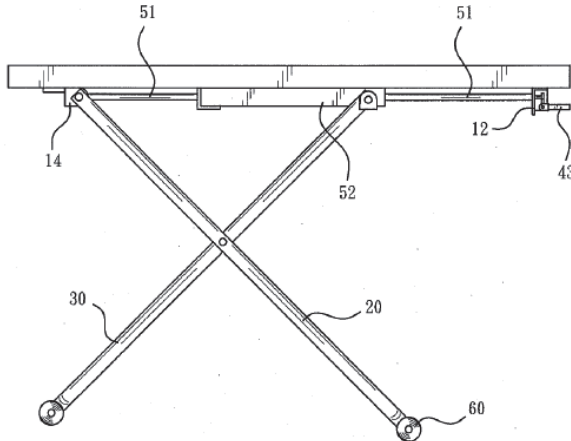
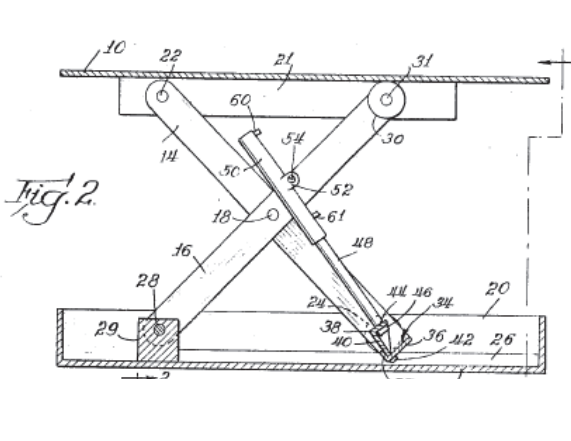
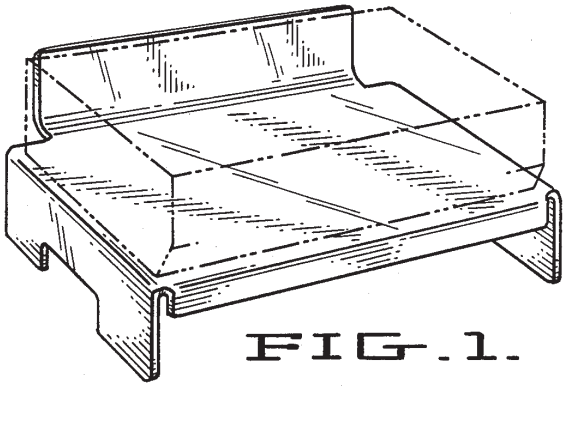


74. As will be demonstrated in the charts below, at least claims 1-3, 6-14, and 16-17 are rendered obvious by Huang in view Clarke and in further view of Clark. For reference these three pieces of prior art are shown below:

		
US 2014/0,041554 to Huang February 13, 2014	US 3,282,566 to Clarke May 18, 1964	US D308,537 to Clark June 12, 1991

75. I note that while the later published patent to Huang was before the examiner, the earlier published application of Huang was not. Further, US D308,537 to Clark was not before the examiner despite being publicly available. A POSITA would be motivated to combine these references in accordance with the teachings therein. For example, Huang and Clarke are both vertically adjustable platforms that use a scissor linkage and cylindrical actuator. They are highly compatible with each other. For example, both Clarke and Huang are completely collapsible. That is to say, both the Huang linkage and the Clarke linkage are able to collapse to a point where the links and the actuators are aligned side-by-side. Huang is able to collapse to a point where even the pivot locations of the actuator are in alignment. This is an important and well-known design consideration for collapsible tables. For example, the Huang application states the following

“FIG. 7 is a schematic operational view of the present invention, illustrating the table being stored. Executing the aforementioned operation, the table presents a flat volume after adjustment, whereby the table is allowed to be stored in a relatively narrow space such as the space under a bed or a sofa, in order to achieve the objective of saving space.”¹²³

¹²³ Huang Application [0026]

76. A POSITA would further be motivated to combine the base of Clarke with the Huang mechanism to gain ordinary and well-known advantages. For example, were Huang to be used on a delicate surface, its small rollers would cause concentrated pressure points. Further, the rolling action of the legs of Huang would cause increased wear over time. A POSITA will recognize this fact and be motivated to incorporate the base as taught by Clarke which presents a broad base surface. This base surface more evenly distributes the pressure and does not have any relative motion such as small rolling wheels. This principle is well-known. For example, US patent no. 3,333,805 to W. C. Marshall (circa 1965) states the following:

“It is well known to use a sheet of generally rigid material over office carpeting adjacent the knee well of a desk to provide a surface support for an office chair or the like so that not only will the carpet itself be protected from wear due to movements of the user’s feet and the chair casters thereover, but also the sheet provides a smooth hard surface to facilitate maneuvering of the chair with respect to the desk.”¹²⁴

77. As shown above, the use of a broad supportive base to prevent rolling members from wearing through surfaces like carpet is well known. A POSITA would recognize that the rolling contact of the Huang mechanism legs would present the same wear and tear problem as an office chair on carpet. As such, a POSITA would be motivated to incorporate a base, such as discloses by Clarke to help distribute these loads and prevent the table from damaging surface it is placed on. When combined, the Huang mechanism may gain the advantageous use of the Clarke base.

78. A POSITA would be further motivated to combine Clark with the combination of Huang in view of Clarke as Clark discloses a printer stand which would foreseeably be placed on top of the vertically adjustable platform. It is well-known that a printer stand is not just placed on the floor. Rather it is placed on an elevated flat surface such as a table, a cabinet, or the like. This allows the printer output to be accessed without having to stoop down. Thus, it is ordinary and expectable that a POSITA, or anybody using a printer stand will place such a stand on another surface such as a table.

Challenged Claim '843	
1P. A desktop workspace that adjusts vertically, comprising:	YES: While the preamble is generally not considered limiting, both Huang and Clarke disclose a desktop workspace that adjusts vertically.

¹²⁴ US 3,333,805 at 1:15-22

desktop
workspace

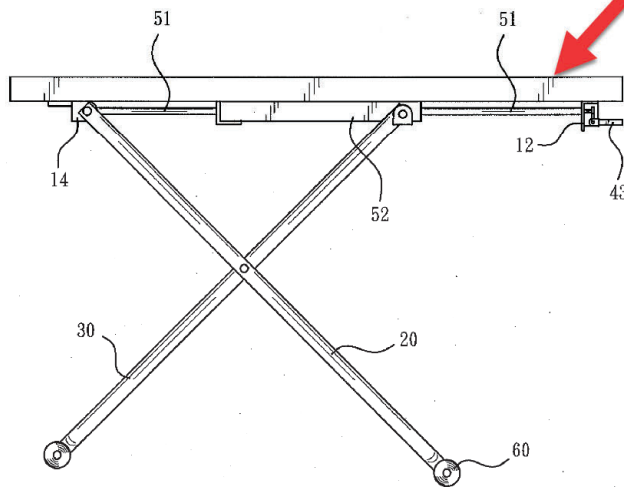
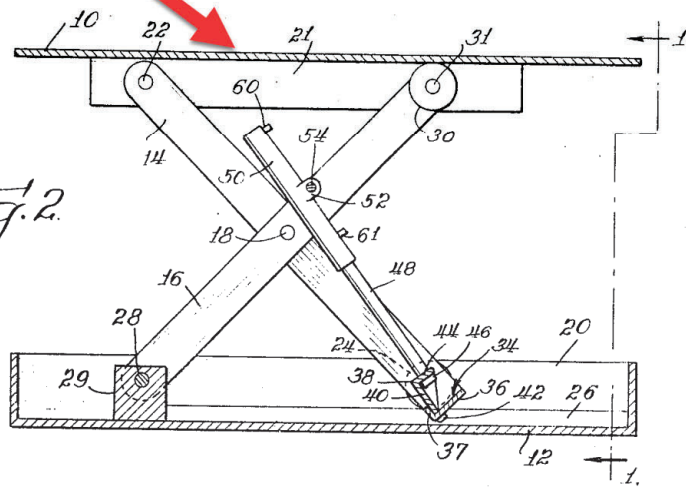


Fig. 2



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A POSITA will understand that scissor lift mechanisms adjust the vertical height of a platform surface such as a desktop workspace.

Huang discloses a desktop workspace that adjusts vertically:

“A height-adjustable table includes a table board, a first foot, a second foot, an air pressure bar and an assistant device. The first foot crossly and pivotally connects with the second foot, wherein one end of the first foot pivotally connects with a first fastener on the bottom side of the table board, and one end of the second foot pivotally connects with a pivot joint.” Huang, Abstract

As shown above, Huang describes a vertically adjustable workspace platform. A POSITA would readily recognize that the Huang vertical adjustment mechanism could be used for a wide variety of applications, as scissor lift mechanisms are extremely common and well-known.

¹²⁵ Huang Figure 5 and Clarke Figure 2, annotated

Clarke also teaches a desktop workspace that adjusts vertically. For example, Clarke states:

“This invention relates to the operation of a scissors lift in changing it from a down or closed position to up or open position. It is particularly employed in connection with lift tables and the like.” Clarke 1:8-11

As shown above, the Clarke linkage is intended for use in lift tables *generally*. As such, a POSITA will recognize its teachings as being applicable to lift mechanisms of many different types including that of a desk workspace style lift table. It is helpful to ascertain the plain and ordinary meaning and scope of “desktop workspace” considering the common dictionary definitions as shown below:

Desktop: the top of a desk¹²⁶

Desk: A table, counter, or booth at which specified services or functions are performed¹²⁷

Workspace: An area used or allocated for one's work, as in an office.¹²⁸

The usage of the term desktop workspace within the '843 patent is consistent with the plain and ordinary meaning of the words from which this compound term is composed. For example, the desktop workspace in the '843 patent is described as having a top surface at which an operator stands to perform their work.¹²⁹ In just the same way, Clarke discloses a work surface in the form of a lift table. A POSITA will understand that a lift table is a common piece of equipment that can be used to lift components to a more suitable height for laborers to perform their work at. Similarly, Huang discloses a table board surface which is a dedicated space allocated for one's work should they so choose.

1a. a work surface platform;

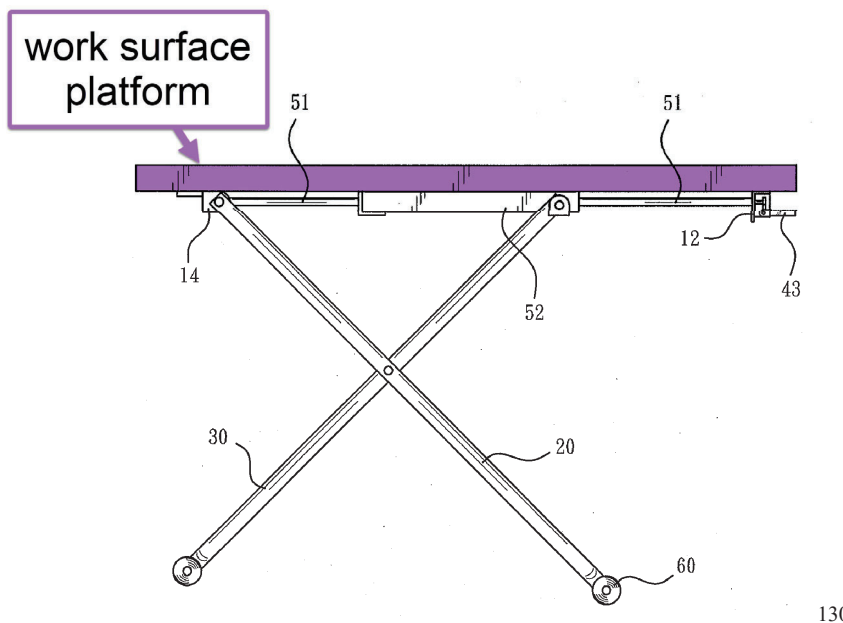
YES: Both Huang and Clarke disclose a work surface platform.

¹²⁶ <<https://www.ahdictionary.com/word/search.html?q=desktop>> accessed Dec 29, 2024

¹²⁷ <<https://www.ahdictionary.com/word/search.html?q=desk>> accessed Dec 29, 2024

¹²⁸ <<https://www.ahdictionary.com/word/search.html?q=workspace>> accessed Dec 29, 2024

¹²⁹ '843 patent 1:33-66



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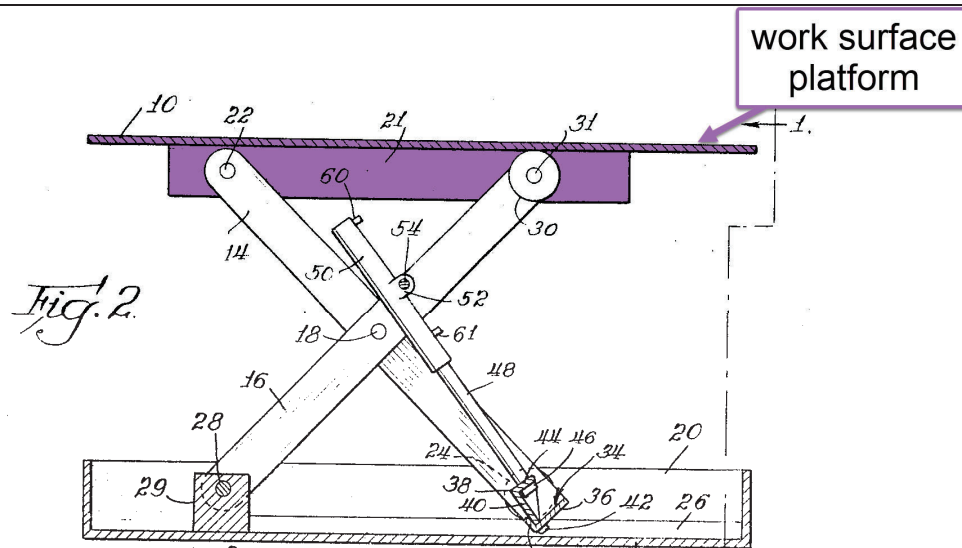
“The present invention relates to height-adjustable tables and more particularly, to an adjustable table with an assistant device.” Huang 0002

“The adjustable table with an assistant device comprises a table board 10, a first foot 20, a second foot 30.” [Huang 0015]

As shown above, Huang describes a work surface platform (i.e. table board 10, highlighted in purple above) that is intended to be used as a work surface platform. A POSITA will understand that a table board is perfectly suitable for use as a work surface.

Clarke also discloses a work surface platform as shown below:

¹³⁰ Huang, Figure 5, Annotated



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Referring now more particularly to the drawings, the invention comprises a lift table having a top 10 and a base 12 connected by crossed scissors legs 14 and 16 at each side. Legs 14 and 16 are pivotally connected at 18. As shown, the base 12 is in the form of an open shallow box or receptacle having upright sides 20, and the top 10 fits down closely upon the sides enclosing all the operating parts, as shown in FIG. 4.” Clarke 1:67-2:2

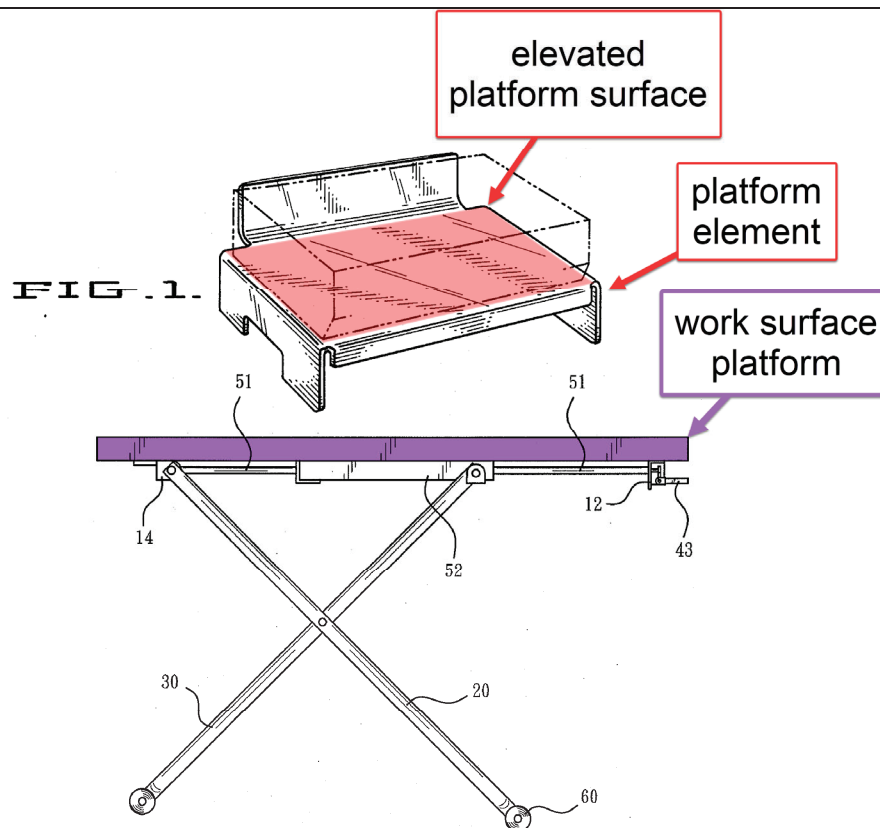
As shown above, Clarke discloses a lift table. A POSTIA understand that lift tables are useful for raising objects to various heights to be worked on. As such, a lift table is a clear example of a vertically adjustable work surface platform.

1b. a platform element sitting on the work surface platform, the platform element including an elevated platform surface above the work surface platform;

YES: Huang in view of Clarke, and in further view of Clark discloses a platform element sitting on the work surface platform, the platform element including an elevated platform surface above the work surface platform.

A POSITA would easily recognize that a platform element is ordinarily and commonly placed on a work surface platform. Both Huang and Clarke concern lift tables, and it is fair to say that a table’s most important function is to provide a surface on which other items can be placed, and it is common that such an item would be a platform element. For example, Clark discloses a platform element specifically as an option for being placed on another surface such as a desk, dining table, or the like.

¹³¹ Clarke, Figure 2, Annotated



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As shown previously, Clark discloses an elevated platform surface configured to be placed on another surface. Specifically, Clark states:

“The ornamental design for a computer printer stand, as shown and described.” Clark, pg. 1

As discussed previously, POSITA would understand that a printer stand is commonly placed on another surface such as a desktop, table or the like. When this is done, the printer stand of Clark will include an elevated platform surface above the work surface platform. A POSITA will recognize that this elevated platform surface is configured to support a printer or other electronic device or any suitable object placed thereon. Though possible, it would be atypical to merely place a small printer stand, such as disclosed by Clark, on the floor as this would still require users to stoop in order to interact with the printer. A POSITA will be familiar with the purpose of using a small printer stand such as disclosed by Clark, which is

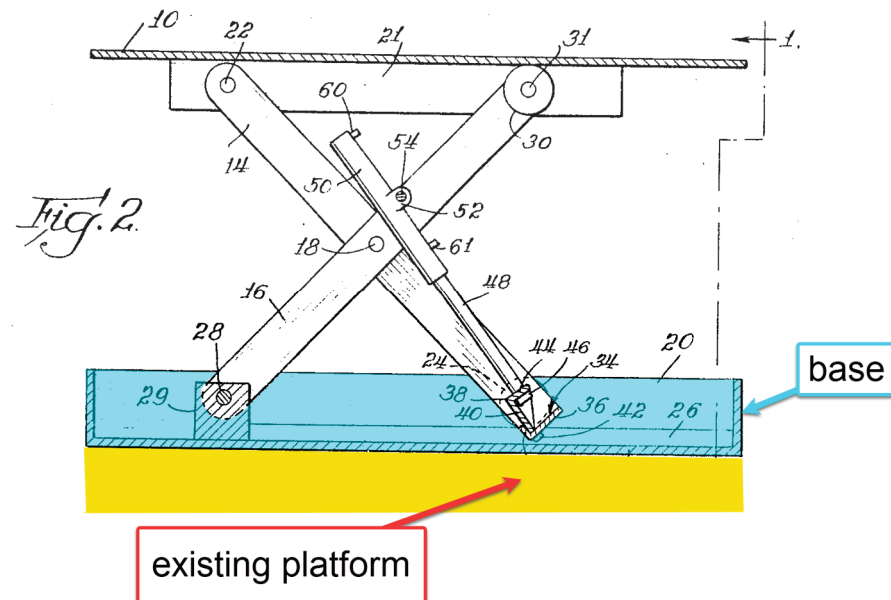
¹³² Clark, Figure 1 and Huang, Figure 5, Annotated

to elevate the printer sufficient to provide easier access to printed papers it dispenses. That a printer stand, such as Clark, is on par with the size of a small printer make it less expensive and more versatile as an end user has greater optionality as to where to put it.

