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# Certified Translation

Furnished on the **15th** day of **November, 2024**

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## (12) Utility Model Patent

**(10) Authorization announcement No.** CN203934825 U

**(45) Authorization announcement date** November 12, 2014

**(21) Application No.** 201420270735.1

**(22) Application date** May 26, 2014

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**(51) Int. Cl.**

*A47B 9/16* (2006.01)

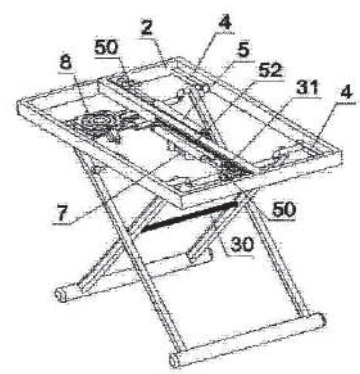
1 page of claims 2 pages of instruction manual 7 pages of instruction manual with drawings

**(54) Name of utility model**

A height-adjustable table

**(57) Abstract**

The utility model relates to a height adjustable table, comprising a tabletop 1, a stand 2, and an "X" - shaped cross movable metal foot 3. The tabletop is installed on the stand, and the "X" - shaped cross movable metal foot provides horizontal support for the stand. The middle of the "X" - shaped cross movable metal foot is connected by a pivot shaft 30, and a set of horizontal guide rails 4 are provided at both ends of the stand. The left and right upper ends of the "X" - shaped cross movable metal foot is respectively placed inside the horizontal guide rails and can slide left and right. A crossbeam 31 is provided in the middle of the stand 2, and a set of slide rails 52 are fixed on both sides of the crossbeam. An air support rod 5 is also connected between the two upper ends of the "X" - shaped cross movable metal foot and the two ends of the stand. The movable end of the pole 50 and "X" The upper end of the cross-shaped movable metal foot is rotatably connected, and the fixed end 51 of the air strut is connected to the sliding rod of the slide rail. The two air struts are controlled by a pull switch 6. The table with this structure is convenient for adjusting the height of the table.

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1. A height adjustable table comprising a tabletop (1), a stand (2), and "X" - shaped cross movable metal feet (3). The tabletop (1) is installed on the stand (2), and the "X" - shaped cross movable metal feet (3) provide horizontal support for the stand (2). The middle of the "X" - shaped cross movable metal feet (3) is connected by a pivot shaft (30). The table (2) is characterized in that a set of horizontal guide rails (4) are respectively provided at both ends of the stand (2), and the left and right upper ends of the "X" - shaped cross movable metal feet (3) are respectively placed inside the horizontal guide rails (4) so as to slide left and right. There is a crossbeam (31) in the middle, and a set of sliding rails (52) are fixed on both sides of the crossbeam (31). The upper ends of the "X" - shaped cross movable metal feet (3) and the two ends of the platform (2) are also connected to gas strut rods (5), respectively, The movable end (50) of the air support rod (5) is rotatably connected to the upper end of the "X" - shaped cross movable metal foot (3), and the fixed end (51) of the air support rod (5) is connected to the sliding rod of the slide rail (52). The two air support rods (5) are controlled by a pull switch (6) to extend and retract the movable rod of the air support rod (5).

2. The height adjustable table according to claim 1, characterized in that the platform (2) is further provided with an elastic buffering mechanism (7) that opens the upper ends of the "X" - shaped cross movable metal feet (3) to both sides to prevent the rapid lowering of the desktop (1), and the elastic buffering mechanism (7) is fixed in the middle of the platform (2), with the lower end facing the pivot shaft (30) in the middle of the "X" - shaped cross movable metal feet (3).

3. A height-adjustable table according to claim 1 or 2, characterized in that a turntable (8) is further provided on one side of the stand (2), and the tabletop (1) is a combination of two movable tabletops (10, 11) connected by a hinge, wherein the bottom of one movable tabletop is fixed to the turntable (8).

4. The height-adjustable table according to claim 3, characterized in that: one side of the platform (2) is provided with a swing rod (12) that drives the action of the cable switch (6), the middle of the swing rod (12) is fixed to a fixed frame (12) through a rotating shaft (11), the cable drive end of the cable switch (6) is connected to one end of the swing rod (12), and when the swing rod (12) swings, the valve of the driving air rod (5) is opened, and the movable rod end (50) is in a telescopic state; When the swing rod (12) is in a non-stressed state, the valve of the driving air rod (5) is closed, and the movable rod is in a positioning state.

