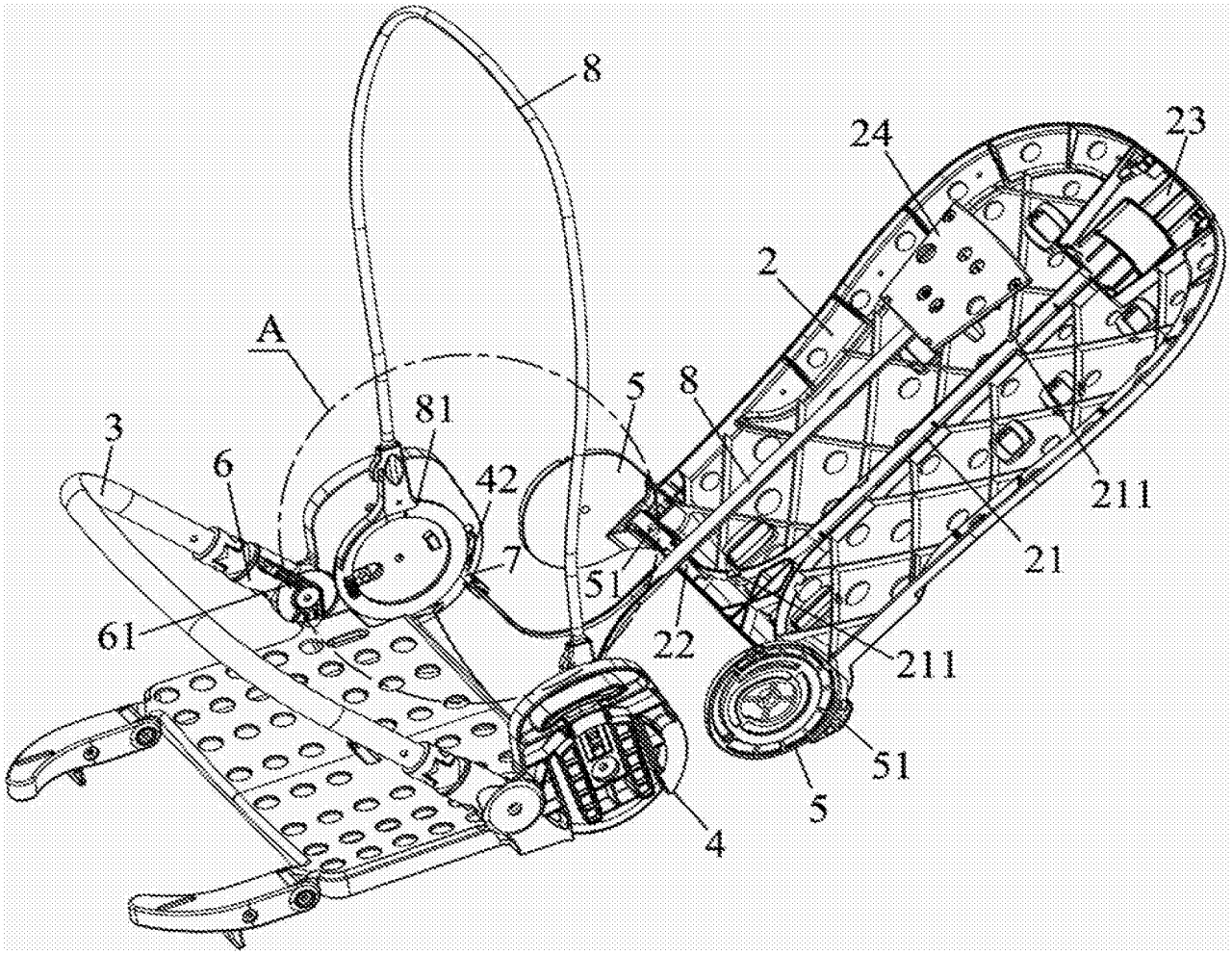


图3

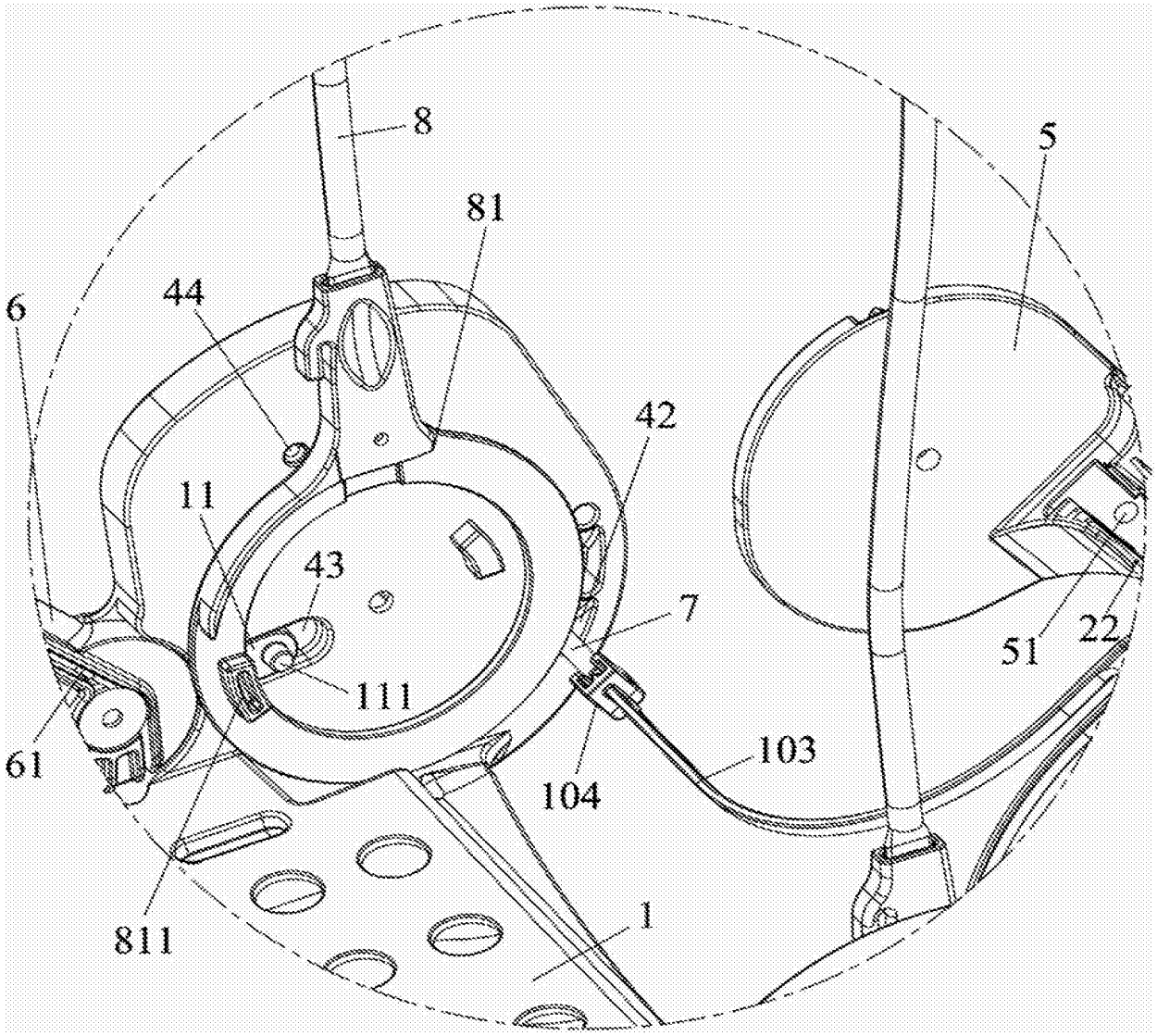


图4

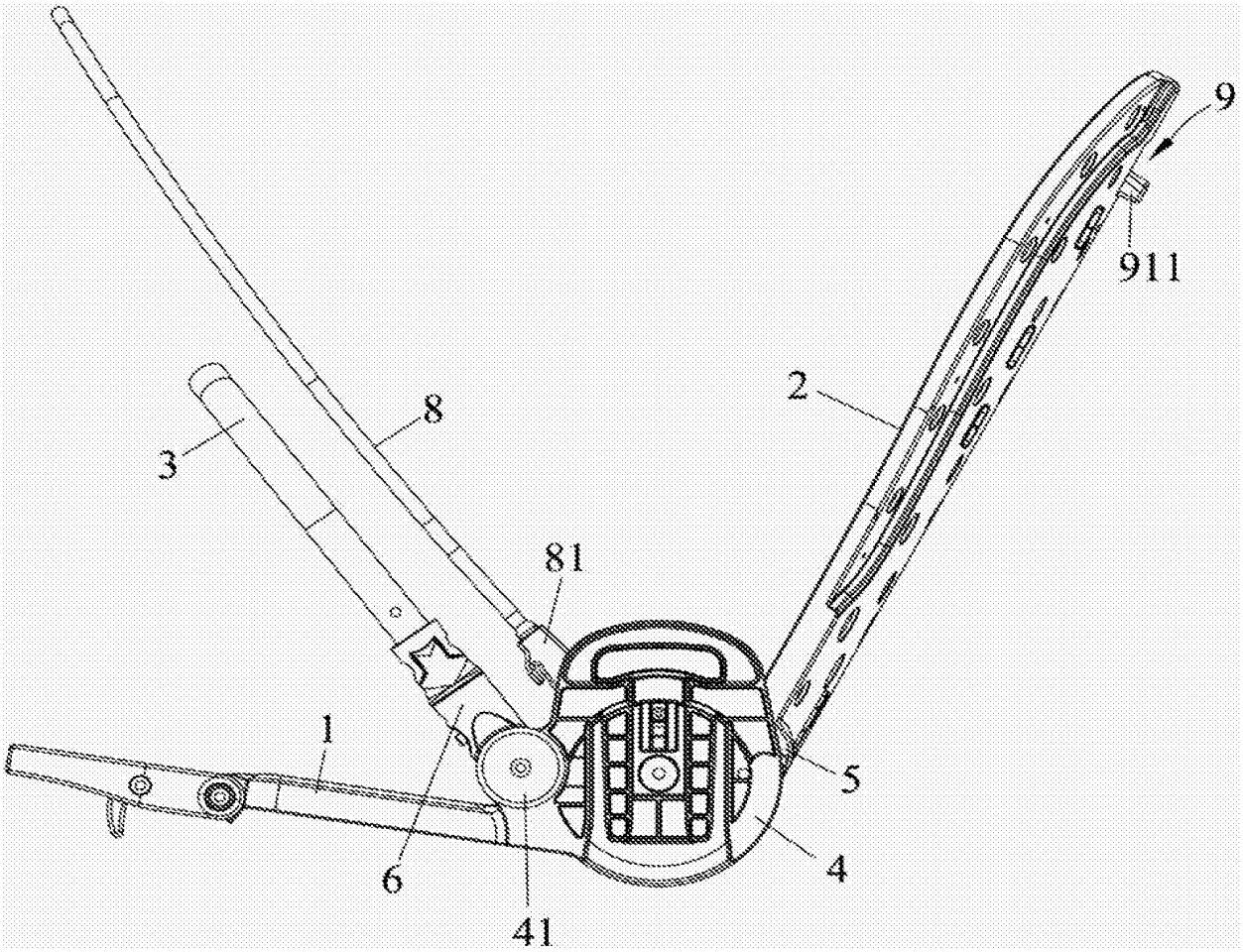


图5

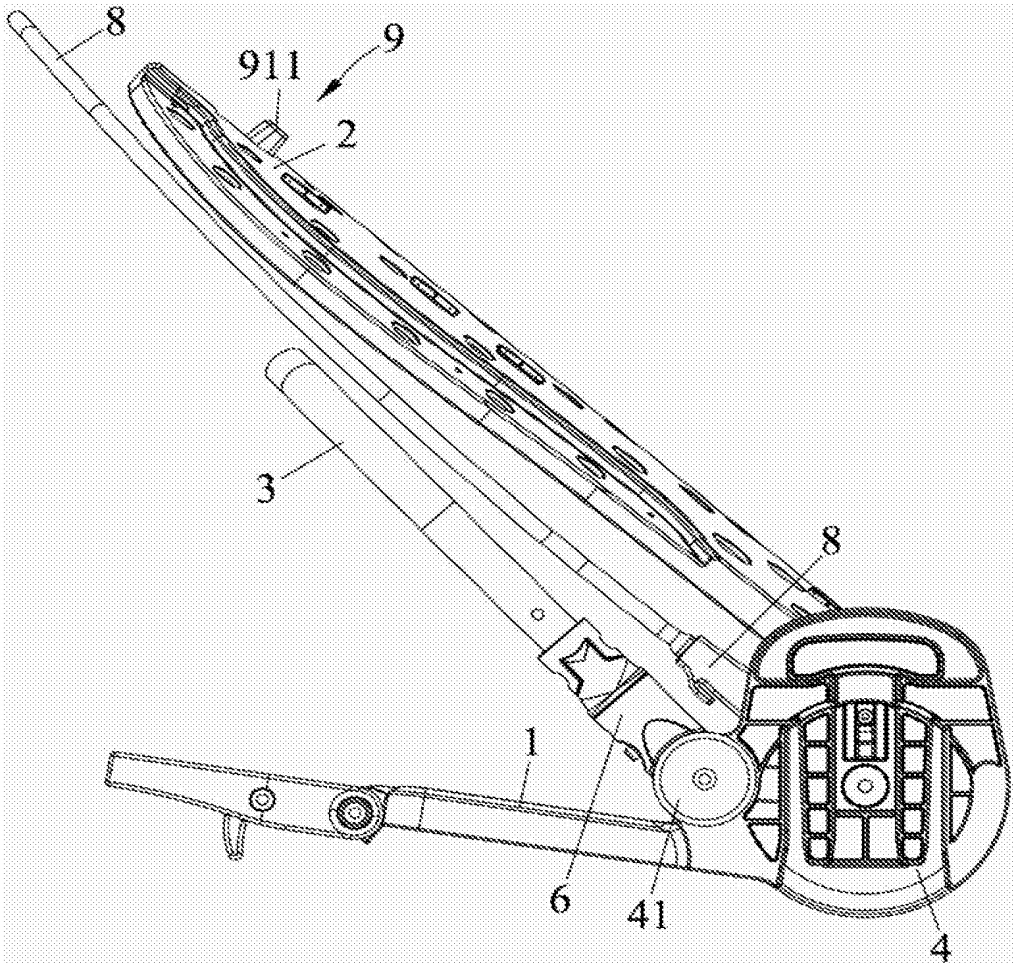


图6

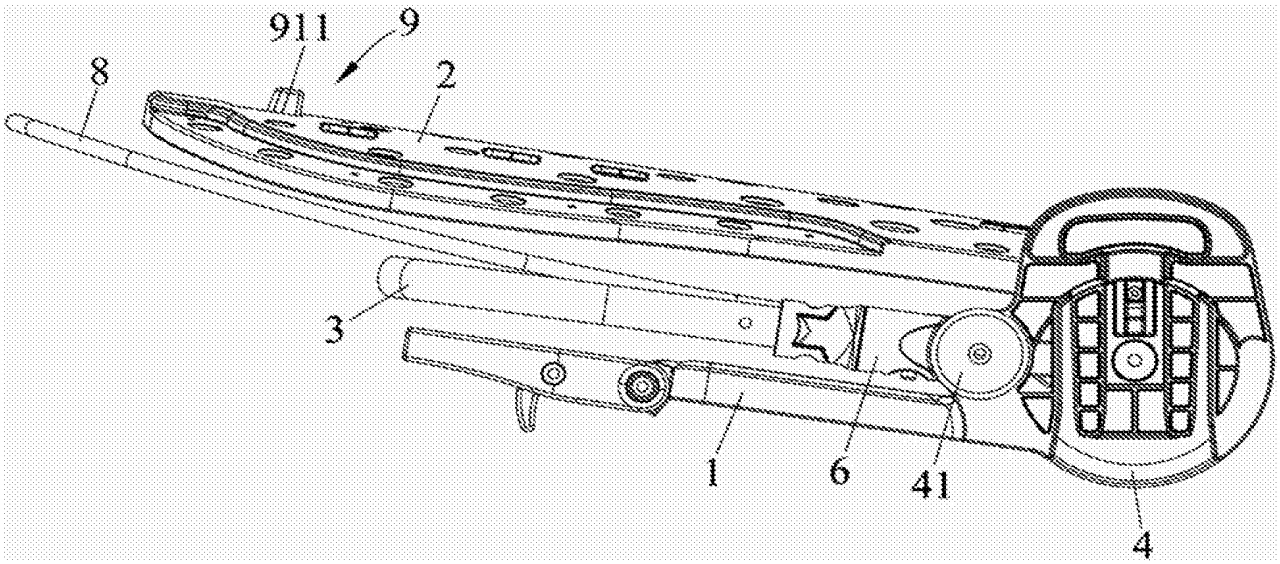


图7

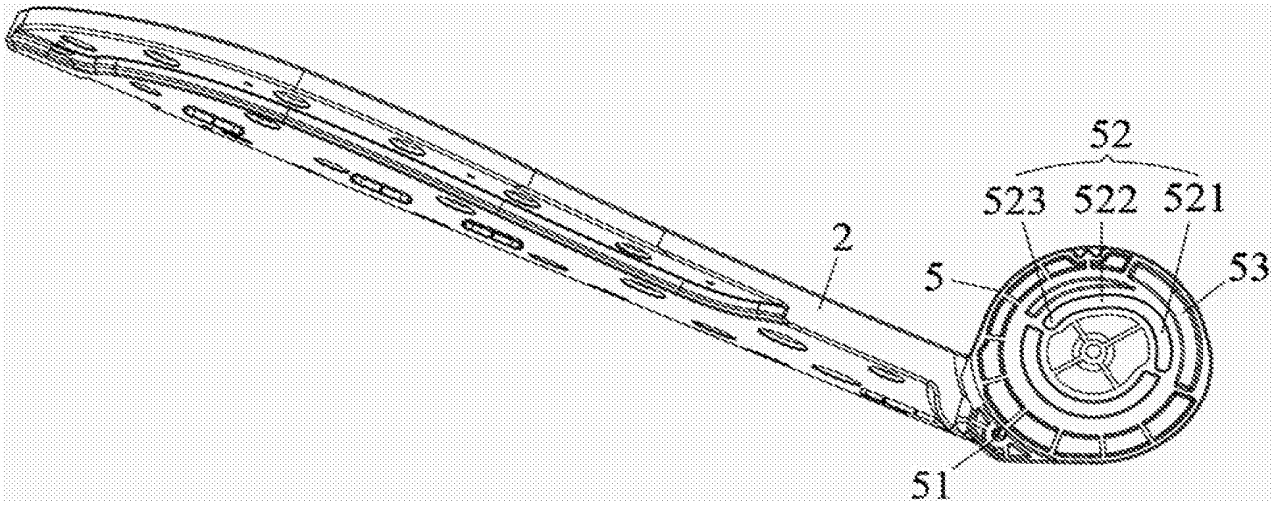


图8

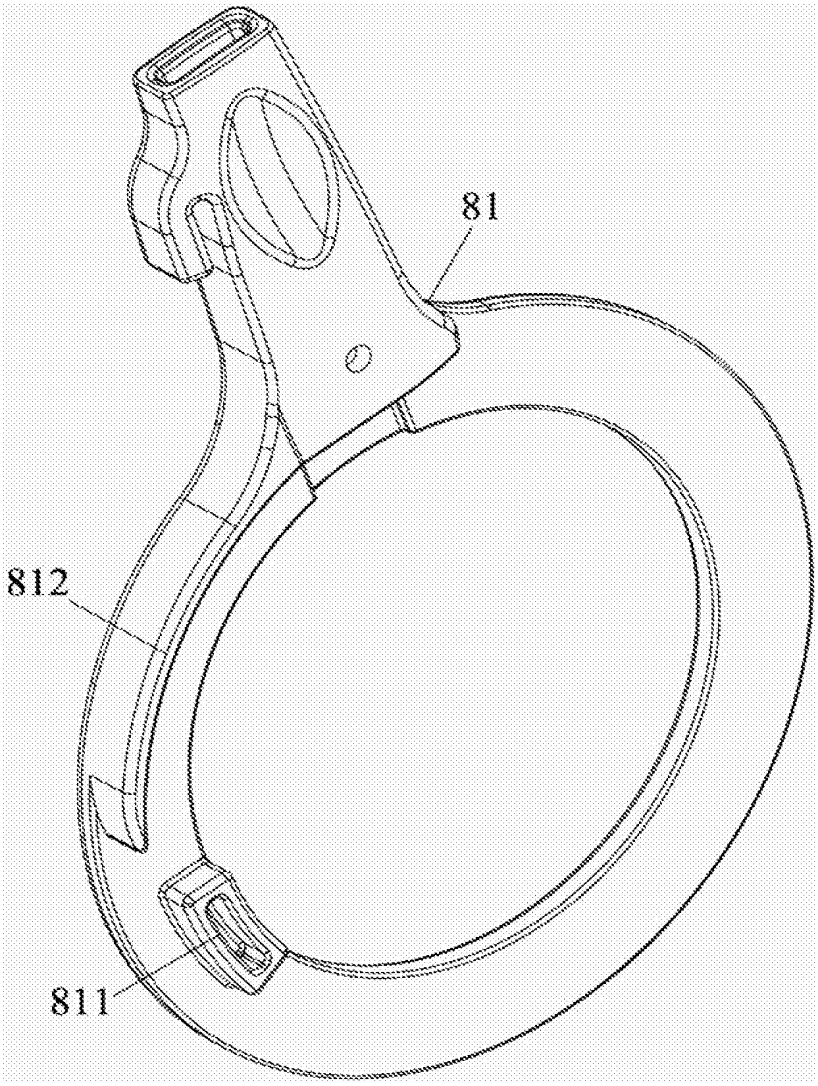


图9

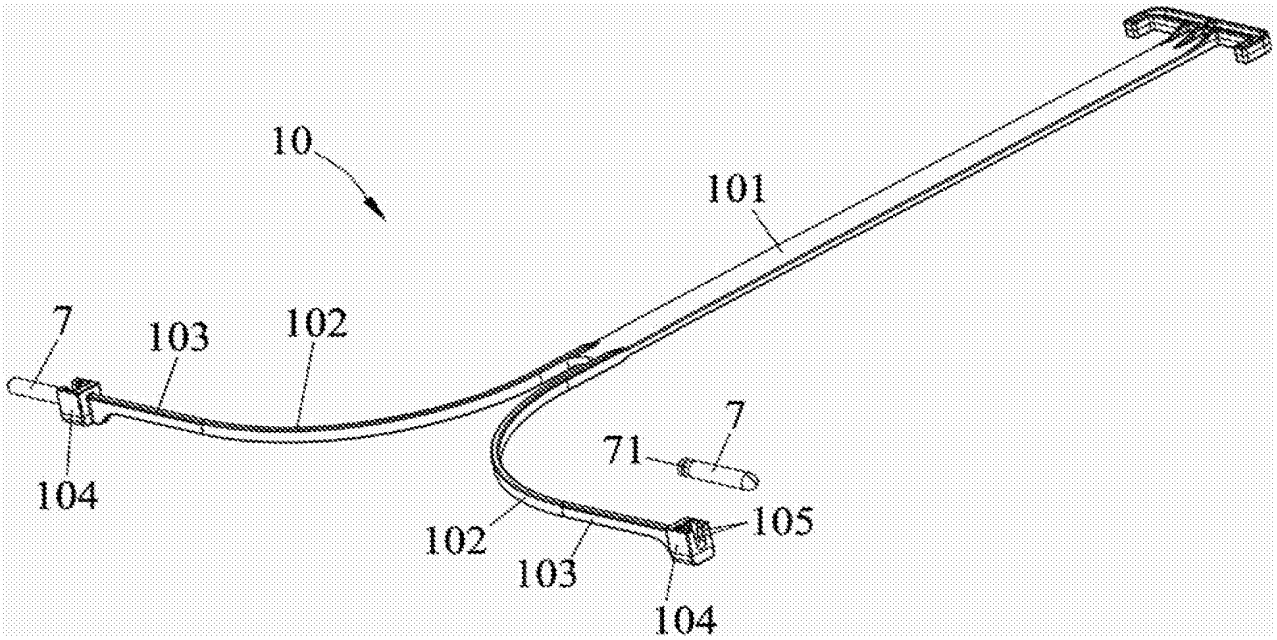


图10

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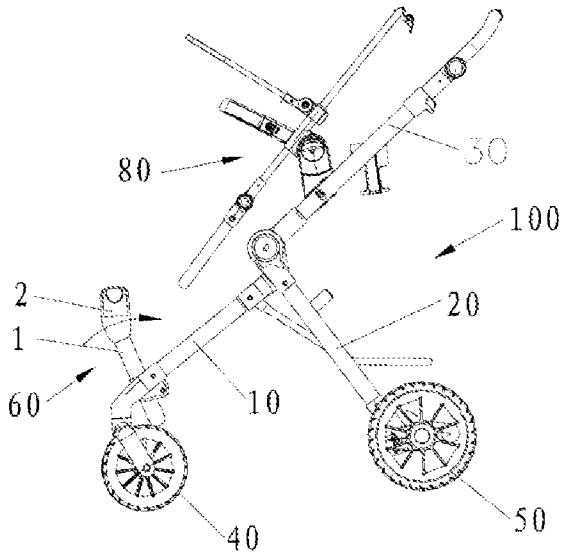
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Title
[EN] Baby carriage
[ZH] 儿童推车



Abstract
[EN] The invention discloses a baby carriage. A frame of the baby carriage includes two side supports arranged on the left and right respectively and also includes a seat carrier for holding a baby seat; the seat carrier includes a carrier base that at least has two carrier rods arranged on the left and right respectively; each carrier rod has a mounting end that is provided with a carrier connector which can be fitly connected with the baby seat; the side support on each side has a support rod extended in vertical direction; the carrier base is pivotally connected to the frame in front-rear direction; the seat carrier is positioned between the support rods on the two sides in the left-right direction. The seat carrier on the baby carriage allows the baby carriage to be quickly switched betweena single carriage and a double carriage, and even between a single carriage and a multiple carriage, so that the overall bearing capacity of the baby carriage is greatly improved.
[ZH] 本发明公开了一种儿童推车，其推车车架包括分设于左右两侧的两个侧支架，还包括用于嫁接儿童座兜的座兜托架，所述座兜托架包括托架座，所述托架座至少具有分设于左右两侧的两根托架杆，每根所述托架杆均具有安装端，所述安装端上设有能够与所述儿童座兜相配接的托架连接件，每侧的所述侧支架均具有沿上下方向延伸的支架杆，所述托架座能够沿前后方向翻转地连接在所述推车车架上，且所述座兜托架沿左右方向上位于两侧的所述支架杆之间。通过在儿童推车上设置该座兜托架，还能够有效地实现儿童推车在单、双人车之间进行快速转换，甚至单人与多人车之间的快速转换，大幅地提升儿童推车的整体承载能力。

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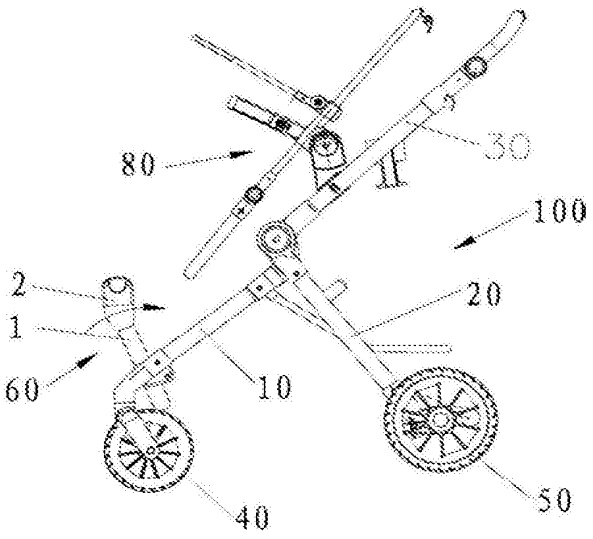
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(54)发明名称

儿童推车

(57)摘要

本发明公开了一种儿童推车，其推车车架包括分设于左右两侧的两个侧支架，还包括用于嫁接儿童座兜的座兜托架，所述座兜托架包括托架座，所述托架座至少具有分设于左右两侧的两根托架杆，每根所述托架杆均具有安装端，所述安装端上设有能够与所述儿童座兜相配接的托架连接件，每侧的所述侧支架均具有沿上下方向延伸的支架杆，所述托架座能够沿前后方向翻转地连接在所述推车车架上，且所述座兜托架沿左右方向上位于两侧的所述支架杆之间。通过在儿童推车上设置该座兜托架，还能够有效地实现儿童推车在单、双人车之间进行快速转换，甚至单人与多人车之间的快速转换，大幅地提升儿童推车的整体承载能力。



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1.一种儿童推车，包括具有展开状态与折叠状态的推车车架、设于所述推车车架底部的轮组件，以及用于将所述推车车架锁定在展开状态下的锁定机构，所述推车车架包括分设于左右两侧的两个侧支架，其特征在于：所述推车车架还包括用于嫁接儿童座兜的座兜托架，所述座兜托架包括托架座，所述托架座至少具有分设于左右两侧的两根托架杆，每根所述托架杆均具有安装端，所述安装端上设有能够与所述儿童座兜相配接的托架连接件，每侧的所述侧支架均具有沿上下方向延伸的支架杆，所述托架座能够沿前后方向翻转地连接在所述推车车架上，且所述座兜托架沿左右方向上位于两侧的所述支架杆之间。

2.根据权利要求1所述的儿童推车，其特征在于：所述座兜托架具有打开状态与收折状态，当所述座兜托架由打开状态向收折状态转换时，所述托架连接件沿前后方向靠近所述支架杆；当所述座兜托架由收折状态向打开状态转换时，所述托架连接件沿前后方向远离所述支架杆。

3.根据权利要求1所述的儿童推车，其特征在于：所述推车车架的左右各侧上，所述托架杆转动地连接在同侧的所述支架杆上，同一侧的所述托架杆与所述支架杆之间还设有用于将两者锁定的托架锁定件。

4.根据权利要求3所述的儿童推车，其特征在于：所述托架座还包括连接在两侧所述托架杆之间的托架横杆，所述托架横杆与两侧的所述托架杆之间构成U字型，所述托架横杆上还设有用于将两侧的所述托架锁定件解锁的托架解锁件。

5.根据权利要求1所述的儿童推车，其特征在于：所述座兜托架的左右各侧上，所述托架连接件能够相对所述托架杆翻转地安装在所述托架杆的所述安装端上，且两侧的所述托架连接件相对同侧所述托架杆翻转的方向相向设置。

6.根据权利要求1至5任一项所述的儿童推车，其特征在于：每侧的所述侧支架均包括相对转动连接的前支架、后支架及推杆，所述座兜托架有一组或多组，所述的前支架、和/或所述后支架、和/或所述推杆构成所述的支架杆。

7.根据权利要求6所述的儿童推车，其特征在于：所述推车车架还包括设于两侧所述侧支架之间的人体承载装置，当所述推车车架处于展开状态时，所述人体承载装置与所述座兜托架一上一下地设置在所述推车车架上。

8.根据权利要求7所述的儿童推车，其特征在于：所述人体承载装置与所述座兜托架这两者中，其中至少有一者沿上下方向位置可调地设置在所述推车车架上。

9.根据权利要求7所述的儿童推车，其特征在于：所述人体承载装置设于两侧的所述推杆之间，所述座兜托架设于两侧的所述前支架之间，和/或，所述座兜托架设于两侧的所述后支架之间。

10.根据权利要求9所述的儿童推车，其特征在于：所述人体承载装置包括座兜架，所述座兜架的左右两侧各设有一组座兜连接组件，所述座兜连接组件沿所述推杆的长度延伸方向上下滑动地设于所述推杆上。

儿童推车

技术领域

[0001] 本发明涉及一种儿童推车。

背景技术

[0002] 随着越来越多的家庭有两个孩子，既能作为单人使用又可作双人使用的儿童推车越来越受欢迎。现有技术中，大多是提供单个儿童乘坐的单人推车，也有一些可同时供两个儿童同时乘坐的双人推车，而能够在双人推车与单人推车之间转换的儿童推车比较少。

[0003] 虽然目前市场上也出现了能够在双人推车与单人推车之间转换的儿童推车，但是由于转换需要用到的连接杆件以及需要连接的部位较多，结构比较繁琐，操作也十分的不便，同时还影响整个推车在折叠后各杆件的收拢程度，造成折叠后的推车整体体积偏大而不易携带与存放等问题。