1c. a base configured to sit on an existing platform; and

YES: Huang in view of Clarke discloses a base configured to sit on an existing platform.

Clarke teaches a base configured to sit on an existing platform as shown below:



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“Referring now more particularly to the drawings, the invention comprises a lift table having a top 10 and a base 12 connected by crossed scissors legs 14 and 16 at each side.” Clarke 1:67-70

As shown, above, Clarke discloses a base which supports the Clarke mechanism on the floor, i.e. an existing platform. Whether the floor is a base floor or a floor several stories up, a POSITA will easily recognize that a floor is an existing platform. For example, the foundation of a house

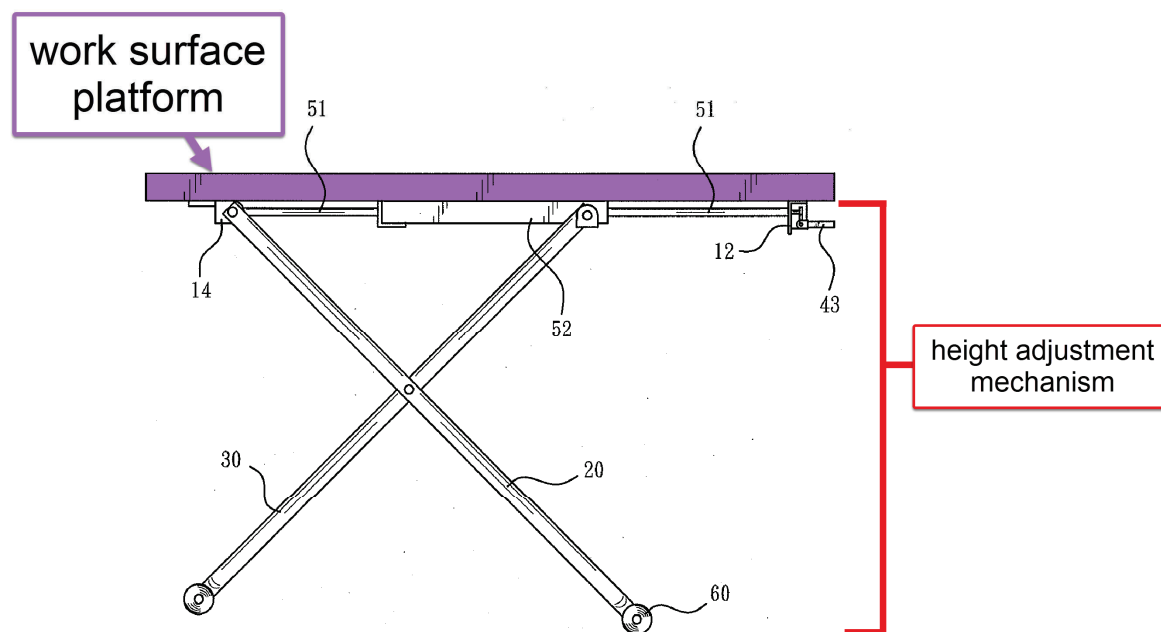
¹³³ Clarke, Figure 2, Annotated

comports with the plain and ordinary meaning of “platform” which is “A horizontal surface raised above the level of the adjacent area.”¹³⁴ As discussed previously, a POSITA would be motivated to combine the base of Clarke with the Huang mechanism as it provides a more evenly distributed load on the existing platform (i.e. the floor).

1d. a height adjustment mechanism connecting the work surface platform and the base, the height adjustment mechanism including:

YES: Huang in view of Clarke discloses a height adjustment mechanism connecting the work surface platform and the base.

The Huang mechanism uses a combination of a scissor linkage and a pressure bar to serve as a height adjustment mechanism. As discussed previously, a POSITA would be motivated to combine Huang with the base as disclosed by Clarke. In this combination, the height adjustment mechanism connects the work surface platform to the base.



135

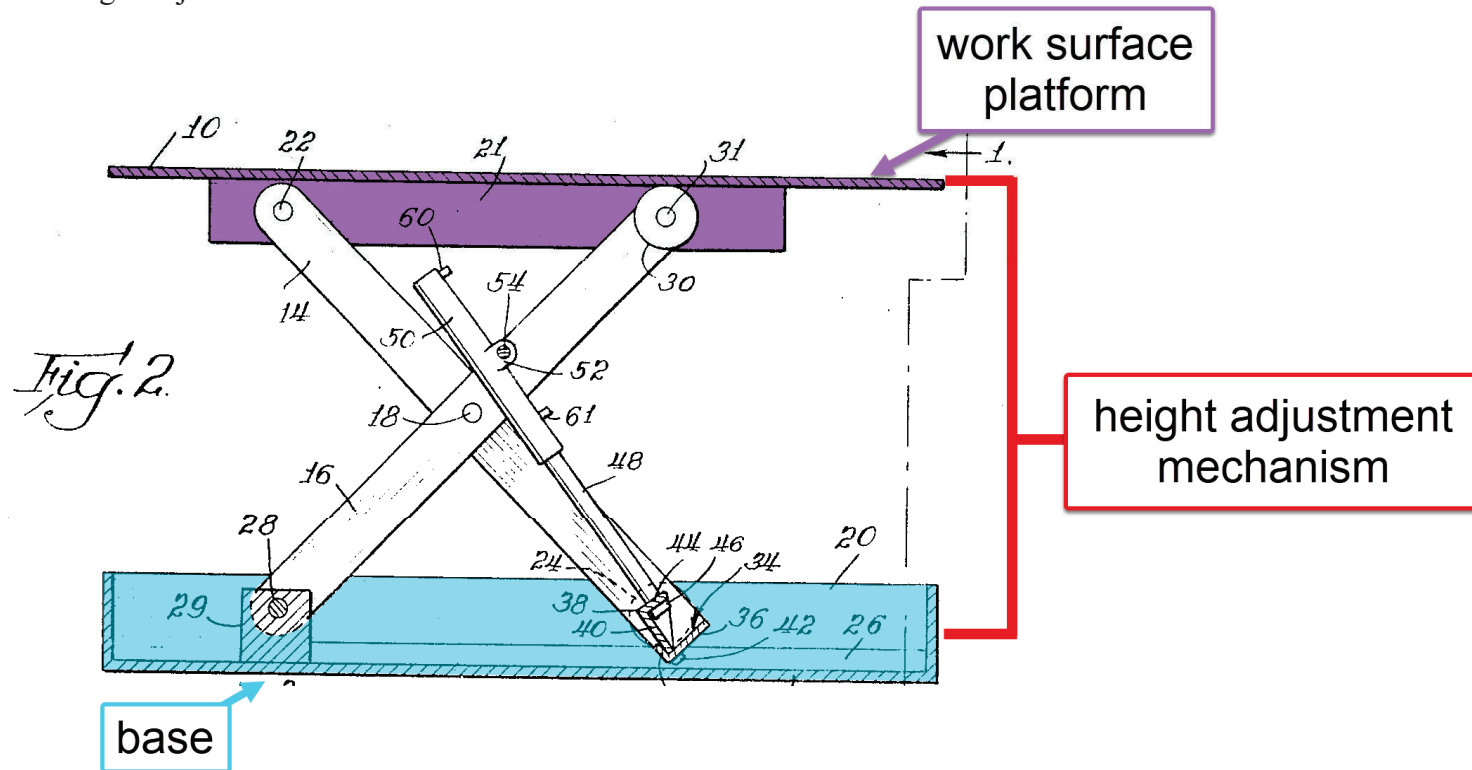
*“A height-adjustable table includes a table board, a first foot, a second foot, an air pressure bar and an assistant device. The **first foot** crossly and pivotally connects with the **second foot**, wherein one end of the first foot pivotally connects with a first fastener on the bottom side of the table*

¹³⁴ <<https://www.ahdictionary.com/word/search.html?q=platform>> accessed Dec 27, 2024

¹³⁵ Huang, Figure 5, Annotated

board, and one end of the second foot pivotally connects with a pivot joint. The assistant device is fixed between the first fastener and a second fastener, wherein one end of the air pressure bar is fixed on the second fastener while the other end fixed on the assistant device. Therefore, when the air pressure bar is operated, smooth sliding of the air pressure bar is provided, whereby the structural strength of the table is reinforced.”
Huang Abstract (emphasis added)

Clarke discloses a height adjustment mechanism and a base:



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“This invention relates to the operation of a scissors lift in changing it from a down or closed position to up or open position. It is particularly employed in connection with lift tables and the like.” Clarke 1:8-11

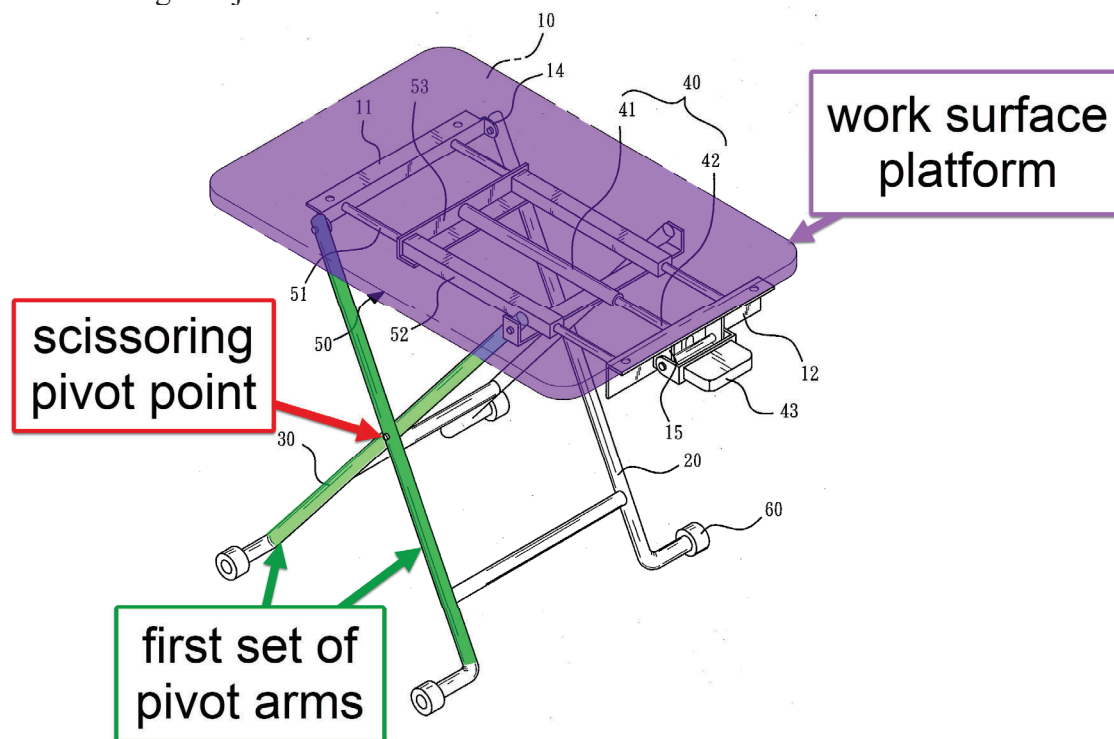
“Referring now more particularly to the drawings, the invention comprises a lift table having a top 10 and a base 12 connected by crossed scissors legs 14 and 16 at each side.” Clarke 1:67-70

As shown above, Huang in view of Clarke discloses a height adjustment mechanism that connects the work surface platform and the base. A POSITA will recognize that both Huang and Clarke use a scissor linkage in combination with a cylinder style force actuator and that the height adjustment mechanism of Clarke could be used in the Huang mechanism and vice versa.

1d1. a first set of pivot arms that connect at a scissoring pivot point creating a scissoring motion when raising and lowering the work surface platform to various heights;

YES: Both Huang and Clarke have a first set of pivot arms that connect at a scissoring pivot point creating a scissoring motion when raising and lowering the work surface platform to various heights.

The pivot arms below are part of the height adjustment mechanism:



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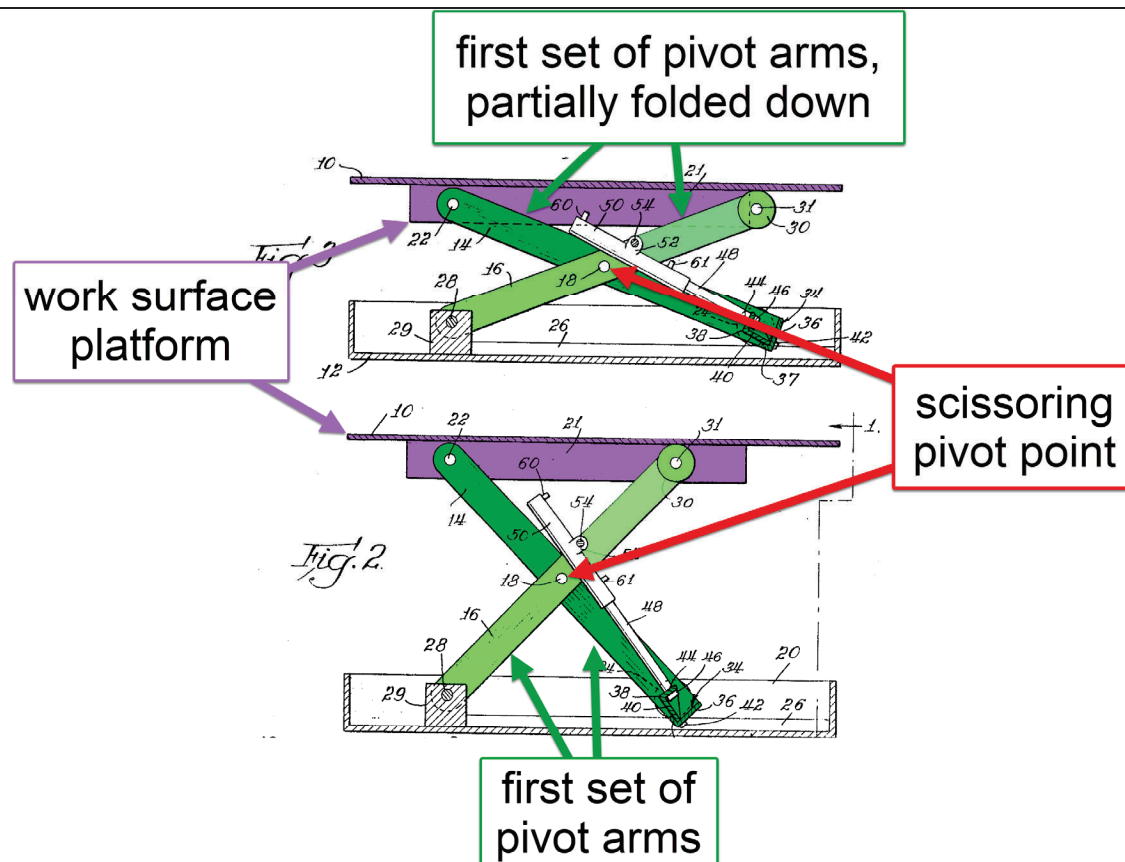
As shown above, Huang discloses a first set of pivot arms that connect at a scissoring pivot point creating a scissoring motion when raising and lowering the work surface platform to various heights.

¹³⁷ Huang, Figure 3, Annotated

“Referring to FIGS. 1-3, an adjustable table with an assistant device in accordance with the present invention is shown. The adjustable table with an assistant device comprises a table board 10, a first foot 20, a second foot 30, an air pressure bar 40 and an assistant device 50, wherein the middle section of the first foot 20 and the second foot 30 are pivotally connected as a cross shape, with wheels 60 installed at the end of the first foot 20 and the second foot 30, respectively.” Huang [0015]

“A height-adjustable table includes a table board, a first foot, a second foot, an air pressure bar and an assistant device. The first foot crossly and pivotally connects with the second foot, wherein one end of the first foot pivotally connects with a first fastener on the bottom side of the table board, and one end of the second foot pivotally connects with a pivot joint.” Huang, Abstract

As shown in the citations above, the Huang mechanism has a first set of pivot arms that connect at a scissoring point. These leg members form a scissor mechanism that adjusts the work surface platform to various heights.



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As shown above, Clarke also discloses a first set of pivot arms that connect at a scissoring pivot point creating a scissoring motion when raising and lowering the work surface platform to various heights.

"Referring now more particularly to the drawings, the invention comprises a lift table having a top 10 and a base 12 connected by crossed scissors legs 14 and 16 at each side. Legs 14 and 16 are pivotally connected at 18." Clarke 1:67-70

As shown in the citation above, the Clarke mechanism discloses a first set of pivot arms (scissor legs 14 and 16). These are connected in a linkage making a scissor mechanism which is used to lift the table and to set it at various heights. As the lifting mechanism is moved up and down, the

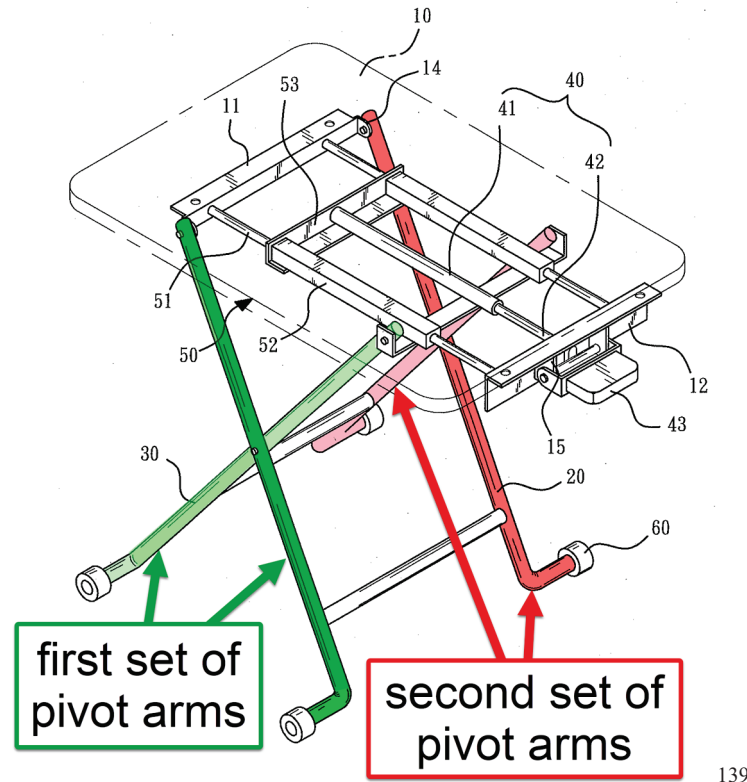
¹³⁸ Clarke, Figure 2 & 3, Annotated

pivot arms move with a scissoring motion. Between Figures 2 and 3 the same mechanism is shown in two different states of lift (i.e. various heights). By comparing the positions of the pivot arms, it can clearly be seen that scissoring motion takes place to move the lift mechanism from the position shown in Figure 2 to the position shown in Figure 3.