5. The height-adjustable table according to claim 4, characterized in that: the turntable (8) is provided with two limit rods (80, 81) and two positioning holes (82, 83) located near the two limit rods (80, 81), and the connecting line between the two limit rods (80, 81) and the central rotation axis of the turntable (8) forms a 90-degree angle. The base of the turntable (8) is provided with a pin (9), one end of which is located between the two limit rods (80, 81) and is detachably inserted into the two positioning holes (82, 83), and the other end is connected to one end of the swing rod (12) through a connecting rod (13). (12) When swinging, the pin (9) leaves the positioning hole (82, 83), and the turntable (8) can rotate to adjust the size of the desktop; When the swing rod (12) is in a non-stressed state, the pin (9) is located in one of the positioning holes, limiting the rotation of the turntable (8).

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## A Height-Adjustable Table

**Technical field**

[0001] This utility model belongs to the field of furniture manufacturing technology, and specifically relates to a heigh-adjustable table.

**Background technology**

[0002] Currently, tables on the market that are supported by "X" - shaped cross metal feet usually have a fixed height on the tabletop. As the tabletop height cannot be adjusted, it cannot be adjusted to the appropriate height according to the user's needs, and it is also inconvenient to reduce the space occupied for storage after folding.

**Utility model attribute**

[0003] The purpose of this utility model is to overcome the problems existing in the prior art and provide a height-adjustable table.

[0004] The purpose of the present utility model is achieved as follows: a height-adjustable table, comprising a tabletop (1), a stand (2), and an "X" - shaped cross movable metal foot (3). The tabletop (1) is installed on the stand (2), and the "X" - shaped cross movable metal foot (3) provides horizontal support for the stand (2). The middle of the "X" - shaped cross movable metal foot (3) is connected by a pivot shaft (30), characterized in that: a set of horizontal guide rails (4) are respectively provided at both ends of the stand (2), and the left and right upper ends of the "X" - shaped cross movable metal foot (3) are respectively placed in the horizontal position so as to slide left and right. Inside the guide rail (4), there is a crossbeam (31) in the middle of the platform (2), and a set of slide rails (52) are fixed on both sides of the crossbeam (31). The two upper ends of the "X" - shaped cross movable metal feet (3) are connected to the platform (2) There are also air support rods (5) connected between the two ends, where the movable rod end (50) of the air support rod (5) is rotatably connected to the upper end of the "X" - shaped cross movable metal foot (3), and the fixed end (51) of the air support rod (5) is connected to the sliding rod of the slide rail (52). The two air support rods (5) are controlled by a pull switch (6) to extend and retract the movable rod of the air support rod (5).

[0005] The platform (2) has not yet opened the upper ends of the "X" - shaped cross movable metal feet (3) to both sides to prevent the rapid lowering of the desktop (1), and the elastic buffering mechanism (7) is fixed in the middle of the platform (2), with the lower end facing the pivot shaft (30) in the middle of the "X" - shaped cross movable metal feet (3).

[0006] On one side of the platform (2), there is also a turntable (8), and the desktop (1) is a combination of two movable desktops (10,11) connected by a hinge. One of the movable desktops is fixed to the turntable (8) at the bottom.

[0007] On one side of the platform (2), there is a swing rod (12) that drives the action of the cable switch (6). The middle of the swing rod (12) is fixed to a fixed frame (12) through a rotating shaft (11). The cable drive end of the cable switch (6) is connected to one end of the swing rod (12). When the swing rod (12) swings, the valve of the driving air rod (5) is opened, and the movable rod end (50) is in a telescopic state; When the swing rod (12) is in a non-stressed state, the valve of the driving air rod (5) is closed, and the movable rod is in a positioning state.

[0008] The turntable (8) is equipped with two limit rods (80, 81) and two positioning holes (82, 83) located near the two limit rods (80, 81). The connecting line between the two limit rods (80, 81) and the central rotation axis of the turntable (8) forms a 90-degree angle. One end of the pin (9) is located between the two limit rods (80, 81) and can be disengaged from the two positioning holes (82, 83). The other end is connected to one end of the swing rod (12) through a connecting rod (13). When the swing rod (12) swings, the pin (9) leaves the positioning holes (82, 83), and the turntable (8) can rotate to adjust. Desktop size. When the swing rod (12) is in a non-stressed state, the pin (9) is located in one of the positioning holes, limiting the rotation of the turntable (8).