发明内容

[0004] 本发明的目的是克服现有技术的缺点，提供一种能够实现单、双人转换的儿童推车。

[0005] 为达到上述目的，本发明采用的技术方案是：一种儿童推车，包括具有展开状态与折叠状态的推车车架、设于所述推车车架底部的轮组件，以及用于将所述推车车架锁定在展开状态下的锁定机构，所述推车车架包括分设于左右两侧的两个侧支架，所述推车车架还包括用于嫁接儿童座兜的座兜托架，所述座兜托架包括托架座，所述托架座至少具有分设于左右两侧的两根托架杆，每根所述托架杆均具有安装端，所述安装端上设有能够与所述儿童座兜相配接的托架连接件，每侧的所述侧支架均具有沿上下方向延伸的支架杆，所述托架座能够沿前后方向翻转地连接在所述推车车架上，且所述座兜托架沿左右方向上位于两侧的所述支架杆之间。

[0006] 优选地，所述座兜托架具有打开状态与收折状态，当所述座兜托架由打开状态向收折状态转换时，所述托架连接件沿前后方向靠近所述支架杆；当所述座兜托架由收折状态向打开状态转换时，所述托架连接件沿前后方向远离所述支架杆。

[0007] 优选地，所述推车车架的左右各侧上，所述托架杆转动地连接在同侧的所述支架杆上，同一侧的所述托架杆与所述支架杆之间还设有用于将两者锁定的托架锁定件。

[0008] 进一步地，所述托架座还包括连接在两侧所述托架杆之间的托架横杆，所述托架横杆与两侧的所述托架杆之间构成U字型，所述托架横杆上还设有用于将两侧的所述托架锁定件解锁的托架解锁件。

[0009] 优选地，所述座兜托架的左右各侧上，所述托架连接件能够相对所述托架杆翻转地安装在所述托架杆的所述安装端上，且两侧的所述托架连接件相对同侧所述托架杆翻转的方向相向设置。

[0010] 优选地，每侧的所述侧支架均包括相对转动连接的前支架、后支架及推杆，所述座兜托架有一组或多组，所述的前支架、和/或所述后支架、和/或所述推杆构成所述的支架

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杆。

[0011] 进一步地，所述推车车架还包括设于两侧所述侧支架之间的人体承载装置，当所述推车车架处于展开状态时，所述人体承载装置与所述座兜托架一上一下地设置在所述推车车架上。

[0012] 更进一步地，所述人体承载装置与所述座兜托架这两者中，其中至少有一者沿上下方向位置可调地设置在所述推车车架上。

[0013] 更进一步地，所述人体承载装置设于两侧的所述推杆之间，所述座兜托架设于两侧的所述前支架之间，和/或，所述座兜托架设于两侧的所述后支架之间。

[0014] 作为一种具体的实施方式，所述人体承载装置包括座兜架，所述座兜架的左右两侧各设有一组座兜连接组件，所述座兜连接组件沿所述推杆的长度延伸方向上下滑动地设于所述推杆上。

[0015] 由于上述技术方案的运用，本发明与现有技术相比具有下列优点：本发明的儿童推车上，座兜托架能够前后翻转地设置在推车车架上而具有打开状态和收折状态，这使其能够在打开状态时通过嫁接儿童座兜而在儿童推车上增设一个座位装置，以及在不需要嫁接儿童座兜时收拢于推车车架两侧的支架杆之间而不影响儿童推车的整体尺寸、外观，以及推车车架的收折。通过在儿童推车上设置该座兜托架，还能够有效地实现儿童推车在单、双人车之间进行快速转换，甚至单人与多人车之间的快速转换，大幅地提升儿童推车的整体承载能力。

附图说明

[0016] 附图1为本发明的儿童推车展开状态下的侧视图(双人车状态)；

附图2为附图1的立体图；

附图3为本发明的儿童推车展开状态下的侧视图(单人车状态且座兜托架处于打开状态)；

附图4为附图3的立体图；

附图5为本发明的儿童推车展开状态下的侧视图(单人车状态且座兜托架处于半收折状态)；

附图6为附图5的立体图；

附图7为本发明的儿童推车展开状态下的侧视图(单人车状态且座兜托架处于收折状态)；

附图8为附图7的立体图；

附图9为本发明的儿童推车上座兜托架打开且与篮筐的配合示意图；

附图10为附图9中座兜托架收折时的示意图；

附图11为本发明中座兜托架展开状态下的主视图；

附图12为本发明中座兜托架半折叠状态下的主视图；

附图13为本发明中座兜托架折叠状态下的主视图；

附图14为本发明的儿童推车另一实施例的主视示意图；

附图15为本发明的儿童推车又一实施例的主视示意图；

其中：100、侧支架；10、前支架；20、后支架；30、推杆；40、前轮组件；50、后轮组件；60、座

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兜托架；70、儿童座兜；80、座兜架；801、座兜接口件；802、座兜嫁接件；90、90’、连杆；901、滑动件；101、滑套；

1、托架座；11、托架杆；11a、安装端；12、托架横杆；13、连接套管；2、托架连接件；2a、嫁接端；2b、连接端；3、转接件；4、第一轴；5、第二轴；6、解锁操作件。

具体实施方式

[0017] 下面结合附图和具体实施例来对本发明的技术方案作进一步的阐述。

[0018] 参见图1至图8所示的儿童推车，其包括具有展开状态与折叠状态的推车车架、设于推车车架底部的轮组件，以及用于将该推车车架锁定在展开状态下的锁定机构。推车车架包括分设于左右两侧的两个侧支架100，每侧的侧支架100均具有沿上下方向延伸的支架杆。

[0019] 该推车车架还包括座兜托架60，以用于嫁接安装儿童座兜70，使得儿童推车上具有座位或者再增设一个座位。参见图11至图13所示，该座兜托架60包括托架座1，托架座1至少具有分设于左右两侧的两根托架杆11，每根托架杆11均具有安装端11a，安装端11a上设有能够与儿童座兜70相配接的托架连接件2，托架座1能够沿前后方向翻转地连接在推车车架上，且座兜托架60沿左右方向上位于两侧的所述支架杆之间。

[0020] 这样，座兜托架60具有打开状态与收折状态，当座兜托架60由打开状态向收折状态转换时，托架连接件沿前后方向靠近支架杆，以用于与儿童座兜70进行连接而实现儿童座兜70的嫁接安装，如图1、图2所示；当座兜托架60由收折状态向打开状态转换时，托架连接件沿前后方向远离支架杆，座兜托架60不嫁接儿童座兜70，托架座1相对推车车架翻转而使得托架杆11与侧支架100上的支架杆相收拢，以减小座兜托架60占用的空间，且有利于推车车架折叠时各杆件的相对收拢，参见图7至图8所示。

[0021] 本实施例中，推车车架的左右各侧上，托架杆11转动地连接在同侧的支架杆上，同一侧的托架杆11与支架杆之间还设有用于将两者锁定的托架锁定件。具体地，参见图11至图13所示，两侧的托架杆11上均设置有连接套管13，通过连接套管13与对应侧支架杆之间的连接与锁定，从而实现托架座1在推车车架上的锁定安装，托架锁定件即设置在连接套管13与支架杆之间。

[0022] 托架座1还包括连接在两侧托架杆11之间的托架横杆12，该托架横杆12与两侧的托架杆11之间构成U字型结构，具体设置时，托架横杆12与两侧的托架杆11可一体成形设置，托架横杆12上还设有用于将两侧的托架锁定件解锁的托架解锁件6。

[0023] 参见图11至图13所示，该座兜托架60的左右各侧上，托架连接件2能够相对托架杆11翻转地安装在托架杆11的安装端11a上，且两侧的托架连接件2相对同侧托架杆11翻转的方向相向设置。这使得座兜托架60具有展开状态与折叠状态，当座兜托架60处于展开状态时，两侧的托架连接件2分别自两侧的托架杆11的安装端11a伸出，以用于与儿童座兜70相配合进行嫁接安装，如图11所示；当座兜托架60处于折叠状态时，两侧的托架连接件2相向翻转而与对应侧的托架杆11相收拢，且两个托架连接件2沿左右方向收拢在两侧的托架杆11之间。

[0024] 本实施例中，座兜托架60的左右各侧上，托架连接件2通过转接件3连接在托架杆11的安装端11a上。具体地，每个托架连接件2均具有用于与儿童座兜70相连接的嫁接端2a，

以及用于与托架杆11相连接的连接端2b，其中，嫁接端2a与待嫁接的儿童座兜70之间具有相配合的可拆卸连接结构。转接件3则设于连接端2b与托架杆11的安装端11a之间，此处具体采用如下设置：转接件3的一端部通过第一轴4与安装端11a相枢轴连接，转接件3的另一端部通过第二轴5与托架连接件2的连接端2b相枢轴连接，其中第一轴4与第二轴5的轴心线相互平行地设置，这样，能够使得托架连接件2相对托架杆11翻转时实现紧密地贴合收拢。

[0025] 本实施例采用的座兜托架60上，安装端11a上设有第一收容槽(图中未示出)，托架连接件2上设有第二收容槽(图中未示出)，当座兜托架60处于展开状态时，连接件3的一端部收容在第一收容槽中且其另一端部收容于第二收容槽中，托架连接件2上连接端2b的端部直接抵触在安装端11a上，亦即，该座兜托架60展开状态下从外部并不能看到转接件3，这使其在展开使用时外观较为美观简洁。具体设置时，第一收容槽与第二收容槽可设置为开口朝向托架座1内侧的U型开口槽，两侧的第一收容槽/第二收容槽的口部相对设置。

[0026] 参见图1至图10所示，本实施例的推车车架上，每侧的侧支架100均包括相对转动连接的前支架10、后支架20及推杆30，轮组件包括前轮组件40和后轮组件50，前轮组件40设于前支架10的下部，后轮组件50设于后支架20的下部。上述的前支架10、和/或后支架20、和/或推杆30构成上述的支架杆。推车车架上，座兜托架60可以设置为一组或多组，该一组或多组的座兜托架60可以设置在两侧的前支架10之间，和/或设置在两侧的后支架20之间，和/或设置在两侧的推杆30之间，从而嫁接一个或多个儿童座兜，以在儿童推车上形成一个或多个座位。

[0027] 在儿童推车上设置上述的座兜托架60还能够实现儿童推车在单人车与双人车之间进行快速转换。参见图1至图10所示，推车车架还包括设于两侧侧支架100之间的人体承载装置，当推车车架处于展开状态时，上述的人体承载装置与座兜托架60一上一下地设置在推车车架上。这样，当儿童推车仅需要承载一个儿童时，直接由人体承载装置承载，而将座兜托架60相对推车车架收折而不嫁接儿童座兜；当儿童推车需要同时承载两个儿童时，则由人体承载装置承载一个儿童，同时将座兜托架60打开并嫁接儿童座兜70，以承载另一名儿童。优选地，上述人体承载装置与座兜托架60这两者中，其中至少一者沿上下方向位置可调地设置在推车车架上，以在座兜托架60打开或收折时调整座兜托架60与人体承载装置之间的相对位置，以防止各杆、部件干涉以及利于儿童推车整体重心的调整。

[0028] 在本实施例中，如图1至图8所示，人体承载装置包括设置在两侧推杆30之间的座兜架80，座兜架80的左右两侧各设有一组座兜连接组件，此处，该座兜连接组件包括设于座兜架80上的座兜接口件801，以及能够与座兜接口件801可拆卸配合连接的座兜嫁接件802，其中，座兜嫁接件802沿推杆30的长度延伸方向上下滑动地设置在推杆30上，使得座兜架80在推杆30上的上下位置可调。座兜托架60则设置在两侧的前支架10之间，该座兜托架60相对前支架10翻转而使得托架连接件2向前上方伸出而处于打开状态时，如图1、图2所示，可以通过嫁接儿童座兜70而在推车车架上形成下座位；当不需要嫁接儿童座兜70时，座兜托架60则沿图3中的箭头顺时针旋转而收拢在两侧的前支架10之间，如图7、图8所示。

[0029] 参见图9、图10所示，本实施例的儿童推车上，各侧侧支架100上，前支架10的上部、后支架20的上部及推杆30的下部通过转动关节相互转动地连接在一起，各侧的侧支架100还包括连杆90，该连杆90的后部枢轴连接在后支架20上，其前部枢轴连接有滑动件901，且该滑动件901沿前支架10的长度延伸方向滑动地设置于前支架10上。该推车车架展开状态

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下，连杆90可作为篮筐杆，通过设置篮筐布套而形成储物篮筐。设置时还可以将座兜托架60与篮筐布套的前部相连接，这样当座兜托架60打开时，还能够进一步地对储物篮筐的储物空间向前进行扩展。

[0030] 当然，在其他的某些实施例中，还可以在两侧推杆30之间设置人体承载装置的同时，再在两侧的后支架20之间设置一组座兜托架60，从而在儿童推车上能够形成一上一下两个座位装置，如图14所示。在图14示出的实施例中，推杆30的下部与后支架20的上部相枢轴连接，前支架10的上部枢轴连接有滑套101，该滑套101滑动地套设在后支架20上，连杆90'的前部枢轴连接在前支架10上且其后部枢轴连接在后支架20上。通过在前支架10与后支架20之间设置篮筐布套，并将座兜托架60与篮筐布套的后部相连接，这样当座兜托架60向后打开时，也能够进一步地对储物篮筐的储物空间向后进行扩展。

[0031] 在其他的某些实施例中，还可以在两侧推杆30之间设置人体承载装置的同时，在两侧的前支架10之间、在两侧的后支架20之间各设置一组座兜托架60，从而使得儿童推车能够形成一上两下三个座位装置，如图15所示，用户可以根据需要旋转使用其中的一个或多个座位装置。该实施例下，前后两个座兜托架60分别打开时，能够分别地对储物篮筐的储物空间向前与向后进行扩展。

[0032] 综上，本发明的儿童推车，其中通过在推车车架两侧侧支架100之间设置座兜托架60，且通过将其托架座1上的托架杆11前后翻转地连接在侧支架100上的支架杆上，使得座兜托架60具有相对支架杆倾斜的打开状态和相对支架杆收拢的收折状态，从而能够嫁接儿童座兜70以在儿童推车上增设一个座位装置，且能够在不需要嫁接儿童座兜70时收拢于支架杆之间而不影响儿童推车的整体尺寸、外观，以及影响推车车架的收折。通过采用该座兜托架60，还能够有效地实现儿童推车在单、双人车之间进行快速转换，甚至单人与多人车之间的快速转换，大幅地提升儿童推车的整体承载能力。

[0033] 上述实施例只为说明本发明的技术构思及特点，其目的在于让熟悉此项技术的人士能够了解本发明的内容并据以实施，并不能以此限制本发明的保护范围。凡根据本发明精神实质所作的等效变化或修饰，都应涵盖在本发明的保护范围之内。

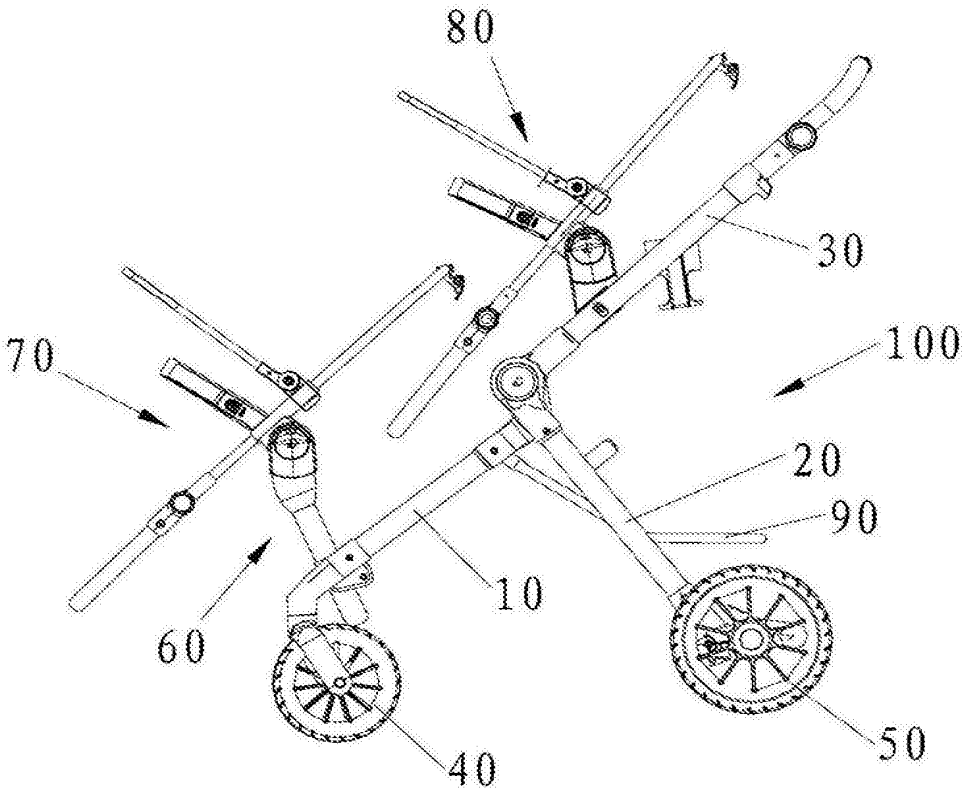


图1

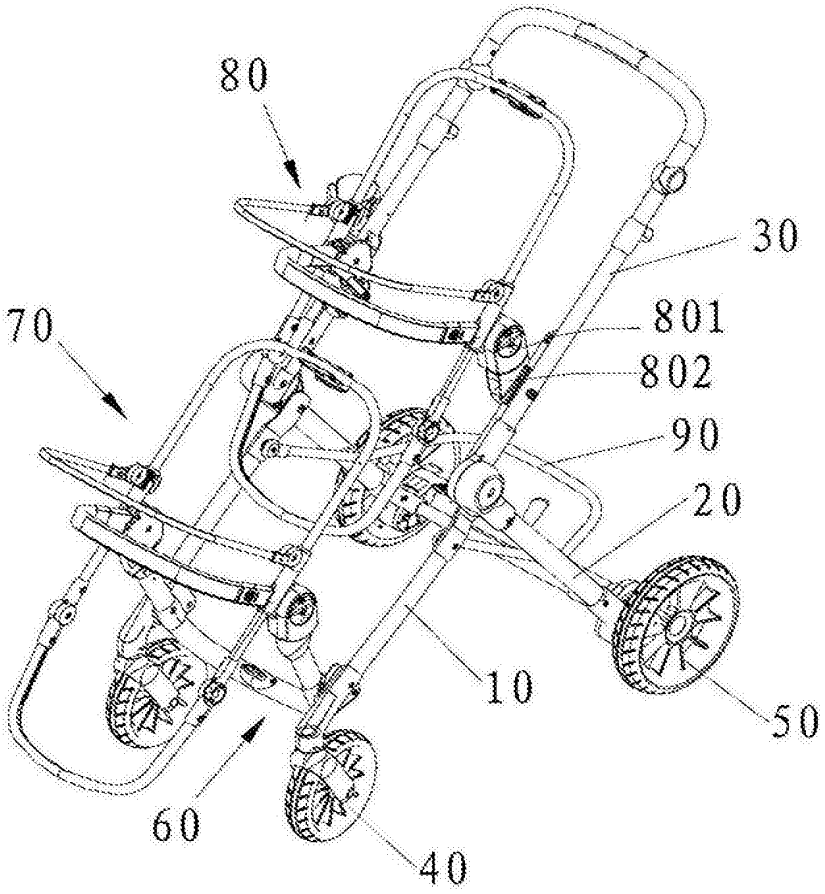


图2

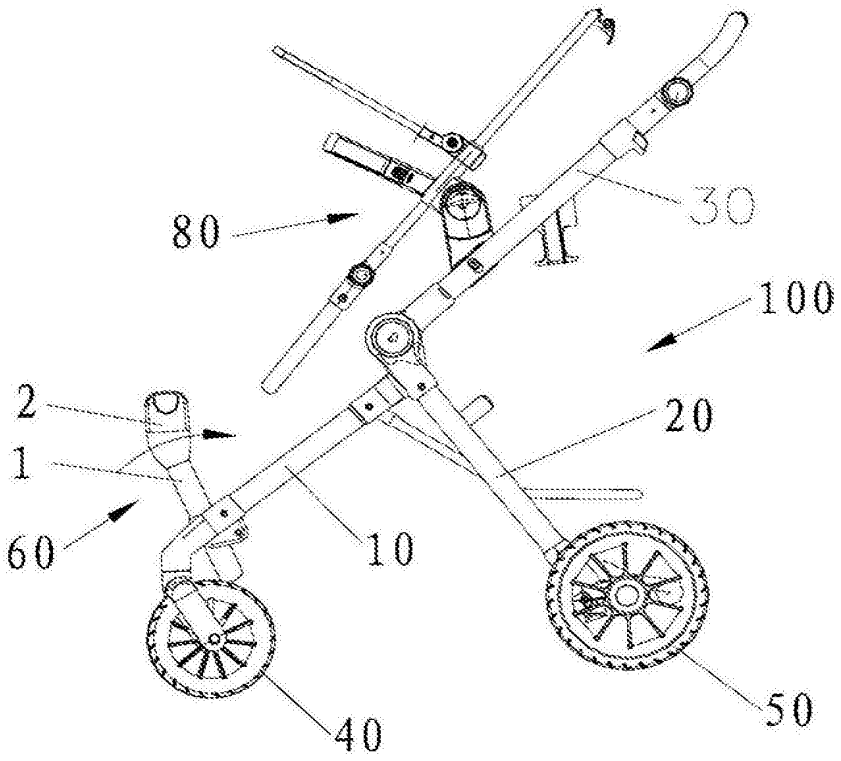


图3

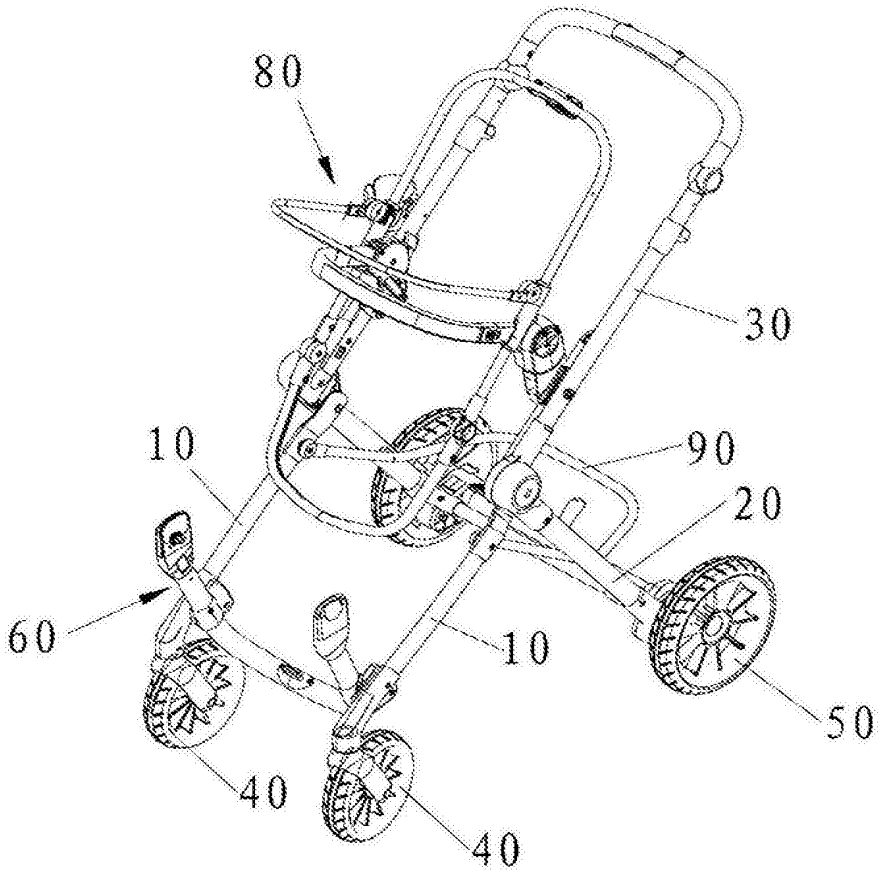


图4

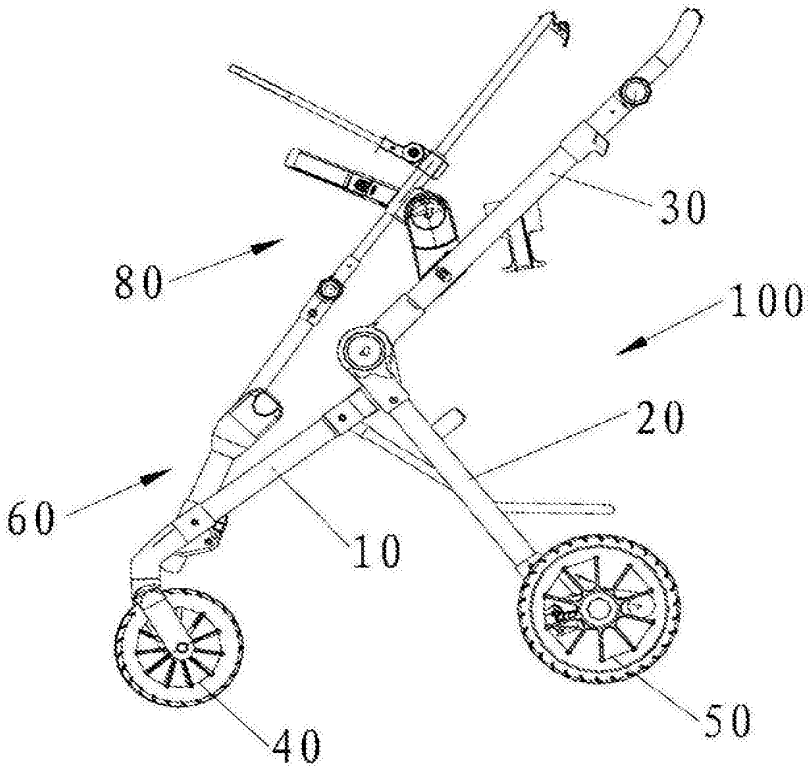


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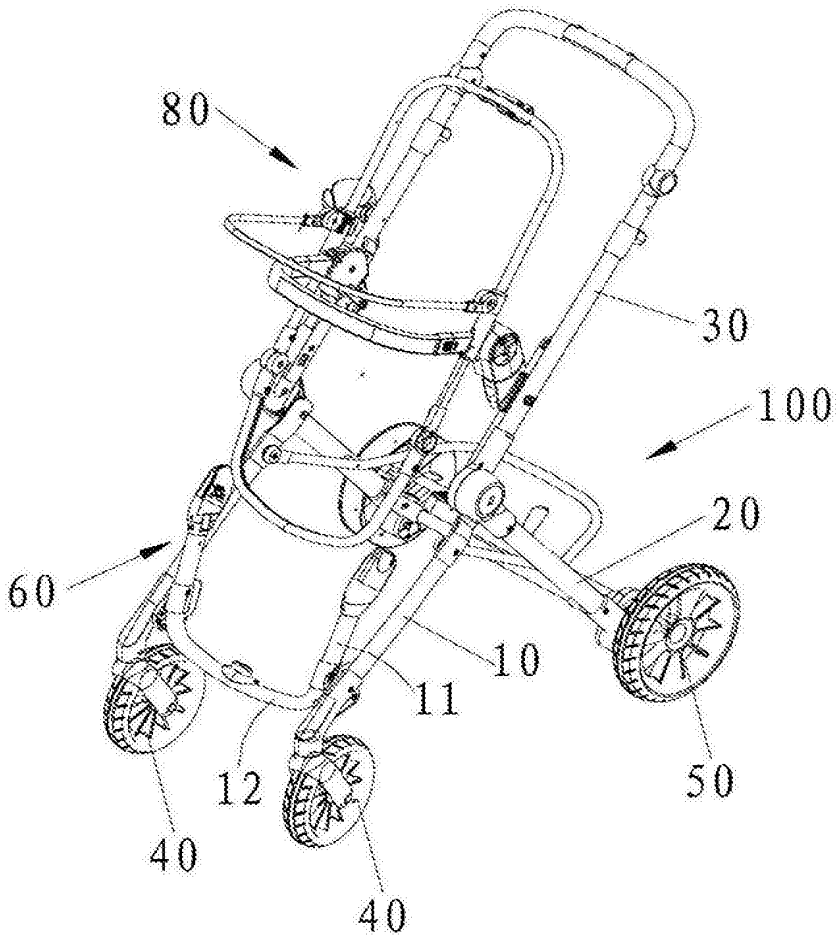