A POSITA would understand that scissor mechanisms are suitable for vertical lifting applications such as Huang and Clarke. Scissor mechanisms are well-known and are very commonly built with two sets of pivot arms.

1d2. a second set of pivot arms;

YES: Both Huang and Clarke disclose a second set of pivot arms.

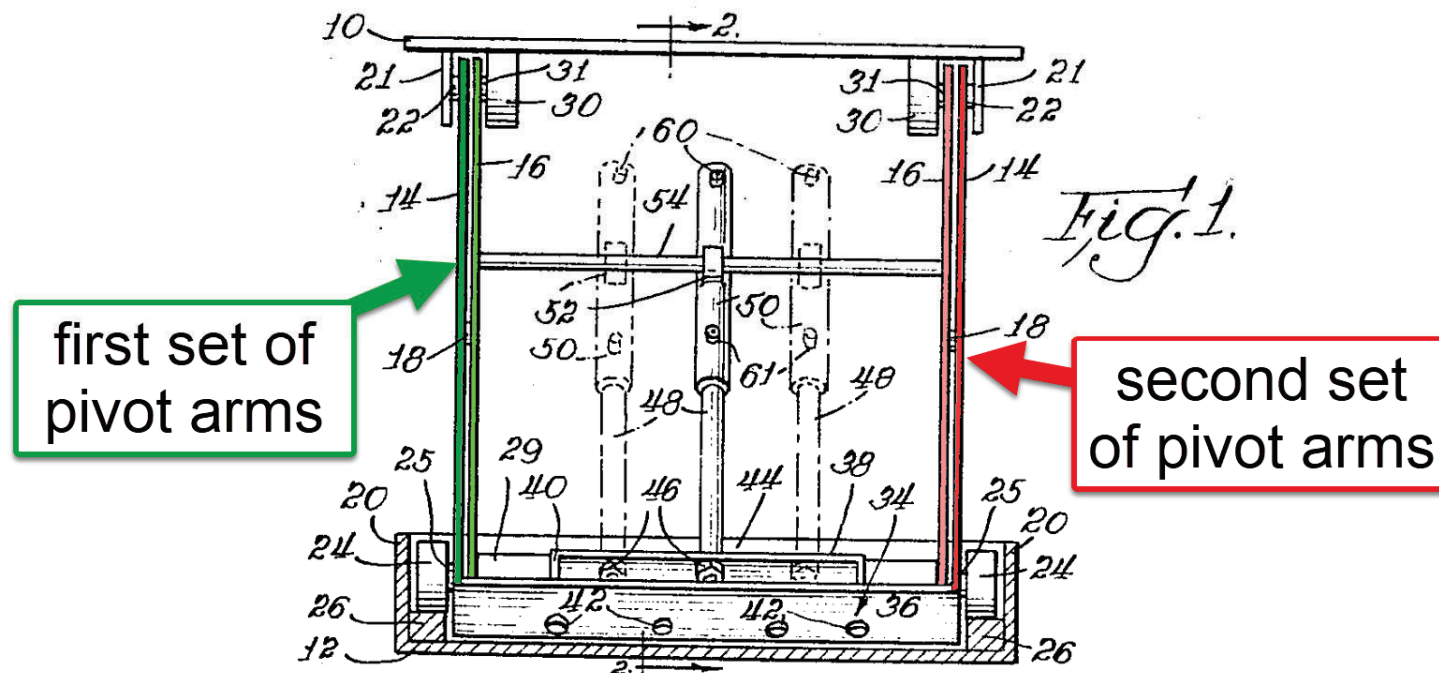


139

“For this objective, the present invention as an adjustable table with an assistant device comprises a table board, with a first fastener and a second fastener on the bottom side; a first foot pivotally connecting to the first fastener, a second foot pivotally connecting to the first foot; a pivot joint pivotally connecting to one end of the second foot” Huang [0007]

As shown above Huang has a first and a second set of pivot arms. They are connected to each other and move in a scissor-like fashion. A POSITA will understand that this is a scissor lift mechanism of typical and ordinary design. A POSITA will further understand and be familiar with the fact that scissor lift mechanisms such as a common scissor lift machine or even this small table as disclosed by Huang are commonly built with a pair of scissoring links. This provides lateral stability to the machine over what would be typical of a single set of scissoring links.

Clarke also discloses a first and a second set of pivot arms as shown below:

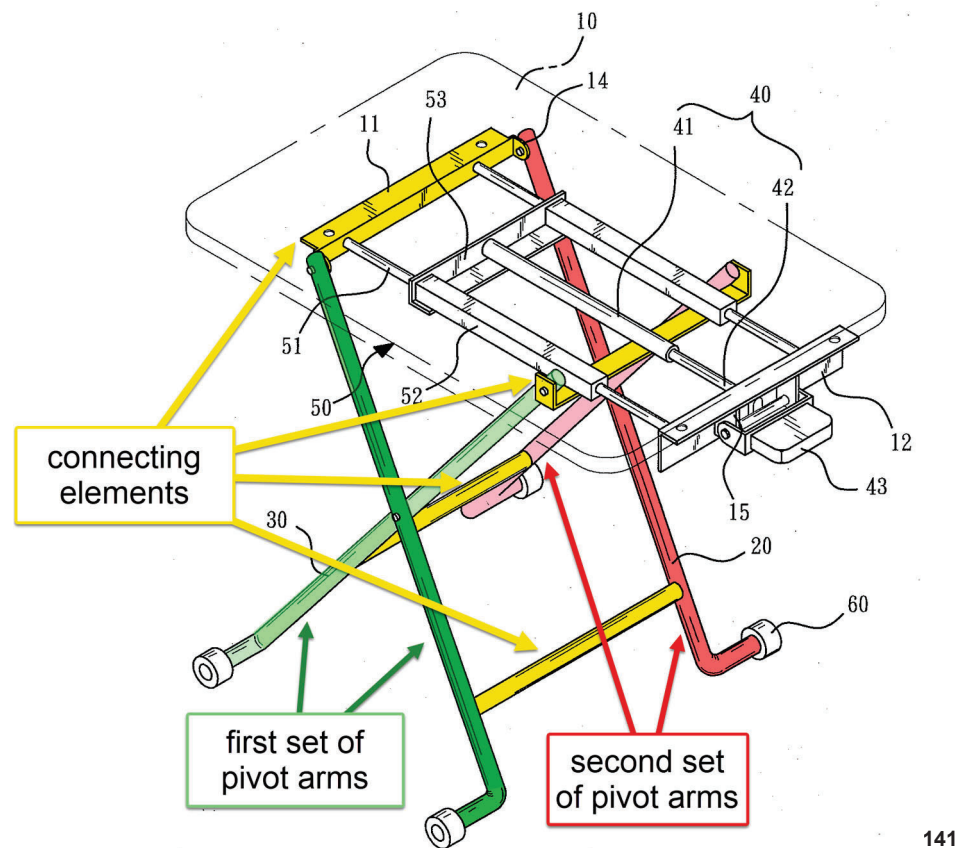


140

“Referring now more particularly to the drawings, the invention comprises a lift table having a top 10 and a base 12 connected by crossed scissors legs 14 and 16 at each side. Legs 14 and 16 are pivotally connected at 18.” Clarke 1:67-70

1d3. an element that connects the first set of pivot arms to the second set of pivot arms;

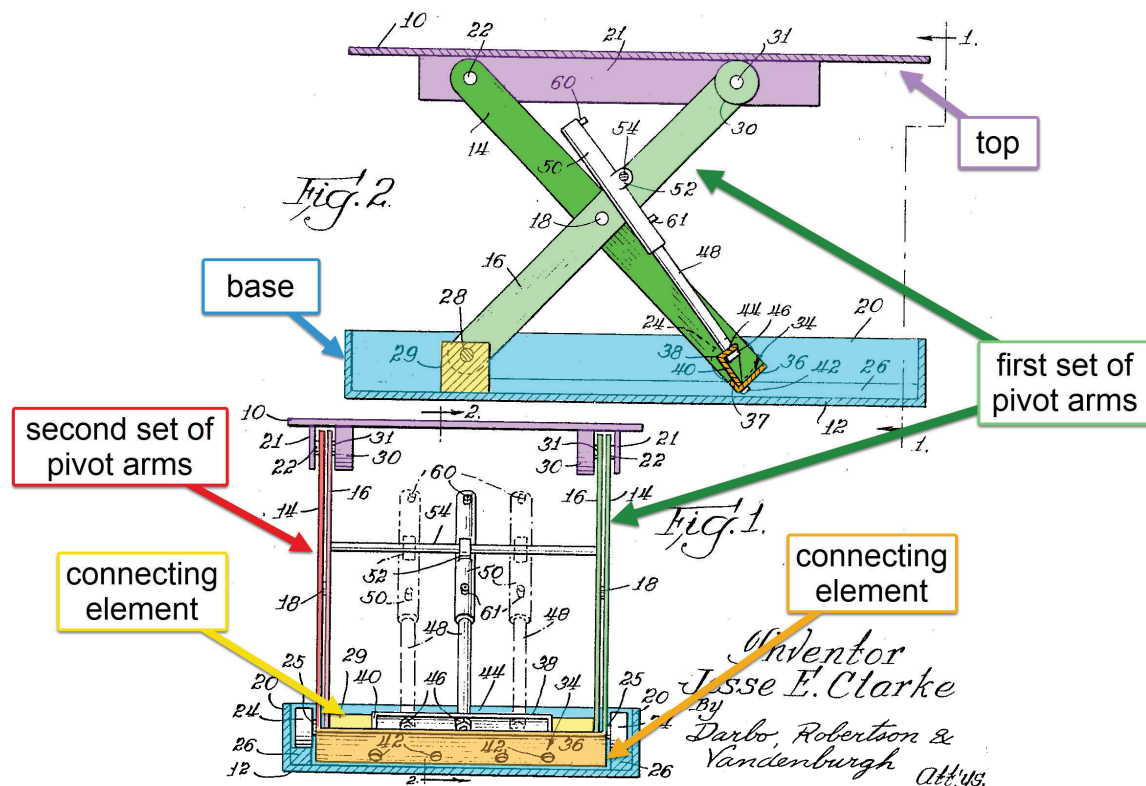
YES: Both Huang and Clarke disclose an element that connects the first set of pivot arms to the second set of pivot arms.



“For this objective, the present invention as an adjust able table with an assistant device comprises a table board, with a first fastener and a second fastener on the bottom side; a first foot pivotally connecting to the first fastener, a second foot pivotally connecting to the first foot; a pivot joint pivotally connecting to one end of the second foot” [Huang 0007]

¹⁴¹ Huang, Figure 3, Annotated

As shown above, Huang discloses multiple elements that connects the first set of pivot arms to the second set of pivot arms. These include the pivot joint on the top frame (item 11), the bars near the bottom of the pivot arms, and part of the sliding mechanism (all marked in yellow).



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"Attached to the roller ends of the outer legs 14 is a cross piece 34 which may be in the form of an angle bar having one web 36 extending across the bottom ends of legs 14 with a shorter web 37 normal thereto." Clarke 2:15-18

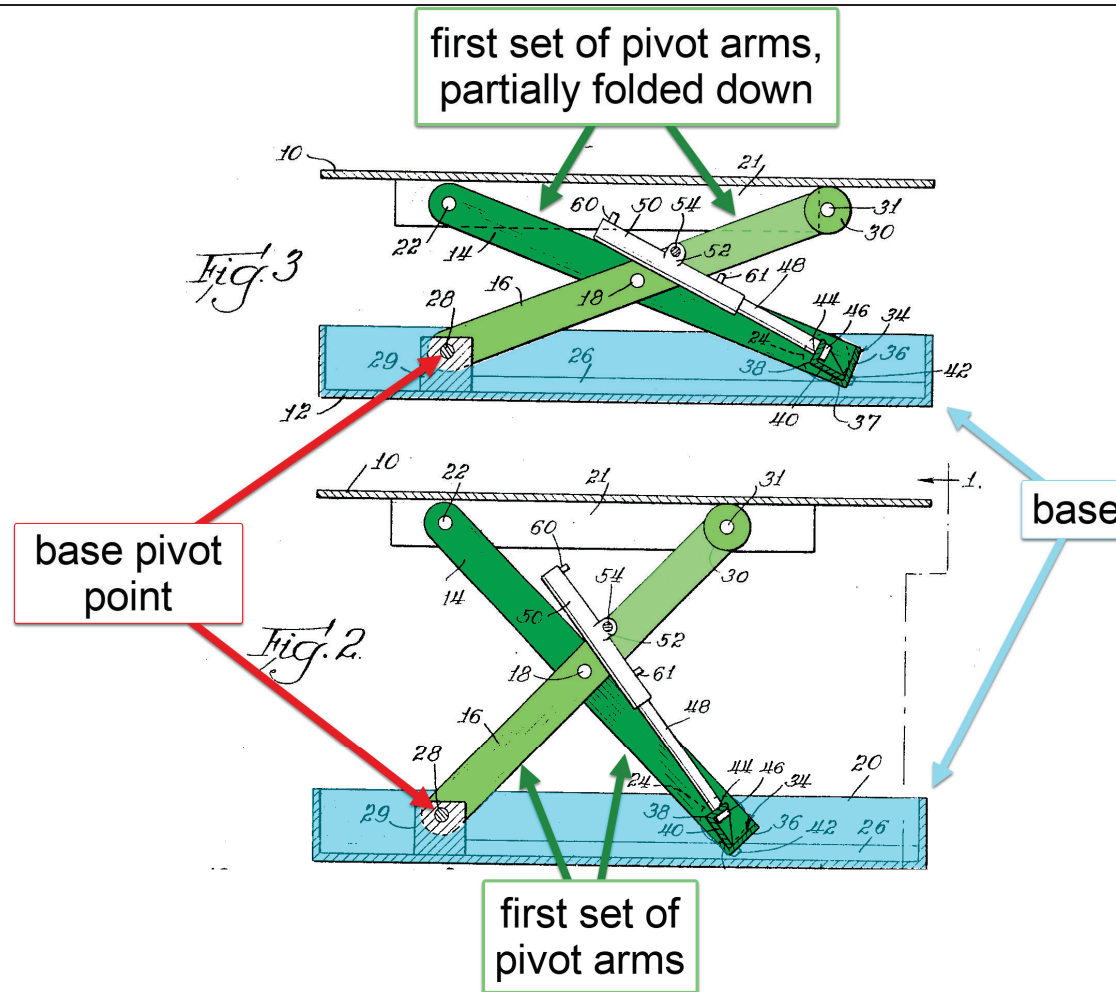
“Depending from the top, at each side, is a plate 21. A pivot 22 near one end of the plate 21 connects the upper end of the leg 14 to the plate. Leg 14 has a roller 24 rotatably mounted at the other end on shaft 25. Roller 24 rides on the upper surface of a strip 26 in the bottom of one side of the base 12. One end of the other leg 16 has a pivot 28 connecting it to a support block 29 directly below the pivot 22 for the leg 14.” Clarke 2:3-10

As shown above, Clarke also discloses multiple elements that connects the first set of pivot arms to the second set of pivot arms. These include the pivot joint on the top frame (item 22), the angle bars at the bottom of the pivot arms (item 34 shown in orange), and the base pivot joint (item 28) via the support block (item 29 shown in yellow).

A POSITA will understand that these connecting elements are a typical and ordinary part of the design for scissor lift mechanisms and any one of these components in both Huang and Clarke are elements that connect the first set of pivot arms to the second set of pivot arms.

1d4. a base pivot point fixed relative to the base and connecting the base and the first set of pivot arms;

YES: Huang in view of Clarke discloses a base pivot point fixed relative to the base and connecting the base and the first set of pivot arms.



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"Depending from the top, at each side, is a plate 21. A pivot 22 near one end of the plate 21 connects the upper end of the leg 14 to the plate. Leg 14 has a roller 24 rotatably mounted at the other end on shaft 25. Roller 24 rides on the upper surface of a strip 26 in the bottom of one side of the base 12. One end of the other leg 16 has a pivot 28 connecting it to a support block 29 directly below the pivot 22 for the leg 14. A roller 30

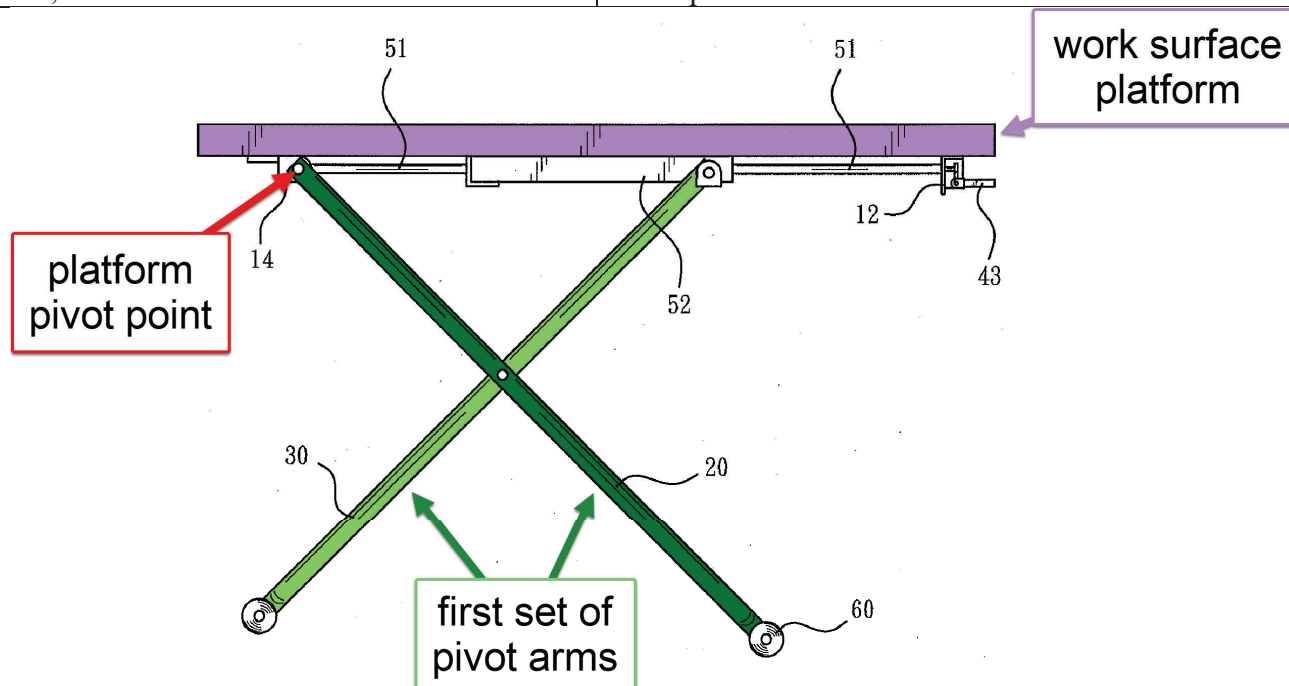
¹⁴³ Clarke, Figure 2 & 3, Annotated

mounted on shaft 31 at the other end of leg 16 rides on the underside of the table top 10. The legs are closely folded together by the pivot 18 intermediate their ends, for parallel scissor action between the base and the top.” Clarke 2:3-14 (emphasis added)

As shown above, Clarke discloses a base pivot point which connects the base and the first set of pivot arms. A POSITA will understand that this is ubiquitous with scissor lift mechanism design. It is a required part of any scissor lift mechanism that is fixed to a base as it is one of the main supports for the entire lift mechanism. As discussed previously, a POSITA would be motivated to combine the base of Clarke with the Huang mechanism. Thus, Huang in view of Clarke would also include this pivot point as is so typical in design.