[0009] The positive effect of this utility model is that the height adjustable table using this structure can control the opening angle of the "X" - shaped cross movable metal feet through the joint action of horizontal guide rails, air support rods, pull switches and other components to adjust the height of the desktop and perform height positioning,



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making it very convenient to adjust the desktop height.

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**Attached image description**

[0010] Figure 1 is a perspective view of a table with adjustable height in a folded state;

[0011] Figure 2 is a perspective view of a table with adjustable height in a folded state;

[0012] Figure 3 is a perspective view of a height adjustable table in a desktop expansion state;

[0013] Figure 4 is a perspective view of the assembly state of the support foot and the platform;

[0014] Figure 5 is a perspective view of the assembly state of the support foot and the air support rod;

[0015] Figure 6 is a perspective view of the turntable;

[0016] Figure 7 is a perspective view of the turntable from another angle;

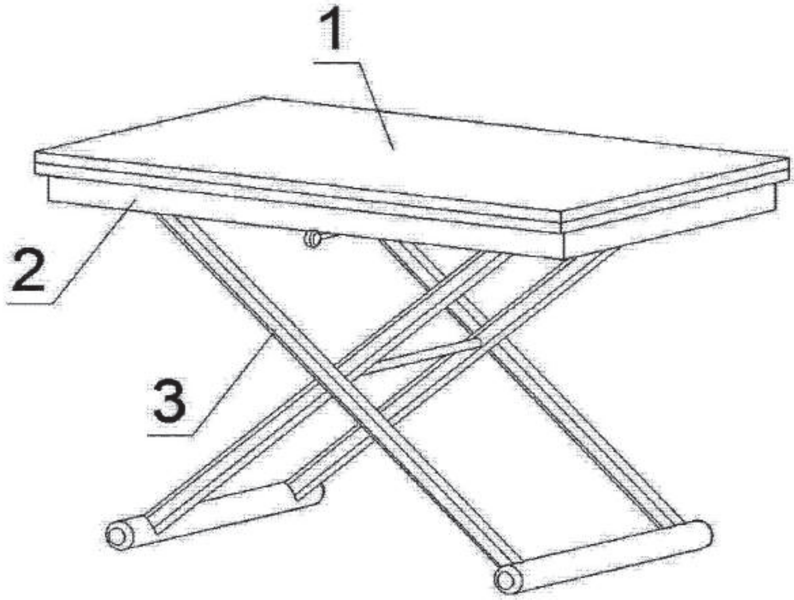
[0017] Figure 8 is a schematic diagram of the operation of the wire switch and pin in the state where the swing rod is not under force;

[0018] Figure 9 shows the schematic diagram of the wire switch and pin in the swing state of the swing rod.

**Specific implementation method**

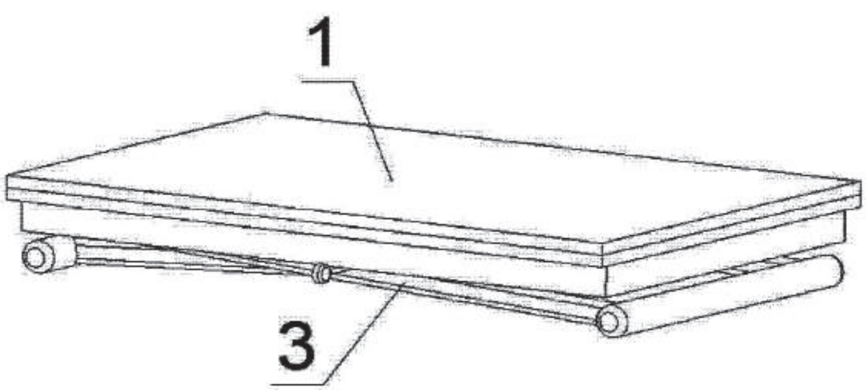
[0019] The specific implementation of the height adjustable table of the present utility model will be further described in detail with reference to the accompanying drawings.