图6

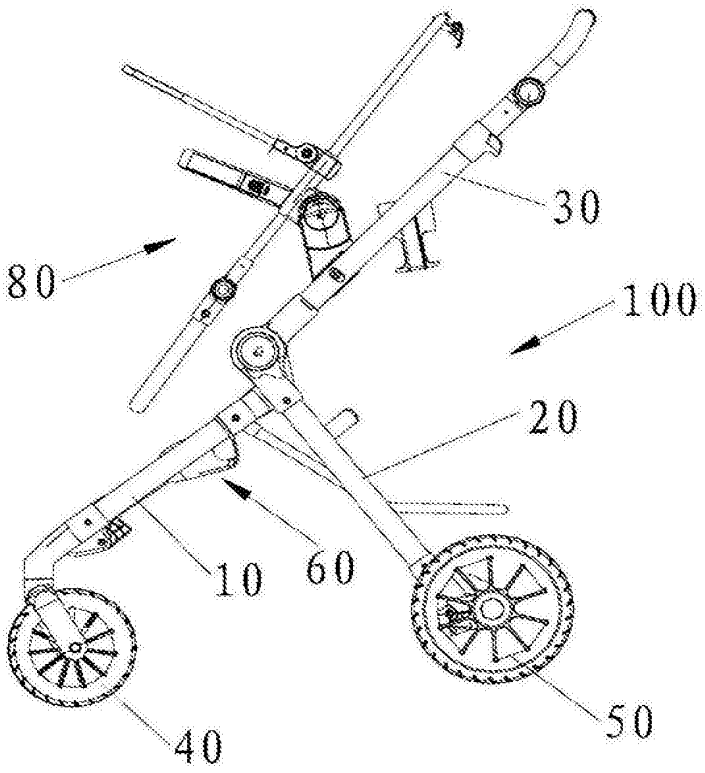


图7

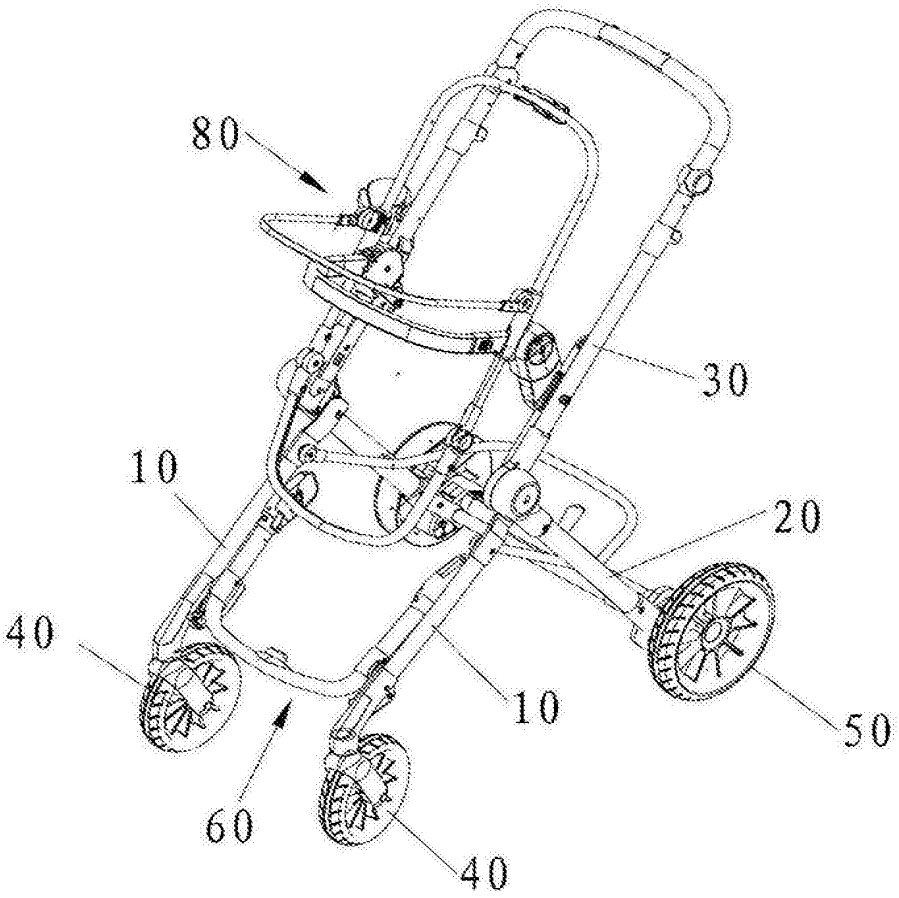


图8

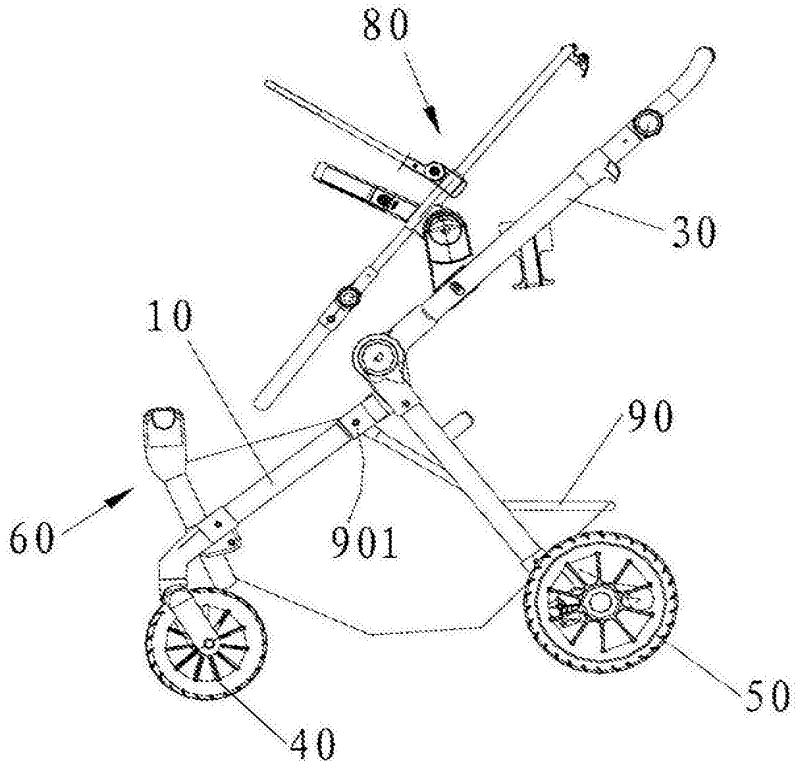


图9

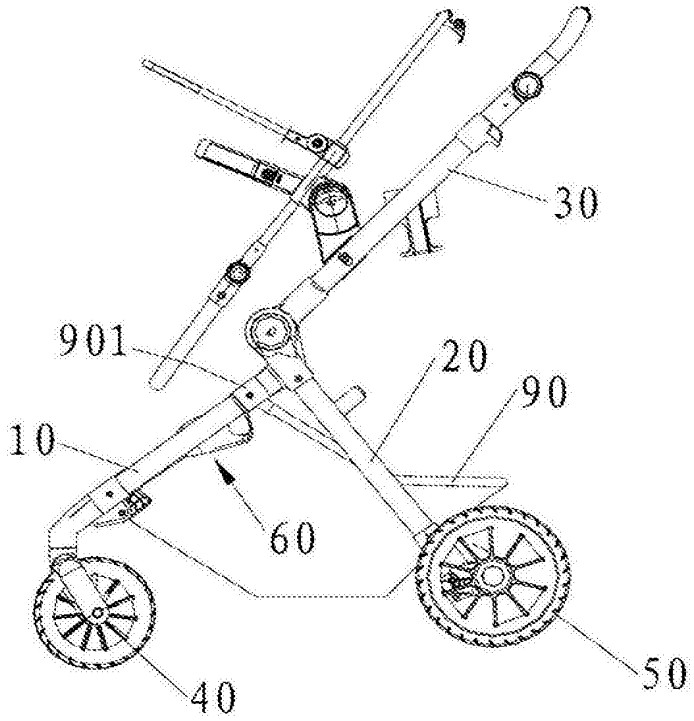


图10

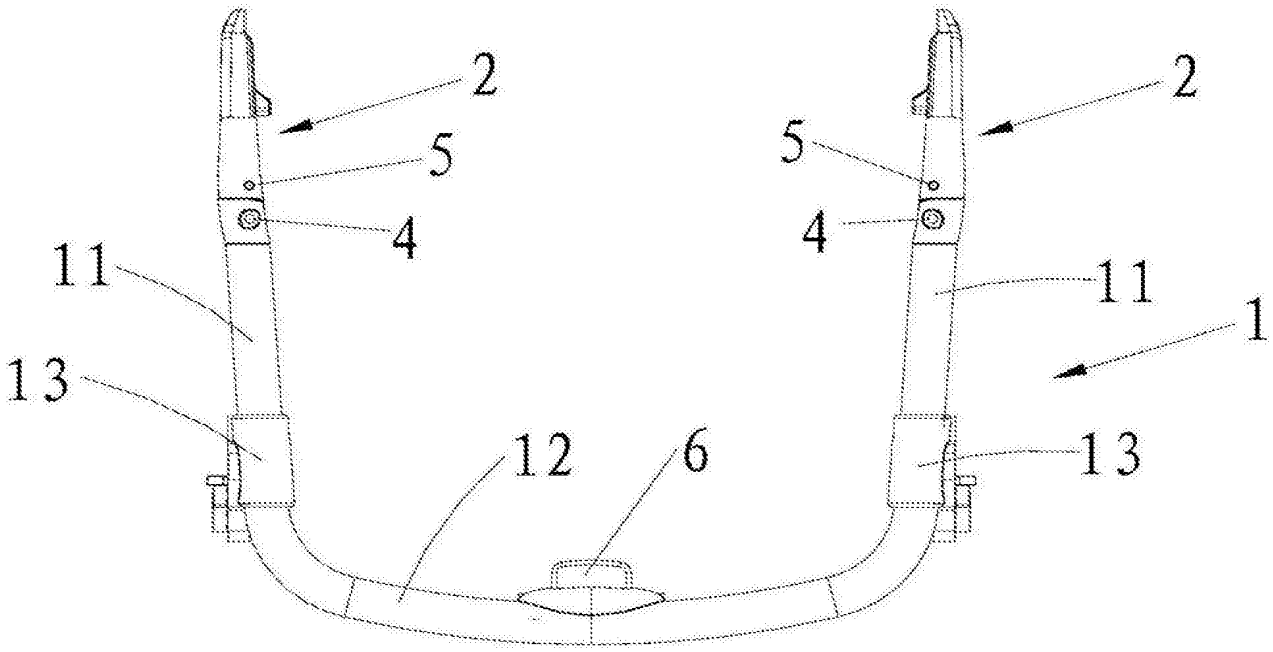


图11

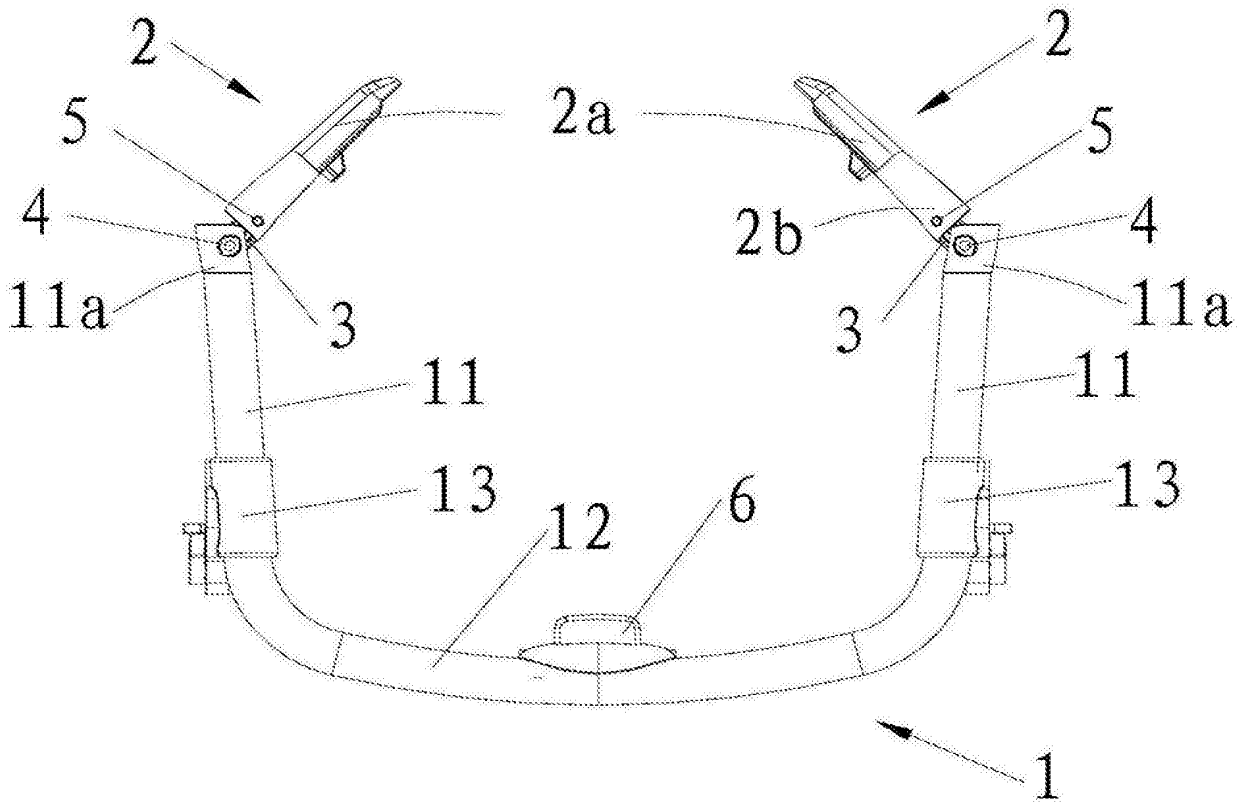


图12

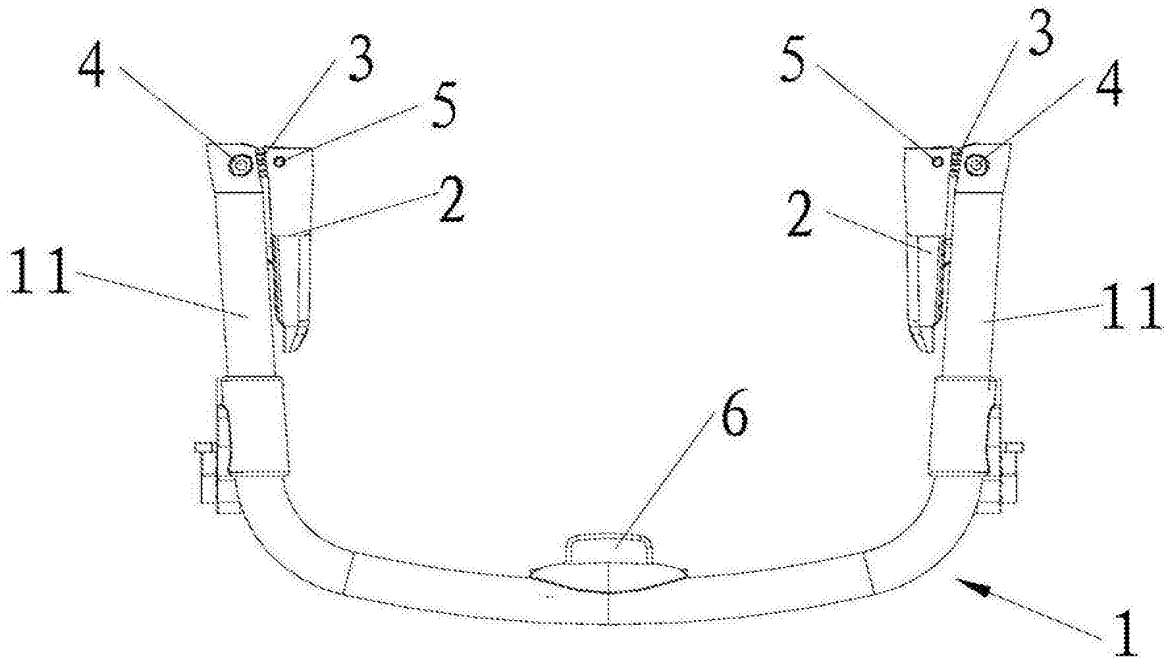


图13

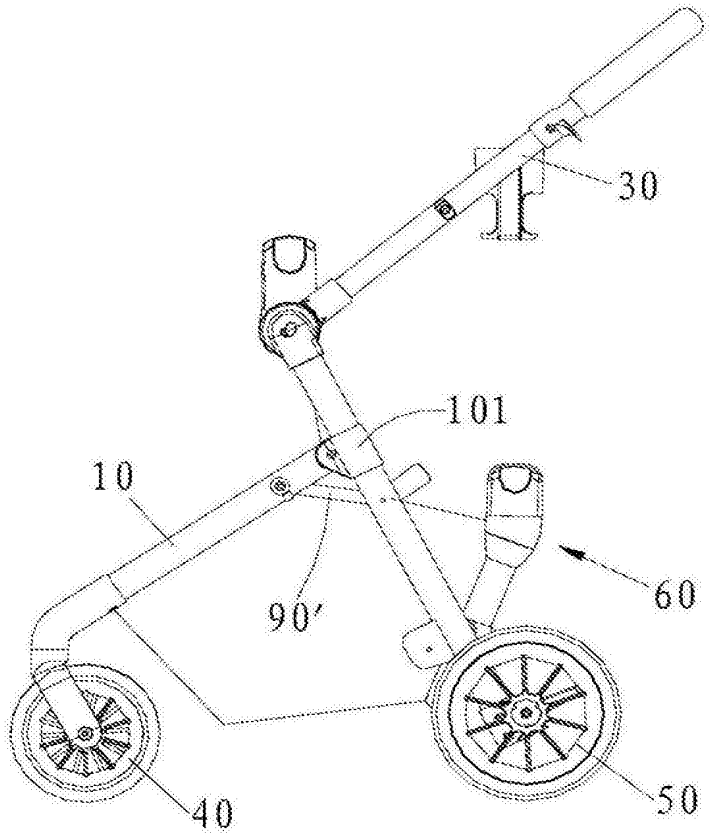


图14

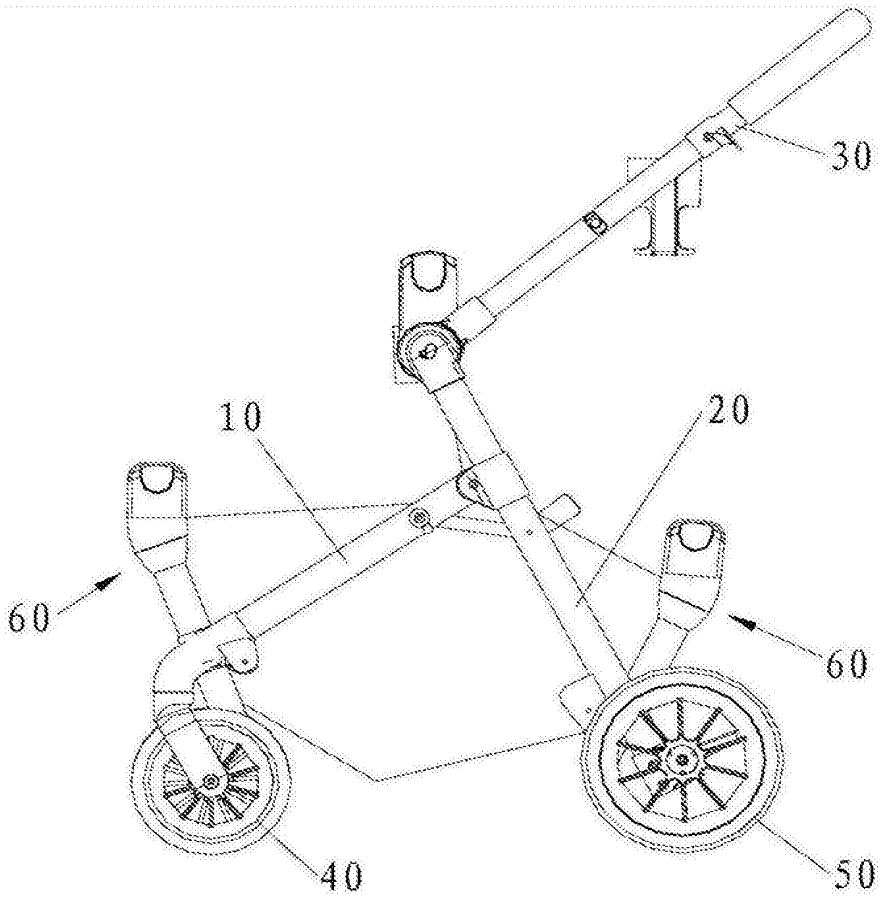


图15

100005

北京市东城区建国门南大街7号万豪中心A座2202室 北京律盟知识产权代理有限责任公司
曹晓斐

发文日：

2015年09月06日

申请号或专利号：201410187239.4　　发文序号：20150831014360 80

申请人或专利权人：戴那米克品牌股份有限公司

发明创造名称：用于手推童车的座椅附接件

第一次审查意见通知书

1. ☒应申请人提出的实质审查请求，根据专利法第35条第1款的规定，国家知识产权局对上述发明专利申请进行实质审查。
☐根据专利法第35条第2款的规定，国家知识产权局决定自行对上述发明专利申请进行审查。
2. ☒申请人要求以其在：
US 专利局的申请日 2008 年 12 月 04 日为优先权日。
☒申请人已经提交了经原受理机构证明的第一次提出的在先申请文件的副本。
☐申请人尚未提交经原受理机构证明的第一次提出的在先申请文件的副本，根据专利法第30条的规定视为未要求优先权要求。
3. ☐经审查，申请人于_____提交的修改文件，不符合专利法实施细则第51条第1款的规定，不予接受。
4. 审查针对的申请文件：
☐原始申请文件。☒分案申请递交日提交的文件。☐下列申请文件：

5. ☐本通知书是在未进行检索的情况下作出的。
☒本通知书是在进行了检索的情况下作出的。
☐本通知书引用下列对比文件(其编号在今后的审查过程中继续沿用)：

编号	文件号或名称	公开日期（或抵触申请的申请日）

6. 审查的结论性意见：
关于说明书：
☐申请的内容属于专利法第5条规定的不授予专利权的范围。
☐说明书不符合专利法第26条第3款的规定。
☐说明书不符合专利法第33条的规定。
☐说明书的撰写不符合专利法实施细则第17条的规定。
☐_____
关于权利要求书：
☐权利要求_____不符合专利法第2条第2款的规定。

☐权利要求_____不符合专利法第 9 条第 1 款的规定。
☐权利要求_____不具备专利法第 22 条第 2 款规定的新颖性。
☐权利要求_____不具备专利法第 22 条第 3 款规定的创造性。
☐权利要求_____不具备专利法第 22 条第 4 款规定的实用性。
☐权利要求_____属于专利法第 25 条规定的不授予专利权的范围。
☒权利要求 1 不符合专利法第 26 条第 4 款的规定。
☐权利要求_____不符合专利法第 31 条第 1 款的规定。
☐权利要求_____不符合专利法第 33 条的规定。
☐权利要求_____不符合专利法实施细则第 19 条的规定。
☐权利要求_____不符合专利法实施细则第 20 条的规定。
☐权利要求_____不符合专利法实施细则第 21 条的规定。
☐权利要求_____不符合专利法实施细则第 22 条的规定。
☐_____

☐申请不符合专利法第 26 条第 5 款或者实施细则第 26 条的规定。
☐申请不符合专利法第 20 条第 1 款的规定。
☐分案申请不符合专利法实施细则第 43 条第 1 款的规定。
上述结论性意见的具体分析见本通知书的正文部分。

7. 基于上述结论性意见，审查员认为：
☐申请人应当按照通知书正文部分提出的要求，对申请文件进行修改。
☒申请人应当在意见陈述书中论述其专利申请可以被授予专利权的理由，并对通知书正文部分中指出的不符合规定之处进行修改，否则将不能授予专利权。
☐专利申请中没有可以被授予专利权的实质性内容，如果申请人没有陈述理由或者陈述理由不充分，其申请将被驳回。
☐_____

8. 申请人应注意下列事项：

(1) 根据专利法第 37 条的规定，申请人应在收到本通知之日起的 4 个月内陈述意见，如果申请人无正当理由逾期不答复，其申请将被视为撤回。

(2) 申请人对其申请的修改应当符合专利法第 33 条的规定，不得超出原说明书和权利要求书记载的范围，同时申请人对专利申请文件进行的修改应当符合专利法实施细则第 51 条第 3 款的规定，按照本通知书的要求进行修改。

(3) 申请人的意见陈述书和/或修改文本应邮寄或递交国家知识产权局专利局受理处，凡未邮寄或递交给受理处的文件不具备法律效力。

(4) 未经预约，申请人和/或代理人不得前来国家知识产权局专利局与审查员举行会晤。

9. 本通知书正文部分共有 1 页，并附有下述附件：
☐引用的对比文件的复印件共_____份_____页。
☐_____

审查员：陈引　　联系电话：020-28958324　　审查部门：专利审查协作广东中心机械发明审查部

纸件申请，回函请寄：100088 北京市海淀区蓟门桥西土城路 6 号　国家知识产权局专利局受理处收
电子申请，应当通过电子专利申请系统以电子文件形式提交相关文件。除另有规定外，以纸件等其他形式提交的文件视为未提交。

第一次审查意见通知书

申请号:2014101872394

本申请涉及一种用于手推童车的座椅附接件，经审查，现提出如下审查意见：

1、权利要求 1 中记载有“其中所述左侧附接框架部件包括：连接器部分……”、“其中所述右侧附接框架部件包括：连接器部分……”，存在两个“连接器部分”，不清楚两者是否指代同一部件，导致该权利要求存在不清楚之处，不符合专利法第 26 条第 4 款的规定。建议修改为“第一连接器部分”、“第二连接器部分”或“左连接器部分”、“右连接器部分”。

基于上述理由，本申请按照目前的文本还不能被授予专利权。如果申请人按照本通知书提出的审查意见对申请文件进行修改，克服所存在的缺陷，则本申请可望被授予专利权。对申请文件的修改应当符合专利法第三十三条的规定，不得超出原说明书和权利要求书记载的范围。

审查员姓名:陈引

审查员代码:709483

纸件申请，回函请寄：100088 北京市海淀区蓟门桥西土城路 6 号 国家知识产权局专利局受理处收

电子申请，应当通过电子专利申请系统以电子文件形式提交相关文件。除另有规定外，以纸件等其他形式提交的文件视为未提交。

检索报告

申请号：2014101872394	申请日：20091204	首次检索
申请人：戴那米克品牌股份有限公司	最早的优先权日：20081204	
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检索记录信息：CNTXT,CNABS,VEN,CNKI;B62B9/+,B62B7/+,B62D63/+;婴儿 OR 幼儿 OR 儿童,推车，双人 OR 两人，可拆卸 OR 可逆，附接 OR 附加 OR 额外，支撑，连接,CHILD+ OR BABY OR INFANT,add or attach+ or extra,double or two,SUPPORT+,FRAME,connect+ or link+,dismountable or knockdown.		

相关专利文献

类型	国别以及代码[11]给出的文献号	代码[43]或[45]给出的日期	IPC 分类号	相关的段落和/或图号	涉及的权利要求
A	WO2005105545A1	20051110	B62B9/00	全文	1-7
A	CN2784272Y	20060531	B62B7/00	全文	1-7
A	US2007085303A1	20070419	B62B7/00	全文	1-7
A	US2007114738A1	20070524	B62D63/00	全文	1-7
A	CN1978264A	20070613	B62B7/14	全文	1-7
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2015 年 08 月 23 日

(TRANSLATION)

FIRST OFFICE ACTION ISSUED BY STATE INTELLECTUAL PROPERTY OFFICE

Date of Issuance: 6 September 2015

Application No.: 201410187239.4

This application relates to a seat attachment for a stroller. After examination, the examiner made the following comments:

1. Claim 1 recites "wherein the left attachment frame member comprises: a connector portion..." and "wherein the right attachment frame member comprises: a connector portion...." Since there are two references to the term "connector portion," it is unclear whether they refer to the same element, which causes Claim 1 to be indefinite in scope and to not comply with Paragraph 4, Article 26 of the Patent Law. It is suggested that the applicant amend them to be "a first connector portion" and "a second connector portion" or to be "a left connector portion" and "a right connector portion."

For the reasons stated above, the present application cannot be granted a patent right based on the present document. If the applicant amends the application document according to the examination comments raised in this office action so as to overcome the existing defects, this application has a strong possibility of being granted a patent right. The amendment to the application documents should comply with Article 33 of the Patent Law, i.e., not exceeding the scope of the original specification and claims.

Examiner: Chen Yin
Code: 709483

SEARCH REPORT
(TRANSLATION)

Application No.: 201410187239.4	**Filing Date:** 4 December 2009	First Retrieval
Applicant: DYNAMIC BRANDS, LLC	**Earliest Priority Date:** 4 December 2008	
Number of claims: 7	**Paragraphs of the specification:** 50+16	
IPC number assigned by the examiner: B62B 9/12		
Search Record Information: CNTXT, CNABS, VEN, CNKI: B62B9/+, B62B7/+, B62D63/+, baby (婴儿) or infant (幼儿) or child (儿童), stroller (推车), double (双人) or two (两人), dismountable (可拆卸) or reversible (可逆), attach (附接) or add (附加) or extra (额外), support (支撑), connect (连接), CHILD+, OR BABY OR INFANT, add or attach + or extra, double or two, SUPPORT+, FRAME, connect+ or link+, dismountable or knockdown.		

PATENT DOCUMENTS

Category	Country and code [11] Document No.	Code [43] or [45] Publication Date	IPC	Relevant paragraphs and/or drawings:	Relevant to Claim No.
A	WO2005105545A1	10 November 2005	B62B9/00	Full text	1-7
A	CN2784272Y	31 May 2006	B62B7/00	Full text	1-7
A	US2007085303A1	19 April 2007	B62B7/00	Full text	1-7
A	US2007114738A1	24 May 2007	B62B63/00	Full text	1-7
A	CN1978264A	13 June 2007	B62B7/14	Full text	1-7
A	CN2918181Y	4 July 2007	B62B9/06	Full text	1-7

NON-PATENT DOCUMENTS

Type	Book Title (including the edition number and volume number)	Publication Date	Author Name and Publisher Name	Relevant Page Number	Relevant to claim No.

Type	Journal or Digest Title (including the volume number and issue number)	Issuance Date	Author Name and Article Title	Relevant Page Number	Relevant to claim No.

Notes for filling in the above form:

1. The IPC number used by the examiner in the search shall be filled in down to the main group and the subgroup of the technical subject-matter.
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A: document defining the general state of the art

R: patent or patent application document belonging to the same invention submitted by any group or individual to the Patent Office on the filing date of this application;

P: intermediate document published prior to the filing date but later than the priority date claimed;

E: conflicting application.

Examiner: Chen Yin

Examination Department:

Mechanics Invention Examination Department, Guangdong Patent Examination Cooperation Center

Date: 23 August 2015

RELEVANT PROVISIONS:

PRC PATENT LAW

Paragraph 4, Article 26

The claims shall be supported by the description and shall clearly and concisely define the scope of protection.

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(54) BABY CARRIAGE CHASSIS

(57) A baby carriage chassis characterized in that it has a frame (10) with a seat (22) connected by means of a connecting slot (21), and the seat (22) may rotate toward a tappet assembly (13) or a front footrest beam (11) of the frame (10) relative to the connecting slot (21), and a first blocking device (23) unlocks a backrest frame (222) relative to a seating part (221), and the motion of the backrest frame (222) toward the seating part (221) may unlock a first unlocking element (224) between the seating part (221) and the connecting slot (21), and this makes it possible to rotate the seat (22) toward the tappet assembly (13) or the front footrest beam (11) of the frame (10), and a third blocking device (223) releases an armrest seat (2261) by means of a fourth blocking device (227) only after unlocking the first blocking device (23) and after unlocking the first unlocking element (224), and then rotation of a rotary plate (2254) is possible by means of an operating part (22541).

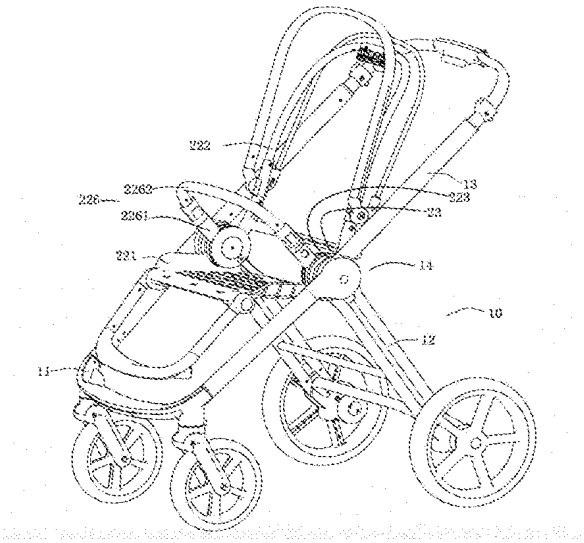


Fig. 1

EP 4 212 408 A1

Description

Field

[0001] This invention relates to a baby carriage chassis comprising a frame connected to a seat via connecting slots. The carriage chassis may be freely folded and unfolded. Additionally, the chassis makes it possible to mount the seat in two directions of riding the baby carriage.

State of the Art

[0002] Baby carriages are known in which a seat may be mounted only in one direction of riding the baby carriage. Additionally, these carriages are difficult to fold for a single user using one hand.

[0003] Therefore, the aim of the present invention is to propose a baby carriage chassis that makes it possible to mount a seat in two different directions of riding (facing a user and with the back onto a user). Moreover, the invention aims to make it possible for a user, when holding a child with one hand, to operate the mechanism of folding the chassis with the second hand so that the backrest frame, together with a seating part, approaches the front footrest beam, and then could continue the operation of folding the chassis with the same hand in a simple manner until the complete folding.

Summary

[0004] This aim has been reached by a baby carriage chassis of the invention.

[0005] The subject matter of the invention is a baby carriage chassis characterized in that it has a frame with a seat connected by means of a connecting slot, wherein the seat may rotate toward a tappet assembly or a front footrest beam of the frame relative to the connecting slot, and a first blocking device unlocks a backrest frame relative to a seating part, and the motion of the backrest frame toward the seating part may unlock a first unlocking element between the seating part and the connecting slot, and this makes it possible to rotate the seat toward the tappet assembly or the front footrest beam of the frame, and a third blocking device releases an armrest seat by means of a fourth blocking device only after unlocking the first blocking device and after unlocking a first unlocking element, and then rotation of a rotary plate is possible by means of an operating part.

[0006] The baby carriage chassis has an armrest assembly that may rotate between the seating part and the backrest frame, and all these elements may be mutually interlocked by the backrest frame, and the fourth blocking device is actuated when folding the backrest frame toward the seating part.

[0007] Also, the chassis has a second unblocking assembly that is located between the armrest assembly and the connecting slot.

[0008] The connecting slot is separably connected to the frame, and the connecting slot has a fifth blocking device that may interlock these two elements with each other.

[0009] The frame is additionally equipped with a second blocking device that may be unlocked after demounting the seat and the connecting slot by means of a second unlocking structure.

[0010] According to the invention, the third blocking device is connected to the seating part and makes it possible to regulate the backrest frame relative to the seating part by several regulating slots, and the backrest frame is connected by means of a mandrel that may be connected to or disconnected from the regulating slots, wherein the backrest frame is equipped with an operating member, and a mechanism for shifting the mandrel is placed between the operating member and the mandrel, and after pulling the operating member, a cable moves the mandrel between the regulating slots, and between the backrest frame a spring is located that allows the mandrel to return to the regulating slots and thus to the locked state.

[0011] The first blocking device consists of a left hinge cover of the seating part, a right hinge cover, wherein a recess is formed between the left hinge cover and the right hinge cover, and a first spline is located between the left and right hinge covers, which may move relative to the left and the right hinge covers, and the return of the first spline is assured by a spring, and the backrest frame actuates a pin of a ring to move it laterally when the backrest frame is rotated and folded toward the seating part by a cam surface.