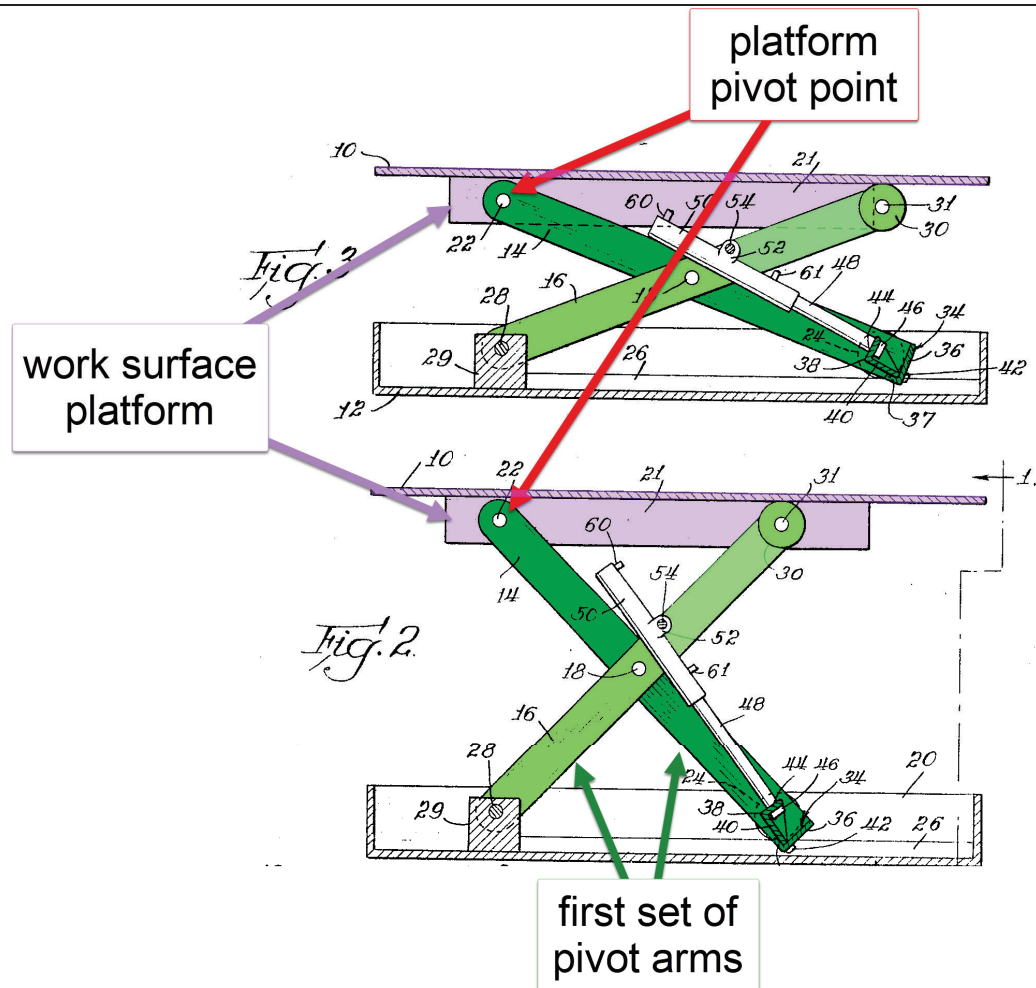
1d5. a platform pivot point fixed relative to the work surface platform and connecting the work surface platform and the first set of pivot arms;

YES: Both Huang and Clarke have a platform pivot point fixed relative to the work surface platform and connecting the work surface platform and the first set of pivot arms.



*“**Two lateral hole plates 14** are settled at both ends of the first fastener **11 to pivotally connect with the top end of the first foot 20**, and a couple of side connecting pieces 15 are settled on the outer-middle side of the second fastener.” Huang [0016] (emphasis added)*

As shown in the figure and citation above, Huang discloses lateral hole plates 14 which is a platform pivot point fixed relative to the work surface platform which connects the work surface platform to a first set of pivot arms. A POSITA will recognize that this design layout is universally used with scissor lift mechanisms. It is ubiquitous and well-known and therefore not inventive. Huang simply provides yet one more example of this design layout.



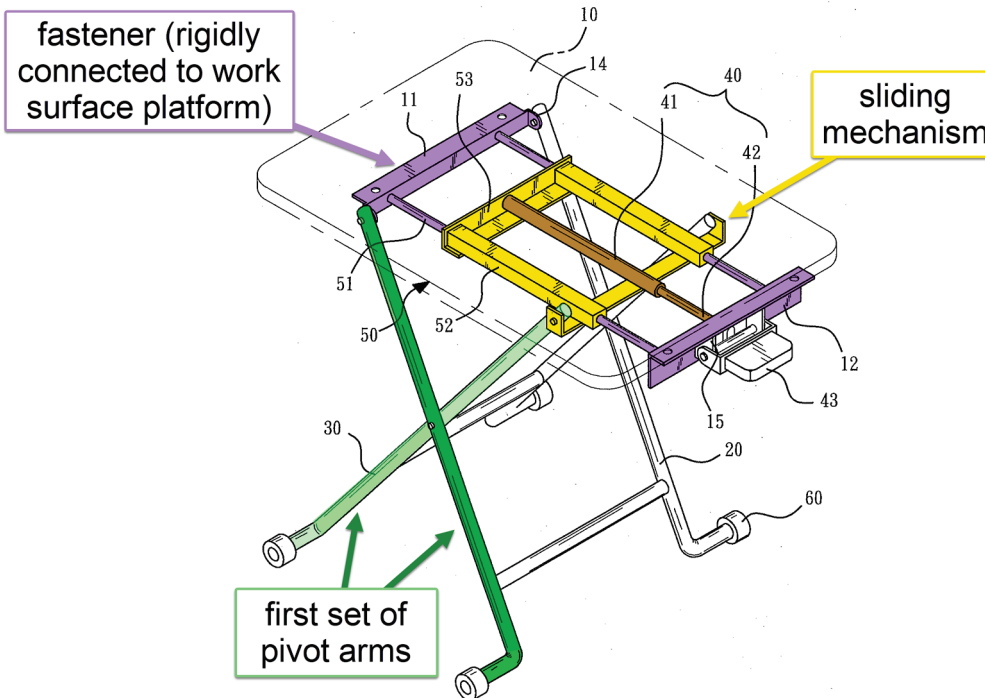
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"Depending from the top, at each side, is a plate 21. A pivot 22 near one end of the plate 21 connects the upper end of the leg 14 to the plate."
Clarke 2:3-4 (emphasis added)

As shown in the figure above, Clarke also discloses a platform pivot point as element 22 shown above. As discussed previously, this platform pivot point is ubiquitous in scissor lift linkage design. Huang and Clarke both disclose it and a POSITA would understand this pivot point exists merely by knowing that a scissor lift mechanism is involved in the design.

1d6. a sliding mechanism on an end of an arm of the first set of pivot arms between the end of the arm and either the work surface platform or the base;

YES: Huang in view of Clark disclose a sliding mechanism on an end of an arm of the first set of pivot arms between the end of the arm and either the work surface platform or the base.

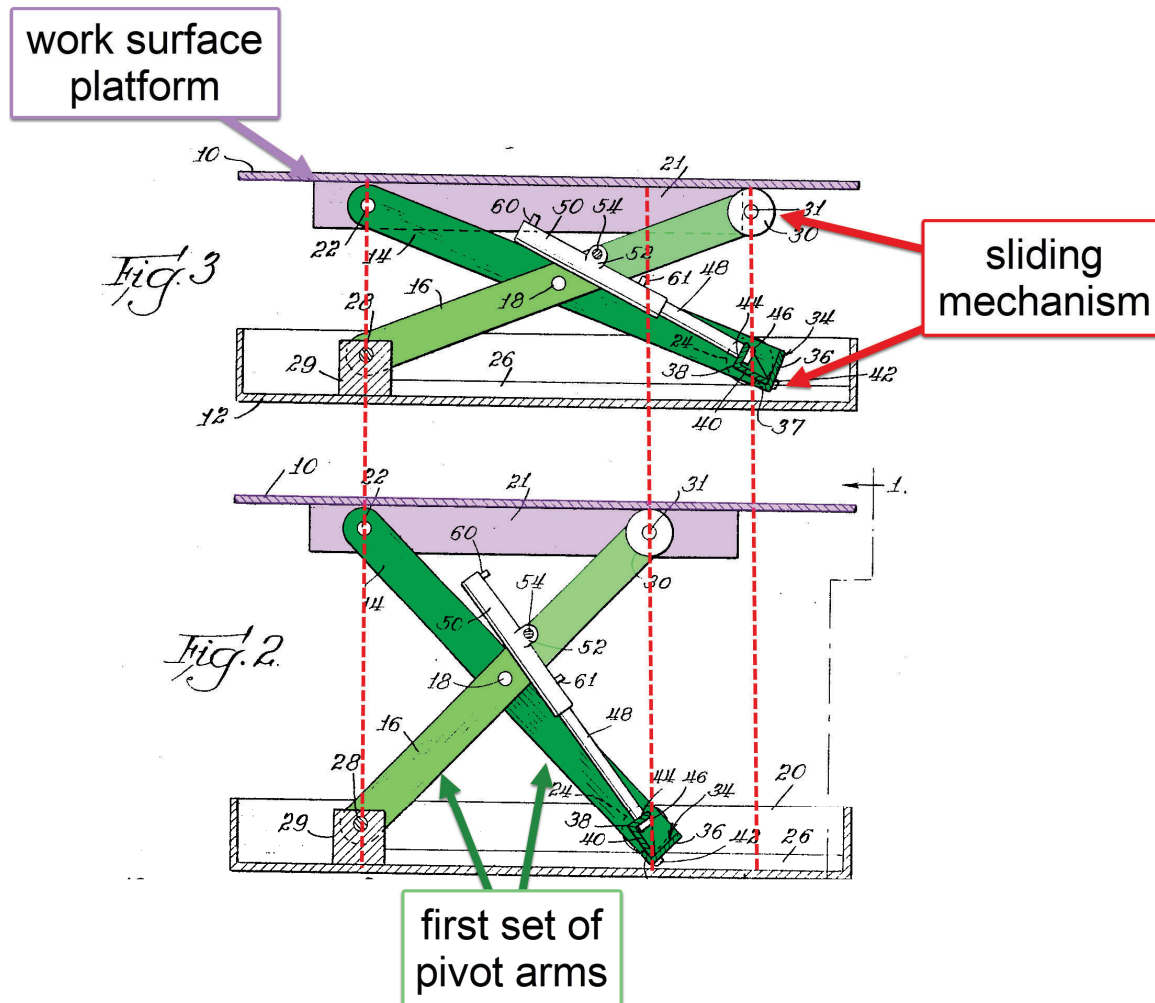


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“The assistant device 50 possesses two parallel sliding Sticks 51, two sliding members 52 and one combining piece 53. The sliding sticks 51 are screwed between the first fastener 11 and the second fastener 12 by several second screws 54, whereby the whole structure of the table is reinforced and unlikely to be bent or deformed. The two sliding members 52 are slidably disposed around the two sliding sticks 51, and the combining piece 53 is positioned between the two sliding members 52, wherein one end of the rod body 41 is fixed on the combining piece 53 and between the two sliding members 52.” Huang [0020]

¹⁴⁶ Huang, Figure 3, Annotated

As shown above, Huang discloses a sliding mechanism (shown in yellow), on the end of the first set of pivot arms (item 30), between the end of the arm and the work surface platform.



¹⁴⁷ Clarke, Figure 2 & 3, Annotated

*“Depending from the top, at each side, is a plate 21. A pivot 22 near one end of the plate 21 connects the upper end of the leg 14 to the plate. **Leg 14 has a roller 24 rotatably mounted at the other end on shaft 25.** Roller 24 rides on the upper surface of a strip 26 in the bottom of one side of the base 12. One end of the other leg 16 has a pivot 28 connecting it to a support block 29 directly below the pivot 22 for the leg 14. **A roller 30 mounted on shaft 31 at the other end of leg 16 rides on the underside of the table top 10.** The legs are closely folded together by the pivot 18 intermediate their ends, for parallel scissor action between the base and the top.” Clarke 23-14 (emphasis added)*

As shown in the figure above, Clarke also discloses a sliding mechanism, a roller (item 30), on the end of a first set of pivot arms (item 16) between the end of the pivot arm and the work surface platform.

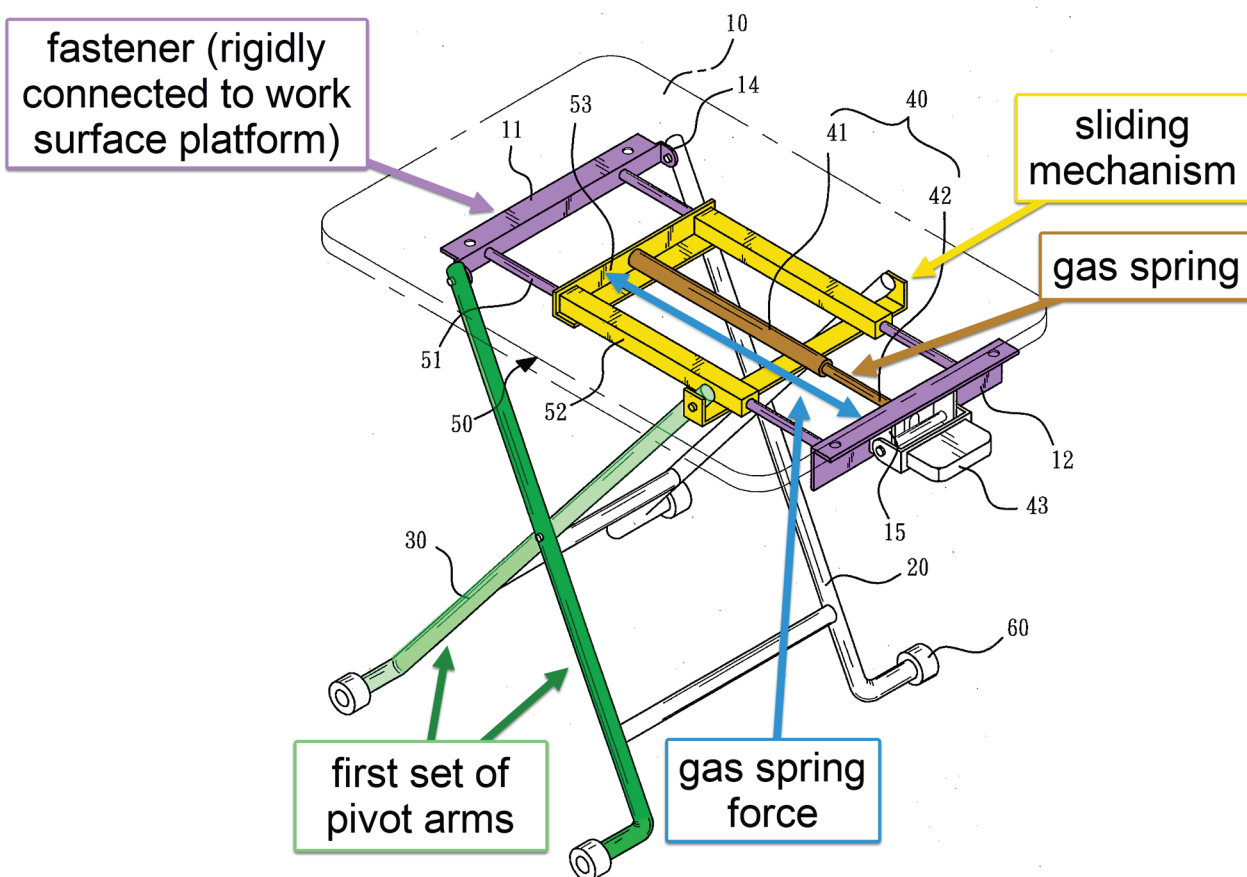
In addition, the set of rollers 24 and 30 allow for what the '843 patent considers to be sliding (i.e. translating) movement as is well-known and ubiquitous in the design of a common scissor lift linkage. It is kinematically necessary as a part of the design of a scissor lift linkage to allow these pivot points to move in this way. As will be shown later in the claim language, the term “sliding mechanism” must be interpreted to include rolling contact for example claim element 11a reads “wherein the sliding mechanism includes a wheel mounted on the end of the arm of the first set of pivot arms.” A POSITA would understand that a roller is used for rolling contact which is typically different from sliding contact. Nevertheless, a POSITA would understand that scissor linkages can are often are made with rolling OR sliding contact and they function just the same. The only difference is that sliding contact has slightly more drag than rolling contact. This drag is commonly minimized for example through the use of low friction wear pad materials. For example, the Pop Up brand Push Pro scissor lift (available at least as early as July 2014) uses a sliding contact at the movable pivot of a scissor lift as opposed to a roller.¹⁴⁸ Clarke discloses an extremely common arrangement where these pivot points translate both in the top and the bottom. That is to say between the scissor links and the work surface platform as well as between the scissor links and the base.

A POSITA would be motivated to combine the sliding mechanisms as disclosed by Clarke in the combination of Huang in view of Clarke. The set of components that Huang uses to fill this function are unnecessarily complex and would be prone to binding in use. In contrast to this, a POSITA will recognize that the Clarke sliding mechanism is more typical of scissor lift design and would recognize that they are simple and reliable.

1d7. a gas spring that assists in elevation of the work surface platform by applying a force to one of the first set of pivot arms as part of the scissoring motion,

YES: Huang discloses a gas spring that assists in the elevation of the work surface platform by applying a force to one of the first set of pivot arms as part of the scissoring motion.

¹⁴⁸ See Operators Manual - Pop Up - Push Pro.pdf, cover page, and Figures 8.14 and 8.15



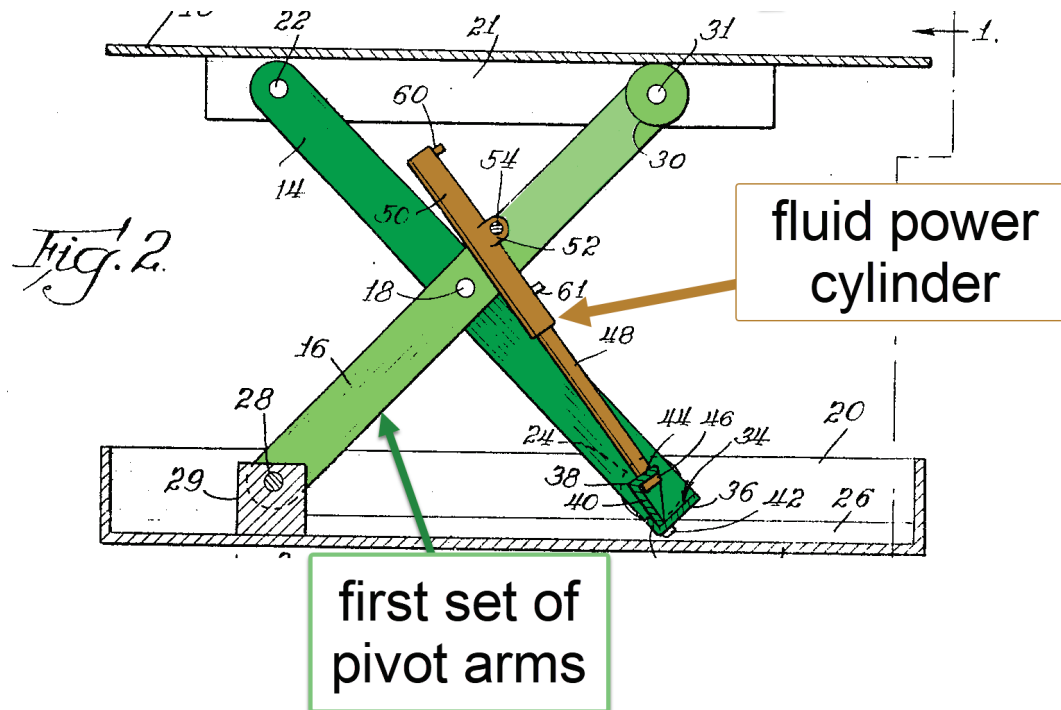
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"To solve the abovementioned problems, the present invention provides an adjustable table with an assistant device, which utilizes an assistant device with a structure of air pressure bar in order to enable the air pressure bar to slide smoothly and reinforce the structural strength of the table." Huang [0006]

As shown in the figure and the citation above, Huang discloses an air pressure bar (item 41), which is a locking gas spring as discussed previously, that is used to facilitate the movement of the scissor linkage and therefore the work surface platform. As shown above, the gas-spring of Huang is connected between the work surface platform via the fastener (item 12) and the sliding mechanism (item 53) which is connected to the top of the

¹⁴⁹ Huang, Figure 3, Annotated

pivot arms (item 30). As such, it applies force to the pivot arms as well as the work surface platform through the sliding mechanism as part of the scissoring motion.