[0020] As shown in Figures 1 to 9, the height adjustable table of the present utility model is mainly composed of a tabletop 1, a stand 2, and an "X" - shaped cross movable metal foot 3. The tabletop 1 is installed on the stand 2, and the "X" - shaped cross movable metal foot 3 horizontally supports the stand 2. The middle of the "X" - shaped cross movable metal foot 3 is connected by a pivot shaft 30, and a set of horizontal guide rails 4 are provided at both ends of the stand 2. The left and right upper ends of the "X" - shaped cross movable metal foot 3 are respectively placed inside the horizontal guide rails 4 so that they can slide left and right. There is a crossbeam 31 in the middle of the stand 2, and a set of slide rails 52 are fixed on both sides of the crossbeam 31. The two upper ends of the “X” shaped metal feet 3 and the two ends of the platform 2 are respectively connected to gas strut rods 5, The movable end 50 of the air support rod 5 is rotatably connected to the upper end of the "X" - shaped cross movable metal foot 3, and the fixed end 51 of the air support rod 5 is connected to the sliding rod of the slide rail 52. The two air support rods 5 are controlled by a pull switch 6 to extend and retract the movable rod, thereby achieving height adjustment and positioning of the desktop. The platform 2 is also equipped with an elastic buffering mechanism 7 that opens the upper ends of the "X" - shaped cross movable metal feet 3 to both sides to prevent the rapid lowering of the desktop 1. The elastic buffering mechanism 7 is fixed in the middle of the platform 2, with the lower end facing the pivot shaft 30 in the middle of the "X" - shaped cross movable metal feet 3. When the desktop is lowered to a certain low position, the lower end of the elastic buffering mechanism 7 rests on the pivot shaft 30 to prevent the desktop from rapidly lowering to the lowest position. When the desktop needs to be raised, the elastic buffering mechanism 7 plays a preliminary assisting role. For the convenience of adjusting the size of the desktop, there is also a turntable 8 on one side of the rack 2. Desktop 1 is a movable desktop 10 and a movable desktop 11 that are connected by a chain. One of the movable desktops is fixed to the turntable 8 at the bottom. For the convenience of operation, there is a swing rod 12 on one side of the platform 2 that drives the action of the cable switch 6. The middle of the swing rod 12 is fixed to a fixed frame 12 through a rotating shaft 11. The cable drive end of the cable switch 6 is connected to one end of the swing rod 12. When the swing rod 12 swings, it drives the valve of the air support rod 5 to open, and the movable rod end 50 is in a telescopic state; When the swing rod 12 is in a non-stressed state, the valve of the driving air rod 5 is closed, and the movable rod is in a positioning state. In order to better control the switching of desktop size, there are limit rods 80 and 81, as well as positioning holes 82 and 83 located near the two limit rods on the turntable 8. The connecting line between the limit rods 80 and 81 and the central rotation axis of the turntable 8 forms a 90-degree angle. There is a pin 9 on the base of the turntable 8. One end of the pin 9 is located between the two limit rods 9 and can be detachably inserted into the two positioning holes 9. The other end is connected to one end of the rod 12 through a connecting rod 13. When the swing rod 12 swings, the pin 9 leaves the positioning hole, and the turntable 8 can rotate to adjust the desktop size; When the swing rod 12 is in a non-stressed state, the pin 9 is located in one of the positioning holes, restricting the rotation of the turntable 9.




[Image]

Figure 1

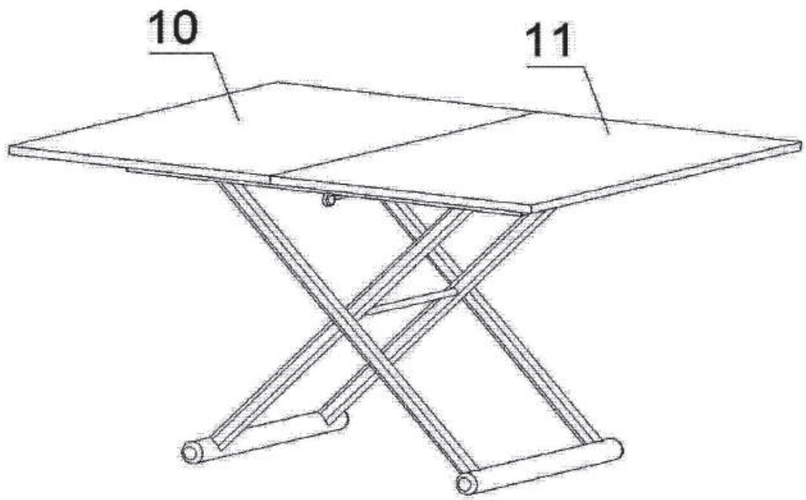



[Image]