[0012] The armrest assembly comprises an armrest seat pivotally connected between the seating part and the backrest frame, and the armrest seat is connected to the armrest rod, and the fourth blocking device is arranged between the armrest seat and the seating part and the backrest frame, and the fourth blocking device comprises several blocking notches arranged on the armrest seat, and these elements contact the first spline, and a first locking member may be locked in a blocking notch or disconnected from it when moving, and the pins contact the cam surfaces, and when changing the position of the backrest frame relative to the seating part, a cam surface pressures onto the pins and moves the ring, and this shift unlocks the spline of a blocking element of the armrest seat by overcoming the springs that press the first locking member, and after pushing out the first locking member, the armrest seat is unlocked, and, at this time, the armrest seat and the rod may rotate and approach the seating part in order to fold.

[0013] The second unblocking assembly comprises a first pressing element slidably connected to the seating part and the connecting slot, and after pressing, a first pressing mandrel may slide out of the connecting slot and unlock the main second blocking device of the carriage. Then, the spring restores the original position of the first pressing element, and a sliding member-slider

is located in the backrest frame and the seating part, which may slide relative to the seating part, and the sliding member-slider adheres to the rotary plate.

[0014] The rotary plate is equipped with a protrusion that is located in the backrest frame, and the sliding member-slider is equipped with a groove capable of receiving the protrusion in it, and also the sliding member-slider is equipped with a sloped surface that may brush against the protrusion, and the seating part is equipped with a projecting guiding portion that guides a guiding groove that moves laterally, and the backrest frame is also equipped with a pressure portion capable of pressing one side of the first pressing element.

[0015] Preferably, the operating part is a handle or a belt.

[0016] The second blocking device comprises a first protrusion placed on the rotary plate, and the armrest seat is equipped with a second protrusion that may adhere to the first protrusion to prevent rotation of the rotary plate when the seat and the body of the frame are unfolded, and the backrest frame is also equipped with a niche so as the first protrusion and the second protrusion slide thereinto when the backrest frame is rotated and folded.

[0017] Preferably, the second blocking device comprises a left connecting shell connected to the rear footrest beam and a right connecting shell connected to the front footrest beam, and there is a space located between the right connecting shell and the tappet assembly, which is equipped with a second spline that may move relative to the space, and the left connecting shell comprises a spline groove, the tappet assembly comprises a spline groove, and a second spline is located between the left connecting shell and the right connecting shell, and the spline has resilient members that may move, where a pressure member has mandrels that may move the second spline, and a return spring is located between the pressure member and the spline groove of the rear footrest beam.

[0018] The solution of the invention has the following advantages:

1. When the carriage frame is to be folded, one should first unlock the third blocking device; at this time, the backrest frame may be folded toward the seating part. During the operation of folding the backrest frame toward the seating part, the backrest frame actuates the first unblocking assembly. When the first unblocking assembly is unlocked, the whole seat may be folded and moved closer to the front connector of the carriage structure. When the seat assembly and the front footrest beam of the carriage are folded and moved closer, the second unblocking assembly is operated, and the second unblocking assembly may unlock the second blocking device, where one may unlock the rear footrest beam and the tappet assembly of the carriage. Then, the tappet assembly gradually moves from the inclined position to the vertical position. At this time, the front footrest beam of the carriage and the seat rotate and approach the rear footrest beam of the carriage structure under their own weight, and the tappet assembly rotates and approaches the rear footrest beam under its weight. The second unblocking assembly may not unlock the second blocking device only then when the backrest frame is folded toward the seating part, and the second unblocking assembly may be operated to unlock after folding the backrest frame toward the seating part and folding the whole seat toward the front connector of the carriage structure.

2. When a user holds a child in one hand, he/she may operate, with the other hand, the blockage of the seat in order to fold it and rotate it on the carriage frame. After folding the seat, the user may operate the second blockage of the carriage to complete the folding process. During the folding process, an adult person may execute both operations using one hand.

3. During the operation of folding the backrest toward the seating part, the fourth blockage is unlocked, and, at this time, the rod may rotate toward the seating part. A user only must fold the backrest toward the seat.

4. The main blocking device may prevent adults from inappropriately operating the second unlocking element to unlock the body of the frame, whereby children may ride more safely.

[0019] The invention is explained in embodiments illustrated in the drawing, in which:

Fig. 1 shows a perspective view of a baby carriage frame;

Fig. 2 shows a side view of a baby carriage frame according to the present invention;

Fig. 3 shows a state in which the seat of the baby carriage according to the present invention is folded;

Fig. 4 shows a perspective view of the baby carriage frame according to the present invention when the seat is folded;

Fig. 5 shows a state in which the baby carriage frame according to the present invention is folded;

Fig. 6 shows a perspective view of the baby carriage frame according to the present invention when it is folded;

Fig. 7 shows a perspective view of the body of the frame and the seat assembly in the frame of the baby

carriage according to the present invention;

Fig. 8 shows a view of the unfolded body of the frame and the seat assembly in the frame of the baby carriage according to the present invention;

Fig. 9 shows one expanded view of the seat assembly, a railing assembly, a connecting seat, and any corresponding blocking device in the carriage frame according to the present invention;

Fig. 10 is an enlarged view of Fig. 9;

Fig. 11 is a second view, in the unfolded state, of the seat assembly, the railing assembly, the connecting seat, and any corresponding blocking device in the carriage frame according to the present invention;

Fig. 12 is an enlarged view of Fig. 11;

Fig. 13 shows a perspective view of the seating part in the carriage frame according to the present invention;

Fig. 14 shows a perspective view of a backrest frame in the carriage frame according to the present invention;

Fig. 15 shows a perspective view of a slider in the carriage frame according to the present invention;

Fig. 16 shows a perspective view of a rotary plate in the carriage frame according to the present invention;

Fig. 17 shows a perspective view of a seat with a railing in the carriage frame according to the present invention;

Fig. 18 shows a perspective view of the seat assembly in a folded state of the carriage frame according to the present invention;

Fig. 19 shows a view of the seat assembly, a connecting and main body of the frame in the carriage structure according to the present invention;

Fig. 20 shows a view of the main structure of the baby carriage frame according to the present invention;

Fig. 21 shows a perspective view of a second unlocking structure in the frame of the baby carriage according to the present invention.

[0020] The present specification presents embodiments of a baby carriage chassis.

[0021] However, it should be stressed that the examples described below are not intended to limit the scope of protection. On the contrary, they only illustrate one of many possible applications of the present invention. The present invention may be employed everywhere where one recognizes a need for easy unlocking and folding of a baby carriage chassis.

Detailed description of the invention

[0022] According to the invention, a baby carriage chassis comprises a frame 10 that may be folded or unfolded. The frame 10 is connected to a seat 22 by means of a connecting slot 21. The connecting slot 21 is connected to the frame that may rotate relative to it. The seat 22 may be folded toward the frame 10. The seat 22 is equipped with a first blocking device 23, located between the seat 22 and the connecting slot 21, that may block these two elements relative to each other. The body of the frame 10 comprises a rotary connection between a front footrest beam 11, a tappet assembly 13, and a rear footrest beam 12. The front footrest beam 11, the tappet assembly 13, and the rear footrest beam 12 are equipped with a main second blocking device 14 that may block the structure of the frame 10 in the unfolded state. The seat 22 comprises a seating part 221 that is rotatably connected to the connecting slot 21. The seating part 221 is connected to a backrest frame 222 that may be rotated and unfolded or folded close to it. The backrest frame 222 is connected to the seating part 221. A third blocking device 223 is arranged between the seating part 221 and may block the backrest frame 222 in an unfolded position. Also, the seat 22 is equipped with a third blocking device 223, and the backrest frame 222 is close to the seating part 221 when the third blocking device 223 is unlocked. A first unlocking element 224 may unlock the first blocking device 23 from the seat 22. The main second blocking device 14 may not be unlocked until the seat 22 will not be folded to the front footrest beam 11, whereby one may fold the frame 10.

[0023] Also, an armrest assembly 226 is pivotally connected between the seating part 221 and the backrest frame 222. Also, the armrest assembly 226, the seating part 221, and the backrest frame 222 are equipped with a device that may interlock these three elements relative to each other and may be connected to the backrest frame 222. Moreover, there is a fourth blocking device 227 that may be locked and unlocked by the backrest frame 222 during the operation of folding the backrest frame 222 toward the seating part 221.

[0024] A second blocking device 228 is located between the armrest assembly 226 and a second unblocking assembly 225, which may prevent unlocking the main second blocking device 14 by the second unblocking assembly 225 when the seat 22 and the body of the frame 10 are unfolded.

[0025] The connecting slot 21 is separably connected to the carriage frame 10, and a fifth blocking device 3 is located between the connecting slot 21 and the carriage

frame 10, which is capable of interlocking the connecting slot 21 and the carriage frame 10.

[0026] Moreover, the carriage frame 10 is equipped with a second unlocking structure 15 capable of unlocking the main second blocking device 14 after demounting the seat 22 and the connecting slot 21.

[0027] The third blocking device 223 comprises several regulating slots 2231 that are arranged peripherally on the seating part 221 and may regulate the inclination of the backrest frame 222 relative to the seating part 221. A mandrel 2232 may be connected to or disconnected from the regulating slots 2231 when the backrest frame 222 is equipped with an operating member 2233. After pulling the operating member 2233, a cable 2234 is actuated between the operating member 2233 and the mandrel 2232. Moreover, the cable 2234 for moving the mandrel 2232 is equipped with a spring 2235 between the mandrel 2232 and the backrest frame 222, which may keep the mandrel 2232 in the locked state.

[0028] The first blocking device 23 comprises a left hinge cover 231 for the seating part 221 and a right hinge cover 232 for the seating part 221 located on the seat 22. A recess 233 is located between the left hinge cover 231 and the right hinge cover, and both the left hinge cover 231as well as the right hinge cover 232 are equipped with a first spline groove 234, and the recess 233 is equipped with a first spline 235 that may move relative to the left hinge cover 231 and split away from the left hinge cover 231, and a first spring 236 is placed between the first spline 235 and the right hinge cover 232, which makes it possible to lock the first spline 235 against the first spline groove 234 on the left hinge cover 231 and the right hinge cover 232. A first ring 237 is located between the first spline 235 and the left hinge cover 231, which may push the first spline 235 so as it moves during the folding process, and the first ring 237 is located on a first pin 2371 projecting outwardly from the ring 237. The first unlocking element 224 is placed on the backrest frame 222 and may push a first cam when the backrest frame 222 is rotated and folded toward the seating part 221. Then, the pin 2371 of the cam ring actuates, in turn, the ring 237 for lateral movement.

[0029] The armrest assembly 226 comprises an armrest seat 2261 pivotally connected between the seating part 221 and the backrest frame 222, and the armrest assembly 2261 is connected to an armrest rod 2262. A fourth blocking device 227 is placed on the armrest seat 2261 between the seating part 221 and the backrest frame 222. The fourth blocking device 227 comprises several blocking notches 2271 located on the armrest seat 2261. The first spline 235 and the right hinge cover 232 are connected to a first locking member 2272 that may be locked or separated from the blocking notch 2271 by means of two skids. The blocking notches 2271 are appropriately arranged by means of a catch portion 22721. Moreover, the backrest frame 222 is equipped with a projecting catch portion 2221 that may reach a ring of the armrest seat 2261. Also, there is a cam 2222 that is located in the backrest frame 222 and may press onto a skid of the ring of the catch portion 22721 so as to actuate the ring of the first locking member 2272 to move it when the backrest frame 222 is rotating. The first locking member 2272 , in which a second spring 2273 is located, is connected to the right hinge cover 232 and keeps the ring of the first locking member 2272 and the armrest seat 2261 in the locked state.

[0030] The second unblocking assembly 225 comprises a first pressing element 2251. A first pressing mandrel 22511 is located outside the connecting slot 21 and unlocks the structure of the carriage frame. Also, a third spring 2252 is located between the first pressing element 2251 and the connecting slot 21, which is a releasing element in the first pressing element 2251. The backrest frame 222 and the seating part 221 are also connected to a sliding member-slider 2253 that may move relative to them, and the backrest frame 222 is also rotatably connected to a rotary plate 2254 that may actuate the sliding member-slider 2253 for moving. An operating part 22541 is connected to the rotary plate 2254, which actuates the folding system.

[0031] The rotary plate 2254 is equipped with a protrusion 22542 that may project in the backrest frame 222. The sliding member-slider 2253 is equipped with a groove 22531 that has protrusions 22542. The sliding member-slider 2253 has a sloped surface 22532 that may receive and cooperate with a guiding portion 2211. A guiding groove 22533 makes it possible to move the sliding member-slider 2253 laterally. Moreover, the backrest frame 222 is equipped with a pressure portion 2212 capable of pressing a side of the first pressing element 2251.

[0032] The operating part 22541 is a handle or a belt.

[0033] The second blocking device 228 comprises a first protrusion 2281 intended for the rotary plate 2254. The armrest seat 2261 is equipped with a first protrusion 2281 that is connected when the seat 22 and the body of the frame 10 are unfolded. A second protrusion 2282 is pressed to the rotary plate 2254 to prevent any rotation. Moreover, the backrest frame 222 is equipped with a niche 2283, so the first protrusion 2281 and the second protrusion 2282 move inside it when the backrest frame 222 is rotated and folded.

[0034] The main second blocking device 14 comprises a left connecting shell 141 on a rear footrest beam and a right connecting shell 142 on the front footrest beam 11. The left connecting shell 141, the right connecting shell 142 and the tappet assembly 13 have an active space 143 with a spline between them, and a second spline 144, which may move relative to this spline, is arranged in the active space 143. The left connecting shell 141 is equipped with a second spline groove 145. A third spline groove 140 is located on the tappet assembly 13. The right connecting shell 142 is equipped with a protrusion 146. In the middle between the second spline 144 and the right connecting shell 142 there is a resilient member 147 that is connected to the second spline

groove 145, the third spline groove 140 and the protrusion 146. The left connecting shell 141 is connected to a pressure member 148 that may move relative to the space. The pressure member 148 is equipped with a mandrel 1481 that may push the second spline 144 for moving so as the second spline 144 is separated from the second spline 145 and the third spline groove 140. The pressure member 148 is connected to the right connecting shell 142. Between the right connecting shell 142 a return spring 149 is located that may push the pressure member 148 for return.

[0035] The second unlocking structure 15 is a tilting block that is pivotally connected to the left connecting shell 141 and may press onto the pressure member 148 to unlock the second blocking device 14 during a rotation relative to the left connecting shell 141. An operating portion 151 is envisaged.

[0036] As shown in Figs. 1 to 21, the present invention relates to a baby carriage chassis that comprises a frame 10 that may be folded or unfolded, and a connecting slot 21 is connected to the frame 10 and also it is connected to a seat 22 that may be rotated relative to the connecting slot 21 and folded toward the frame 10. A first blocking device 23 is located between the seat 22 and the connecting slot 21, which may interlock both these elements relative to each other. The frame 10 comprises a front footrest beam 11, a tappet assembly 13, and a rear footrest beam 12, which are rotatably connected to each other. The main second blocking device 14 in the unfolded state is the seat 22 comprising a seating part 221 connected rotatably with the connecting slot 21, and the seating part 221 is connected to a backrest frame 222 that may be rotated relative to it for unfolding or folding. A third blocking device 223 is located between the backrest frame 222 and the seating part 221. After unlocking the third blocking device 223, the backrest 222 will be moved closer to the seating part 221. During changing the angle between the first unlocking element 224, the first blocking device 23 becomes unlocked. Moreover, the seat 22 is equipped with a second unblocking assembly 225 of the main second blocking device 14, which may only act after folding the seat 22 toward the front footrest beam 11.

[0037] Then, after unlocking, the rear footrest beam 12 is lifted and gradually moves from the inclined position to the vertical position. At this time, the front footrest beam 11 and the seat 22 are located close to the rear beam 12. During the folding process, the tappet assembly 13 rotates on a connector of the frame and approaches the rear beam 12 under its own weight.

[0038] When an adult person holds a child in one hand, he/she may operate the mechanism of folding the backrest with the other hand so as it approaches the front footrest beam 11, and then he/she may operate the second unblocking assembly 225 with one hand to complete the folding the whole chassis whereby the operation is simple. The second unblocking assembly 225 may not unlock the main second blocking device 14 that locks the frame of the carriage if the backrest frame 222 of the seat is not folded toward the seating part 221 and the whole seat 22 is not folded toward the front footrest beam 11. The second unblocking assembly 225 may only act when the backrest frame 222 is folded and is located close to the seating part 221. Only then, one may operate the second unblocking assembly 225 to unlock the main second blocking device 14 and unlock the frame 10. Such an arrangement guarantees the safety of a child when exploiting the carriage and prevents folding the carriage when using it inappropriately.

[0039] As shown in Figs. 9 to 10, an armrest assembly 226 is also rotatably connected between the seat 221 and the backrest frame 222. A fourth blocking device 227 is located between the armrest assembly 226, the seating part 221, and the backrest frame 222, which may be locked and unlocked by the backrest frame 222 during the operation of folding the backrest frame 222 toward the seating part 221. When the backrest frame 222 is folded toward the seating part 221, the fourth blocking device 227 is unlocked, and the armrest assembly 226 may be, at this time, rotated toward the seating part 221. To unlock the fourth blocking device 227, an adult person only must operate the backrest frame 222 to rotate it toward the seating part 221 after unlocking the third blocking device 223.

[0040] Fig. 10 shows a fifth blocking device 3 that blocks the connecting slot 21 with the frame 10. When the fifth blocking device 3 is unlocked, one may disconnect the connecting slot 21 and the seat 22 from the body of the frame 10.

[0041] As shown in Fig. 21, the carriage frame 10 is also equipped with a second unlocking structure 15 that makes it possible to unlock the second blocking device 14 after demounting the seat 22 with the connecting slot 21. After disconnecting the seat 22 from the body of the frame 10, the second blocking device 14 may be unlocked by operating the second unlocking structure 15, and also, the carriage frame 10 may be folded. The second unlocking structure 15 may only act after disconnecting the seat 22 with the connecting slot 21, and this may prevent malfunctioning of the second unlocking structure 15 in order to unlock the carriage frame 10.

[0042] As shown in Fig. 11, the third blocking device 223 comprises several regulating slots 2231 that are arranged on the circumference of the seating part 221 and may regulate the inclination of the backrest frame 222 relative to the seating part 221. The backrest frame 222 is equipped with an operating member 2233, and a cable 2234 is located between the operating member 2233 and a mandrel 2232, which may move the mandrel 2232. A spring 2235 is located between the mandrel 2232 and backrest frame 222, which keeps the mandrel 2232 in the locked state. When the position of the backrest frame 222 is changed relative to the seating part 221, the operating member 2233 is actuated. After actuating the operating member 2233, the cable 2234 moves the mandrel 2232 to a selected position of the backrest frame 222 relative to the seating part 221.

[0043] When the backrest frame 222 is in a regulating slot 2231, the operating member 2233 is released, and the spring 2235 presses the mandrel 2232 to an appropriate regulating slot 2231. The backrest frame 222 together with the seating part 221 are locked. When one needs to fold the backrest frame 222 relative to the seating part 221, the operating member 2233 releases the mandrel 2232, and the backrest frame 222 may be rotated back.

[0044] As shown in Figs. 9 to 12, the first blocking device 23 is located between the left hinge cover 231 of the seating part 221 and the right hinge cover 232 of the connecting slot 21. Both the left hinge cover 231 as well as the right hinge cover 232 possess spline grooves 234. A recess 233 in the seating part allows for moving a first spline 235 in order to disconnect the seating part 221 from the connecting slot 21.

[0045] The splines 235 (toothed wheels) are arranged so that one may connect or disconnect the seating part 221 and connecting slot(s) 21 in only one position.

[0046] A ring 237, pushing a spring 236, is responsible for coupling and decoupling the spline 235.

[0047] The ring 237 is equipped with projecting pins 2371 that point at the seating part 221 and touch the cams of the first unlocking element 224 located on the backrest frame 222 that rotates toward the seating part 221 on the backrest frame 222. In order to unlock the first blocking device 23, firstly, one must unlock the third blocking device 223. Then, the backrest frame 222 may be folded toward the seating part 221. During this movement, a first driving surface (the cam) on the backrest frame 222 presses onto a projecting pin 2371. The ring 237 moves the spline 235 relative to the left hinge cover 231 and the right hinge cover 232. During this process, the seating part 221 becomes decoupled from the right hinge cover 232 since the spline 235 wholly enters the spline of the right hinge cover 232 and presses the spring 236.

[0048] The first blocking device 23 becomes unlocked, and the seating part 221 may be rotated relative to the first blocking device 23.

[0049] During the process of getting the backrest frame 222 close to the seating part 221, the whole seat 22 is also rotated relative to the connecting slot 21 and approaches the front footrest beam 11.

[0050] As shown in Figs. 9 to 12, the armrest assembly 226 comprises an armrest seat 2261 pivotally connected between the seating part 221 and the backrest frame 222. The armrest seat 2261 is connected to the armrest rod 2262. The fourth blocking device 227 is arranged between the armrest seat 2261 and the seating part 221, and the backrest frame 222. The fourth blocking device 227 comprises several blocking notches 2271 arranged on the armrest seat 2261. This element contacts the first spline 235. A first locking member 2272 may be locked by the blocking notch 2271 or decoupled from it when moving. The blocking notches 2271 touch the cam 2222. When changing the position of the backrest frame 222 relative to the seating part 221, the cam 2222 pressures onto the pins 2371 and moves the ring 237. This shift unlocks the spline of the armrest seat 2261 by overcoming the springs 2273 that press the first locking member 2272. After pushing the first locking member 2272 out, the armrest seat is unlocked. At this time, the armrest seat 2261 and the rod may rotate and approach the seating part 221 in order to fold.

[0051] As shown in Figs. 9 to 12, the second unblocking assembly 225 comprises a first pressing element 2251 slidably connected to the seating part 221 and the connecting slot 21. After pressing, a first pressing mandrel 22511 may slide out of the connecting slot 21 and unlock the second blocking device 14 - the lock of the carriage. A spring 2252 restores the original position of the first unlocking element 2251.

[0052] A sliding member-slider 2253 is located in the backrest frame 222 and the seating part 221, which may slide relative to the seating part 221. The sliding member-slider 2253 adheres to a rotary plate 2254. After folding the seat 22, also the second blocking device 228 unlocks. The rotary plate 2254 may rotate relative to the seating part 221 and the backrest frame 222. During the rotation of the rotary plate 2254, the sliding member-slider 2253 is pressed to the first pressing element 2251, and also, the spring 2252 is compressed. When the first pressing element 2251 moves, the first pressing mandrel 22511, which is located thereon, exserts outside the connecting slot 21 to unlock the main second blocking device 14, and at this moment, the whole carriage frame 10 may be folded.

[0053] As shown in Figs. 9-13, the rotary plate 2254 is equipped with a protrusion 22542 that may project in the backrest frame 222, and the sliding member-slider 2253 is equipped with a groove 22531 that may receive the protrusion 22542. Moreover, the sliding member-slider 2253 is equipped with a sloped surface 22532 that may abut against the protrusion 22542.

[0054] The seating part 221 is equipped with a projecting guiding portion 2211. The sliding member-slider 2253 is also equipped with the guiding portion 2211. When the rotary plate 2254 rotates, the outer sidewall of the protrusion 22542 on the rotary plate 2254 presses onto the sloped surface 22532 of the sliding member-slider 2253 so as the sliding member-slider 2253 moves relative to the backrest frame 222 and the seating part 221. During this process, the sliding member-slider 2253 is blocked by the guiding grooves 22533 on the seating part 221 and only may move laterally relative to the backrest frame 222 and the seating part 221.

[0055] As shown in Fig. 6, the operating part 22541 is a belt or a cable. It is convenient to operate for adults and pulling with one hand. To release the blockage by means of the belt, it is necessary to fold the seat 22. Then, a link of the operating part 22541 is visible and appropriately directed for more convenient operation by adults with only one hand.

[0056] As shown in Figs. 9 to 12, the second blocking

device 228 comprises a first protrusion 2281 intended for the rotary plate 2254. The protrusion does not allow for releasing the rotation of the plate to actuate the moving assembly when the seat 221 and backrest 222 are in the unfolded position. After folding the backrest frame 222 to the seating part 221, the second blocking device 228 is also released. The first protrusion 2281 and the second protrusion 2282 split apart, and this makes it possible to rotate the rotary plate 2254 and start the folding system.

[0057] As shown in Figs. 19 do 20, the main second blocking device 14 comprises a left connecting shell 141 that connects the rear footrest beam and a right connecting shell 142 that connects the front footrest beam 11. There is a space located between the right connecting shell 142 and the tappet assembly 13, which is equipped with a second spline 144 that may move relative to the space. The left connecting shell 141 comprises another spline groove 145, and the tappet assembly 13 comprises a third spline groove 140. The second spline 144 is located between the first and the second connecting shells, and the spline has resilient members 147 that may move. The pressure member 148 has mandrels 1481 that may move the second spline 144. A return spring 149 is located between the pressure member 148 and the spline groove 145.

[0058] According to the invention, the main second blocking device 14 has at least three ways of unlocking.

[0059] A first way. When the seat 22 assembly is installed on the carriage structure. To unlock the frame 10, one should unlock the third blocking device 223. After unlocking the third blocking device 223, the backrest frame 222 may be folded toward the seating part 221. Then, one may operate an operating part in the form of a belt 22541, which actuates the rotary plate 2254, and the rotary plate 2254 actuates the first pressing mandrel 22511 in the connecting slot 21. After sliding out the first pressing mandrel 22511, the second pressure member is released 148, and the second spline 144 is moved relative to the left connecting shell 141 of the rear footrest beam, the spline groove 140, and the right connecting shell 142 of the front footrest beam. After moving the second spline 144, released are the spline groove 145 of the left connecting shell 141 of the rear footrest beam and the spline groove 140 relative to the right connecting shell 142 of the front footrest beam.

[0060] When an adult person lifts the operating member 22541, the rear footrest beam 12 of the carriage changes its position gradually from the inclined state to the vertical state, and the front footrest beam 11 of the carriage and the seat 22 approach the rear footrest beam 12 under own weight.

[0061] Therefore, when an adult person holds a child in one hand, she/he may operate the seat 22 with the other hand to rotate it toward the front footrest beam 11 and then pull the operating member 22541 with one hand to complete the process of folding the whole frame 10, and this makes the folding operation more convenient and safe.

[0062] A second way. After pulling the seat 22 from the frame 10, a user has an access to the second blocking device 14 by pressing the pressure member 148 directly.

[0063] A third way. When the seat 22 is disconnected from the frame 10, the second unlocking structure 15 appears. After tilting the second unlocking structure 15, the pressure member 148 is moved to unlock the second blocking device 14.

[0064] As shown in Fig. 21, the second unlocking structure 15 is a tiltable member that is rotatably connected to the left connecting shell 141 and may press onto the pressure member 148 to unlock the main second blocking device 14 when rotating relative to the left connecting shell 141 of the rear footrest beam. The rotary block is equipped with the operating portion 151. When the operating portion 151 is actuated, the rotary block rotates relative to the left connecting shell 141 of the rear footrest beam, and the rotary block presses onto the pressure member 148 for unlocking.

List of references

[0065]

3 fifth blocking device [9, 10, 11, 12, 19]
10 frame [1, 4]
11 front footrest beam [1, 2, 3, 4, 5, 6, 7, 8, 19, 20, 21]
12 rear footrest beam [1, 2, 3, 4, 5, 6, 7, 8, 19, 20, 21]
13 tappet assembly [1, 2, 3, 4, 5, 6, 7, 8, 19, 20, 21]
14 second blocking device [1, 20]
15 second unlocking structure [19, 20, 21]
21 connecting slot [8, 9, 10, 11, 12, 18, 19]
22 seat [3, 5, 18, 19]
23 first blocking device [1, 9, 10]

140 spline groove [19, 20]
141 left connecting shell [19, 20]
142 right connecting shell [19, 20]
143 active space [19, 20]
144 second spline [19, 20]
145 spline groove [19]
146 protrusion [20]
147 resilient member [19, 20]
148 pressure member [19, 20, 21]
149 return spring [19, 20]
151 operating portion [19, 20, 21]
221 seating part [1, 2, 3, 4, 6, 7, 8, 9, 10, 11, 12, 13, 18]
222 backrest frame [1, 2, 3, 4, 6, 7, 8, 9, 10, 11, 12, 14, 18]
223 third blocking device [1, 11]
224 first unlocking element [14]
225 second unblocking assembly [11, 12]
226 armrest assembly [1, 2, 3, 4, 6]
227 fourth blocking device [9, 10]
228 second blocking device [11, 12]
231 left hinge cover [9, 10, 11, 12, 13]
232 right hinge cover [9, 10, 11, 12]

233 recess [9, 10, 11, 12, 13]
234 first spline groove [9, 10, 11, 12, 13]
235 first spline [9, 10, 11, 12]
236 spring [9, 10, 11, 12]
237 ring [9, 10, 11, 12]
283 arched slot [14]

1481 mandrel [19]
2211 guiding portion [13]
2212 pressure portion [13]
2221 catch portion [9, 10, 14]
2222 cam [10, 14]
2231 regulating slot [11, 12]
2232 mandrel [9, 11, 12]
2233 operating member [9, 11]
2234 cable [9, 11]
2235 spring [9, 11]
2251 first pressing element [9, 10, 11, 12]
2252 spring [9, 10, 11, 12]
2253 sliding member-slider [9, 10, 11, 12, 15]
2254 rotary plate [6, 7, 8, 9, 10, 11, 12, 16]
2261 armrest seat [1, 7, 8, 9, 10, 11, 12, 17, 18]
2262 armrest rod [1]
2271 blocking notch [9, 10, 11, 12, 17]
2272 first locking member [9, 11, 12]
2273 spring [9, 10, 11, 12]
2281 first protrusion [9, 10, 11, 12, 16]
2282 second protrusion [11, 12, 17]
2283 niche [10, 11, 12]
2371 pin [9, 10, 11, 12]

22511 first pressing mandrel [9, 10, 11, 12, 19]
22531 groove [11, 12, 15]
22532 sloped surface [11, 12, 15]
22533 guiding groove [11, 12, 15]
22541 operating part [6, 7, 8, 9, 10, 11, 12]
22542 protrusion [9, 10, 16]
22721 catch portion [9, 10, 11, 12]

Claims

1. A baby carriage chassis **characterized in that** it has a frame (10) with a seat (22) connected by means of a connecting slot (21), and the seat (22) may rotate toward a tappet assembly (13) or a front footrest beam (11) of the frame (10) relative to the connecting slot (21), and a first blocking device (23) unlocks a backrest frame (222) relative to a seating part (221), and the motion of the backrest frame (222) toward the seating part (221) may unlock a first unlocking element (224) between the seating part (221) and the connecting slot (21), and this makes it possible to rotate the seat 22 toward the tappet assembly (13) or the front footrest beam (11) of the frame (10), and a third blocking device (223) releases an armrest seat (2261) by means of a fourth blocking device (227) only after unlocking the first blocking device (23) and after unlocking the first unlocking element (224), and then rotation of a rotary plate (2254) is possible by means of an operating part (22541).

2. The baby carriage chassis according to claim 1, **characterized in that** it has an armrest assembly (226) rotatable between the seating part (221) and the backrest frame (222), and all these elements may be mutually interlocked by the backrest frame (222), and the fourth blocking device (227) is actuated when folding the backrest frame (222) toward the seating part (221).

3. The baby carriage chassis according to claim 2, **characterized in that** it has a second unblocking assembly (225) that is located between the armrest assembly (226) and the connecting slot (21).

4. The baby carriage chassis according to claim 2, **characterized in that** the connecting slot (21) is separably connected to the frame (10), and the connecting slot (21) has a fifth blocking device (3) that may block these two elements with each other.

5. The baby carriage chassis according to claim 1, **characterized in that** the frame (10) is additionally equipped with a second blocking device that may be unlocked after demounting the seat (22) and the connecting slot (21) by means of a second unlocking structure (15).

6. The baby carriage chassis according to claim 1, **characterized in that** the third blocking device (223) is connected to the seating part (221) and makes it possible to regulate the backrest frame (222) relative to the seating part (221) by several regulating slots (2231), and the backrest frame (222) is connected by means of a mandrel (2232) that may be connected to or disconnected from the regulating slots (2231), wherein the backrest frame (222) is equipped with an operating member (2233), and a mechanism for shifting the mandrel (2232) is placed between the operating member (2233) and the mandrel (2232), and after pulling the operating member (2233), a cable (2234) moves the mandrel (2232) between the regulating slots (2231), and a spring (2235) is located between the backrest frame (222), which allows the mandrel to return (2232) to the regulating slots (2231) and thus to the locked state.