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"Cylinder 50 has a side mounting plate 52 pivotally mounted on a rod 54. Rod 54 extends between the two opposite legs 16 to which it is connected. It is located at the side of the cylinder 50 opposite the pivotal mountings formed by studs 42. This rod 54 is at the upper side of the legs 16 above the common pivot 18 for the legs (FIGURE 4), and the mountings 52 extend downwardly. In the down position the cylinders will be entirely below the upper edges of the legs 16 to which they are connected." Clarke 2:32-41

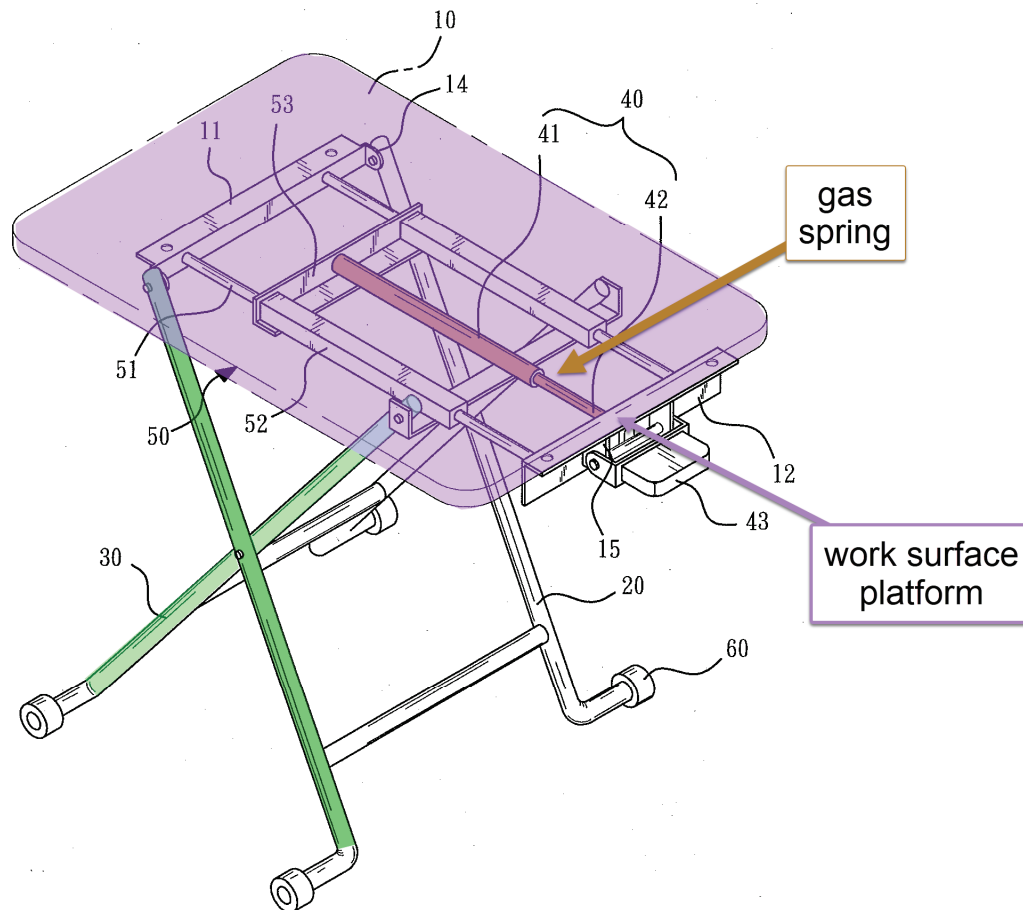
"To supply air or fluid pressure, each cylinder 50 is provided with an inlet 60 near its outer end to Which some suitable connection (not shown) is made. Adjacent the other end is a pipe 61 which may be used as an exhaust, or connected to the pressure source through a suitable valving arrangement if the cylinder is to be double acting." Clarke 2:67-72

Clarke discloses a cylinder which is operated by supplying air or fluid pressure. A POSITA would understand that a lockable gas-spring is a piston cylinder device. A POSITA would also understand that a hydraulic or pneumatic cylinder is a piston-cylinder device. Thus, the Clarke mechanism also shows a piston-cylinder device between the work surface platform and the pivoting links as is well-known in the typical and ordinary design of scissor lift mechanisms. A POSITA would understand that the fluid-power cylinder(s) of Clarke could be replaced with a gas spring. This would change the Clarke device from an actively driven scissor lift to an assisted but manually driven scissor lift, which would be desirable for lower load applications such as Huang utilizes.

A POSITA would be motivated to use the locking gas spring as taught in Huang with the Clarke mechanism. Thus, when this combination is made, it will have a gas spring that assists in the elevation of the work surface platform by applying force to one of the first set of pivot arms as part of the scissoring motion. This connection that makes the scissoring motion is made at pivot element 18 of Clarke as shown above.

1d8. wherein one end of the gas spring is fixed to the work surface platform, and wherein the gas spring acts as a locking device that holds the work surface platform at various vertical heights above the base; and

YES: Huang discloses that one end of the gas spring is fixed to the work surface platform, and wherein the gas spring acts as a locking device that holds the work surface platform at various vertical heights above the base.



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“The air pressure bar 40 is fixed between the first fastener 11 and the second fastener 12, and positioned at the middle of the pivot joint 31. The air pressure bar 40 possesses a rod body 41 and a stretching rod 42, wherein the end of the stretching rod 42 is fixed between two side connecting pieces 15 of the second fastener 12.” Huang [0018]

¹⁵¹ Huang, Figure 3, Annotated

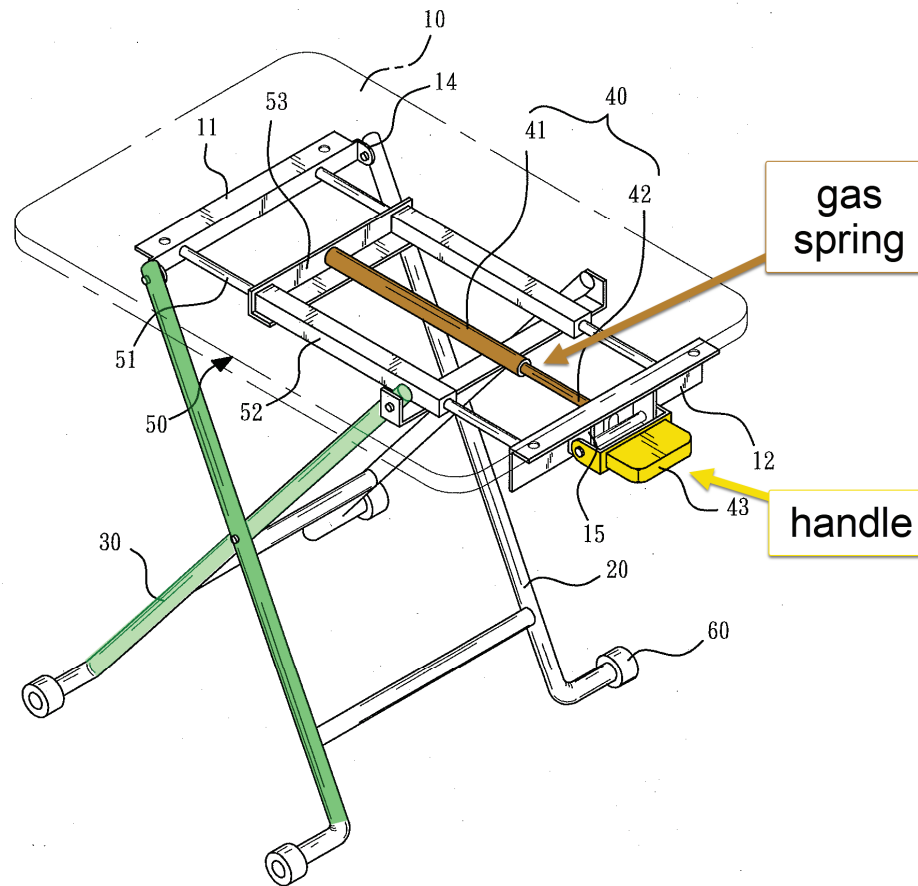
“When the air pressure bar 40 is being operated, the sliding members 52 together with the rod body 41 of the air pressure bar 40 relatively displace against the sliding Sticks 51, thereby changing the angle included by the first foot 20 and the second foot 30, in order to adjust the height of the table.” Huang [0021]

As shown above, Huang discloses the use of an air pressure bar, or gas spring, to facilitate the movement of the scissor linkage. Specifically, the gas-spring cited is a locking gas-spring which as discussed previously is a well-known off-the-shelf component that any POSITA would be very familiar with. As Huang describes, the locking gas spring is used to set the work surface platform at various heights in ordinary usage of the Huang apparatus.

A POSITA will understand that scissor lift mechanisms have a single degree of freedom and thus can be equivalently actuated by connecting an actuator between any two components that move relative to each other. For example, Huang as shown above connects a locking gas spring between the work surface platform and one of the arms of the first set of pivot arms via the sliding mechanism as described previously. Clarke has shown in figure 2 connects the piston-cylinder style actuator between each of the arms in the first set of pivot arms. A POSITA will easily recognize this as a design choice and further that a scissor lift with equivalent performance could just as easily be configured with the cylinder connected between the pivot arm and the work surface platform as taught in Huang. In addition to this though, a POSITA would recognize that it would be more advantageous to mount the locking gas spring with the actuated end in a fixed relationship with the work surface platform as taught by Huang. For example, a POSITA will recognize that the locking gas spring handle is most advantageously placed on the work surface platform, which provides greater ease of use for adjustment as opposed to connecting it between the legs. Combining the placement of the air spring of Huang in view of Clarke would yield this same convenience of handle position and act as a locking device for the Clarke mechanism.

1d9. a handle that unlocks the locking device in response to pressure applied by a user.

YES: Huang discloses a handle that unlocks the locking device in response to pressure applied by a user.



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"A lever 43 is pivotally connected to the side connecting piece 15 of the second fastener 12, thereby operating the air pressure bar 40 in order to make the air pressure bar 40 stretch or shorten." Huang 0019

As shown above, and as described in the citation above, the Huang mechanism is provided with a handle (level 43) that unlocks the locking device (i.e. the locking gas spring). This is in response to the pressure applied by a user to the lever 43. As discussed previously, a POSITA would be

¹⁵² Huang, Figure 3, Annotated

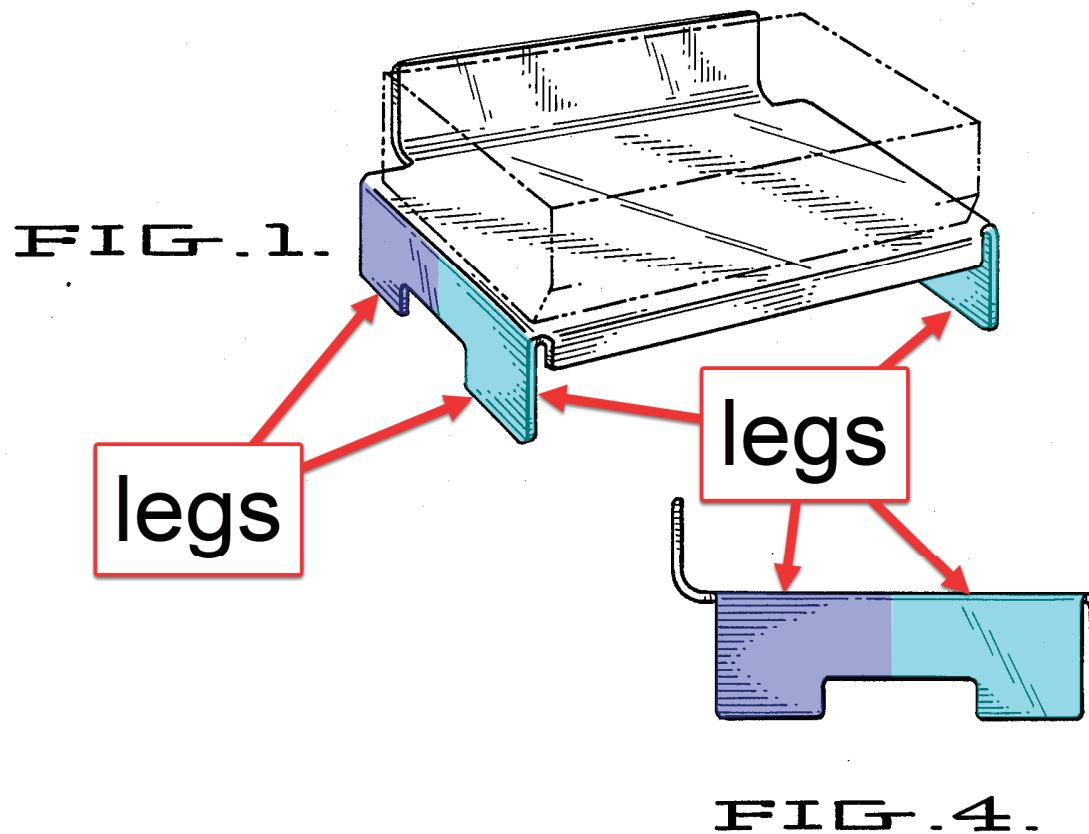
motivated to use the locking gas spring of Huang with the linkage arrangement of Clarke. As such, this handle used to selectively unlock the gas spring would be in the combination of Huang in view of Clarke as well.

2P. The desktop workspace of claim 1,

YES: As shown above, Huang in view of Clarke, and in further view of Clark discloses the desktop workspace of claim 1.

2a. wherein the platform element further includes four legs that support the elevated platform surface above the work surface platform,

YES: Clark discloses that the platform element further includes four legs that support the elevated platform surface above the work surface platform.



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¹⁵³ Clark, Figures 1 & 4, Annotated

*“Fig. 4 is a left side view, the right side being a mirror image of the left side shown,”*¹⁵⁴

As shown above, the Clark printer stand has four legs, i.e. there are four surfaces that will come into contact with any platform or surface the printer stand is placed on. These four legs extend from those surfaces up to the supported platform as shown in the figures above. The description of Figure 4 in Clark specifies that the Clark design is symmetric, i.e. the right side of Clark is a mirror image of the left side as shown in Figure 4. This clearly shows how the two most easily visible legs of Clark as shown in Figures 1 and 4 are mirrored on the opposite side i.e. there are another two legs on the other side of the Clark printer stand making for a total of four legs.

2b. each of the four legs being proximate to one of four corners of the elevated platform surface.

YES: Clark discloses that each of the four legs being proximate to one of the four corners of the elevated platform surface.

¹⁵⁴ US D308537, pg. 1

FIG. 1.

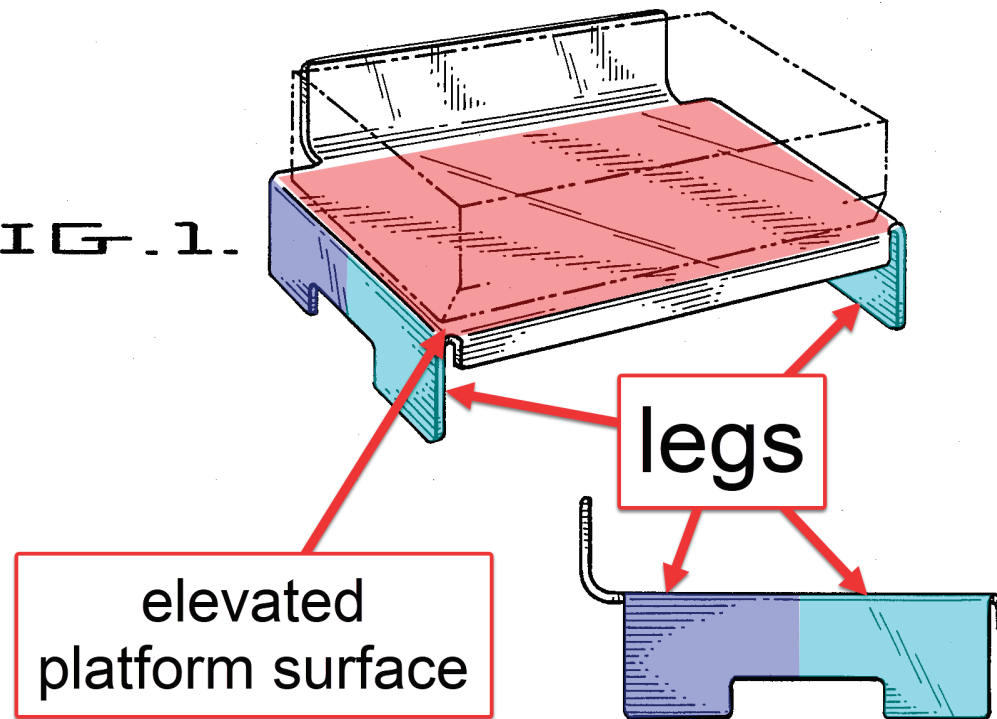


FIG. 4.

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*"Fig. 4 is a left side view, the right side being a mirror image of the left side shown,"*¹⁵⁶

As previously discussed, the Clark printer stand has four legs. Further, as shown above, each of the four legs is proximate to one of the four corners of the elevated platform surface. In fact, each of the four legs directly abuts a corner of the elevated platform surface.

3P. The desktop workspace of claim 1,

YES: As shown above, Huang in view of Clarke, and in further view of Clark discloses the desktop workspace of claim 1.

¹⁵⁵ Clark, Figures 1 & 4, Annotated

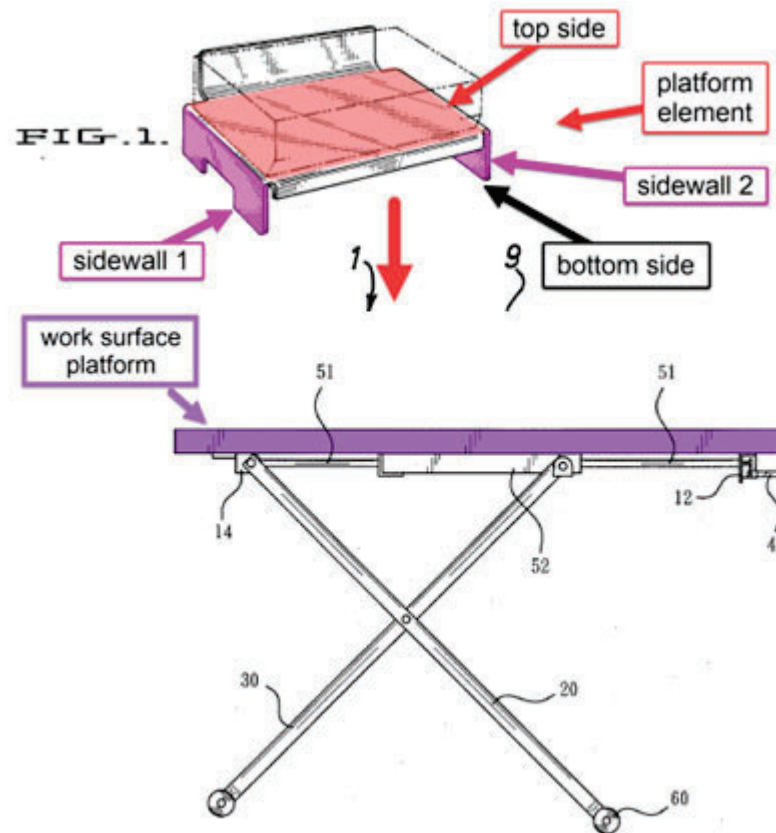
¹⁵⁶ US D308537, pg. 1

3a. wherein the platform element includes four sides including a bottom side on the work surface platform,

3b. a top side forming the elevated platform surface and two sidewalls that support the elevated platform surface above the bottom side and the work surface platform.