Figure 2




Exhibit 1016-6




[Image]

Figure 3

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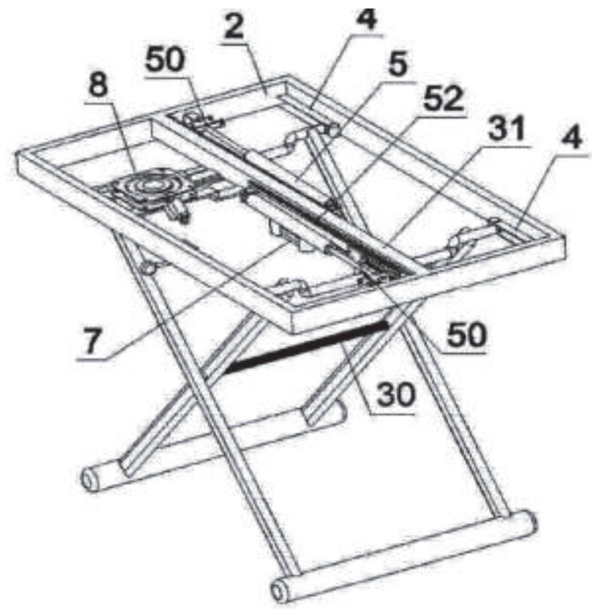


[Image]

Figure 4

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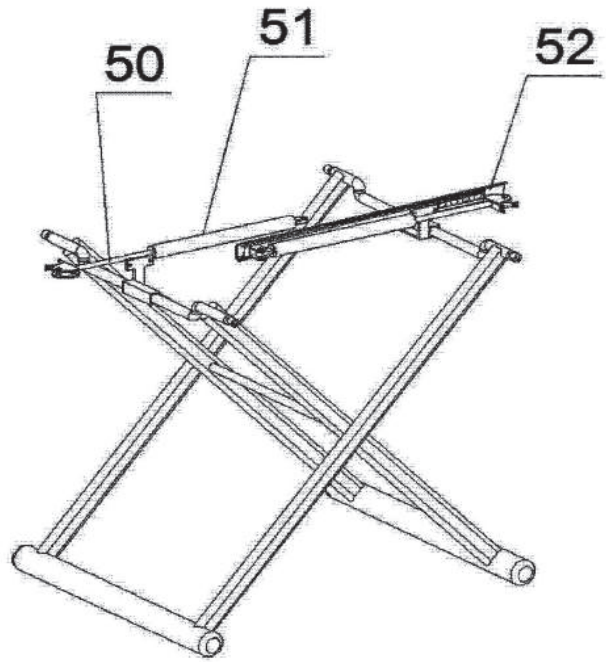


[Image]

Figure 5

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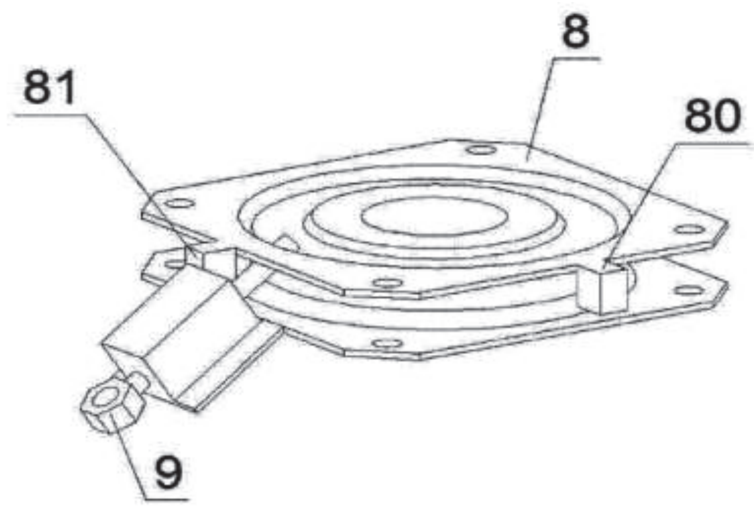