7. The baby carriage chassis according to claim 3, **characterized in that** the first blocking device (23) consists of a left hinge cover (231) of the seating part (221), a right hinge cover (232), and a recess (233) is formed between the left hinge cover (231) and the right hinge cover (232), and a first spline (235) is located between the left (231) and the right (232) hinge covers, which may move relative to the left

(231) and the right (232) hinge covers, and the return of the first spline (235) is assured by a spring (236), and the backrest frame (222) actuates a pin (2371) of a ring (237) to move it laterally when the backrest frame (222) is rotated and folded toward the seating part (221) by a cam surface (2222).

8. The baby carriage chassis according to claims 1-7, **characterized in that** the armrest assembly (226) comprises an armrest seat (2261) pivotally connected between the seating part (221) and the backrest frame (222), and the armrest seat (2261) is connected to the armrest rod (2262), and the fourth blocking device (227) is arranged between the armrest seat (2261) and the seating part (221) and the backrest frame (222), and the fourth blocking device (227) comprises several blocking notches (2271) arranged on the armrest seat (2261), and these elements contact the first spline (235), and the first locking member (2272) may be locked in a blocking notch (2271) or disconnected from it when moving, and the pins (2371) contact the cam surfaces (2222), and when changing the position of the backrest frame (222) relative to the seating part (221), the cam surface (2222) pressures onto the pins (2371) and moves the ring (237), and this shift unlocks the spline of a blocking element of the armrest seat (2261) by overcoming the springs (2273) that press the first locking member (2272), and after pushing out the first locking member (2272), the armrest seat (2261) is unlocked, and, at this time, the armrest seat (2261) and a railing may rotate and approach the seating part (221) in order to fold.

9. The baby carriage chassis according to claims 1-8, **characterized in that** the second unblocking assembly (225) comprises a first pressing element (2251) slidably connected to the seating part (221) and the connecting slot (21), and after pressing, a first pressing mandrel (22511) may slide out of the connecting slot (21) and unlock the main second blocking device (14) of the carriage, then a spring (2252) restores the original position of the first pressing element (2251), and a sliding member-slider (2253) is located in the backrest frame (222) and the seating part (221), which may slide relative to the seating part (221), and the sliding member-slider (2253) adheres to the rotary plate (2254).

10. The baby carriage chassis according to claims 1-9, **characterized in that** the rotary plate (2254) is equipped with a protrusion (22542) that is located in the backrest frame (222), and the sliding member-slider (2253) is equipped with a groove (22531) capable of receiving the protrusion (22542) in it, and the sliding member-slider (2253) is equipped with a sloped surface (22532) that may brush against the protrusion (22542), and the seating part (221) is equipped with a projecting guiding portion (2211) that guides a guiding groove (22533) that moves laterally, and the backrest frame (222) is also equipped with a pressure portion (2212) capable of pressing one side of the first pressing element (2251).

11. The baby carriage chassis according to claim 9, **characterized in that** the operating part (22541) is a handle or a belt.

12. The baby carriage chassis according to claims 1-11, **characterized in that** the second blocking device (228) comprises a first protrusion (2281) placed on the rotary plate (2254), and the armrest seat (2261) is equipped with a second protrusion (2282) that may adhere to the first protrusion (2281) to prevent rotation of the rotary plate (2254) when the seat (22) and the body of the frame (10) are unfolded, and the backrest frame (222) is also equipped with a niche (2283) so as the first protrusion (2281) and the second protrusion (2282) slide thereinto when the backrest frame (222) is rotated and folded.

13. The baby carriage chassis according to claim 5, **characterized in that** the second blocking device (14) comprises a left connecting shell (141) connected to the rear footrest beam (12) and a right connecting shell (142) connected to the front footrest beam (11), and there is a space located between the right connecting shell (142) and the tappet assembly (13), which is equipped with a second spline (144) that may move relative to the space, and the left connecting shell (141) comprises a spline groove (145), the tappet assembly (13) comprises a spline groove (140), and the second spline (144) is located between the left connecting shell (141) and the right connecting shell (142), and the spline has resilient members (147) that may move, and the pressure member (148) has mandrels (1481) that may move the second spline (144), and a return spring (149) is located between the pressure member (148) and the spline groove (145) of the rear footrest beam (12).

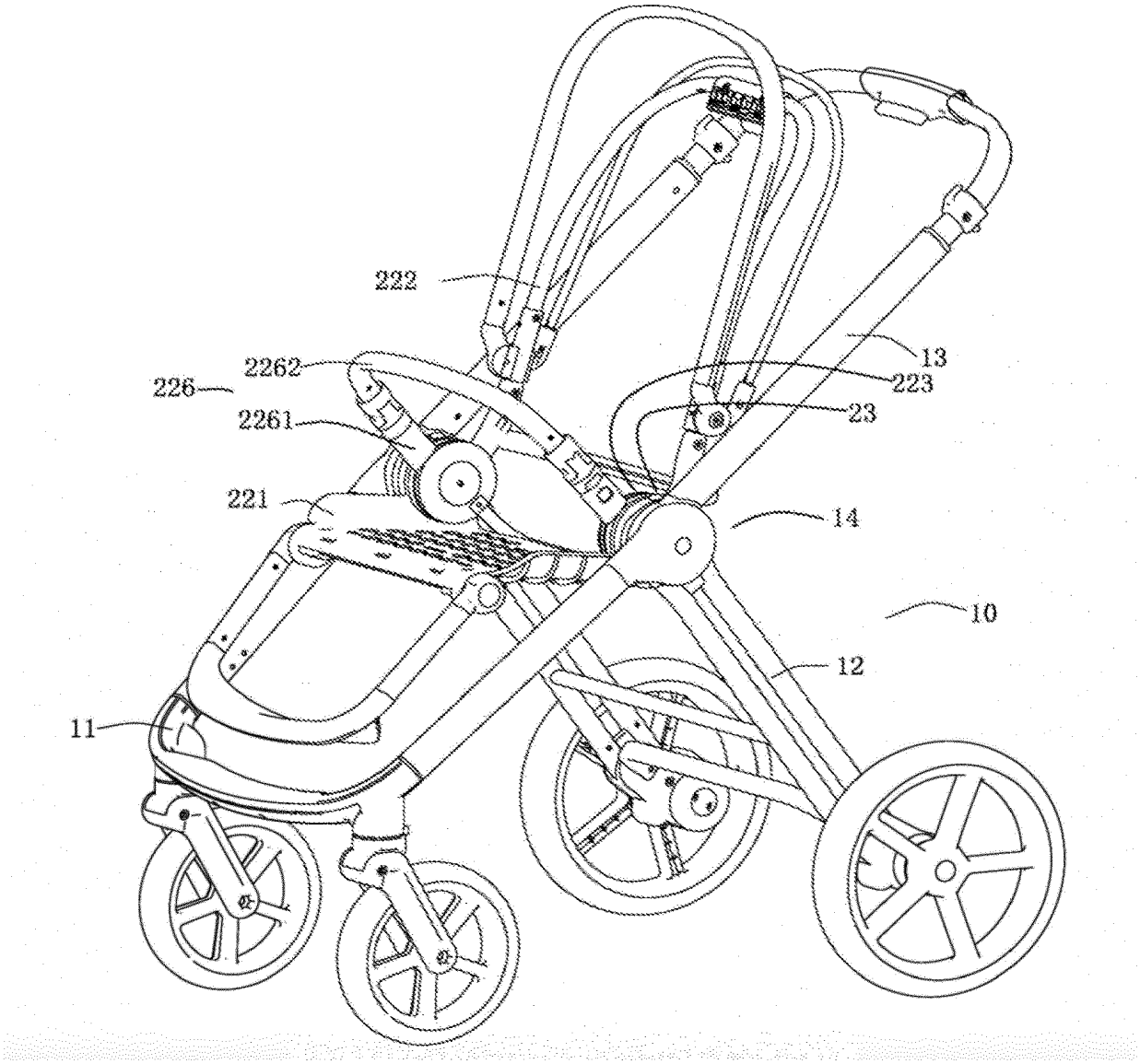


Fig. 1

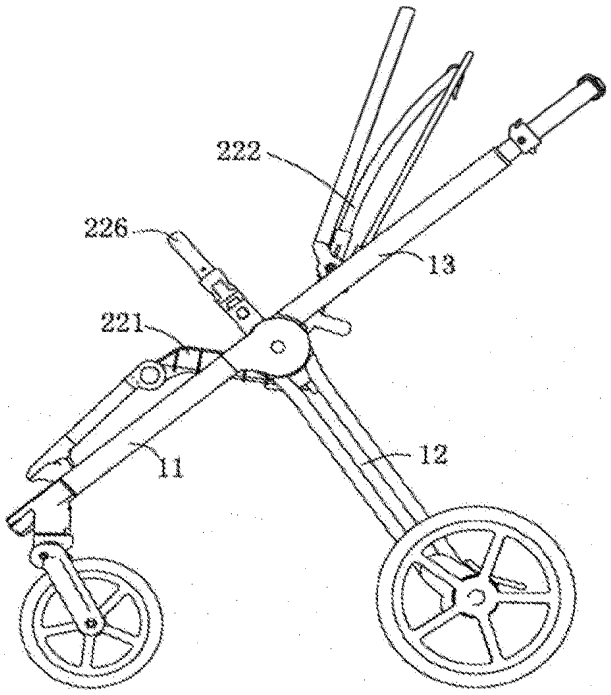


Fig. 2

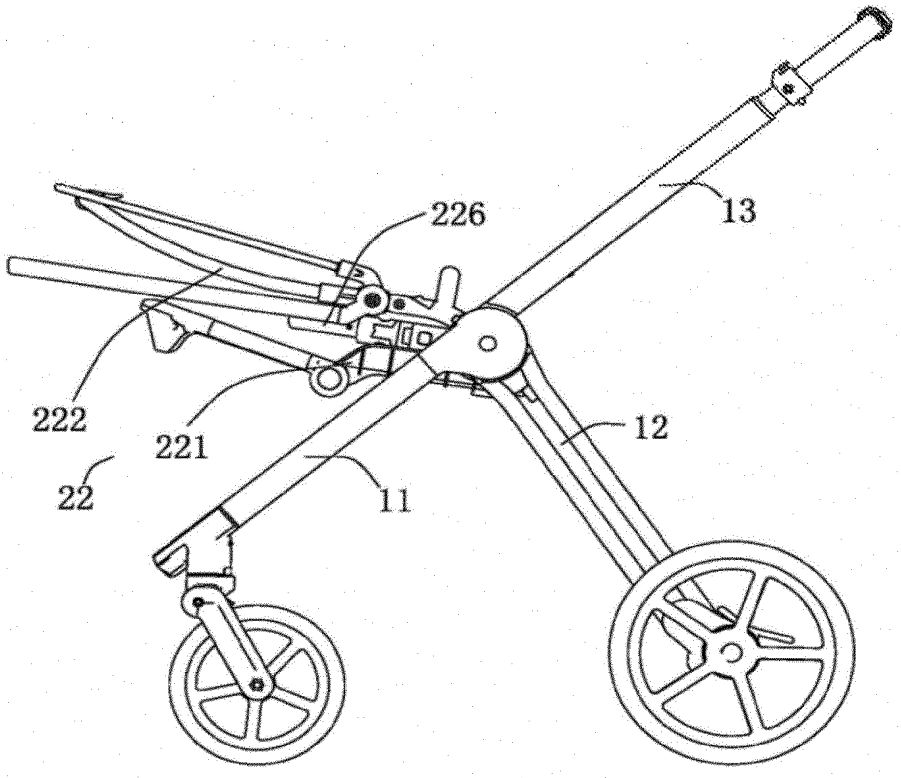


Fig. 3

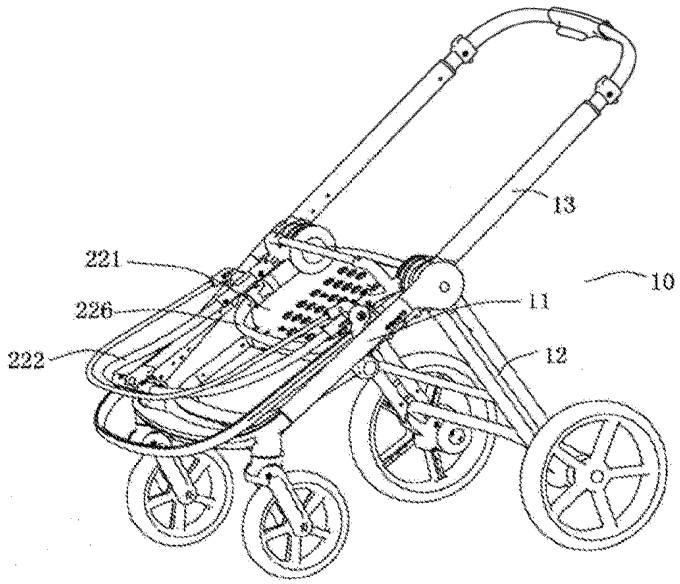


Fig. 4

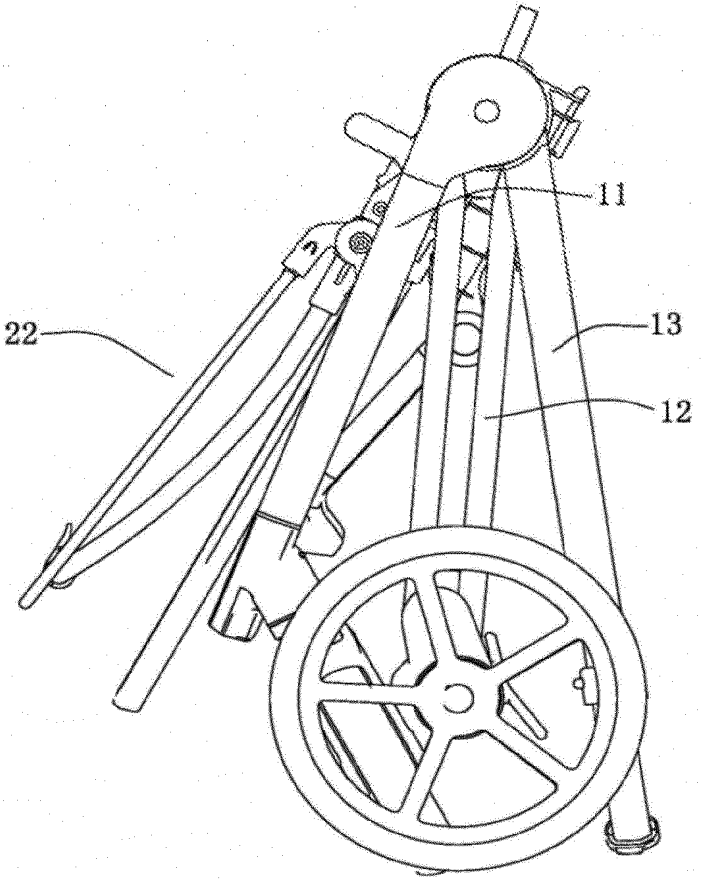


Fig. 5

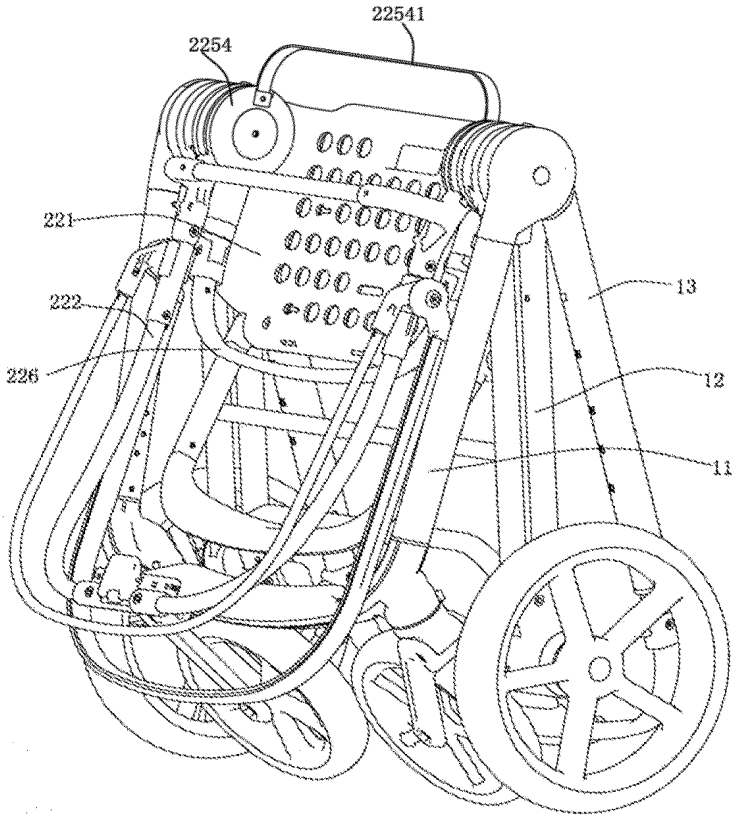


Fig. 6

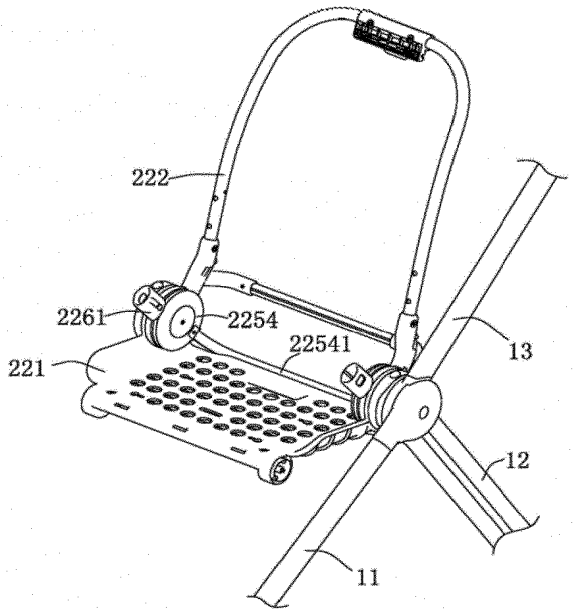


Fig. 7

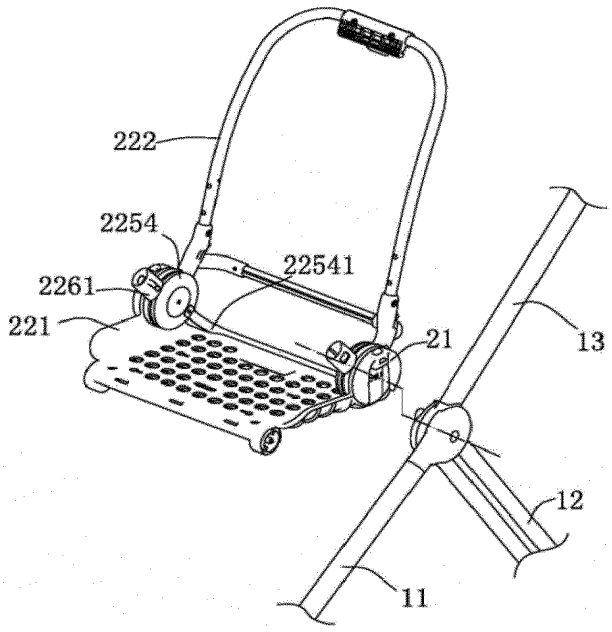


Fig. 8

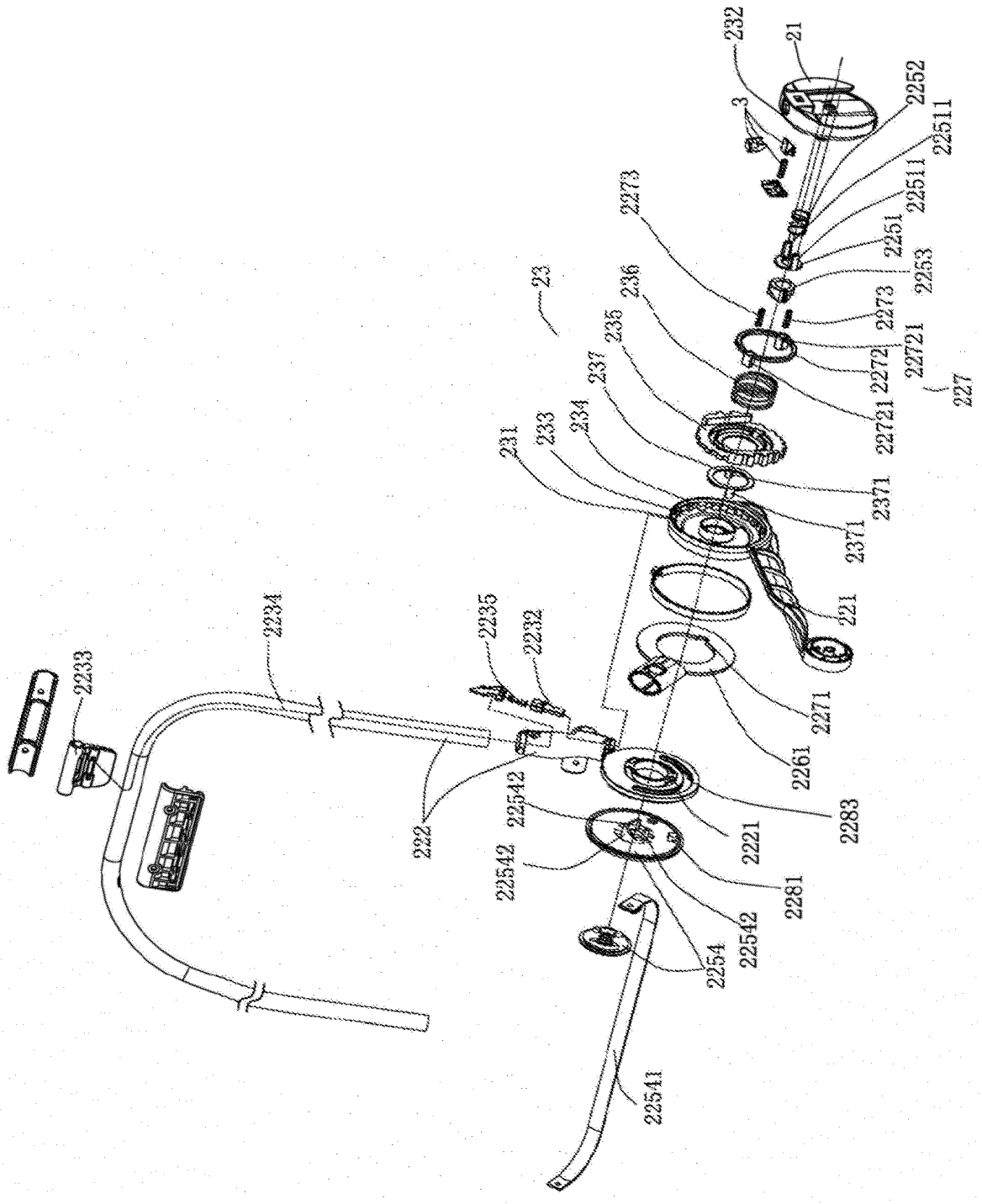

232
21
3
2252
22511
22511
2251
2253
2273
23
236
2273
235
2272
22721
237
22721
227
234
233
231
2371
2371
221
2271
2261
2283
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2281
22542
22542
22542
2254
22541
2234
2235
2232
2233
222

Fig. 9

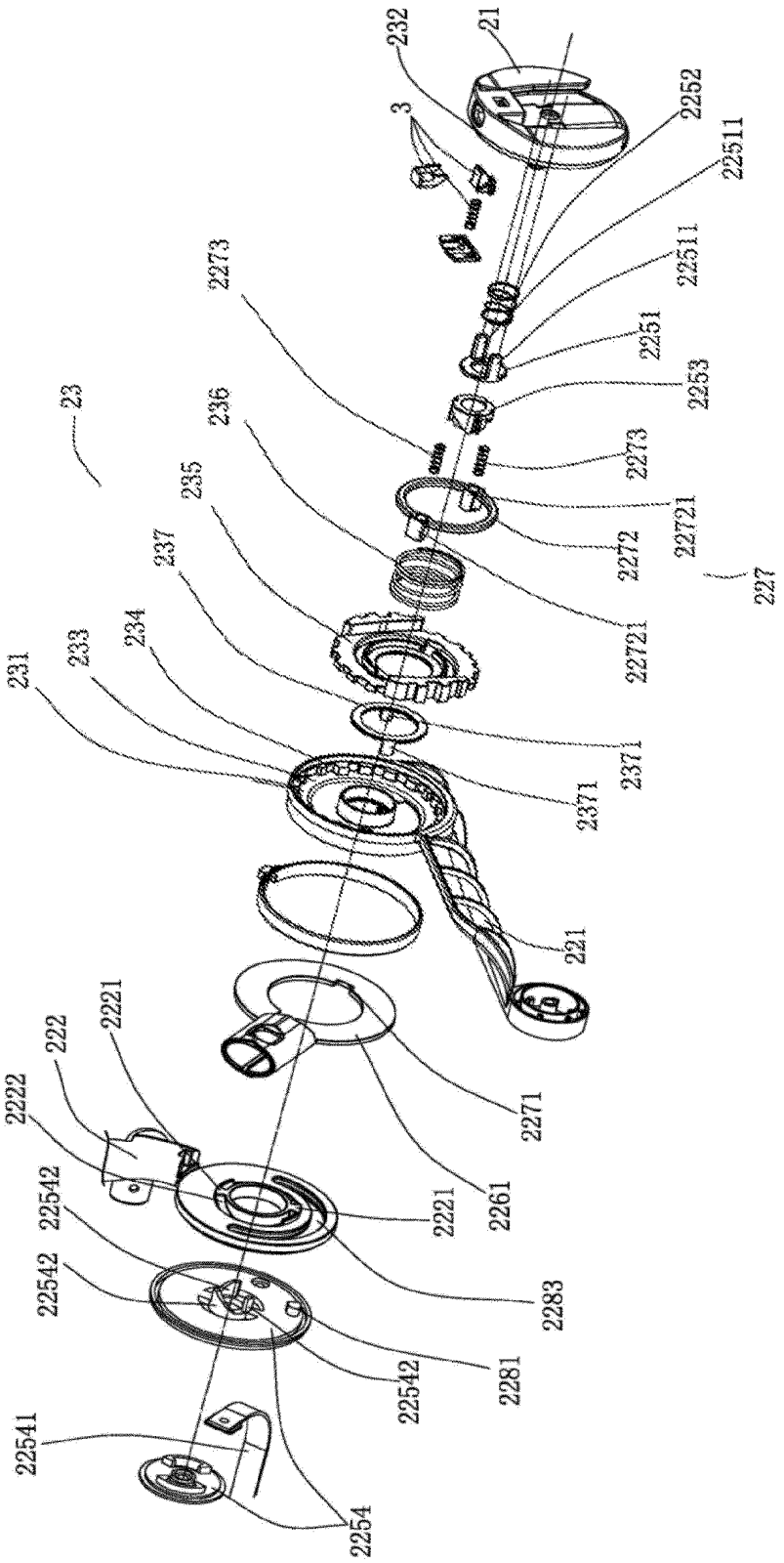

232
21
3
2252
22511
22511
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236
2273
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22721
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22721
227
234
233
231
2371
2371
221
2222
222
2221
2271
2261
22542
2221
22542
2283
22542
2281
22541
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Fig. 10