YES: Huang in view of Clarke, and in further view of Clark discloses that the platform element includes four sides including a bottom side on the work surface platform.

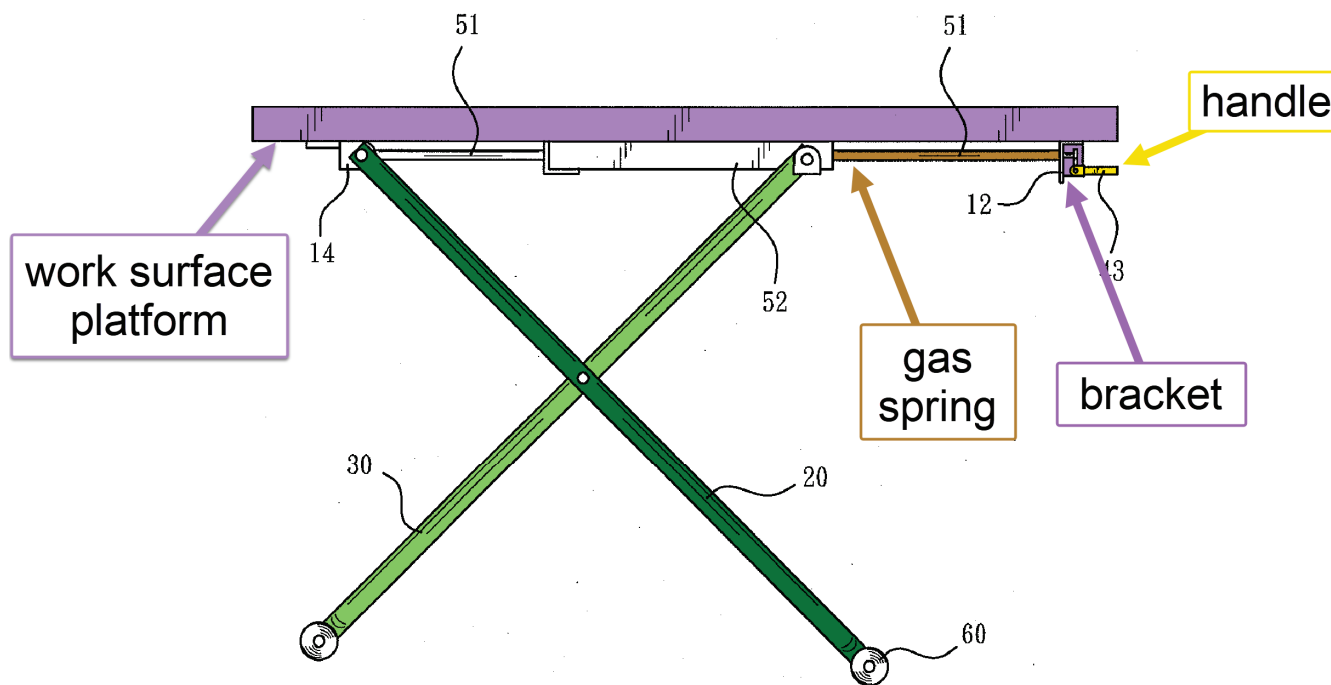
Further the platform element has a top side forming the elevated platform surface and two sidewalls that support the elevated platform surface above the bottom side and the work surface platform.



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As shown above, the platform element of Clark has at least four sides. In fact, it has more than four sides. For example, it has a bottom side, which is the bottom of the legs which support the platform element of Clark (aka the top side). As discussed previously, a POSITA would understand and find it obvious that the Clark style printing stand could foreseeably be placed on top of the work surface platform of Huang, or any other adequately sized horizontal surface for that matter. Further, a POSITA would understand that a printer stand is commonly placed on top of a horizontal surface such as Huang and is even directly intended so to be. When the Clark printer stand is placed on Huang, the bottom side of the printer stand will be in direct contact with the work surface platform. Further, the Clark printer stand has a top side as already discussed. Further still, the Clark printer stand has two sidewalls that support the platform surface up of the bottom side and above the work surface platform. As shown in the figures above, the legs of Clark have outwardly facing surfaces (aka sidewalls).

6P. The desktop workspace of claim 1,	YES: As shown previously, Huang in view of Clarke, and in further view of Clark discloses the desktop workspace of claim 1.
6a. wherein the one end of the gas spring is fixed to the work surface platform via a bracket fixed to an underside of the work surface platform.	YES: Huang discloses that one end of the gas spring is fixed to the work surface platform via a bracket fixed to an underside of the work surface platform.



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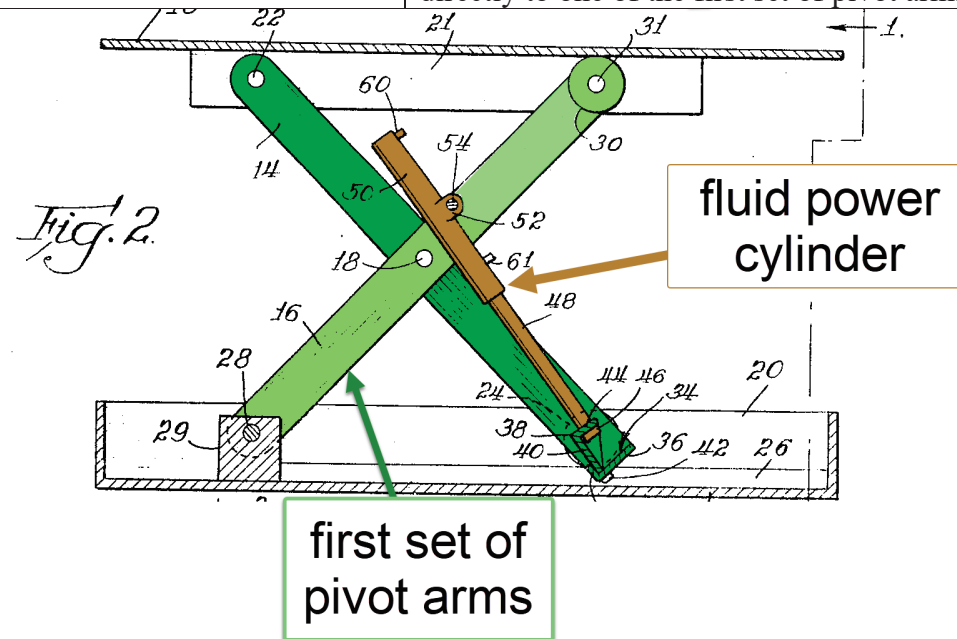
"The air pressure bar 40 is fixed between the first fastener 11 and the second fastener 12, and positioned at the middle of the pivot joint 31. The air pressure bar 40 possesses a rod body 41 and a stretching rod 42, wherein the end of the stretching rod 42 is fixed between two side connecting pieces 15 of the second fastener 12." Huang 0018

As shown above, one end of the gas spring is fixed to the work surface platform via a bracket. Huang discloses a bracket (second fastener 12) which is mounted on the work surface platform. A POSITA would understand that this mounting bracket is fixed to the underside of the work surface platform.

As discussed previously, a POSITA would have been motivated to connect the locking gas spring of Huang in view of Clarke in such a way that the handle would be on the work surface platform for the convenience of the user. As discussed previously, this will provide for greater ease of use for the adjustment mechanism.

¹⁵⁸ Huang, Figure 5, Annotated

7P. The desktop workspace of claim 6,	YES: As shown previously, Huang in view of Clarke, and in further view of Clark discloses the desktop workspace of claim 6.
7a. wherein the gas spring is attached directly to the one of the first set of pivot arms.	YES: Huang in view of Clarke discloses that the gas spring is attached directly to one of the first set of pivot arms.



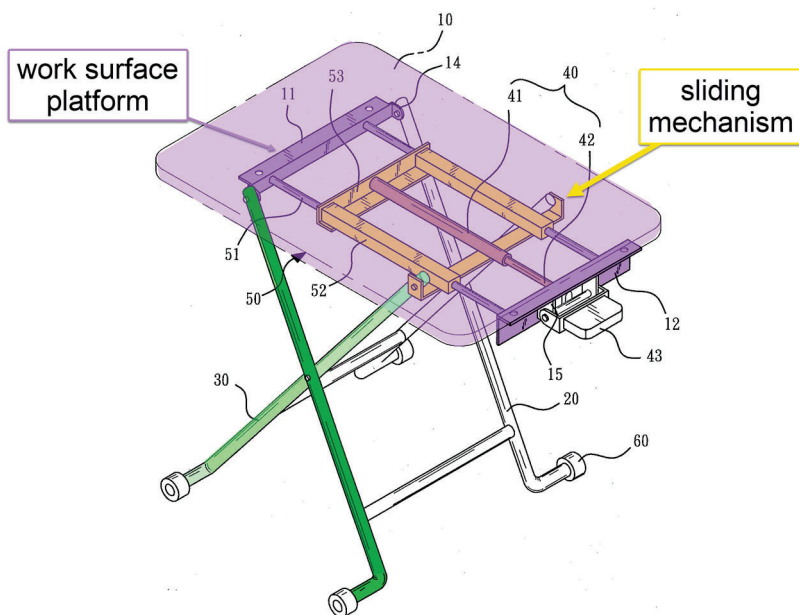
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“Cylinder 50 has a side mounting plate 52 pivotally mounted on a rod 54. Rod 54 extends between the two opposite legs 16 to which it is connected.” Clarke 2:33-36

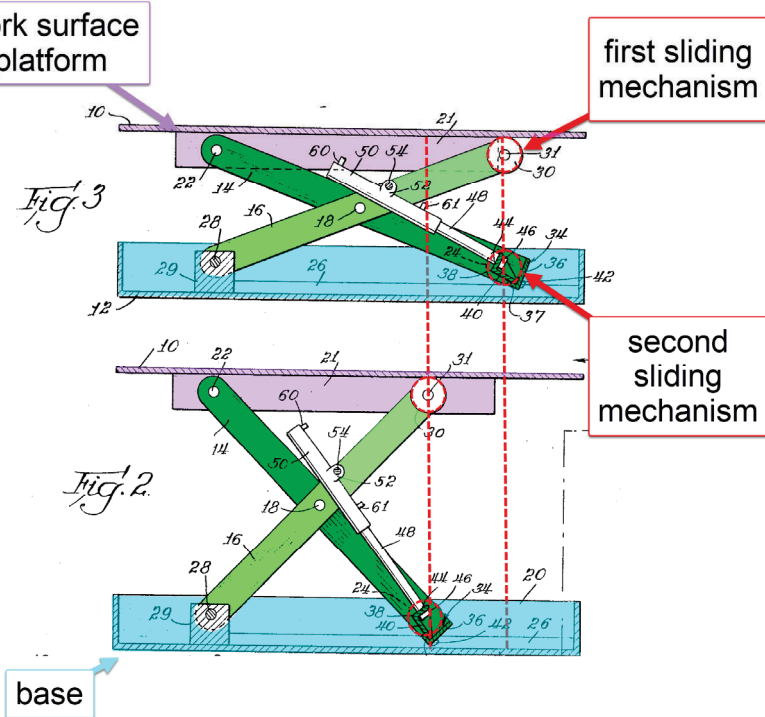
As shown above, the piston cylinder actuator of Clarke is attached directly to one of the first set of pivot arms. The cylinder has a bottom part 50 (the cylinder end) which is pivotally connected to leg member 16, which is one of the first set of pivot arms. POSITA would recognize that attaching the piston cylinder actuator, or a gas spring, directly to the pivot arm is a design choice. A POSITA would be motivated to avoid the complex sliding mechanism of Huang, with its many sliding parts that could become misaligned, by connecting the gas spring of Huang directly to the pivot arm of the Clarke mechanism.

¹⁵⁹ Clarke, Figure 2, Annotated

8P. The desktop workspace of claim 1,	YES: As shown previously, Huang in view of Clarke, and in further view of Clark discloses the desktop workspace of claim 1.
8a. wherein the gas spring is attached directly to the one of the first set of pivot arms.	YES: See element 7a.
9P. The desktop workspace of claim 1,	YES: As shown previously, Huang in view of Clarke, and in further view of Clark discloses the desktop workspace of claim 1.
9a. wherein the sliding mechanism is a first sliding mechanism, 9b. the desktop workspace further comprising a second sliding mechanism,	YES: Huang in view of Clarke discloses that the sliding mechanism is a first sliding mechanism. Further this combination discloses that there is a second sliding mechanism.



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¹⁶⁰ Huang, Figure 3, Annotated

¹⁶¹ Clarke, Figures 2 & 3, Annotated

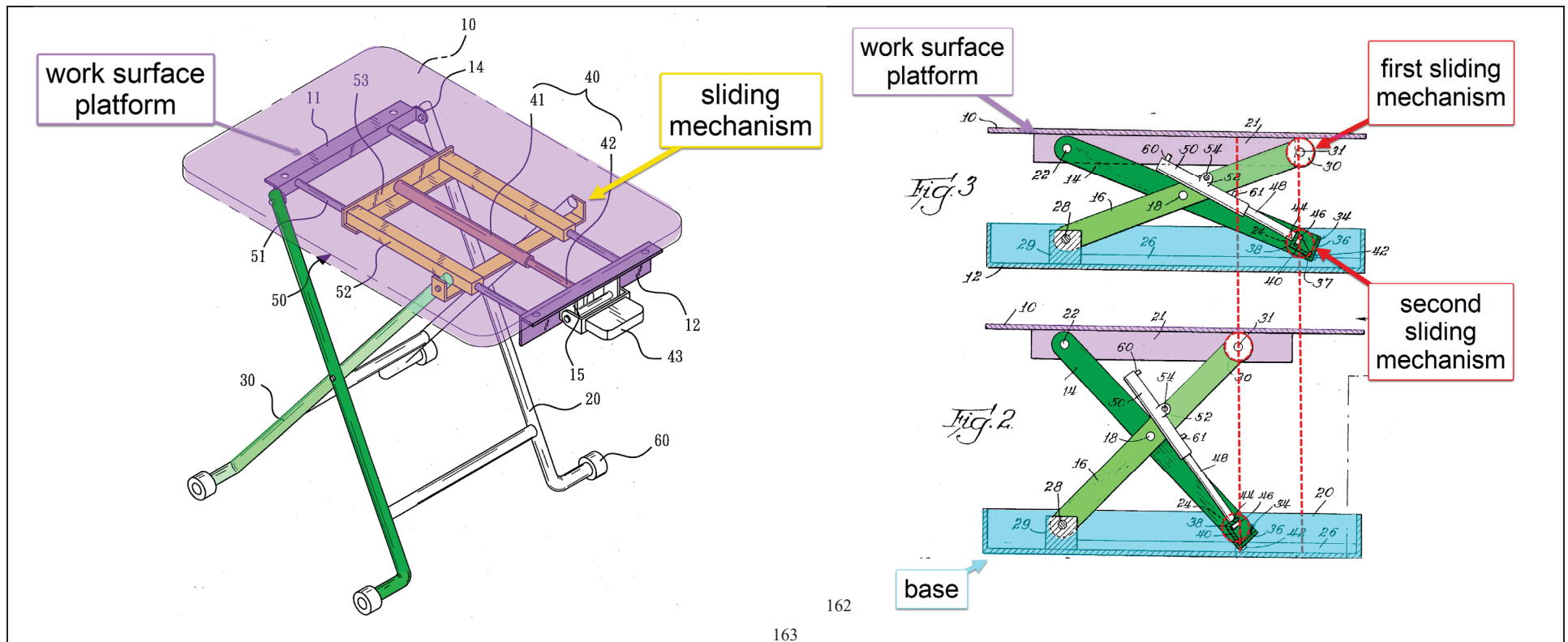
“When the air pressure bar 40 is being operated, the sliding members 52 together with the rod body 41 of the air pressure bar 40 relatively displace against the sliding Sticks 51, thereby changing the angle included by the first foot 20 and the second foot 30, in order to adjust the height of the table.” Huang 0021

*“Depending from the top, at each side, is a plate 21. A pivot 22 near one end of the plate 21 connects the upper end of the leg 14 to the plate. Leg 14 has a roller 24 rotatably mounted at the other end on shaft 25. **Roller 24 rides on the upper surface of a strip 26** in the bottom of one side of the base 12. One end of the other leg 16 has a pivot 28 connecting it to a support block 29 directly below the pivot 22 for the leg 14. **A roller 30 mounted on shaft 31 at the other end of leg 16 rides on the underside of the table top 10.** The legs are closely folded together by the pivot 18 intermediate their ends, for parallel scissor action between the base and the top.” Clarke 2:3-14 (emphasis added)*

As shown above, both Huang and Clarke have a first sliding mechanism, which is what allows the top portion of the scissor links to translate relative to the work surface platform. In addition to this, Clarke discloses a second sliding mechanism that is operable between the pivot arms and the base. Again, this is typical scissor linkage design that any POSITA would readily understand is ubiquitous. As discussed previously, the combination of Huang in view of Clarke would incorporate the base of Clarke. Consequently, it would also incorporate the sliding mechanism of Clarke. As the Clarke sliding mechanism is less complex than the sliding mechanism of Huang, a POSITA would have further motivation to utilize the Clarke type sliding mechanism when incorporating two sliding mechanisms into Huang in view of Clarke.

9c. wherein either the first sliding mechanism or the second sliding mechanism is attached or slides along the work surface platform,
9d. and the other of the first sliding mechanism and the second sliding mechanism is attached to or slides along the base.

YES: Huang in view of Clarke discloses that either the first or the second sliding mechanism is attached or slides along the work surface platform. Further, the other first and second sliding mechanism is attached to or slides along the base.



“When the air pressure bar 40 is being operated, the sliding members 52 together with the rod body 41 of the air pressure bar 40 relatively displace against the sliding Sticks 51, thereby changing the angle included by the first foot 20 and the second foot 30, in order to adjust the height of the table.” Huang 0021

“Depending from the top, at each side, is a plate 21. A pivot 22 near one end of the plate 21 connects the upper end of the leg 14 to the plate. Leg 14 has a roller 24 rotatably mounted at the other end on shaft 25. **Roller 24 rides on the upper surface of a strip 26 in the bottom of one side of the base** 12. One end of the other leg 16 has a pivot 28 connecting it to a support block 29 directly below the pivot 22 for the leg 14. **A roller 30 mounted on shaft 31 at the other end of leg 16 rides on the underside of the table top 10.** The legs are closely folded together by the pivot 18 intermediate their ends, for parallel scissor action between the base and the top.” Clarke 2:3-14 (emphasis added)

¹⁶² Huang, Figure 3, Annotated

¹⁶³ Clarke, Figures 2 & 3, Annotated

As shown above, both Huang and Clarke show that the first sliding mechanism(s) are attached to or slide along the work surface platform. Further, Clarke has a second sliding mechanism (item 24 as shown above) that is attached to or slides along the base. As discussed previously, the combination of Huang in view of Clarke would incorporate the base of Clarke. A POSITA would be motivated to reduce the complexity of Huang in view of Clarke by utilizing the Clarke sliding mechanism. Consequently, it would also incorporate the sliding mechanism in the base of Clarke.