[Image]

Figure 6

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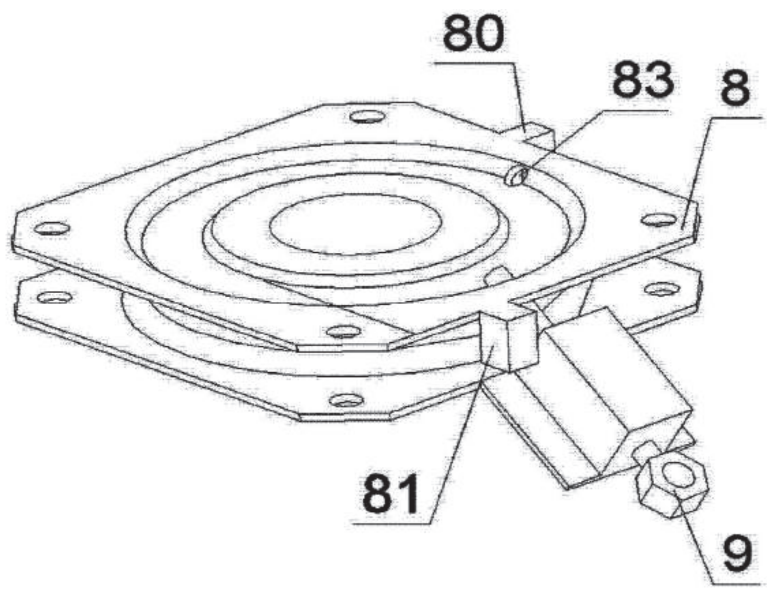
**Exhibit 1016-10**




[Image]

Figure 7

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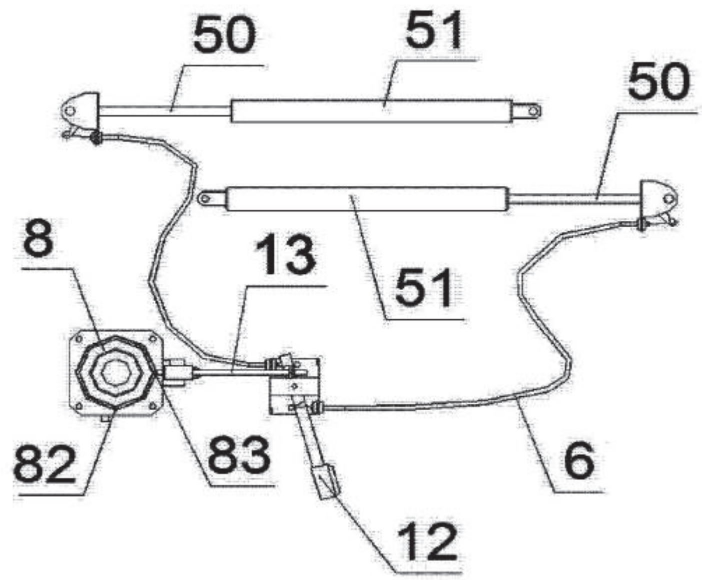
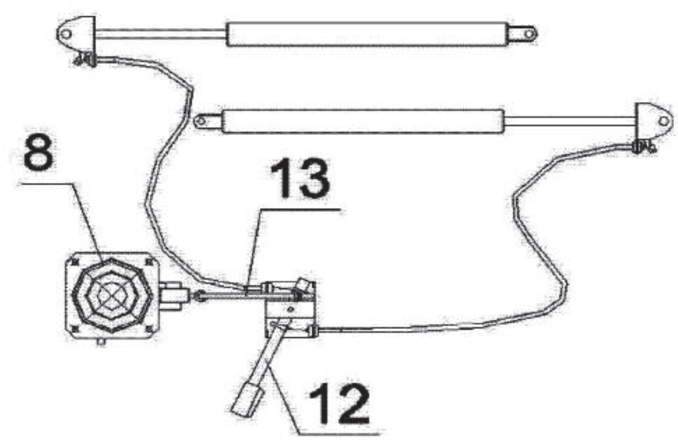



[Image]

Figure 8




[Image]

Figure 9

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