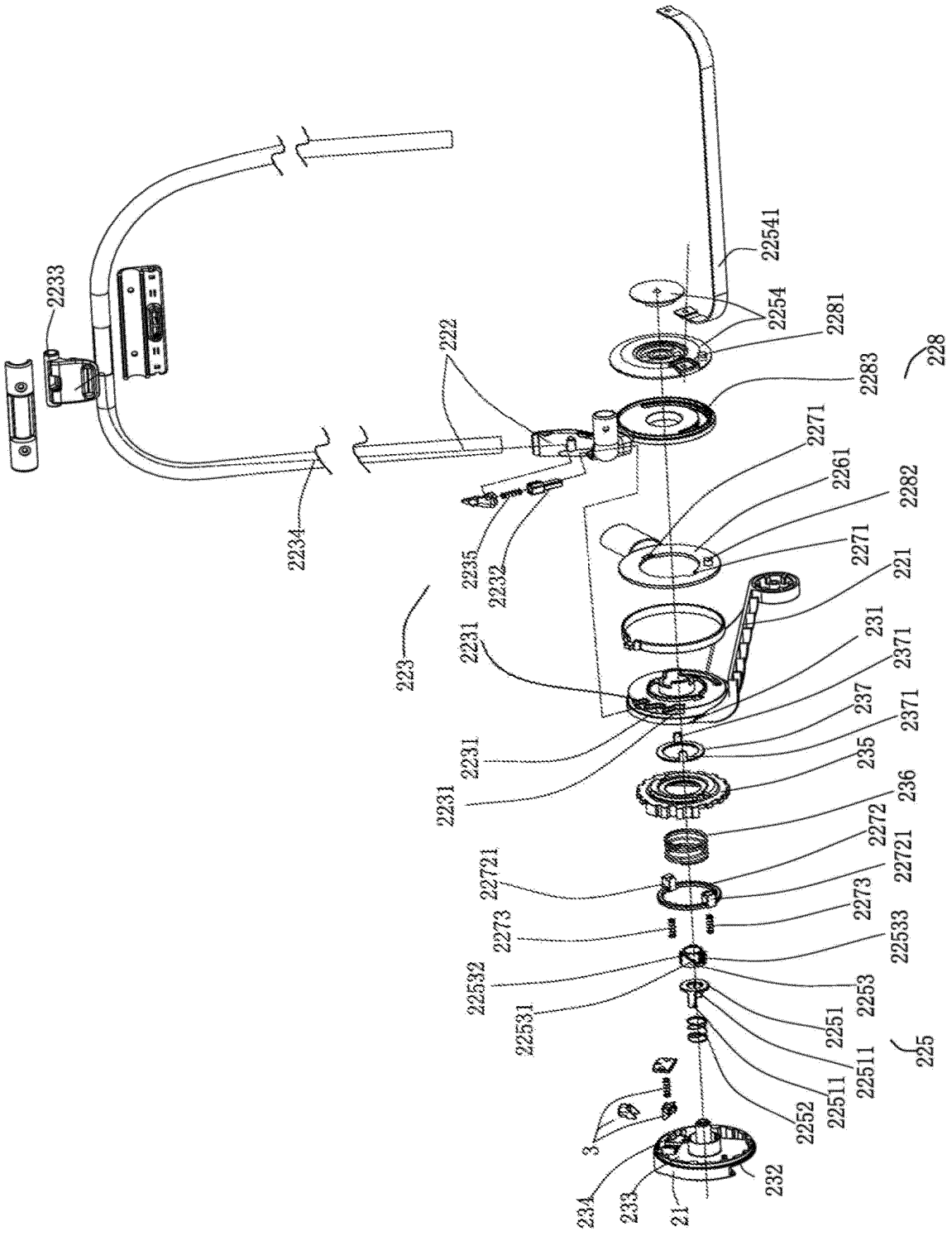

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Fig. 11

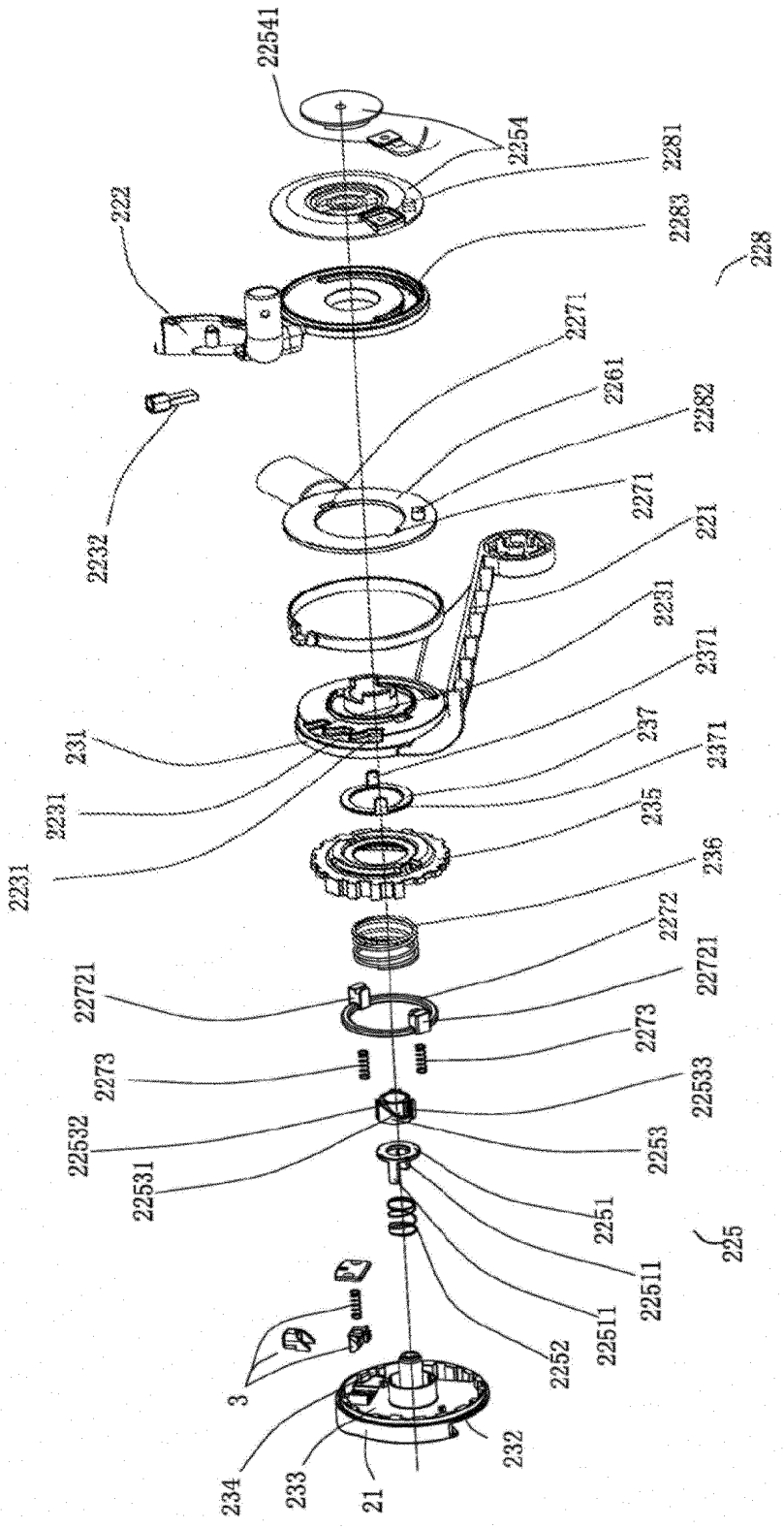

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Fig. 12

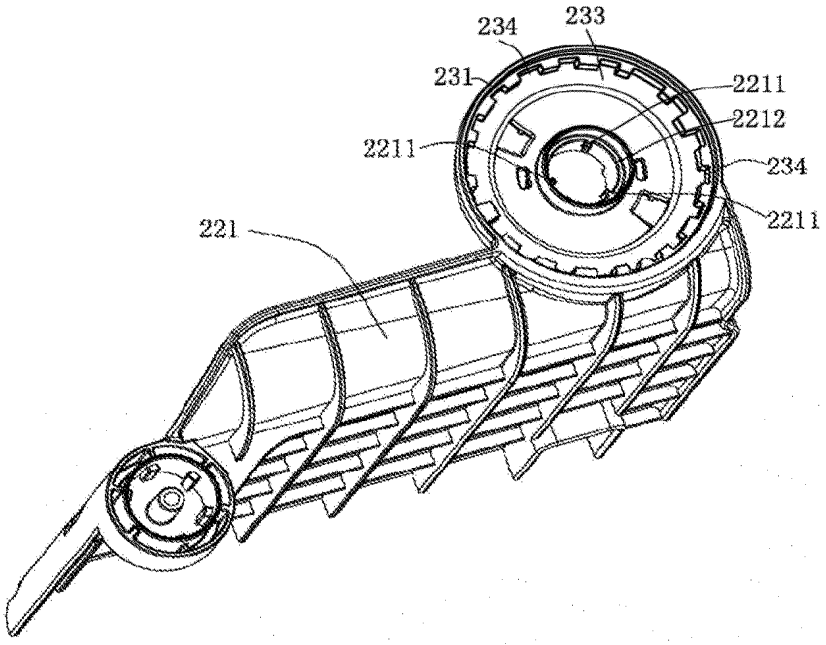

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Fig. 13

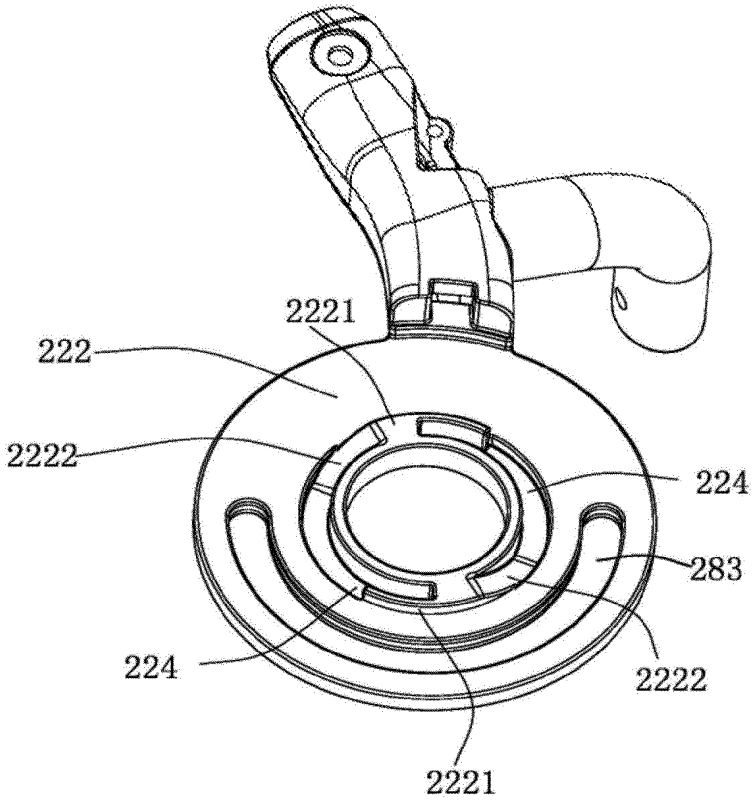

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Fig. 14

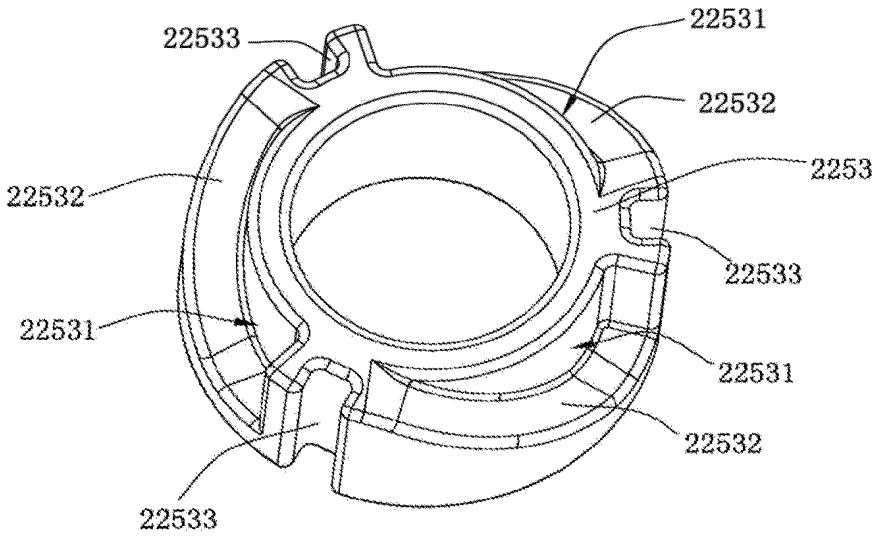


Fig. 15

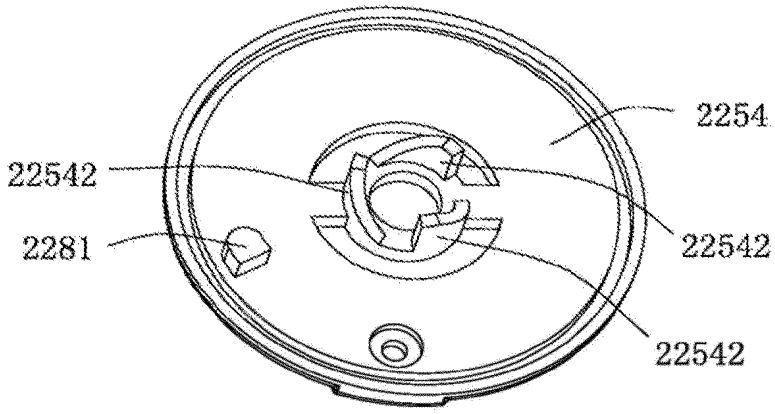


Fig. 16

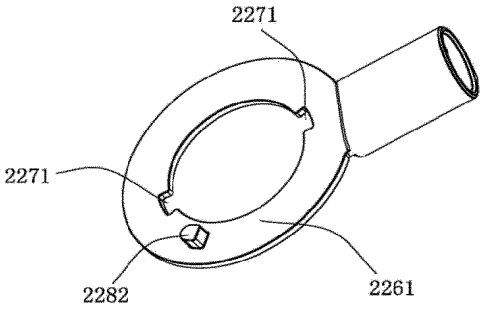


Fig. 17

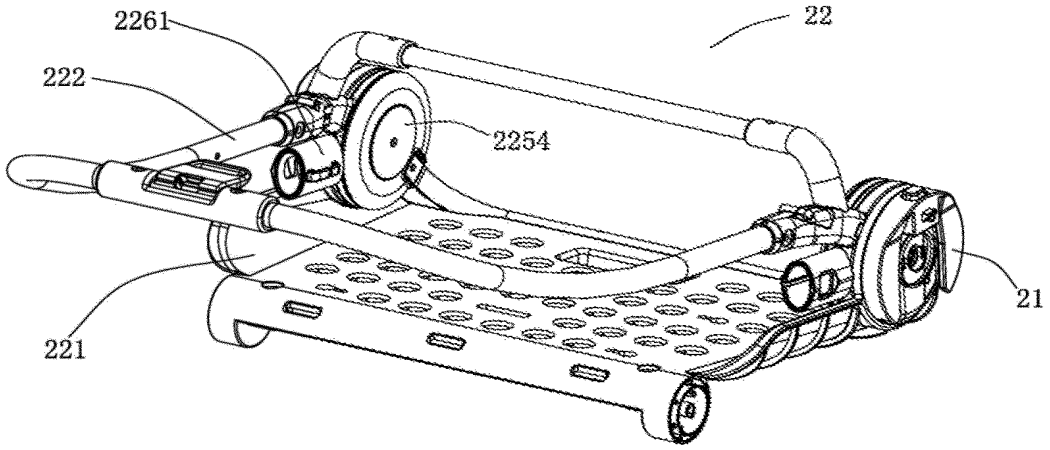

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Fig. 18

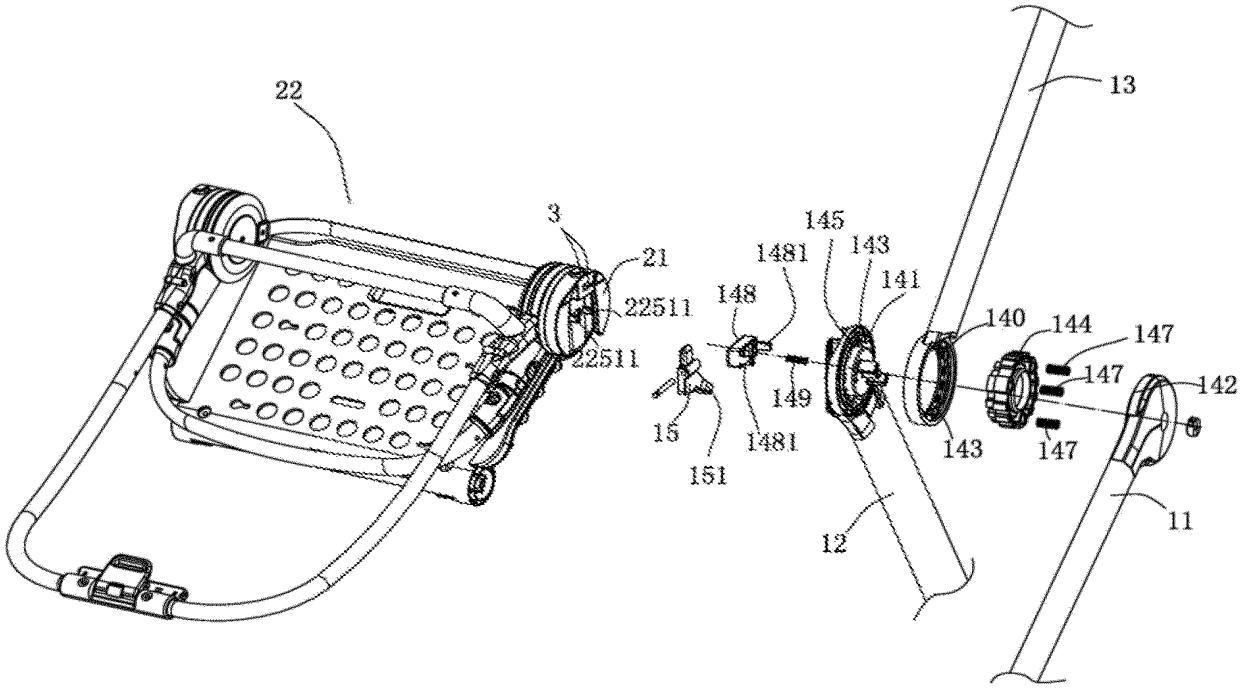

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Fig. 19

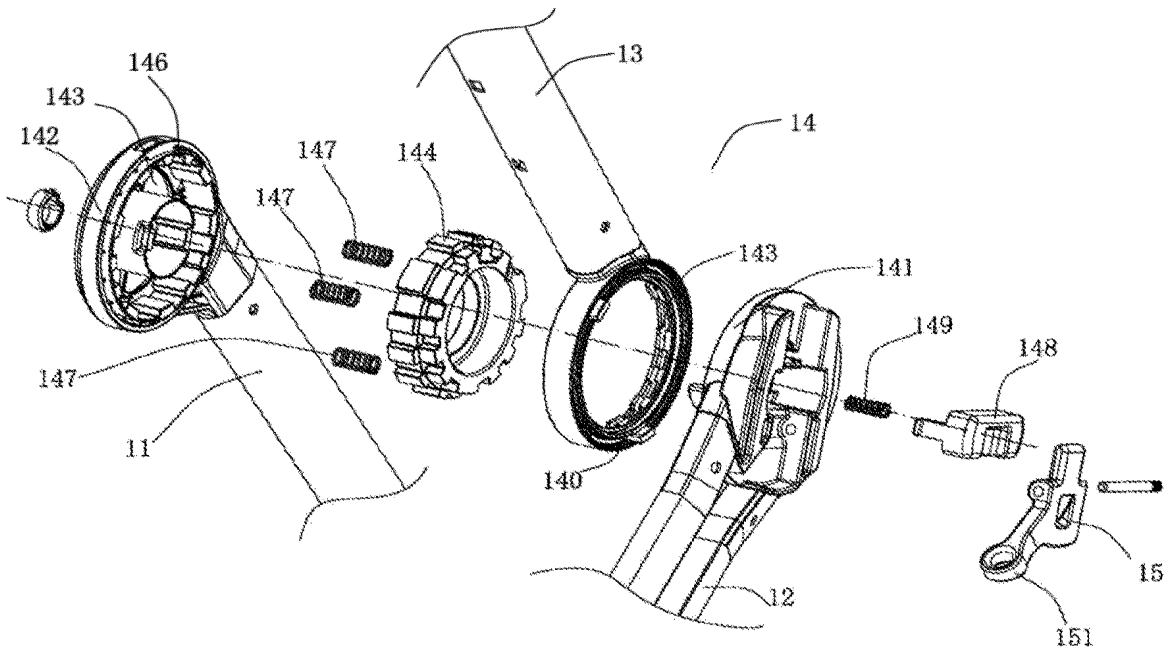

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Fig. 20

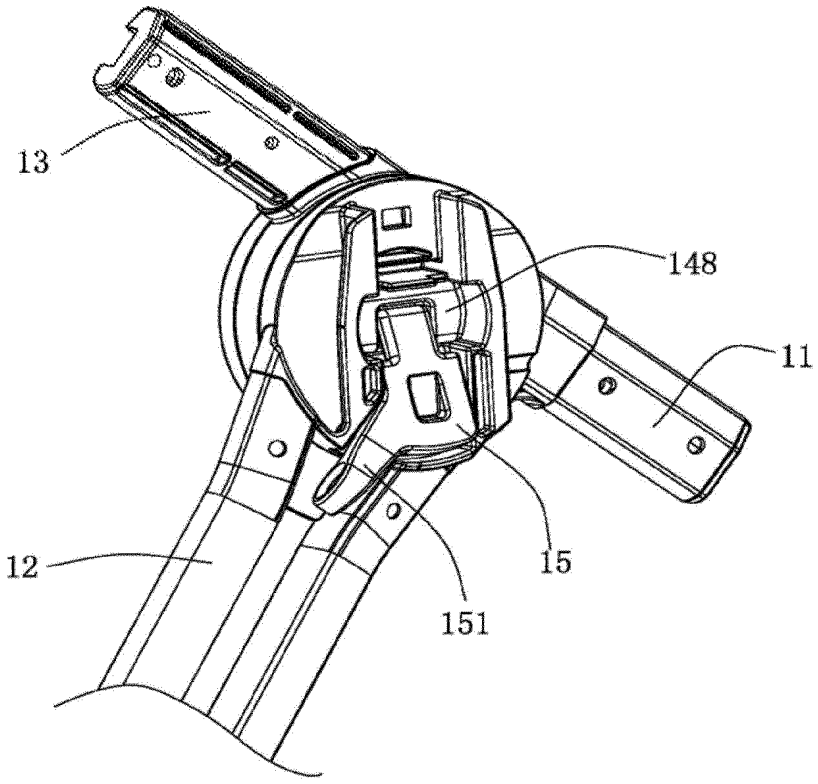

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Fig. 21

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European Patent Office
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EUROPEAN SEARCH REPORT

Application Number
EP 23 15 1638

DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
X	WO 2021/204966 A1 (WONDERLAND SWITZERLAND AG [CH]) 14 October 2021 (2021-10-14) * page 14, line 30 - page 15, line 33; figures *	1-13	INV. B62B7/06 B62B7/14
X	US 2019/320812 A1 (ZHONG ZHIREN [CN]) 24 October 2019 (2019-10-24) * paragraphs [0006], [0007], [0032], [0046] *	1-13	
X	CN 113 044 096 A (GUANGDONG ROADMATE GROUP CO) 29 June 2021 (2021-06-29) * the whole document *	1-13	
X	CN 112 407 016 A (ZHONGSHAN TEKAISI INFANT AND CHILDREN PRODUCT CO LTD) 26 February 2021 (2021-02-26) * the whole document *	1-13	
X	US 2020/239058 A1 (ZHANG XIAOJIAN [CN]) 30 July 2020 (2020-07-30) * paragraphs [0006], [0030] - [0039], [0050]; figures *	1-13	TECHNICAL FIELDS SEARCHED (IPC) B62B

The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
Munich	31 May 2023	Chaloupy, Marc

CATEGORY OF CITED DOCUMENTS

X : particularly relevant if taken alone
Y : particularly relevant if combined with another document of the same category
A : technological background
O : non-written disclosure
P : intermediate document

T : theory or principle underlying the invention
E : earlier patent document, but published on, or after the filing date
D : document cited in the application
L : document cited for other reasons

& : member of the same patent family, corresponding document

EPO FORM 1503 03.82 (P04C01)

ANNEX TO THE EUROPEAN SEARCH REPORT ON EUROPEAN PATENT APPLICATION NO. EP 23 15 1638

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The European Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

31-05-2023

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
WO 2021204966 A1	14-10-2021	AU 2021253663 A1	13-10-2022
		CA 3179759 A1	14-10-2021
		CN 113511248 A	19-10-2021
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EPO FORM P0459

For more details about this annex : see Official Journal of the European Patent Office, No. 12/82

Europäisches Patentamt
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GERMANY

Questions about this communication ?
Contact Customer Services at www.epo.org/contact

Intès, Didier Gérard André
Cabinet Beau de Loménie
158 rue de l'Université
75340 Paris Cedex 07
FRANCE

ORIGINAL
Rec'd 15625
28 AOUT 2017
Cabinet Beau de Loménie
Date 29.08.17

Reference	Application No./Patent No.
3H319420/3.VIG	17161947.1 - 1760
Applicant/Proprietor	
Baby Jogger, LLC	

Communication

The extended European search report is enclosed.

The extended European search report includes, pursuant to Rule 62 EPC, the European search report (R. 61 EPC) or the partial European search report/ declaration of no search (R. 63 EPC) and the European search opinion.

Copies of documents cited in the European search report are attached.

☑ 0 additional set(s) of copies of such documents is (are) enclosed as well.

The following have been approved:

☑ Abstract ☑ Title

☐ The Abstract was modified and the definitive text is attached to this communication.

The following figure(s) will be published together with the abstract: 8A

Refund of search fee
If applicable under Article 9 Rules relating to fees, a separate communication from the Receiving Section on the refund of the search fee will be sent later.

Should you wish to further prosecute this application in the examination phase, your attention is drawn to the provisions of Rule 70a EPC. An invitation to respond to the extended European search report will be issued once the date of publication of the European search report has been mentioned in the European Patent Bulletin (R. 69(1), R. 70(2) EPC).

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EUROPEAN SEARCH REPORT

Application Number
EP 17 16 1947

DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
X A	US 6 286 844 B1 (CONE II RICHARD E [US] ET AL) 11 September 2001 (2001-09-11) * the whole document *	1,2,4-6, 13,14 3,7-12, 15	INV. B62B7/00
X	US 2014/191483 A1 (ROLICKI PETER [US] ET AL) 10 July 2014 (2014-07-10) * paragraph [0071]; figure 10 *	1,8-10, 13,15	
X	WO 2014/042524 A1 (WF INTERNAT HOLDING B V [NL]) 20 March 2014 (2014-03-20) * figure 6 *	1,13	
A	US 2016/046315 A1 (ZEHFUSS MARK [US] ET AL) 18 February 2016 (2016-02-18) * the whole document *	1-15	

TECHNICAL FIELDS SEARCHED (IPC)
B62B

The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
Munich	22 August 2017	Lindner, Volker

CATEGORY OF CITED DOCUMENTS

X : particularly relevant if taken alone
Y : particularly relevant if combined with another document of the same category
A : technological background
O : non-written disclosure
P : intermediate document

T : theory or principle underlying the invention
E : earlier patent document, but published on, or after the filing date
D : document cited in the application
L : document cited for other reasons

& : member of the same patent family, corresponding document

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ANNEX TO THE EUROPEAN SEARCH REPORT ON EUROPEAN PATENT APPLICATION NO.

EP 17 16 1947

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report. The members are as contained in the European Patent Office EDP file on
The European Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

22-08-2017

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 6286844 B1	11-09-2001	US 6286844 B1	11-09-2001
		US 2001013689 A1	16-08-2001
US 2014191483 A1	10-07-2014	CN 105835933 A	10-08-2016
		US 2014191483 A1	10-07-2014
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US 2016046315 A1	18-02-2016	US 2016046315 A1	18-02-2016
		WO 2016025690 A1	18-02-2016

EPO FORM P0459

For more details about this annex : see Official Journal of the European Patent Office, No. 12/82

Information on Search Strategy - Pilot phase (see OJ 2015, A86)
The type of information contained in this sheet may change during the pilot for improving the usefulness of this new service.

Application Number
EP 17 16 1947

TITLE: REMOVABLE SEAT ATTACHMENT FOR A STROLLER

APPLICANT: Baby Jogger, LLC

IPC CLASSIFICATION: B62B7/00

EXAMINER: Lindner, Volker

CONSULTED DATABASES: WPI

CLASSIFICATION SYMBOLS DEFINING EXTENT OF THE SEARCH:

IPC:

CPC: B62B7/008, B62B9/028

FI/F-TERMS:

KEYWORDS OR OTHER ELEMENTS FEATURING THE INVENTION:
A stroller (10), comprising:
a stroller frame (12);
a plurality of wheels (14, 15) coupled to the stroller frame (12);
a first seat coupled to the stroller frame (12);
a first seat attachment housing (1105) disposed along a first portion of the stroller frame (12);
a second seat attachment housing (1110) disposed along a second portion of the stroller frame (12);
a first removable seat attachment adapter (84) configured to be removably coupled to the first seat attachment housing (1105); and
a second removable seat attachment adapter (89) configured to be removably coupled to the second seat attachment housing (1110).

EPO FORM P04A42

The examination is being carried out on the **following application documents**

Description, Pages

1-20 as originally filed

Claims, Numbers

1-15 as originally filed

Drawings, Sheets

1/18-18/18 as originally filed

1 The following documents (D) are referred to in this communication; the numbering will be adhered to in the rest of the procedure:

D1 US 6 286 844 B1 (CONE II RICHARD E [US] ET AL) 11 September 2001 (2001-09-11)

D2 US 2014/191483 A1 (ROLICKI PETER [US] ET AL) 10 July 2014 (2014-07-10)

D3 WO 2014/042524 A1 (WF INTERNAT HOLDING B V [NL]) 20 March 2014 (2014-03-20)

2 The present application does not meet the requirements of Article 52(1) EPC, because **the subject-matter of claims 1, 2, 4-6, 13 and 14 is not new in the sense of Article 54(1) and (2) EPC.**

2.1 **Claims 1 and 13**

The document D1 discloses (the references in parentheses applying to this document):
A stroller (14) comprising: a stroller frame (14,16,68); a plurality of wheels (74) coupled to the stroller frame; a first seat (12) coupled to the stroller frame; a first seat attachment housing (16) disposed along a first portion of

the stroller frame; a second seat attachment housing (16) disposed along a second portion of the stroller frame; a first removable seat attachment adapter (46,124) configured to be removably coupled to the first seat attachment housing; and a second removable seat attachment adapter (46,124) configured to be removably coupled to the second seat attachment housing.

A method of attaching a second stroller seat to a stroller (14) comprising: providing a stroller (14) comprising: a stroller frame (14,16,68); a plurality of wheels (74) coupled to the stroller frame (14,16,68); a first stroller seat coupled to the stroller frame (14,16,68);
a first seat attachment housing (16) disposed along a first portion of the stroller frame (14,16,68); a second seat attachment housing (16) disposed along a second portion of the stroller frame (14,16,68); a first removable seat attachment adapter; and a second removable seat attachment adapter; wherein each of the first and the second removable seat attachment adapters comprise a first end and a second end, the second end comprising a seat connector; inserting the first end of the first removable seat attachment adapter into first seat attachment housing (16); inserting the first end of the second removable seat attachment adapter into the second seat attachment housing (16); and coupling the second stroller seat to the seat connector of each of the first removable seat attachment adapter (16) and the second removable seat attachment adapter (16).

The subject-matter of claims 1 and 13 is therefore not new (Article 54(1) and (2) EPC).

2.2 Documents D2 and D3 disclose also the subject matter of claims 1 and 13:

D2: frame (102); a plurality of wheels (110), first seat (106), first seat attachment housing (1002), second seat attachment housing (1002), first and second adapters (108)
D3: frame (12); a plurality of wheels (30), first seat (22), first seat attachment housing (64), second seat attachment housing (66), first and second adapters (40)

2.3 **Claims 2, 4-6, 13 and 14**

The document D1 discloses also (the references in parentheses applying to this document):

A stroller, wherein each of the first seat attachment housing and the second seat attachment housing comprise: an adapter receiving cavity (90) configured to receive at least a portion of a respective one of the first and the second removable seat attachment adapters; and a door (102,104) disposed adjacent a top side of the respective seat attachment housing and configured to move from a closed configuration, preventing access to the adapter receiving cavity from the top side of the respective seat attachment adapter, to an open configuration allowing access to the adapter receiving cavity from the top side of the respective seat attachment adapter, wherein the door is rotatably coupled to the respective seat attachment housing and wherein the door is configured to rotate from the closed configuration to the open configuration (Fig.1-13), further comprising a hinge (88, 92) having a first portion coupled to the door and a second portion coupled to the respective seat attachment housing (Fig.1-13), wherein the hinge rotatably couples the door to the respective seat attachment housing (Fig.1-13), wherein the adapter receiving cavity comprises: a first open end; and a distal second open end (Fig.1-13); wherein the adapter receiving cavity provides a through hole through the respective first or second seat attachment housing,

Methode, wherein the stroller (14) further comprises a first door (102,104) disposed adjacent a top side of the first seat attachment housing (16) and a second door (102,104) disposed adjacent a top side of the second seat attachment housing (16), the method further comprising:
adjusting the first door (102,104) from a closed configuration, preventing access to first seat attachment housing (16), to an open configuration, allowing access to the first seat attachment housing (16), prior to inserting the first end of the first removable seat attachment adapter into first seat attachment housing (16);
adjusting the second door (102,104) from the closed configuration to the open configuration prior to inserting the first end of the second removable seat attachment adapter into the second seat attachment housing (16).

The subject-matter of claims 2, 4-6, 13 and 14 is therefore not new (Article 54(1) and (2) EPC).

3 A latching mechanism is well known and disclosed in D2 (see figure 10 and [0071]), the features of claim 8-10 and 15 are merely one of several straight-forward possibilities from which the skilled person would select, in accordance with circumstances, without the exercise of inventive skill, in order to solve the problem posed.

Thus the present application does not meet the criteria of an inventive, because **the subject-matter of claims 8-10 and 15 does not involve an inventive step.**

4 In order to facilitate the examination of the conformity of the amended application with the requirements of Article 123(2) EPC, the applicant should clearly identify the amendments made, irrespective of whether they concern amendments by addition, replacement or deletion, and indicate the passages of the application as filed on which these amendments are based (see Guidelines F-III, 2.6).

If the applicant considers it appropriate, these indications could be submitted in handwritten form on a copy of the relevant parts of the application as filed.

5 To meet the requirements of Rule 42(1)(b) EPC, the document D1 should be identified in the description and its relevant contents should be indicated. The applicant should ensure that it is clear from the description which features of the subject-matter of the independent claim is known from the document D1.

6 The combination of the features of dependent claim 3 is neither known from, nor rendered obvious by, the available prior art. A new independent claim may be drafted to include these features, bearing in mind that the features known in combination in D1 should be placed in the preamble of such a claim in accordance with Rule 43(1) EPC.

7 In order to facilitate the examination of the conformity of the amended application with the requirements of Article 123(2) EPC, the applicant should clearly identify the amendments made, irrespective of whether they concern amendments by addition, replacement or deletion, and indicate the passages

of the application as filed on which these amendments are based (see Guidelines E-II, 1).

8 To meet the requirements of Rule 42(1)(b) EPC, the document D1 should be identified in the description and its relevant contents should be indicated. The applicant should ensure that it is clear from the description which features of the subject-matter of the independent claim is known from the document D1.

PATENT COOPERATION TREATY

PCT

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

(Chapter I of the Patent Cooperation Treaty)

(PCT Rule 44*bis*)

Applicant's or agent's file reference DYN005.PCT	**FOR FURTHER ACTION**	See item 4 below
International application No. PCT/US2009/066817	International filing date *(day/month/year)* 04 December 2009 (04.12.2009)	Priority date *(day/month/year)* 04 December 2008 (04.12.2008)
International Patent Classification (8th edition unless older edition indicated) See relevant information in Form PCT/ISA/237		
Applicant DYNAMIC BRANDS, LLC		

1. This international preliminary report on patentability (Chapter I) is issued by the International Bureau on behalf of the International Searching Authority under Rule 44 *bis*.1(a).

2. This REPORT consists of a total of 5 sheets, including this cover sheet.

   In the attached sheets, any reference to the written opinion of the International Searching Authority should be read as a reference to the international preliminary report on patentability (Chapter I) instead.

3. This report contains indications relating to the following items:

☒	Box No. I	Basis of the report
☐	Box No. II	Priority
☐	Box No. III	Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
☐	Box No. IV	Lack of unity of invention
☒	Box No. V	Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
☐	Box No. VI	Certain documents cited
☐	Box No. VII	Certain defects in the international application
☐	Box No. VIII	Certain observations on the international application

4. The International Bureau will communicate this report to designated Offices in accordance with Rules 44*bis*.3(c) and 93*bis*.1 but not, except where the applicant makes an express request under Article 23(2), before the expiration of 30 months from the priority date (Rule 44*bis*.2).