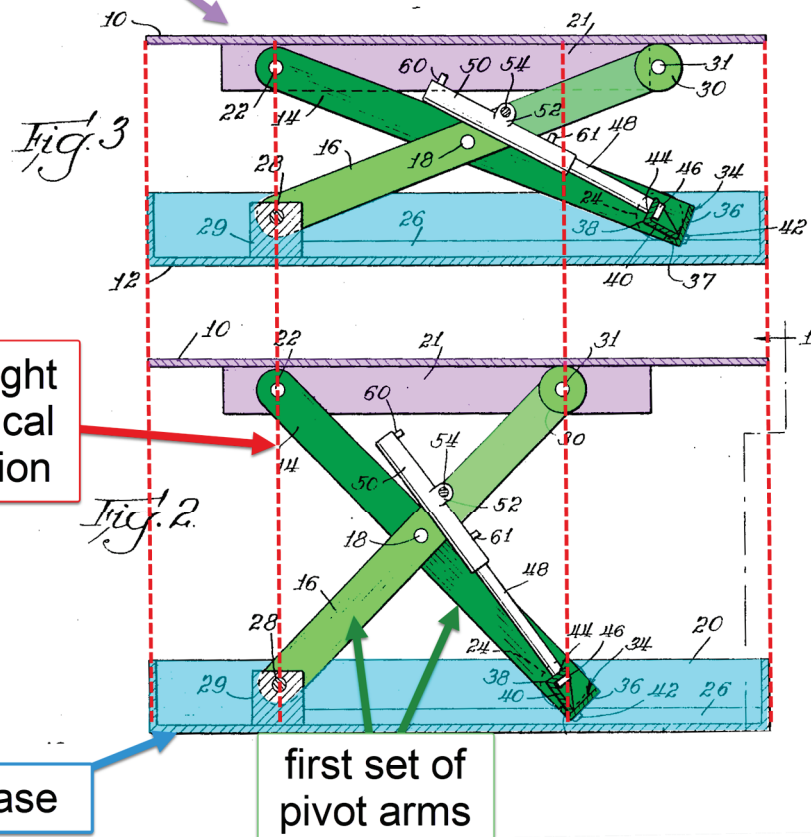
10P. The desktop workspace of claim 1,	YES: As shown previously, Huang in view of Clarke, and in further view of Clark discloses the desktop workspace of claim 1.
10a. wherein the scissoring motion when raising and lowering the work surface platform to various heights of the height adjustment mechanism moves the work surface platform in a straight vertical direction relative to the base.	YES: Clarke discloses that the scissoring motion when raising and lowering the work surface platform to various heights of the height adjustment mechanism moves the work surface platform in a straight vertical line relative to the base.

work surface
platform

straight
vertical
motion

base

first set of
pivot arms



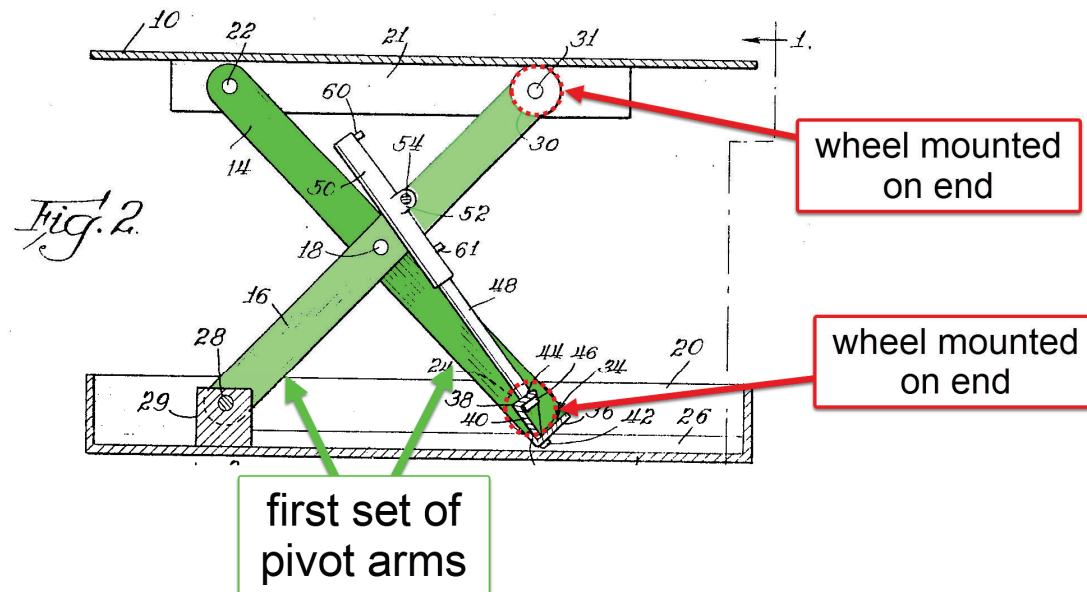
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"Depending from the top, at each side, is a plate 21. A pivot 22 near one end of the plate 21 connects the upper end of the leg 14 to the plate. Leg 14 has a roller 24 rotatably mounted at the other end on shaft 25. Roller 24 rides on the upper surface of a strip 26 in the bottom of one side of the base 12. One end of the other leg 16 has a pivot 28 connecting it to a support block 29 directly below the pivot 22 for the leg 14. A roller 30

mounted on shaft 31 at the other end of leg 16 rides on the underside of the table top 10. The legs are closely folded together by the pivot 18 intermediate their ends, **for parallel scissor action between the base and the top.**" Clarke 2:3-14 (emphasis added)

As shown above, the scissor mechanism of Clarke moves the work surface platform in a straight vertical line relative to the base. This is a property typical of scissor lifting mechanisms generally as a POSITA would understand. Thus, the Huang mechanism also exhibits straight-line vertical motion. As previously discussed, a POSITA has motivation to combine the less complex mechanism, and the more distributed base, of Clarke with the more easily adjustable mechanism of Huang to achieve various heights. This feature is afforded by the locking gas spring in Huang in view of Clarke.

11P. The desktop workspace of claim 1,	YES: As shown previously, Huang in view of Clarke, and in further view of Clark discloses the desktop workspace of claim 1.
11a. wherein the sliding mechanism includes a wheel mounted on the end of the arm of the first set of pivot arms.	YES: Huang in view of Clarke discloses that the sliding mechanism includes a wheel mounted on the end of the arm of the first set of pivot arms.



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¹⁶⁵ Clarke, Figure 2, Annotated

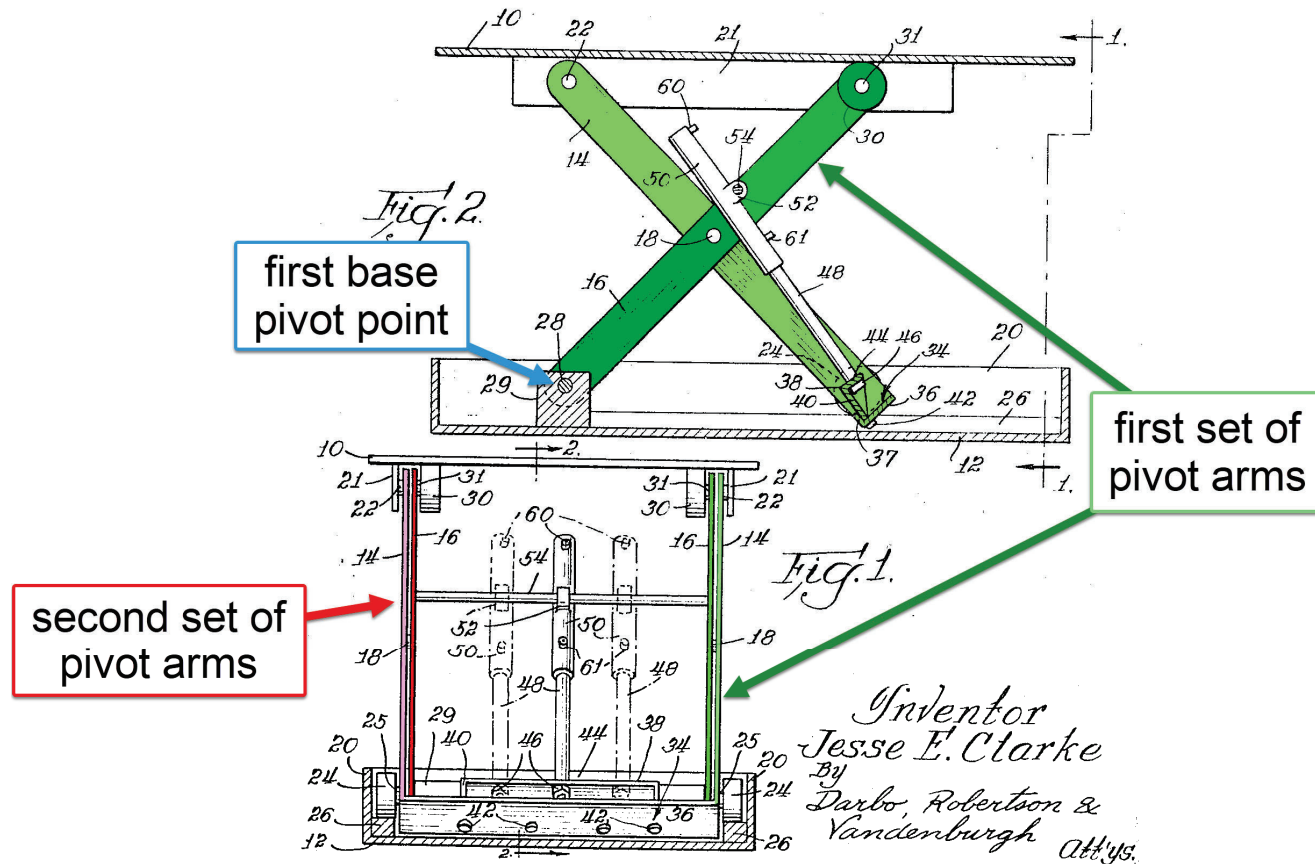
*“Depending from the top, at each side, is a plate 21. A pivot 22 near one end of the plate 21 connects the upper end of the leg 14 to the plate. Leg 14 has **a roller 24 rotatably mounted at the other end on shaft 25**. Roller 24 rides on the upper surface of a strip 26 in the bottom of one side of the base 12. One end of the other leg 16 has a pivot 28 connecting it to a support block 29 directly below the pivot 22 for the leg 14. **A roller 30 mounted on shaft 31 at the other end of leg 16** rides on the underside of the table top 10. The legs are closely folded together by the pivot 18 intermediate their ends, for parallel scissor action between the base and the top.” Clarke 2:3-14 (emphasis added)*

As shown above, Clarke discloses a sliding mechanism that includes a wheel (roller 28 and 30) mounted on the end of the arm of the first set of pivot arms. Clarke discloses at least two such wheels as 30 and 24. This is a very common design for scissor lifts, and example of which is shown in Clarke. As previously discussed, a sliding mechanism of some kind is generally necessary to allow a scissor linkage to move up and down. Some scissor linkages use sliding contact as does Huang, others use rolling contact. A POSITA would be motivated to use the wheel as disclosed in Clarke as rolling contact has less friction than sliding contact. This would lead to better ease of use and less wear and tear on the mechanism. As previously discussed, a POSITA would be motivated to replace the more complex sliding mechanism of Huang in view of the simplified and lower friction rolling mechanism of Clarke.

12P. The desktop workspace of claim 1,	YES: As shown previously, Huang in view of Clarke, and in further view of Clark discloses the desktop workspace of claim 1.
12a. wherein the base pivot point is a first base pivot point,	YES: Huang in view of Clarke discloses the base pivot point is a first base pivot point.

12b. wherein the height adjustment mechanism further includes a second base pivot point fixed relative to the base and connecting the base and the second set of pivot arms, and

YES: Huang in view of Clarke discloses that the height adjustment mechanism further includes a second base pivot point fixed relative to the base and connecting the base to the second set of pivot arms.



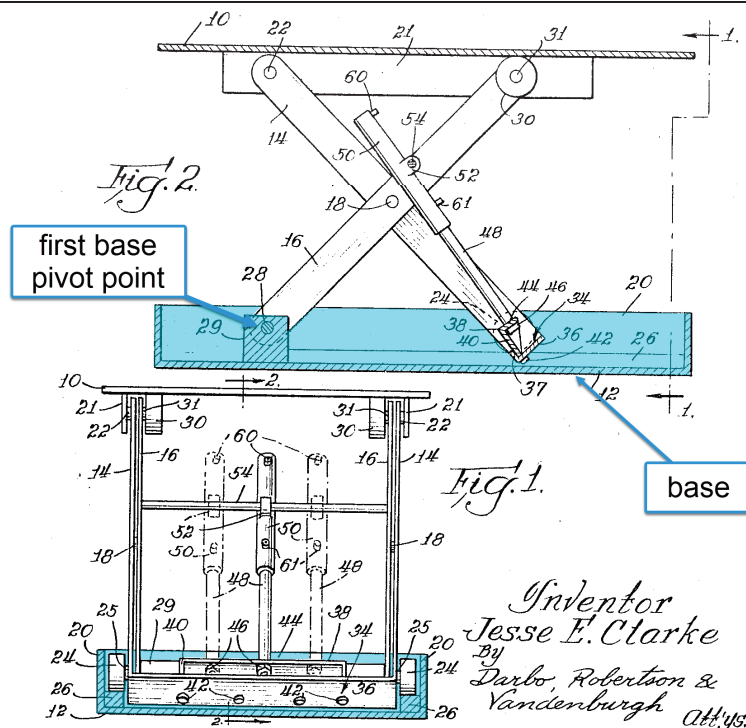
“Depending from the top, at each side, is a plate 21. A pivot 22 near one end of the plate 21 connects the upper end of the leg 14 to the plate. Leg 14 has a roller 24 rotatably mounted at the other end on shaft 25. Roller 24 rides on the upper surface of a strip 26 in the bottom of one side of the base 12. One end of the other leg 16 has a pivot 28 connecting it to a support block 29 directly below the pivot 22 for the leg 14. A roller 30 mounted on shaft 31 at the other end of leg 16 rides on the underside of the table top 10. The legs are closely folded together by the pivot 18 intermediate their ends, for parallel scissor action between the base and the top.” Clarke 2:3-14 (emphasis added)

¹⁶⁷ Clarke, Figures 1 & 2, Annotated

As shown above and as shown previously, Clarke discloses a first base pivot point and at least one set of pivot arms. It is extremely common in scissor lift design to have a pair of scissor lift linkages (and therefore a pair of pivot arms). For example, Huang has a pair of pivot arms as previously discussed. A POSITA understands that each second set of pivot arms requires a second base pivot point to function properly when a base is present. Thus, the combination of Huang in view of Clarke will also have a second base pivot point which accompanies the second set of pivot arms of Huang. Were this not the case, there would be no purpose to having the second set of pivot arms as Huang has. Further, the second base pivot point will be fixed relative to the base which connects to the second set of pivot arms in the same way that Clarke shows the base connecting to the first set of pivot arms as seen in Fig 1. As discussed previously, a POSITA will be motivated to incorporate the base as taught by Clarke. Consequently, the combination of Huang in view of Clarke will also have this second base pivot point.

12c. wherein the base includes one or multiple stationary pieces of material connecting the first and second base pivot points to one another.

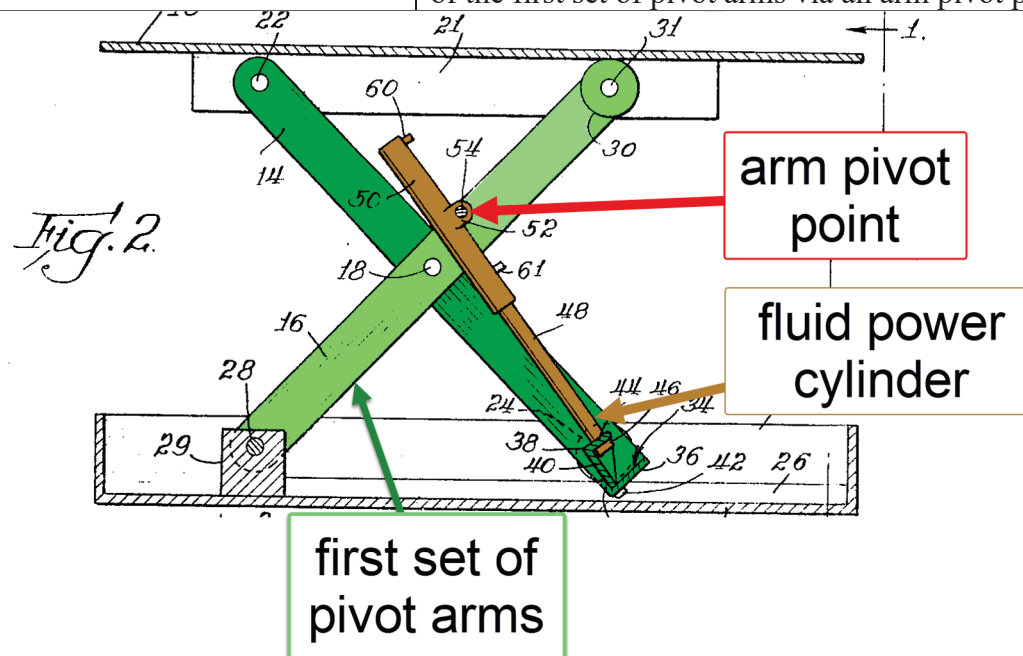
YES: Huang in view of Clarke discloses that the base includes one or multiple stationary pieces of material connecting the first and second base pivot points to one another.



“Depending from the top, at each side, is a plate 21. A pivot 22 near one end of the plate 21 connects the upper end of the leg 14 to the plate. Leg 14 has a roller 24 rotatably mounted at the other end on shaft 25. Roller 24 rides on the upper surface of a strip 26 in the bottom of one side of the base 12. One end of the other leg 16 has a pivot 28 connecting it to a support block 29 directly below the pivot 22 for the leg 14. A roller 30 mounted on shaft 31 at the other end of leg 16 rides on the underside of the table top 10. The legs are closely folded together by the pivot 18 intermediate their ends, for parallel scissor action between the base and the top.” Clarke 2:3-14 (emphasis added)

As shown above, Clarke has a stationary base. Clarke is configured to provide vertical movement. As shown in the figures and in the text, it is the table that moves up and down while the base remains in stationary contact with the existing platform (the floor). Thus, Clarke has a base comprised of one or more stationary pieces. As previously, discussed the combination of Huang in view of Clarke incorporates the base of Clarke. Thus, the stationary base will connect the first and second base pivot points to one another.

13P. The desktop workspace of claim 1,	YES: As shown previously, Huang in view of Clarke, and in further view of Clark discloses the desktop workspace of claim 1.
13a. wherein the gas spring is attached to the one of the first set of pivot arms via an arm pivot point.	YES: Huang in view of Clarke discloses that the gas spring is attached to one of the first set of pivot arms via an arm pivot point.