	Date of issuance of this report 07 June 2011 (07.06.2011)
The international Bureau of WIPO 34, chemin des Colombettes 1211 Geneva 20, Switzerland	Authorized officer Beate Giffo-Schmitt
Facsimile No. +41 22 338 82 70	e-mail: pt03.pct@wipo.int

Form PCT/IB/373 (January 2004)

PATENT COOPERATION TREATY

From the
INTERNATIONAL SEARCHING AUTHORITY

To: BERNARD PIKE
TROUTMAN SANDERS LLP
600 PEACHTREE STREET, N.E., SUITE 5200
PATENT & TRADEMARK DEPARTMENT
ATLANTA, GA 30308-2216

PCT

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

(PCT Rule 43*bis*.1)

Date of mailing *(day/month/year)*	29 JAN 2010
Applicant's or agent's file reference: DYN005.PCT	FOR FURTHER ACTION: See paragraph 2 below

International application No.	International filing date *(day/month/year)*	Priority date *(day/month/year)*
PCT/US2009/066817	04 December 2009	12 April 2009

International Patent Classification (IPC) or both national classification and IPC
IPC(8) - B62B 7/00 (2010.01)
USPC - 280/642

Applicant DYNAMIC BRANDS, LLC

1. This opinion contains indications relating to the following items:

- [X] Box No. I Basis of the opinion
- [ ] Box No. II Priority
- [ ] Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- [ ] Box No. IV Lack of unity of invention
- [X] Box No. V Reasoned statement under Rule 43*bis*.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- [ ] Box No. VI Certain documents cited
- [ ] Box No. VII Certain defects in the international application
- [ ] Box No. VIII Certain observations on the international application

2. **FURTHER ACTION**

If a demand for international preliminary examination is made, this opinion will be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA") except that this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1*bis*(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of 3 months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

3. For further details, see notes to Form PCT/ISA/220.

Name and mailing address of the ISA/US	Date of completion of this opinion	Authorized officer:
Mail Stop PCT, Attn: ISA/US Commissioner for Patents P.O. Box 1450, Alexandria, Virginia 22313-1450 Facsimile No. 571-273-3201	20 January 2010	Blaine R. Copenheaver PCT Helpdesk: 571-272-4300 PCT OSP: 571-272-7774

Form PCT/ISA/237 (cover sheet) (July 2009)

WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY

International application No.
PCT/US2009/066817

Box No. I Basis of this opinion

1. With regard to the **language**, this opinion has been established on the basis of:

☒ the international application in the language in which it was filed.

☐ a translation of the international application into _____ which is the language of a translation furnished for the purposes of international search (Rules 12.3(a) and 23.1(b)).

2. ☐ This opinion has been established taking into account the **rectification of an obvious mistake** authorized by or notified to this Authority under Rule 91 (Rule 43*bis*.1(a))

3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, this opinion has been established on the basis of a sequence listing filed or furnished:

a. (means)

☐ on paper

☐ in electronic form

b. (time)

☐ in the international application as filed

☐ together with the international application in electronic form

☐ subsequently to this Authority for the purposes of search

4. ☐ In addition, in the case that more than one version or copy of a sequence listing has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.

5. Additional comments:

Form PCT/ISA/237 (Box No. I) (July 2009)

WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY

International application No.
PCT/US2009/066817

Box No. V **Reasoned statement under Rule 43*bis*.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

1. Statement

Novelty (N)	Claims	6, 7, 9, 10, 15-27, 32	YES
	Claims	1-5, 8, 11-14, 28-31, 33, 34	NO
Inventive step (IS)	Claims	None	YES
	Claims	1-34	NO
Industrial applicability (IA)	Claims	1-34	YES
	Claims	None	NO

2. Citations and explanations:

Claims 1-5, 8 and 11-14 lack novelty under PCT Article 33(2) as being anticipated by Jones et al.
Referring to claims 1-5, 8 and 11-14, Jones et al disclose [Cl. 1] a seat attachment (see Fig. 1) for a stroller (10), comprising: an attachment frame member (2, 4, 8) comprising a connector portion (14) capable of connecting to a stroller frame (12); and a seat support element (20) capable of supporting a seat (22); [Cl. 2] comprising: a wheel (6); [Cl. 3] further comprising a wheel support frame (30) connecting the wheel (6) to the attachment frame member (2, 4, 8); [Cl. 4] wherein the wheel support frame (30) is pivotally connected to the attachment frame member (2, 4, 8); [Cl. 5] wherein the wheel support frame (30) is pivotally connected near the middle of the attachment frame member (2, 4, 8) (30 is pivotally connected to the middle portions of the sides of platform member 2 when viewed from the side, see Fig. 2); [Cl. 8] wherein the wheel support frame (30) is capable of pivoting from a first position to a second position (30 appears to be a 360 degree pivotable caster wheel); [Cl. 11] wherein the attachment frame member (2, 4, 8) has a first end (8) and a second end (4); [Cl. 12] wherein the first end (8) is capable of connecting to a stroller frame (12); [Cl. 13] wherein the second end (4) is connected to the seat attachment member (20); [Cl. 14] wherein the seat support element (20) is capable of supporting a seat (22) in either a forward (see Fig. 1) or backward position (20 may be attached in a reversed direction which would allow the child to sit in reverse direction and be able to place their feet on platform 2).

Claims 28-31, 33 and 34 lack novelty under PCT Article 33(2) as being anticipated by Maciejczyk.
Referring to claims 28-31, 33 and 34, Maciejczyk discloses [Cl. 28] a stroller (200), comprising: a frame (230, 240); at least one front wheel (210); at least one rear wheel (220) ; a stroller seat (260); and a seat attachment portion (100) capable of supporting a second seat (110) in front of the stroller seat (260); [Cl. 29] wherein the seat attachment portion (100) comprises two seat connectors (120, 130); [Cl. 30] wherein the seat attachment portion (100) is removably connected to the frame (230, 240); [Cl. 31] wherein the seat attachment portion (100) comprises two portions (120, 130) each comprising one seat connector (seat 110 would be supported by two attachment portions 100, one on each side of the stroller); [Cl. 33] wherein the second seat (110) is a stroller seat (110 is a toddler seat so that would be considered a stroller seat as well); [Cl. 34] wherein the second seat (110) is integral to the seat attachment portion (100) (Figs. 2 and 3 show the seat be connected directly to first support element 120).

Claims 6, 7, 9, 10 and 15 lack an inventive step under PCT Article 33(3) as being obvious over Jones et al in view of Maciejczyk.
Referring to claims 6, 7, 9, 10 and 15, Jones et al disclose the seat attachment for stroller of claims 1, 5 and 8 and [Cl. 15] wherein the seat support element (20) is capable of supporting the seat (22) in either a forward or backward position (20 may be attached in a reversed direction which would allow the child to sit in reverse direction and be able to place their feet on platform 2), but fails to disclose [Cl. 6] further comprising a folding mechanism; [Cl. 7] wherein the folding mechanism comprises a sliding connector slidingly connected to the attachment frame member and a strut having a first end connected to the sliding member and a second end connected to the wheel support frame; [Cl. 9] wherein the first position is a locked and in-use position and the second position is an unlocked and folded position; [Cl. 10] wherein the seat is a baby seat, a car seat, a stroller seat, a bassinet, or a pram; [Cl. 15] further comprising a stroller seat.
However, Maciejczyk disclose a stroller seat attachment [Cl. 6] further comprising a folding mechanism (500) (see Figs. 8 and 9); [Cl. 7] wherein the folding mechanism (500) comprises a sliding connector (523) slidingly connected to the attachment frame member (230) and a strut (530) having a first end (531) connected to the sliding member (523) and a second end (540) connected to the wheel support frame (230) (both ends of strut 530 are connected to wheel support frame 230 either directly or indirectly, see Fig.s 8 and 9); [Cl. 9] wherein the first position (see Fig. 8) is a locked and in-use position (a child could be placed in seat) and the second position (see Fig. 9) is an unlocked and folded position; [Cl. 10] wherein the seat (110) is a stroller seat (110 is a toddler seat so that would be considered a stroller seat as well); [Cl. 15] further comprising a stroller seat (110 is a toddler seat so that would be considered a stroller seat as well).
It would have been obvious to a person of ordinary skill at the time of the invention to use the seat attachment for a stroller of Jones et al and the folding mechanism and the stroller seat of Maciejczyk in order to provide a reliable means of being able to easily collapse a stroller with an attached seat so the stroller can easily be collapsed to place in the trunk of a car but still be able to safely secure the additional child when in use.

Continued on Supplemental Box

WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY

International application No.
PCT/US2009/066817

Supplemental Box

In case the space in any of the preceding boxes is not sufficient.
Continuation of:
Box V

Claims 16-23 lack an inventive step under PCT Article 33(3) as being obvious over Jones et al in view of Huang.
Referring to claims 16-23, Jones et al disclose [Cl. 16] a stroller (10), comprising: a stroller frame (12) comprising wheels (see Fig. 6), a frame (12), a first seat (not labeled, see Fig. 6) and an attachment frame member (8) connected to the frame (12); a seat attachment (2, 4) comprising a wheel (6), a second seat (22), and a connector portion (14) capable of connecting to the attachment frame member (12); [Cl. 17] wherein the connector portion (14) is capable of being releasably connected to the attachment frame member (8) (attachment structure 107 may be attached or directly connected to arm 8, Para [0048]); [Cl. 18] wherein the second seat (22) is releasably connected to the seat support element (20); [Cl. 19] wherein the seat support element (20) is capable of supporting the second seat (22)in either a forward (see Fig. 1) or backward position (20 may be attached in a reversed direction which would allow the child to sit in reverse direction and be able to place their feet on platform 2); [Cl. 20] stroller (10), comprising: a first seat attachment (2, 4, 8) capable of removably supporting a child seat (22); and a second seat attachment (12) capable of supporting a child seat (stroller seat is supported by frame member 12); [Cl. 21] wherein each seat attachment (8) comprises two seat connector portions (14); [Cl. 22] wherein the child seat (stroller seat is supported by frame member 12) is one of a stroller seat (see Fig. 6); [CL. 23] comprising a frame (12), wherein the frame (12) comprises a handle portion (11), a front wheel support portion (see Fig. 11e) and a back wheel support portion (see Fig. 11e); but fails to disclose [Cl. 16] a double stroller; [Cl. 20] a double stroller.
However, Huang discloses a locking device for a front seat of a double stroller wherein [Cl. 16] a double stroller (see Fig. 1); [Cl. 20] a double stroller (see Fig. 1).
It would have been obvious to a person of ordinary skill at the time of the invention to use the seat attachment for a stroller of Jones et al and the double stroller of Huang in order to provide a reliable means of being able to safely transport more than 2 children by adding a additional seat to a double stroller.

Claims 24-27 lack an inventive step under PCT Article 33(3) as being obvious over Jones et al in view of Huang in view of Maciejczyk.
Referring to claims 24-27, Jones et al and Huang disclose the double stroller of claim 23, [Cl. 26] wherein the second seat attachment (22 of Jones et al) is adjacent to the handle portion (11 of Jones et al); but fails to disclose [Cl. 24] wherein a first seat attachment is adjacent to the front wheel support portion; [Cl. 25] wherein the first seat attachment is above at least one front wheel connected to the wheel support portion; [Cl. 27], further comprising a folding mechanism that connects the handle portion, the front wheel support portion, and the back wheel support portion.
However, Maciejczyk disclose a stroller seat attachment [Cl. 24] wherein a first seat attachment (100) is adjacent to the front wheel support portion (230); [Cl. 25] wherein the first seat attachment (100) is above at least one front wheel (210) connected to the wheel support portion (230); [Cl. 27], further comprising a folding mechanism (500) that connects the handle portion (210), the front wheel support portion (230), and the back wheel support portion (240) (mounting arrangement 500 is connected to portion 230 which is connected to handle portion 210 and back wheel support 240).
It would have been obvious to a person of ordinary skill at the time of the invention to use the double stroller of Jones et al and Huang and the seat attachment is placed on the front portion of the stroller in order to provide a reliable means of being able to safely transport more than 2 children by adding a additional seat to a double stroller, without the additional seat interfering with the person pushing the stroller.

Claim 32 lack an inventive step under PCT Article 33(3) as being obvious over Maciejczyk in view of Haeggberg.
Referring to claim 32, Maciejczyk discloses the stroller of claim 30, but fails to disclose [Cl. 32] wherein the frame comprises a sleeve for removably connecting the seat attachment portion to the frame.
However, Haeggberg discloses a stroller trailer [Cl. 32] wherein the frame (2) comprises a sleeve (18) for removably connecting the seat attachment portion (35) to the frame (2) (see Fig. 6a, holders 34 act as a sleeve for ball 35 of seat attachment portion).
It would have been obvious to a person of ordinary skill at the time of the invention to use the stroller of Maciejczyk and the sleeve attachment means of Haeggberg in order to provide a reliable means of attaching the seat attachment to the stroller that would require minimum effort to securely attach the additional seat.

Claims 1-34 meet the criteria set out in PCT Article 33(4), and thus have industrial applicability because the subject matter claimed can be made or used in industry.

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
18/448,417	08/11/2023	Mark ZEHFUSS	34757-2775	3414

134811 7590 05/21/2024

Eversheds Sutherland (US) LLP/NWL
999 Peachtree Street
Suite 2300
Atlanta, GA 30309

EXAMINER	
DOLAK, JAMES M	

ART UNIT	PAPER NUMBER
3618	

NOTIFICATION DATE	DELIVERY MODE
05/21/2024	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):

NewellPatents@eversheds-sutherland.us
patentdocket@eversheds-sutherland.com
umarbakhsh@eversheds-sutherland.us

Applicant-Initiated Interview Summary	**Application No.** 18/448,417	**Applicant(s)** ZEHFUSS, Mark		
	Examiner JAMES M DOLAK	**Art Unit** 3618	**AIA (First Inventor to File) Status** No	**Page** 1 of 1

All Participants (applicant, applicants representative, PTO personnel)	**Title**	**Type**
JAMES M DOLAK	Primary Examiner	Telephonic
Umar Bakhsh	Attorney of Record	

Date of Interview: 15 May 2024

Issues Discussed:

Proposed Amendment(s)

Discussed amendments to the claims to be filed in response to Non-Final mailed 2/29/2024.

/JAMES M DOLAK/ Primary Examiner, Art Unit 3618	

Applicant is reminded that a complete written statement as to the substance of the interview must be made of record in the application file. It is the applicants responsibility to provide the written statement, unless the interview was initiated by the Examiner and the Examiner has indicated that a written summary will be provided. See MPEP 713.04
Please further see:
MPEP 713.04
Title 37 Code of Federal Regulations (CFR) § 1.133 Interviews, paragraph (b)
37 CFR § 1.2 Business to be transacted in writing

Applicant recordation instructions: The formal written reply to the last Office action must include the substance of the interview. (See MPEP section 713.04). If a reply to the last Office action has already been filed, applicant is given a non-extendable period of the longer of one month or thirty days from this interview date, or the mailing date of this interview summary form, whichever is later, to file a statement of the substance of the interview.

Examiner recordation instructions: Examiners must summarize the substance of any interview of record. A complete and proper recordation of the substance of an interview should include the items listed in MPEP 713.04 for complete and proper recordation including the identification of the general thrust of each argument or issue discussed, a general indication of any other pertinent matters discussed regarding patentability and the general results or outcome of the interview, to include an indication as to whether or not agreement was reached on the issues raised.

TO: patentdocket@eversheds-sutherland.com,NewellPatents@eversheds-sutherland.us,umarbakhsh@eversheds-sutherland.us
FROM: noreply@uspto.gov
CC: patentcenter_eofficeaction@uspto.gov
SUBJECT: USPTO: Patent Electronic System - Correspondence Notification for Customer Number 134811

Tue May 21 05:02:07 EDT 2024

Dear Patent Center Customer:

Correspondence Address:

Eversheds Sutherland (US) LLP/NWL
999 Peachtree Street
Suite 2300
Atlanta,GEORGIA,30309
UNITED STATES

This is a courtesy notification regarding the following USPTO patent application(s) associated with your Customer Number, 134811, that have new outgoing correspondence. This correspondence is now available for viewing in Patent Center.

The official date of notification of the outgoing correspondence will be indicated on the form (e.g., PTOL-90) accompanying the correspondence.

Disclaimer:
The list of documents shown below are provided as a courtesy and is not part of the official file wrapper. The content of the images shown in the Image File Wrapper is the official record.

Application	Document	Mailroom Date	Attorney Docket No.
18448417	EXIN	05/21/2024	34757-2775

To view your correspondence online, please sign in to Patent Center and then select Workbench/View correspondence. To update your email address(es), select Manage/Manage customer numbers.

If you have any questions, please contact the Patent Electronic Business Center (EBC) at ebc@uspto.gov or 866-217-9197 Monday – Friday, 6 a.m. to midnight ET.

Please do not reply to this email as it was sent from an unmonitored mailbox.

Sincerely,

The Patent Center Team

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Application No.	:	18/448,417
Filed	:	August 11, 2023
First Named Inventor	:	Mark Zehfuss
Applicant	:	Baby Jogger, LLC
Title	:	Removable Seat Attachment for a Stroller
Confirmation No.	:	3414
Art Unit	:	3618
Examiner	:	James M. Dolak
Attorney Docket No.	:	34757-2775
Customer No.	:	134811

AMENDMENT AND RESPONSE TO NON-FINAL OFFICE ACTION

Via EFS-Web
Commissioner for Patents
Alexandria, VA 22313-1450

Dear Commissioner:

Responsive to the Non-Final Office Action dated February 29, 2024 (the "Office Action"), Applicant submits the following amendments and remarks.

Amendments to the Claims begin on page 2.

Remarks begin on page 5.

Amendments to the Claims

1. (Canceled)

2. (New) A convertible stroller configured for being converted from a single stroller to a double stroller, the stroller comprising:

a stroller frame configured for being adjusted between a folded configuration and an unfolded configuration, the stroller frame comprising:

a handle portion;

a front wheel support portion; and

a back wheel support portion; and

at least one front wheel secured to the stroller frame's front wheel support portion;

two rear wheels secured to the stroller frame's back wheel support portion;

a first seat removably attached to the stroller frame;

one or more seat attachment portions removably attached to the stroller frame; and

a second seat removably attached to the one or more seat attachment portions and positioned in front of the first seat;

wherein at least one of the first seat and the second seat is configured for being removably attached to the stroller frame in a forward-facing configuration and a backward-facing configuration; and

wherein the first seat and the second seat are positioned such that a center of gravity of the stroller is between the at least one front wheel and the plurality of back wheels.

3. (New) The stroller of Claim 2, wherein the second seat is positioned substantially over the at least one front wheel.

4. (New) The stroller of Claim 2, wherein the first seat is positioned substantially over the two rear wheels.

5. (New) The stroller of Claim 2, wherein the first seat is positioned adjacent to the stroller frame's handle portion.

6. (New) The stroller of Claim 2, wherein the first seat is positioned nearer to the stroller frame's handle portion than the second seat.

7. (New) The stroller of Claim 2, wherein the one or more seat attachment portions are removably attached to the stroller frame's front wheel support portion.

8. (New) The stroller of Claim 2, wherein the one or more seat attachment portions are positioned to support the second seat above the at least one front wheel.

9. (New) The stroller of Claim 2, wherein the one or more seat attachment portions each comprise a seat connector configured for connecting to the second seat.

10. (New) The stroller of Claim 2, wherein the one or more seat attachment portions comprise one or more first seat attachment portions and the stroller further comprises one or more second seat attachment portions connected to the stroller frame; and

wherein the first seat is removably attached to the one or more second seat attachment portions.

11. (New) The stroller of Claim 10, wherein the one or more first seat attachment portions are removably attached to the stroller frame's front wheel support portion, and

wherein the one or more second seat attachment portions are connected to the stroller frame adjacent to the frame's handle portion.

12. (New) The stroller of Claim 2, wherein the first seat is configured for being attached to the stroller frame in a forward-facing configuration and a backward-facing configuration.

13. (New) The stroller of Claim 2, wherein the at least one front wheel comprises two front wheels secured to the stroller frame's front wheel support portion.

14. (New) The stroller of Claim 2, wherein the second seat is configured for being attached to the one or more seat attachment portions in a forward-facing configuration and a backward-facing configuration.

15. (New) The stroller of Claim 2, wherein the first seat is configured for being removably attached to the stroller frame at a first vertical position, and the second seat is configured for being removably attached to the one or more seat attachment portions at a second vertical position that is below the first vertical position.

16. (New) The stroller of Claim 2, wherein the handle portion and the front wheel support portion are substantially parallel when the stroller frame is in the unfolded configuration.

Remarks

This Response is believed to be fully responsive to the Non-Final Office Action dated February 29, 2024. Claim 1 was pending and stands rejected. Claim 1 is canceled without prejudice. Claims 2-16 are new. After entry of the present claim amendments, claims 2-16 will be pending. The amendments to the claims are fully supported by the specification and drawings as originally filed. It is respectfully submitted that no new matter has been added.

Drawing Objection

The drawings are objected to under 37 C.F.R. 1.83(a) for allegedly failing to show an element of claim 1. This rejection is moot in view of the present claim amendments. Reconsideration is respectfully requested.

Rejection under 35 U.S.C. § 102

Claims 1 stands rejected under 35 U.S.C. § 102 as allegedly being anticipated by U.S. Patent No. 7,475,900 to Cheng (Cheng). This rejection is moot as claim 1 is canceled.

Reconsideration and allowance of claims 2-16 is respectfully requested as Cheng does not teach or suggest at least the claimed elements of new independent claim 2.

Conclusion

It is believed that each matter raised by the Office Action has been addressed by this Response. Accordingly, allowance of the claims is respectfully solicited. It is not believed that extensions of time or additional fees are required beyond those that may otherwise be provided for in documents accompanying this paper. However, in the event that additional extensions of time are necessary to allow consideration of this paper, such extensions are hereby petitioned for under 37 C.F.R. § 1.136(a), and any fee required therefore (including any fee associated with net addition of claims) is hereby authorized to be charged to Deposit Account No. 19-5029. If there

are any issues that can be resolved by teleconference or an Examiner's Amendment, the Examiner is invited to telephone the undersigned.

Respectfully submitted,

/Umar R. Bakhsh/
Umar R. Bakhsh
Reg. No. 67,307

Date: May 21, 2024

EVERSHEDS SUTHERLAND (US) LLP
999 Peachtree Street NE, Suite 2300
Atlanta, GA 30309-3996
(ph) 404.853.8084

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Application No.	:	18/448,417
Filed	:	August 11, 2023
First Named Inventor	:	Mark Zehfuss
Applicant	:	Baby Jogger, LLC
Title	:	Removable Seat Attachment for a Stroller
Confirmation No.	:	3414
Art Unit	:	3618
Examiner	:	James M. Dolak
Attorney Docket No.	:	34757-2775
Customer No.	:	134811

AMENDMENT AND RESPONSE TO NON-FINAL OFFICE ACTION

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Commissioner for Patents
Alexandria, VA 22313-1450

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a back wheel support portion; and

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two rear wheels secured to the stroller frame's back wheel support portion;

a first seat removably attached to the stroller frame;

one or more seat attachment portions removably attached to the stroller frame; and

a second seat removably attached to the one or more seat attachment portions and positioned in front of the first seat;

wherein at least one of the first seat and the second seat is configured for being removably attached to the stroller frame in a forward-facing configuration and a backward-facing configuration; and

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Reconsideration and allowance of claims 2-16 is respectfully requested as Cheng does not teach or suggest at least the claimed elements of new independent claim 2.

Conclusion

It is believed that each matter raised by the Office Action has been addressed by this Response. Accordingly, allowance of the claims is respectfully solicited. It is not believed that extensions of time or additional fees are required beyond those that may otherwise be provided for in documents accompanying this paper. However, in the event that additional extensions of time are necessary to allow consideration of this paper, such extensions are hereby petitioned for under 37 C.F.R. § 1.136(a), and any fee required therefore (including any fee associated with net addition of claims) is hereby authorized to be charged to Deposit Account No. 19-5029. If there are any issues that can be resolved by teleconference or an Examiner's Amendment, the Examiner is invited to telephone the undersigned.

Respectfully submitted,

/Umar R. Bakhsh/
Umar R. Bakhsh
Reg. No. 67,307

Date: May 21, 2024

EVERSHEDS SUTHERLAND (US) LLP
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Atlanta, GA 30309-3996
(ph) 404.853.8084

UNITED STATES
PATENT AND TRADEMARK OFFICE

P.O. Box 1450
Alexandria, VA 22313 - 1450
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ELECTRONIC ACKNOWLEDGEMENT RECEIPT

APPLICATION #	RECEIPT DATE / TIME	ATTORNEY DOCKET #
18/448,417	**05/21/2024 02:28:43 PM Z ET**	**34757-2775**

Title of Invention

REMOVABLE SEAT ATTACHMENT FOR A STROLLER

Application Information

APPLICATION TYPE	Utility - Nonprovisional Application under 35 USC 111(a)	PATENT #	-
CONFIRMATION #	3414	FILED BY	Loretta Garcia
PATENT CENTER #	65612769	FILING DATE	08/11/2023
CUSTOMER #	134811	FIRST NAMED INVENTOR	Mark ZEHFUSS
CORRESPONDENCE ADDRESS	-	AUTHORIZED BY	Umar Bakhsh

Documents

TOTAL DOCUMENTS: 2

DOCUMENT	PAGES	DESCRIPTION	SIZE (KB)
34757-2775 - Response to Non-Final Office Action-APP.TEXT.docx	6	Application body structured text document	34 KB
Warning: Dynamic dates have been converted to static dates. Bookmarks were found and have been removed. The automatic document description has been replaced. Dynamic dates have been converted to static dates. Bookmarks were found and have been removed.			
34757-2775 - Response to Non-Final Office Action.pdf	6	Auxiliary PDF of Application	38 KB

Digest

DOCUMENT	MESSAGE DIGEST(SHA-512)
34757-2775 - Response to Non-Final Office Action-APP.TEXT.docx	6FA22C4C9FD7C590841BA69643188761411B38DE906E07F6BEB87A1FD27DA3D9AFA95D46B0708C67271C2E6DA642D1101C8C0297BDEDEA11C05FC194CD082CE6
34757-2775 - Response to Non-Final Office Action.pdf	D50936A33D653CDF3FCBCDC0F2AADDA9F70E4C6843E24564ECC4AE1FBA5FC18F8A7330BC34ADEDDEF01D307A3E7A2AA0E488E138BD6F6124BCDF8655BE7DFE4C

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

New Applications Under 35 U.S.C. 111

If a new application is being filed and the application includes the necessary components for 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.

PTO/SB/06 (09-11)
Approved for use through 1/31/2014. OMB 0651-0032
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
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PATENT APPLICATION FEE DETERMINATION RECORD Substitute for Form PTO-875	Application or Docket Number 18/448,417	Filing Date 08/11/2023	☐ To be Mailed

ENTITY: ☑ LARGE ☐ SMALL ☐ MICRO

APPLICATION AS FILED - PART I

FOR	(Column 1) NUMBER FILED	(Column 2) NUMBER EXTRA		RATE ($)	FEE ($)
☐ BASIC FEE (37 CFR 1.16(a), (b), or (c))	N/A	N/A		N/A	
☐ SEARCH FEE (37 CFR 1.16(k), (i), or (m))	N/A	N/A		N/A	
☐ EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))	N/A	N/A		N/A	
TOTAL CLAIMS (37 CFR 1.16(i))	minus 20 =	*		x $100 =	
INDEPENDENT CLAIMS (37 CFR 1.16(h))	minus 3 =	*		x $480 =	
☐ APPLICATION SIZE FEE (37 CFR 1.16(s))	If the specification and drawings exceed 100 sheets of paper, the application size fee due is $310 ($155 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).				
☐ MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))					
* If the difference in column 1 is less than zero, enter "0" in column 2.				TOTAL	

APPLICATION AS AMENDED - PART II

		(Column 1)		(Column 2)	(Column 3)			
AMENDMENT	05/21/2024	CLAIMS REMAINING AFTER AMENDMENT		HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA		RATE ($)	ADDITIONAL FEE ($)
	Total (37 CFR 1.16(i))	* 15	Minus	** 20	= 0		x $100 =	0
	Independent (37 CFR 1.16(h))	* 1	Minus	*** 3	= 0		x $480 =	0
	☐ Application Size Fee (37 CFR 1.16(s))							
	☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))							
							TOTAL ADD'L FEE	0

		(Column 1)		(Column 2)	(Column 3)			
AMENDMENT		CLAIMS REMAINING AFTER AMENDMENT		HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA		RATE ($)	ADDITIONAL FEE ($)
	Total (37 CFR 1.16(i))	*	Minus	**	=		x $0 =	
	Independent (37 CFR 1.16(h))	*	Minus	***	=		x $0 =	
	☐ Application Size Fee (37 CFR 1.16(s))							
	☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))							
							TOTAL ADD'L FEE	

* If the entry in column 1 is less than the entry in column 2, write "0" in column 3.	Administrative Support Assista
** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20".	/DANTE SMITH/
*** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3".	
The "Highest Number Previously Paid For" (Total or Independent) is the highest number found in the appropriate box in column 1.	

This collection of information is required by 37 CFR 1.16. 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 12 minutes 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.**

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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
18/448,417	08/11/2023	Mark ZEHFUSS	34757-2775	3414

134811 7590 07/25/2024

Eversheds Sutherland (US) LLP/NWL
999 Peachtree Street
Suite 2300
Atlanta, GA 30309

EXAMINER	
DOLAK, JAMES M	

ART UNIT	PAPER NUMBER
3618	

NOTIFICATION DATE	DELIVERY MODE
07/25/2024	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):

patentdocket@eversheds-sutherland.com

Office Action Summary	Application No. 18/448,417	Applicant(s) ZEHFUSS, Mark	
	Examiner JAMES M DOLAK	Art Unit 3618	AIA (FITF) Status No

-- 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 5/21/2024.

☐ 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) 2-16 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) 2-16 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 8/11/2023 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 _____.

3) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date _____.

4) ☐ Other: _____.

DETAILED ACTION

Notice of Pre-AIA or AIA Status

1. The present application is being examined under the pre-AIA first to invent provisions.

Response to Amendment

2. The reply filed on 5/21/2024 cancelled claim 1, and added new claims 2-16. Claims 2-16 are currently pending herein.

Response to Arguments

3. Applicant's arguments with respect to claim(s) 2-16 have been considered but are moot because the new ground of rejection does not rely on any reference applied in the prior rejection of record for any teaching or matter specifically challenged in the argument.

Information Disclosure Statement

4. The information disclosure statement (IDS) submitted on 5/15/2024 was filed in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statement is being considered by the examiner.

Drawings

5. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the "one or more seat attachment portions", and "one or more first seat attachment portions and the stroller further comprises one or more second seat attachment portions" (Claim 2/10/11 – only one attachment portion 17 is portrayed in the Figures 1-3, see below 35 USC 112

rejections) and similarly all of the elements listed below must be shown and labeled or the feature(s) canceled from the claim(s) (No new matter should be entered).

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Objections

6. Claims 2, 5, 6, 7, are objected to because of the following informalities: "the stroller frame's" (Claim 2, line 8 & 10, etc.) is not necessary and should be removed. Appropriate correction is required.

7. Claim 11 is objected to because of the following informalities: "the frame's" is not necessary and should be removed. Appropriate correction is required.

Claim Rejections - 35 USC § 112

8. The following is a quotation of 35 U.S.C. 112(b):
(b) CONCLUSION.—The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the inventor or a joint inventor regards as the invention.

The following is a quotation of 35 U.S.C. 112 (pre-AIA), second paragraph:
The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

9. Claims 2-16 are rejected under 35 U.S.C. 112(b) or 35 U.S.C. 112 (pre-AIA), second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which the inventor or a joint inventor (or for applications subject to pre-AIA 35 U.S.C. 112, the applicant), regards as the invention. Specifically, the limitations: “one or more seat attachment portions” (Claim 2, line 12 — the embodiment of Figure 1-3 as the claims appear to be directed to only provides one seat attachment portion 17 and it is unclear how more than one would properly function), are currently unclear and the disclosure does not provide support for the limitations. Appropriate correction is required.

10. Claims 3, 4, and 16, are rejected under 35 U.S.C. 112(b) or 35 U.S.C. 112 (pre-AIA), second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which the inventor or a joint inventor (or for applications subject to pre-AIA 35 U.S.C. 112, the applicant), regards as the invention. The term “substantially” in claim 3, 4, and 16 is a relative term which renders the claim indefinite. The term "substantially" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention. Since no tolerances have been defined by the specification or claims, it's impossible to determine what

range has been actually claimed, thus rendering the scope of the claim(s) not clearly defined. Appropriate correction is required.

11. Claim 8 is rejected under 35 U.S.C. 112(b) or 35 U.S.C. 112 (pre-AIA), second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which the inventor or a joint inventor (or for applications subject to pre-AIA 35 U.S.C. 112, the applicant), regards as the invention. Specifically, the limitations: "positioned to support" are unclear and therefore render the claim indefinite. Appropriate correction is required.