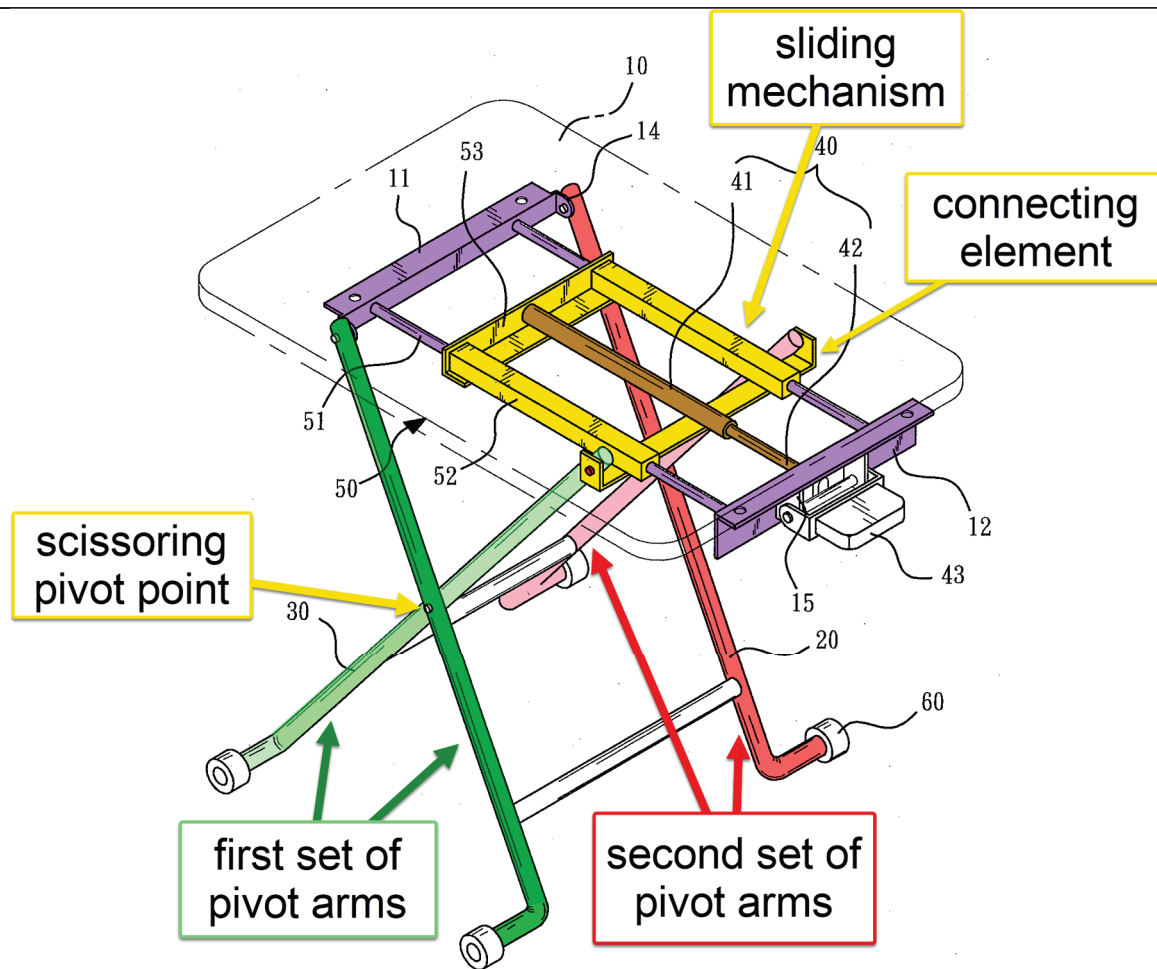
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"Cylinder 50 has a side mounting plate 52 pivotally mounted on a rod 54. Rod 54 extends between the two opposite legs 16 to which it is connected." Clarke 2:33-36

As shown above, Clarke shows the fluid power cylinder, or a gas spring, is attached directly to one of the first set of pivot arms. The cylinder has a bottom part 50 (the cylinder end) which is pivotally connected to leg member 16, via an arm pivot point (i.e. mounting 52) which is on one of the first set of pivot arms. A POSITA understands that a scissoring mechanism has only one degree of freedom and that the two ends of the gas spring can be connected to any two locations on a scissoring mechanism which are not rigidly connected to one another in order to control the motion of the scissoring mechanism. As discussed previously, a POSITA will be motivated to incorporate the base and the less complex location of the gas spring as taught by Clarke with Huang. Consequently, the combination of Huang in view of Clarke will also have the gas spring connect to the first set of pivot arms via an arm pivot point.

¹⁶⁹ Clarke, Figure 2, Annotated

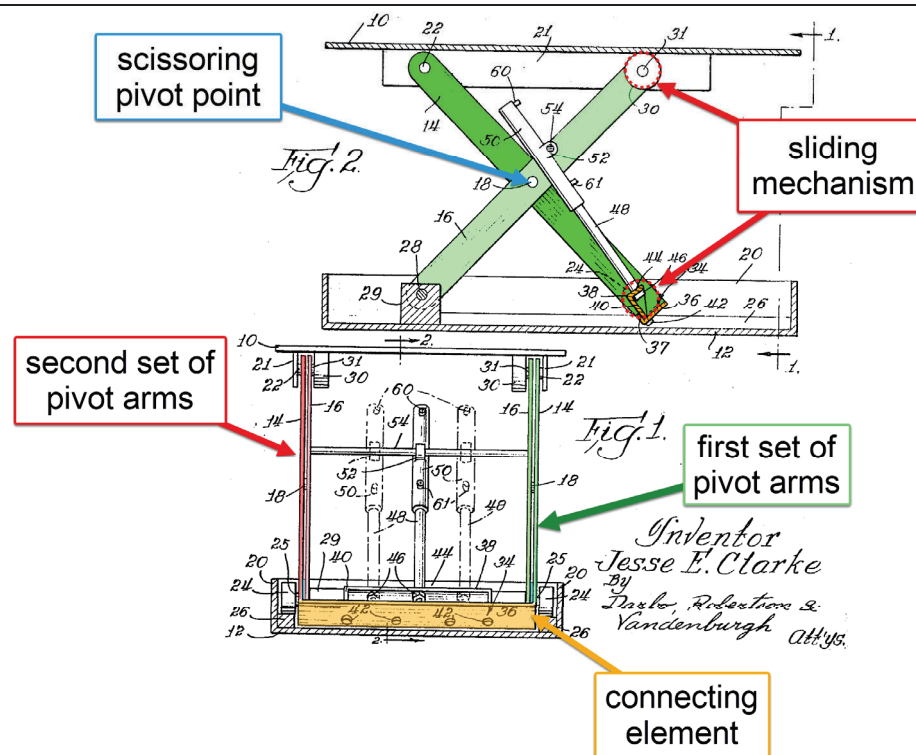
14P. The desktop workspace of claim 1,	YES: As shown previously, Huang in view of Clarke, and in further view of Clark discloses the desktop workspace of claim 1.
14a. wherein the element that connects the first set of pivot arms to the second set of pivot arms is attached on the same sides of the arms as the sliding mechanism relative to the scissoring pivot points.	YES: Huang and Clarke discloses that the element that connects the first set of pivot arms to the second set of pivot arms is attached on the same sides of the arms as the sliding mechanism relative to the scissoring pivot points.



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As shown above, Huang has a connecting element that connects the first set of pivot arms to the second set of pivot arms and this element is rigidly attached to the sliding mechanism (colored in yellow). As they are rigidly connected and move together, both the connecting element and the sliding mechanism will always be on the same side of the pivot arms of Huang, relative to the scissoring pivot points. A POSITA would clearly understand that this connecting element is needed to hold the top joint of the scissor legs together for the scissor mechanism to function properly.

¹⁷⁰ Huang, Figure 3, Annotated



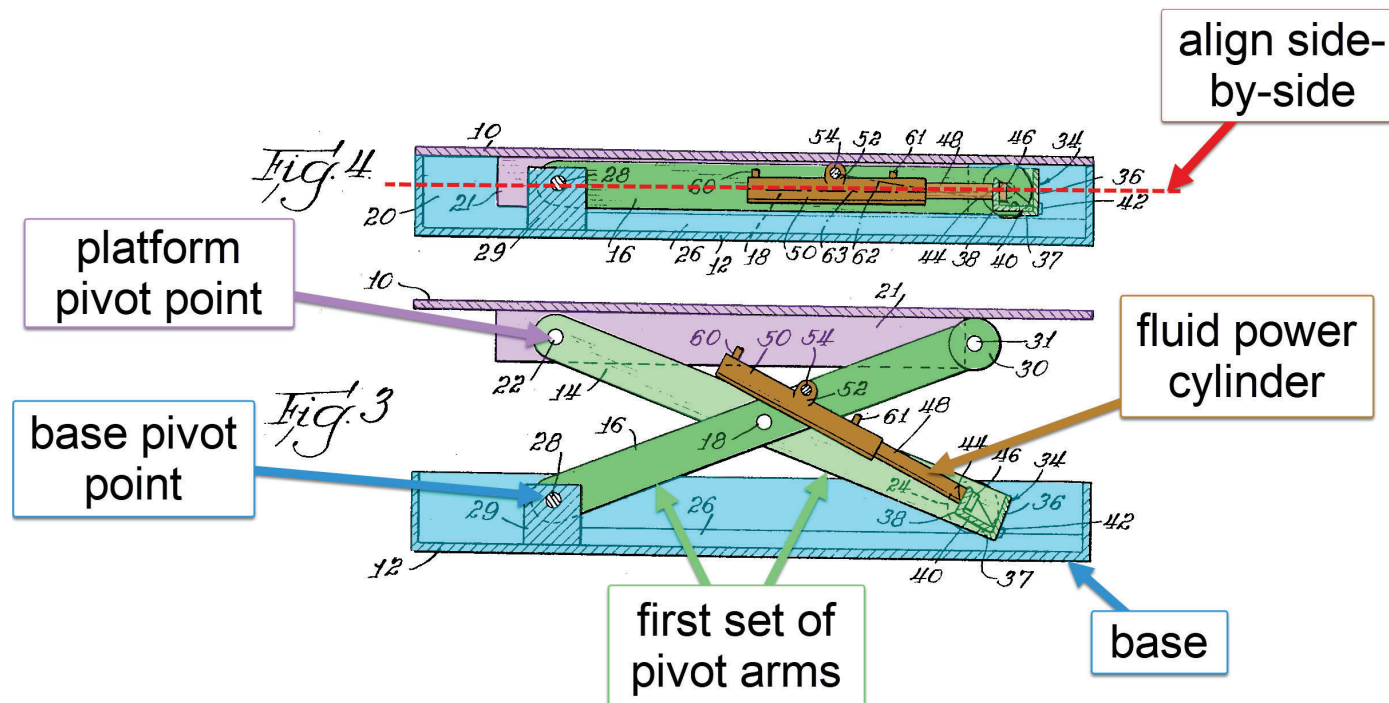
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As shown above, Clarke also shows a connecting element between the first and second sets of pivot arms and the sliding mechanism are on the same side, relative to the scissoring pivot point.

16P. A desktop workspace that adjusts vertically, comprising:	YES: See element 1P.
16a. a work surface platform;	YES: See element 1a.
16b. a platform element sitting on the work surface platform, the platform element including an elevated platform surface above the work surface platform;	YES: See element 1b.
16c. a base configured to sit on an existing platform; and	YES: See element 1c.

¹⁷¹ Clarke, Figure 1 & 2, Annotated

16d. a height adjustment mechanism connecting the work surface platform and the base, the height adjustment mechanism including:	YES: See element 1d.
16d1. a first set of pivot arms that connect at a scissoring pivot point creating a scissoring motion when raising and lowering the work surface platform to various heights;	YES: See element 1d1.
16d2. a second set of pivot arms;	YES: See element 1d2.
16d3. an element that connects the first set of pivot arms to the second set of pivot arms;	YES: See element 1d3.
16d4. a base pivot point fixed relative to the base and connecting the base and the first set of pivot arms;	YES: See element 1d4.
16d5. a platform pivot point fixed relative to the work surface platform and connecting the work surface platform and the first set of pivot arms;	YES: See element 1d5.
16d6. a sliding mechanism on an end of an arm of the first set of pivot arms between the end of the arm and either the work surface platform or the base; and	YES: See element 1d6.
16d7. a gas spring that assists in elevation of the work surface platform by applying a force to one of the first set of pivot arms as part of the scissoring motion,	YES: See element 1d7.
16d8. wherein one end of the gas spring is fixed to the work surface platform, wherein the gas spring acts as a locking device that holds the work surface platform at various vertical heights above the base, and	YES: See element 1d8
16d9. wherein the gas spring, the first set of pivot arms, the base pivot point, and the platform pivot point align side-by-side when the desktop workspace is in a fully lowered position such that the desktop workspace adjusts vertically.	YES: Huang in view of Clarke discloses that the gas spring, the first set of pivot arms, the base pivot point, and the platform pivot point align side-by-side when the desktop workspace is in a fully lowered position such that the desktop workspace adjusts vertically.



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"Cylinder 50 has a side mounting plate 52 pivotally mounted on a rod 54. Rod 54 extends between the two opposite legs 16 to which it is connected. It is located at the side of the cylinder 50 opposite the pivotal mountings formed by studs 42. This rod 54 is at the upper side of the legs 16 above the common pivot 18 for the legs (FIGURE 4), and the mountings 52 extend downwardly. In the down position the cylinders will be entirely below the upper edges of the legs 16 to which they are connected." Clarke 2:32-41

As shown above, the Clarke linkage is arranged such that the cylinder (or a gas spring), the first set of pivot arms, the base pivot point, and the platform pivot point align side-by-side when the workspace is in a fully lowered position. As discussed previously, a POSITA would be motivated to use the linkage arrangement as taught by Clarke in the combination of Huang in view of Clarke. Consequently, the combination of Huang in view of Clarke will be configured such that the pivot arms, pivot points, and the gas spring align when in the fully collapsed or stowed position. Further, as discussed previously, a POSITA would be motivated to replace the fluid power cylinder of Clarke with the locking gas spring system of Huang. Further still, a POSITA will understand that Clarke teaches a kinematic arrangement where the piston-cylinder actuator is in flat alignment while still having some mechanical advantage with which to operate on the scissor linkage. This is afforded by the eccentric trunnion mount of the

¹⁷² Clarke, Figure 3 & 4, Annotated

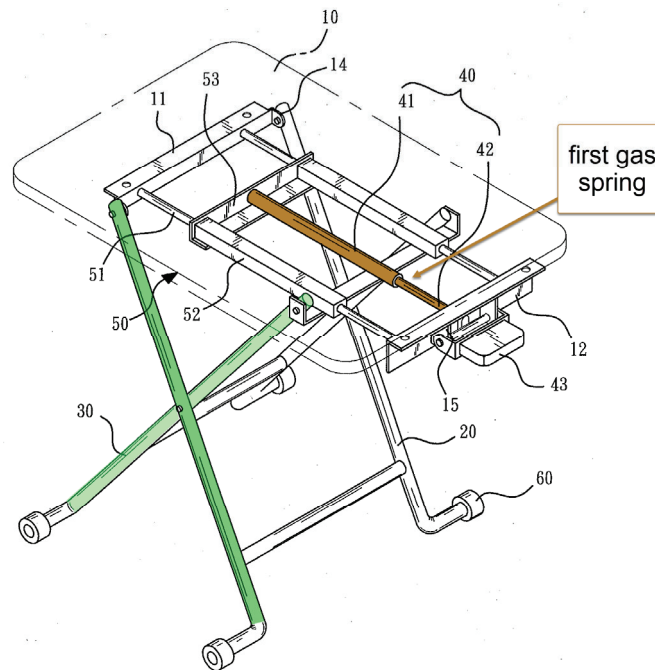
piston-cylinder arrangement of Clarke. A POSITA will recognize the advantage this will provide in the combination of Huang in view of Clarke. It will allow the locking gas spring to still provide some assistance in the lifting of the table from the fully lowered position. Thus, for at least this reason, a POSITA will be motivated to use the Clarke linkage arrangement in the combination of Huang in view of Clarke.

17P. The desktop workspace of claim 16,

YES: As shown previously, Huang in view of Clarke, and in further view of Clark discloses the desktop workspace of claim 16.

17a. wherein the gas spring is a first spring,

YES: Huang discloses a gas spring that is a first spring.



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“The air pressure bar 40 is fixed between the first fastener 11 and the second fastener 12, and positioned at the middle of the pivot joint 31. The air pressure bar 40 possesses a rod body 41 and a stretching rod 42, wherein the end of the stretching rod 42 is fixed between two side connecting pieces 15 of the second fastener 12.” Huang 0018

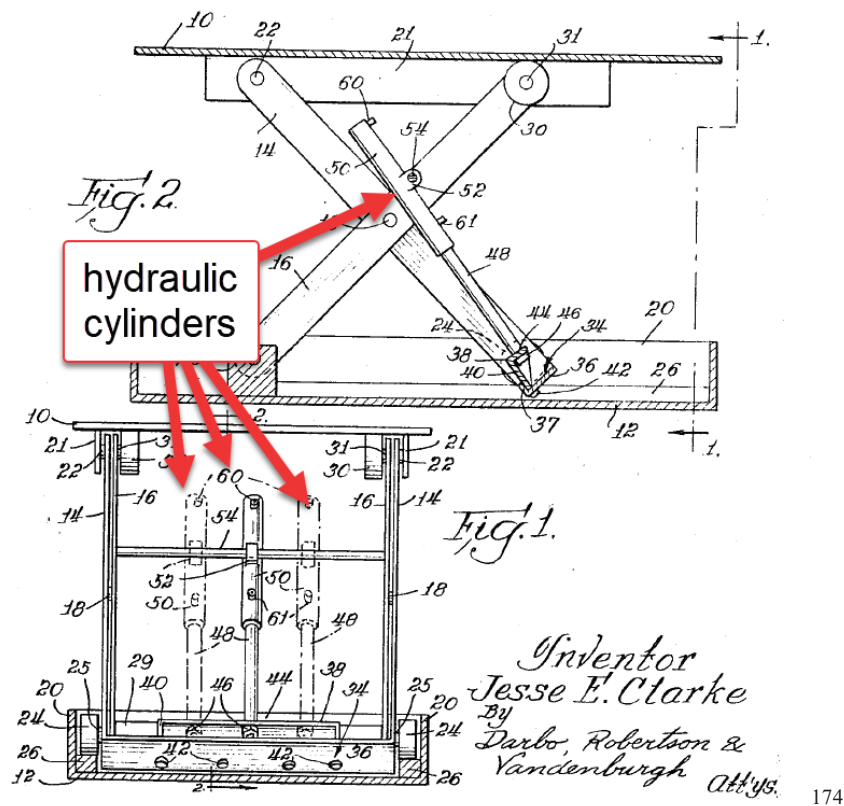
As shown above, Huang discloses a first gas spring (air pressure bar 40).

¹⁷³ Huang Figure 3, Annotated

17b. the desktop workspace comprising a pair of springs attached to the height adjustment mechanism to assist in the elevation of the work surface platform, the pair of springs including the first spring and a second spring.

YES: A POSITA would recognize the addition of a second gas spring as an ordinary design choice such that the desktop workspace comprises a pair of springs attached to the height adjustment mechanism to assist in the elevation of the work surface platform, the pair of spring including the first spring and a second spring.

In addition to this, Huang in view of Clarke, and in further view of Clark and other references such as CN203934825 to Zhang discloses a second gas spring such that the desktop workspace comprises a pair of springs attached to the height adjustment mechanism to assist in the elevation of the work surface platform, the pair of springs including the first spring and a second spring.



"To supply air or fluid pressure, each cylinder 50 is provided with an inlet 60 near its outer end to which some suitable connection (not shown) is made." Clarke 2:67-69

"In this invention, a lift table with a completely closed scissor linkage is raised by one or more hydraulic cylinders, depending on the lifting force necessary." US 3,282,566 to Clarke 1:56-59

A POSITA would recognize that having multiple actuators for lifting the scissor lift linkage is well-known and customary. For example, Clarke discloses a scissor lift platform with three fluid power cylinders acting in parallel. Huang in view of Clarke would also include this.

As shown above, Huang in view of Clarke and in Further view of Clark with the knowledge of a POSITA renders obvious each and every element of the Asserted Claims of the '843 patent. For at least the reasons shown above, it is my opinion that the Asserted Claims of the '843 patent are invalid due to obviousness under 35 U.S.C §103.