12. Claims 10 and 11 are rejected under 35 U.S.C. 112(b) or 35 U.S.C. 112 (pre-AIA), second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which the inventor or a joint inventor (or for applications subject to pre-AIA 35 U.S.C. 112, the applicant), regards as the invention. Specifically, the limitations: "one or more seat attachment portions comprise ***one or more first seat attachment portions*** and the stroller further comprises ***one or more second seat attachment portions*** connected to the stroller frame and wherein the first seat is removably attached to the one or more second seat attachment portions" (Claim 10 — the embodiment of Figure 1-3 as the claims appear to be directed to only provides one seat attachment portion 17 and it is unclear how more than one would properly function), are currently unclear and the disclosure does not provide support for the limitations. Therefore, the claims are currently indefinite. Appropriate correction is required.

Claim Rejections - 35 USC § 102

13. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

14. **Claims 2-16 are rejected under 35 U.S.C. 102(b) as being anticipated by Liao (US D593,459)**.

[Claim 2] Regarding Claim 2, Liao discloses: A convertible stroller (See, e.g., Fig. 1-13) configured for being converted from a single stroller to a double stroller (See, e.g., Fig. 1-13), the stroller comprising: a stroller frame (See, e.g., Fig. 1-13) configured for being adjusted between a folded configuration and an unfolded configuration (See, e.g., Fig. 1-13), the stroller frame comprising: a handle portion (See, e.g., Fig. 1-13); a front wheel support portion (See, e.g., Fig. 1-13); and a back wheel support portion (See, e.g., Fig. 1-13); and at least one front wheel secured to the stroller frame's front wheel support portion (See, e.g., Fig. 1-13); two rear wheels secured to the stroller frame's back wheel support portion (See, e.g., Fig. 1-13); a first seat (See, e.g., Fig. 1-13) removably attached to the stroller frame (See, e.g., Fig. 1-13); one or more seat attachment portions removably attached to the stroller frame (See, e.g., Fig. 1-13); and a second seat (See, e.g., Fig. 1-13) removably attached to the one or more seat attachment portions (See, e.g., Fig. 1-13) and positioned in front of the first seat (See, e.g., Fig. 1-13); wherein at least one of the first seat and the second seat is configured for being removably attached to the stroller frame in a forward-facing configuration and a backward-facing configuration (See, e.g., Fig. 11-12); and wherein the first seat and

the second seat are positioned such that a center of gravity of the stroller is between the at least one front wheel and the plurality of back wheels (See, e.g., Fig. 1-13).

[Claim 3] Regarding Claim 3, Liao discloses: wherein the second seat is positioned substantially over the at least one front wheel (See, e.g., Fig. 11-12).

[Claim 4] Regarding Claim 4, Liao discloses: wherein the first seat is positioned substantially over the two rear wheels (See, e.g., Fig. 11-12).

[Claim 5] Regarding Claim 5, Liao discloses: wherein the first seat is positioned adjacent to the stroller frame's handle portion (See, e.g., Fig. 11-12).

[Claim 6] Regarding Claim 6, Liao discloses: wherein the first seat is positioned nearer to the stroller frame's handle portion than the second seat (See, e.g., Fig. 11-12).

[Claim 7] Regarding Claim 7, Liao discloses: wherein the one or more seat attachment portions are removably attached to the stroller frame's front wheel support portion (See, e.g., Fig. 1-13).

[Claim 8] Regarding Claim 8, Liao discloses: wherein the one or more seat attachment portions are positioned to support the second seat above the at least one front wheel (See, e.g., Fig. 11-12).

[Claim 9] Regarding Claim 9, Liao discloses: wherein the one or more seat attachment portions each comprise a seat connector configured for connecting to the second seat (See, e.g., Fig. 1-13).

[Claim 10] Regarding Claim 10, Liao discloses: wherein the one or more seat attachment portions comprise one or more first seat attachment portions and the stroller further comprises one or more second seat attachment portions connected to the

stroller frame (See, e.g., Fig. 1-13); and wherein the first seat is removably attached to the one or more second seat attachment portions (See, e.g., Fig. 1-13).

[Claim 11] Regarding Claim 11, Liao discloses: wherein the one or more first seat attachment portions are removably attached to the stroller frame's front wheel support portion (See, e.g., Fig. 1-13), and wherein the one or more second seat attachment portions are connected to the stroller frame adjacent to the frame's handle portion (See, e.g., Fig. 1-13).

[Claim 12] Regarding Claim 12, Liao discloses: wherein the first seat is configured for being attached to the stroller frame in a forward-facing configuration and a backward-facing configuration (See, e.g., Fig. 11-12).

[Claim 13] Regarding Claim 13, Liao discloses: wherein the at least one front wheel comprises two front wheels secured to the stroller frame's front wheel support portion (See, e.g., Fig. 1-13).

[Claim 14] Regarding Claim 14, Liao discloses: wherein the second seat is configured for being attached to the one or more seat attachment portions in a forward-facing configuration and a backward- facing configuration (See, e.g., Fig. 11-12).

[Claim 15] Regarding Claim 15, Liao discloses: wherein the first seat is configured for being removably attached to the stroller frame at a first vertical position (See, e.g., Fig. 1-13), and the second seat is configured for being removably attached to the one or more seat attachment portions at a second vertical position that is below the first vertical position (See, e.g., Fig. 1-13).

[Claim 16] Regarding Claim 16, Liao discloses: wherein the handle portion and the front wheel support portion are substantially parallel when the stroller frame is in the unfolded configuration (See, e.g., Fig. 1-13).

Conclusion

15. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

16. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure, and can be found on the attached Notice of References Cited.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JAMES M DOLAK whose telephone number is (571)270-7757. The examiner can normally be reached on 9-530 EST Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, J ALLEN SHRIVER can be reached on 303-297-4337. The fax phone

number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/JAMES M DOLAK/
Primary Examiner, Art Unit 3618.

Notice of References Cited	Application/Control No. 18/448,417	Applicant(s)/Patent Under Reexamination ZEHFUSS, Mark	
	Examiner JAMES M DOLAK	Art Unit 3618	Page 1 of 1

U.S. PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date YYYY-MM-DD	Name	CPC Classification	US Classification
*	A	US-12005950-B2	2024-06-11	Zhong; Zhiren	B62B9/102	1/1
*	B	US-D593459-S	2009-06-02	Liao; Gordon		D12/129
	C					
	D					
	E					
	F					
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	L					
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FOREIGN PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date YYYY-MM-DD	Country	Name	CPC Classification
	N					
	O					
	P					
	Q					
	R					
	S					
	T					

NON-PATENT DOCUMENTS

*		Include as applicable: Author, Title Date, Publisher, Edition or Volume, Pertinent Pages)
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*A copy of this reference is not being furnished with this Office action. (See MPEP § 707.05(a).)
Dates in YYYY-MM-DD format are publication dates. Classifications may be US or foreign.

Index of Claims	Application/Control No.	Applicant(s)/Patent Under Reexamination
	18/448,417	ZEHFUSS, Mark
	Examiner	Art Unit
	JAMES M DOLAK	3618

✓	Rejected	-	Cancelled	N	Non-Elected	A	Appeal
=	Allowed	÷	Restricted	I	Interference	O	Objected

CLAIMS

☐ Claims renumbered in the same order as presented by applicant ☐ CPA ☐ T.D. ☐ R.1.47

CLAIM		DATE								
Final	Original	02/24/2024	07/15/2024							
	1	✓	-							
	2		✓							
	3		✓							
	4		✓							
	5		✓							
	6		✓							
	7		✓							
	8		✓							
	9		✓							
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	11		✓							
	12		✓							
	13		✓							
	14		✓							
	15		✓							
	16		✓							

Search Notes	Application/Control No.	Applicant(s)/Patent Under Reexamination
	18/448,417	ZEHFUSS, Mark
	Examiner	Art Unit
	JAMES M DOLAK	3618

CPC - Searched*		
Symbol	Date	Examiner
B62B7/008,00,006,14,142,145	02/24/2024	JMD
B62B9/12,28,102	02/24/2024	JMD

CPC Combination Sets - Searched*		
Symbol	Date	Examiner

US Classification - Searched*			
Class	Subclass	Date	Examiner

* See search history printout included with this form or the SEARCH NOTES box below to determine the scope of the search.

Search Notes		
Search Notes	Date	Examiner
Inventor & Assignee Search	02/24/2024	JMD
Text search	02/24/2024	JMD
Updated Search	07/03/2024	jmd

Interference Search			
US Class/CPC Symbol	US Subclass/CPC Group	Date	Examiner

/JAMES M DOLAK/ Primary Examiner.Art Unit 3618	/JAMES M DOLAK/ Primary Examiner, Art Unit 3618

PE2E SEARCH - Search History (Prior Art)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	British Equivalents	Time Stamp
L1	0	("20100140902").PN.	(USPAT; USOCR)	OR	ON	ON	2011/11/10 05:53 PM
L2	1	("20100140902").PN.	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2011/11/10 05:55 PM
L3	4	(Zehfuss near2 Mark).in.	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT)	OR	ON	ON	2012/06/21 11:03 AM
L4	8	("20030025304"|"20070001429"|"20070114738"|"5338096").PN.	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT)	OR	ON	ON	2012/06/21 11:10 AM
L5	15	("3223431" | "3915493" | "3917312" | "4886209" | "5184835").PN. OR ("5338096").URPN.	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2012/06/21 11:19 AM
L6	1	("7320471").PN.	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2012/06/21 11:26 AM
L7	3	("5653460" | "6045145" | "6378892").PN. OR ("7320471").URPN.	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2012/06/21 11:26 AM
L8	2837	(280/650,657,647,648,658,639,642,643).CCLS.	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2012/06/27 03:43 PM
L9	37502244	@ad<="20081204"	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT)	OR	ON	ON	2012/06/27 03:43 PM
L10	1861	L8 and L9	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT)	OR	ON	ON	2012/06/27 03:44 PM
L11	1537	L10 and seat	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT)	OR	ON	ON	2012/06/27 03:44 PM
L12	827	L10 and (seat same attach$4)	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT)	OR	ON	ON	2012/06/27 03:44 PM
L13	427	L10 and (seat near2 attach$4)	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT)	OR	ON	ON	2012/06/27 03:44 PM
L14	51	L10 and (seat near2 (attach$4 and convert$4))	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT)	OR	ON	ON	2012/06/27 03:46 PM
L15	2446	(297/130,232,243,463.1).CCLS.	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2012/06/28 07:10 PM
L16	37502315	@ad<="20081204"	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT)	OR	ON	ON	2012/06/28 07:17 PM
L17	1076	L15 and L16	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT)	OR	ON	ON	2012/06/28 07:17 PM

L18	2837	(280/650,657,647,648,658,639,642,643).CCLS.	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2012/06/28 07:17 PM
L19	1861	L18 and L16	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT)	OR	ON	ON	2012/06/28 07:17 PM
L20	35	L17 and L19	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT)	OR	ON	ON	2012/06/28 07:17 PM
L21	2902	L17 or L19	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT)	OR	ON	ON	2012/06/28 07:20 PM
L22	2446	(297/130,232,243,463.1).CCLS.	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2012/06/28 11:15 PM
L23	37502315	@ad<="20081204"	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT)	OR	ON	ON	2012/06/28 11:15 PM
L24	1076	L22 and L23	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT)	OR	ON	ON	2012/06/28 11:15 PM
L25	2837	(280/650,657,647,648,658,639,642,643).CCLS.	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2012/06/28 11:15 PM
L26	1861	L25 and L23	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT)	OR	ON	ON	2012/06/28 11:15 PM
L27	2902	L24 or L26	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT)	OR	ON	ON	2012/06/28 11:15 PM
L28	657	L27 and ((wheel and seat) same attach$4)	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT)	OR	ON	ON	2012/06/28 11:15 PM
L29	1	("6209892").PN.	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2012/06/28 11:16 PM
L30	44	("3829113" | "4729572" | "4768795" | "4861105" | "5056865" | "5076599" | "5146656" | "5322343" | "5676386" | "5727798" | "5820144" | "5887889").PN. OR ("6209892").URPN.	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2012/06/28 11:16 PM
L31	115	L28 and expand$4	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT)	OR	ON	ON	2012/06/28 11:20 PM
L32	58	("5564786"|"0733889"|"6443467"|"0329579"|"5611560"|"3235279"|"0292933"|"6017051"|"0781495"|"2305719"|"1707186"|"4989890"|"6220621"|"6676140"|"1168896"|"2517443"|"20030075903"|"0647165").PN.	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT)	OR	ON	ON	2012/06/28 11:22 PM
L33	33	("2769482" | "2857953"	(US-PGPUB; USPAT;	OR	ON	ON	2012/06/28

		| "2993702" | "3235279" | "3309101" | "3330575" | "3738700" | "4725071" | "5018754" | "5263730" | "5338096" | "5417449" | "5653460" | "5664795" | "5911432" | "6045145" | "6068087" | "6378892" | "D321850" | "D359937").PN. OR ("6676140").URPN.	USOCR)				11:24 PM
L34	16	("1560802" | "5076579" | "5123670" | "5188389" | "5224720" | "5301963" | "5476275" | "5669624" | "5695208" | "6017051" | "6036220").PN. OR ("6443467").URPN.	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2012/06/28 11:25 PM
L35	15	("1707186").URPN.	(USPAT)	OR	ON	ON	2012/06/28 11:28 PM
L36	14	("20030111825" | "5333893" | "6209892" | "6513827" | "6863286" | "7032922" | "7367581" | "7377537" | "D429664" | "D430076").PN. OR ("7475900").URPN.	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2012/06/28 11:31 PM
L37	44	L31 and (wheel near2 remov$4)	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT)	OR	ON	ON	2012/06/28 11:35 PM
L38	22	("3738600" | "3876046" | "4570956" | "4750783" | "5188389" | "5234224" | "5499831" | "5536027" | "5562300" | "5876046" | "6189914" | "6193263" | "6209892" | "6290290" | "6302412" | "6398233" | "6550802" | "D397316" | "D481975" | "D486427" | "D497844").PN. OR ("D508443").URPN.	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2012/06/28 11:36 PM
L39	20	("4725071" | "5221106" | "5338096" | "5522121" | "5918892" | "6209892" | "6267406" | "6527294" | "D296540").PN. OR ("6752405").URPN.	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2012/06/28 11:46 PM
L40	15	("0522608" | "1707186" | "3223431" | "3524655" | "3997180" | "4620686" | "4632409" | "4836573" | "6267406" | "6752405" | "7364183").PN. OR	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2012/06/28 11:48 PM

		("8157273").URPN.					
L41	30	("0556168" | "1707186" | "1934396" | "20020033588" | "20050167951" | "20070252352" | "20080143082" | "20090026733" | "3383738" | "4083579" | "4805938" | "5221106" | "5333893" | "5522121" | "5769448" | "5918892" | "6431579" | "6527294" | "6601866" | "6752405" | "7481439" | "7516966" | "7597332" | "D484075" | "D595621" | "D598333").PN. OR ("7896384").URPN.	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2012/06/28 11:49 PM
L42	13	("3000645" | "4969656" | "5125712" | "5522121" | "5918892" | "6527294" | "6561526" | "6715783" | "6752405" | "6851693" | "6938906").PN. OR ("7677585").URPN.	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2012/06/28 11:50 PM
L43	28	("0122730" | "0937625" | "1212221" | "20070114738" | "2836224" | "3000645" | "4288124" | "4779883" | "4805938" | "4863217" | "5312122" | "5622375" | "5653460" | "5704627" | "5848797" | "6378892" | "6530591" | "6746079" | "6851693" | "7226059" | "7481439" | "7597332" | "7677585").PN. OR ("8128103").URPN.	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2012/06/28 11:51 PM
L44	9	("3000645").URPN.	(USPAT)	OR	ON	ON	2012/06/28 11:55 PM
L45	1	("6702316").PN.	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2012/06/29 12:04 AM
L46	29	("20010040357" | "20020060444" | "20020093177" | "4852894" | "4921261" | "4989888" | "5490685" | "5641200" | "5676386" | "5794951" | "5947555" | "6189914" | "6209892" | "6241274" | "6286844" | "6302412" | "6331032" | "6398233" | "6409205").PN. OR	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2012/06/29 12:04 AM

		("6702316").URPN.					
L47	2446	(297/130,232,243,463.1).CCLS.	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2012/07/01 04:43 AM
L48	37502608	@ad<="20081204"	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT)	OR	ON	ON	2012/07/01 04:43 AM
L49	1076	L47 and L48	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT)	OR	ON	ON	2012/07/01 04:43 AM
L50	2837	(280/650,657,647,648,658,639,642,643).CCLS.	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2012/07/01 04:43 AM
L51	1861	L50 and L48	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT)	OR	ON	ON	2012/07/01 04:43 AM
L52	2902	L49 or L51	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT)	OR	ON	ON	2012/07/01 04:43 AM
L53	476	L52 and cylindrical	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT)	OR	ON	ON	2012/07/01 04:43 AM
L54	21	L52 and cylindrical near2 connect$3	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT)	OR	ON	ON	2012/07/01 05:05 AM
L55	29	("1506565" | "1885627" | "1954179" | "20040026895" | "20040164515" | "2220528" | "2334387" | "2482585" | "5395130" | "5454578" | "5501480" | "5536027" | "5904363" | "6022042" | "6331013" | "6443467" | "6443469" | "6685206" | "6685207" | "D327240" | "D405031" | "D486425").PN. OR ("7261308").URPN.	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2012/07/01 05:10 AM
L56	28	("0122730" | "0937625" | "1212221" | "20070114738" | "2836224" | "3000645" | "4288124" | "4779883" | "4805938" | "4863217" | "5312122" | "5622375" | "5653460" | "5704627" | "5848797" | "6378892" | "6530591" | "6746079" | "6851693" | "7226059" | "7481439" | "7597332" | "7677585").PN. OR ("8128103").URPN.	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2012/07/01 05:17 AM
L57	36	("1486118" | "2769482" | "2993702" | "3253860" | "3497234" | "3612603"	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2012/07/01 05:18 AM

		| "4155588" | "4181356" | "4288124" | "4381870" | "4596405" | "4632409" | "4711489" | "4813742" | "4946180" | "5161811" | "5201535" | "5213360" | "5374073" | "5401076" | "5547205" | "5848797" | "5988657" | "6135479" | "6276709" | "D340140").PN. OR ("6561526").URPN.					
L58	18	("2926880" | "3290050" | "3309101" | "4183580" | "4711489" | "4779883" | "5074616" | "5168601" | "5265931" | "5401076" | "5529325").PN. OR ("5704627").URPN.	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2012/07/01 05:21 AM
L59	23	("4542915" | "4854607" | "4986564" | "5033761").PN. OR ("5653460").URPN.	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2012/07/01 05:22 AM
L60	31	("2453631" | "2558372" | "4953887" | "5090724" | "5380262" | "5653460" | "5676386").PN. OR ("6155592").URPN.	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2012/07/01 05:25 AM
L61	5	("2453631").URPN.	(USPAT)	OR	ON	ON	2012/07/01 05:27 AM
L62	33	("0279778" | "1033324" | "2453631" | "3643292" | "3849834" | "3879146" | "4132429" | "4335900" | "4606550" | "4856809" | "4902027" | "4953880" | "5176395" | "5188389" | "5263730" | "5299825" | "5318318" | "5344171" | "5356171" | "5364119" | "5536027").PN. OR ("5647601").URPN.	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2012/07/01 05:28 AM
L63	5	("2453631").URPN.	(USPAT)	OR	ON	ON	2012/07/01 05:29 AM
L64	16	("1560802" | "5076579" | "5123670" | "5188389" | "5224720" | "5301963" | "5476275" | "5669624" | "5695208" | "6017051" | "6036220").PN. OR ("6443467").URPN.	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2012/07/01 05:33 AM
L65	1	("7677585").PN.	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2012/07/01 03:09 PM
L66	1	("6676140").PN.	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2012/07/01 04:02 PM

L67	1	("6443467").PN.	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2012/07/01 04:05 PM
L68	2	("1707186").PN.	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2012/07/01 04:05 PM
L69	1	("7475900").PN.	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2012/07/01 04:05 PM
L70	1	("6752405").PN.	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2012/07/01 04:14 PM
L71	1	("8157273").PN.	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2012/07/01 04:14 PM
L72	1	("7896384").PN.	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2012/07/01 04:15 PM
L73	1	("6561526").PN.	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2012/07/01 04:16 PM
L74	1	("5653460").PN.	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2012/07/01 04:17 PM
L75	2925	(280/650,657,647,648,658,639,642,643).CCLS.	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2013/02/13 05:32 PM
L76	37571828	@ad<="20081204"	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT)	OR	ON	ON	2013/02/13 05:32 PM
L77	1873	L75 and L76	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT)	OR	ON	ON	2013/02/13 05:32 PM
L78	2516	(297/130,232,243,463.1).CCLS.	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2013/02/13 05:35 PM
L79	35	L78 and L77	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT)	OR	ON	ON	2013/02/13 05:36 PM
L80	1080	L78 and L76	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT)	OR	ON	ON	2013/02/13 05:36 PM
L81	1	("20050082897").PN. OR ("8246020").URPN.	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2013/02/13 05:44 PM
L82	9	("20070085303" | "20080303232" | "20090033066" | "3784252" | "5257799" | "5794951" | "6086086" | "7367581" | "7377537").PN. OR ("8205906").URPN.	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2013/02/13 05:52 PM
L83	31	("20010002745" | "20030067138" | "20050099025" | "20060237932" | "20070063474" | "20080067776" | "20090026817" | "2450051" | "4754987" | "5076599" | "5267744" | "5454577" | "5474316" |	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2013/02/13 05:58 PM

		"5577746" | "5921571" | "5947497" | "5979921" | "6196572" | "6663126" | "6764087" | "6767028" | "6929274" | "6976697" | "7052026" | "7168761" | "7172206" | "7354058" | "7431324" | "7445222" | "7547029").PN. OR ("8262103").URPN.					
L84	22	("20080211206" | "20090014985" | "20090078482" | "3605929" | "4362311" | "4861058" | "5020624" | "5421598" | "5921338" | "6135222" | "6220382" | "6378642" | "6439331" | "6659488" | "6793248" | "7044249" | "7080847" | "7364182" | "7571926" | "7591479" | "7832755").PN. OR ("8336904").URPN.	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2013/02/13 06:03 PM
L85	1	("8251382").PN.	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2013/02/14 03:15 PM
L86	34	("20080150247" | "20080179848" | "20080224451" | "20080303232" | "20090102162" | "20090121455" | "20090256323" | "20100001492" | "20100109272" | "20100127480" | "4645371" | "5028061" | "5257799" | "5364137" | "5676386" | "5772279" | "5865447" | "5947555" | "6286844" | "6446990" | "6513827" | "6991248" | "7032922" | "7296820" | "7314247" | "7367581" | "7377537" | "7584985" | "7658399" | "7681894" | "7686323" | "7694996" | "7712765" | "7753398").PN. OR ("8251382").URPN.	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2013/02/14 03:19 PM
L87	32	("4836573" | "4892327" | "5028061" | "5069474" | "5257799" | "5460430" | "5887935" | "5921574" | "6099022" | "6523853" | "6594840" | "6739649"	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2013/02/14 05:50 PM

		| "7281732").PN. OR ("7377537").URPN.					
L88	57	("20020093177" | "20020109320" | "20030075903" | "20030080536" | "20030111825" | "20040032103" | "20040094922" | "20040124610" | "20040124611" | "20040245747" | "20050093259" | "20050127640" | "20050242535" | "20050242549" | "20060119079" | "20070001429" | "20070108710" | "20070194545" | "20080157491" | "20090127827" | "5333893" | "5676386" | "5772279" | "5794951" | "5833261" | "5947555" | "6086087" | "6209892" | "6286844" | "6331032" | "6398233" | "6409205" | "6513827" | "6530591" | "6626452" | "6641164" | "6702316" | "6793280" | "6802514" | "6863286" | "6893031" | "6923467" | "6983986" | "6986518" | "7017921" | "7032922" | "7070197" | "7370913" | "7377537" | "7419181" | "7445229" | "7475900" | "7513512" | "7600775" | "7614641" | "7938435" | "D430076").PN. OR ("8328208").URPN.	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2013/02/14 05:52 PM
L89	3003	(280/650,657,647,648,658,639,642,643).CCLS.	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2013/07/16 03:09 PM
L90	37602504	@ad<="20081204"	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT)	OR	ON	ON	2013/07/16 03:09 PM
L91	1876	L89 and L90	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT)	OR	ON	ON	2013/07/16 03:09 PM
L92	2544	(297/130,232,243,463.1).CCLS.	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2013/07/16 03:11 PM
L93	1082	L92 and L90	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT)	OR	ON	ON	2013/07/16 03:11 PM

L94	51	(US-20100052277-$ or US-20070114738-$ or US-20070001429-$ or US-20060290107-$ or US-20030075903-$ or US-20100140902-$ or US-20080303232-$ or US-20070085303-$).did. or (US-5338096-$ or US-6045145-$ or US-3223431-$ or US-6378892-$ or US-5653460-$ or US-6209892-$ or US-5201535-$ or US-4620711-$ or US-6676140-$ or US-6017051-$ or US-1707186-$ or US-7475900-$ or US-7938435-$ or US-D508443-$ or US-7497461-$ or US-4570956-$ or US-6923467-$ or US-6752405-$ or US-8157273-$ or US-7896384-$ or US-7677585-$ or US-8128103-$ or US-7597332-$ or US-7481439-$ or US-6851693-$ or US-5848797-$).did. or (US-3000645-$ or US-8070180-$ or US-7832755-$ or US-7261308-$ or US-5704627-$ or US-5794951-$ or US-5647601-$ or US-2453631-$ or US-6443467-$ or US-8205906-$ or US-8262103-$ or US-8336904-$ or US-8371606-$ or US-8251382-$ or US-7377537-$).did. or (US-3000645-$ or US-2453631-$).did.	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2013/07/23 03:10 PM
L95	26	("20060131841"|"20070069505"|"20070210560"|"20080012268"|"20080224450"|"20080224451"|"20090160162"|"20100171289"|"201002011	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2013/07/23 03:16 PM

		03"|"5947555"|"6045145"|"6270111"|"6331032"|"6715783"|"7032922"|"7367581"|"7475900"|"7677585"|"7753398"|"7775532"|"7798500"|"7938435"|"8061732"|"8128119"|"8157273"|"8205906").PN.					
L96	1	("8240700").PN.	(US-PGPUB; USPAT; USOCR)	OR	OFF	OFF	2013/07/23 03:17 PM
L97	231	("1598778" | "1709527" | "20050012306" | "20050242549" | "20060001226" | "20060131840" | "20060131841" | "20060152059" | "20060157945" | "20060219374" | "20060261576" | "20090127827" | "20090127828" | "20090243260" | "20100038886" | "2616719" | "2783053" | "3112042" | "3168330" | "3227484" | "3390893" | "3459435" | "3504926" | "3556546" | "3561787" | "3653681" | "3799567" | "3989295" | "4007947" | "4023825" | "4046401" | "4111454" | "4126331" | "4191397" | "4232897" | "4248443" | "4317581" | "4322093" | "4335900" | "4362315" | "4365819" | "4378946" | "4412688" | "4415180" | "4513974" | "4542915" | "4564212" | "4591176" | "4602395" | "4606550" | "4610460" | "4632420" | "4632421" | "4660850" | "4706986" | "4733882" | "4741056" | "4741551" | "4763911" | "4763919" | "4768795" | "4770437" | "4805928" | "4807928" | "4817982" | "4819958" | "4832361" | "4856809" | "4886289" | "4892327" | "4906017" | "4907818" | "4924725" | "4930697" | "4953887" | "4968092" | "5028061" | "5056805" | "5074575"	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2013/07/23 03:17 PM

		"5087066" | "5110150" | "5143398" | "5181735" | "5184835" | "5201535" | "5205577" | "5205579" | "5238292" | "5244228" | "5246272" | "5257799" | "5362089" | "5388852" | "5398951" | "5417449" | "5417450" | "5427402" | "5431478" | "5437493" | "5441163" | "5454584" | "5460395" | "5460398" | "5472224" | "5478102" | "5489138" | "5511259" | "5511441" | "5524503" | "5527090" | "5605409" | "5622377" | "5645293" | "5649737" | "5664795" | "5669623" | "5669624" | "5669625" | "5676386" | "5718444").PN. OR ("5722682" | "5727798" | "5741021" | "5752738" | "5765855" | "5765856" | "5769447" | "5772235" | "5775718" | "5795091" | "5810432" | "5845666" | "5845924" | "5876057" | "5887935" | "5921571" | "5934757" | "5938229" | "5947555" | "5979928" | "5984332" | "5988669" | "5988670" | "6068284" | "6070890" | "6099022" | "6102431" | "6116624" | "6129373" | "6139046" | "6152476" | "6155740" | "6189914" | "6193263" | "6209829" | "6273451" | "6286844" | "6296004" | "6299194" | "6302613" | "6339862" | "6368006" | "6398233" | "6409205" | "6412809" | "6443261" | "6443479" | "6446990" | "6467739" | "6478327" | "6557871" | "6557885" | "6572134" | "6581957" | "6666473" | "6851700" | "7017921" | "7017937" | "7032922" | "7044497" | "7185909" | "7188858" | "7281732" | "7338122" | "7445229" | "7445230" | "7621431" | "7686322" | "7871100" | "D308656" | "D310645" | "D317280" | "D320370"						

		| "D337257" | "D352017" | "D357439" | "D357440" | "D412142" | "D415075" | "D419113" | "D421940" | "D427822" | "D431212" | "D431213" | "D452192" | "D470803" | "D473663" | "D480195" | "D494511" | "D521422" | "D545074" | "D558648" | "D566629" | "D593272" | "D604151" | "D617255" | "D630934" | "D636300").PN. OR ("8240700").URPN.					
L98	1	("8186705").PN.	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2013/07/23 04:51 PM
L99	236	("1598778" | "1709527" | "20050012306" | "20050242549" | "20060001226" | "20060131840" | "20060131841" | "20060152059" | "20060157945" | "20060219374" | "20060261576" | "20090127827" | "20090127828" | "20090243260" | "20100171289" | "2616719" | "2783053" | "3112042" | "3168330" | "3227484" | "3390893" | "3459435" | "3504926" | "3556546" | "3561787" | "3653681" | "3784252" | "3799567" | "3989295" | "4007947" | "4023825" | "4046401" | "4111454" | "4126331" | "4191397" | "4232897" | "4248443" | "4317581" | "4322093" | "4335900" | "4362315" | "4365819" | "4378946" | "4412688" | "4415180" | "4513974" | "4542915" | "4564212" | "4591176" | "4602395" | "4606550" | "4610460" | "4632420" | "4632421" | "4660850" | "4706986" | "4733882" | "4741056" | "4741551" | "4763911" | "4763919" |	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2013/07/23 04:56 PM

		"4768795" | "4770437" | "4805928" | "4807928" | "4817982" | "4819958" | "4832361" | "4856809" | "4886289" | "4892327" | "4906017" | "4907818" | "4924725" | "4930697" | "4953887" | "4968092" | "5028061" | "5056805" | "5074575" | "5087066" | "5110150" | "5143398" | "5181735" | "5184835" | "5201535" | "5205577" | "5205579" | "5238292" | "5244228" | "5246272" | "5257799" | "5362089" | "5388852" | "5398951" | "5417449" | "5417450" | "5427402" | "5431478" | "5437493" | "5441163" | "5454584" | "5460395" | "5460398" | "5472224" | "5478102" | "5489138" | "5511259" | "5511441" | "5524503" | "5527090" | "5605409" | "5622377" | "5645293" | "5649737" | "5664795" | "5669623" | "5669624" | "5669625" | "5676386").PN. OR ("5718444" | "5722682" | "5727798" | "5741021" | "5752738" | "5765855" | "5765856" | "5769447" | "5772235" | "5775718" | "5795091" | "5810432" | "5845666" | "5845924" | "5876057" | "5887935" | "5921571" | "5934757" | "5938229" | "5947555" | "5979928" | "5984332" | "5988669" | "5988670" | "6068284" | "6070890" | "6099022" | "6102431" | "6116624" | "6129373" | "6139046" | "6152476" | "6155740" | "6189914" | "6193263" | "6209829" | "6273451" | "6286844" | "6296004" | "6299194" | "6302613" | "6339862" | "6368006" | "6398233" | "6409205" | "6412809" | "6443261" | "6443479" | "6446990" | "6467739" | "6478327" | "6557871" | "6557885" | "6572134" | "6581957" | "6666473"					