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(54) **AIR CONDITIONER**

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Description

Technical Field

[0001] The present disclosure relates to a technical field of air conditioners, and in particular, to an air conditioner which is assembled and disassembled stably between an air duct module and a base component.

Background

[0002] As a commonly used household appliance, a conventional air conditioner, in which an air duct and a water duct system are mounted on a bottom shell component, the bottom shell component and the base component together form a conventional air conditioner bottom shell, and the air conditioner bottom shell, as a base component, is firstly assembled and fixed on a wall surface, and if necessary, the air conditioner needs to be cleaned. Then, the professional needs to disassemble and clean each part of the air conditioner, which is very inconvenient.

[0003] However, during a long-term use of the air conditioner, foreign matter such as dust entering the air duct and the water duct from an air inlet makes the whole air duct and the water duct system contaminate seriously, and if the cleaning is not performed in time, the air conditioner will be harmed to the environment during the operation of the air conditioner, thus harming the health of the user.

[0004] In order to solve the above problem, the patent of Chinese patent document CN205037533U discloses a housing of an indoor unit of an air conditioner and an indoor unit of an air conditioner having the same, which includes an upper chassis, a lower chassis and a guide assembly, in which a mask is detachably mounted on the upper chassis, and a heat exchanger is mounted on the upper chassis. The blower is detachably mounted on the lower chassis. In the prior art, the blower is fixedly connected with blades, and a rotation of the blower drives the blades to rotate; therefore, when the blades are dismantled, the blower and the blades need to be dismantled together and then the contaminant tots in the blades are cleaned. This splitting mode requires cleaning the motor assembly together with the air duct component, which has the following problems: during cleaning, waste water can easily enter a motor part connected to the blades to damage the motor by water inlet; Alternatively, when the user cleans, it is forgotten to turn off a power supply of the blower, which may cause a situation in which the user touches electricity.

[0005] In order to solve the above problem, the developer has developed a connecting structure between a first part and a second part in an air conditioner, and connects a top end of the first part through an upper limit assembly and an upper snap-fitting structure, and meanwhile, a fixed connection mechanism limits a bottom end position of the first part. Finally, the first part and the base

assembly component are detachably connected, and when an impeller in the first part needs to be cleaned, the fixing connection mechanism is disconnected, and then the upper limit assembly and the upper snap-fitting structure are disconnected from each other, and the first part does not work with the fan motor during disassembly. The user is effectively prevented from being shocked.

[0006] However, after the first part is mounted on the second part, in order to prevent the first part from falling off after the air conditioner is hung on the wall, a circular hole is often provided on the first part, and a screw is passed through the circular hole and then screwed onto the second part. Since the air conditioner is mounted in parallel with a vertical wall surface, it is necessary to first stabilize the first part with an external force during mounting and dismounting of the screw, and such an operation process is complicated.

Summary

[0007] Therefore, the technical problem to be solved by some embodiments of the present disclosure is to overcome a defect in the prior art that the air duct module of the air conditioner is fixed by a screw, and the air duct module needs to be stabilized by an external force during disassembly and cleaning, and the operation process is complicated.

[0008] To this end, the present invention provides an air conditioner according to claim 1.

[0009] In an exemplary embodiment, the locking structure is a bayonet provided on the second part, and the locking block extends out of the locking hole and inserts into the bayonet so that the first member and the second part are integrally connected.

[0010] In an exemplary embodiment, one end of the guide member entering into the assembling and disassembling groove is cooperated with the locking block in an inclined surface manner, and the guide member is configured to convert a movement direction of the guide member extending into or getting away from the assembling and disassembling groove into a movement direction of the locking block extending out or retracting the assembling and disassembling groove.

[0011] In an exemplary embodiment, a bias spring is further provided, one end of the bias spring is provided in the assembling and disassembling groove, the other end is connected to the locking block, and the bias spring is used for applying a biasing force to the locking block in a direction toward the locking hole.

[0012] In an exemplary embodiment, the locking block includes: a horizontal latch perpendicular to an extending direction of the guide member for extending into or retracting the locking hole and the locking structure; and a wedge block having a second inclined surface cooperating with the guide member, one side of the wedge block is connected to the horizontal latch, and the other side is detachably connected to the bias spring.

[0013] In an exemplary embodiment, an elongated

hole extending in a sliding direction of the guide member is formed on the guide member, and a length of the elongated hole is not less than a length of the horizontal latch from fully extending into the locking structure to fully exit of the locking hole along the sliding direction.

[0014] In an exemplary embodiment, the air conditioner includes an ejection spring provided in the assembling and disassembling groove, and the ejection spring is configured to apply a biasing force to the guide member, so as to make the guide member disengage a sliding direction of the assembling and disassembling groove.

[0015] In an exemplary embodiment, one end of the ejection spring abuts against one end of the guide member entering into the assembling and disassembling groove, and the other end of the ejection spring abuts against an inner wall of the assembling and disassembling groove.

[0016] In an exemplary embodiment, under a use state, a position, corresponding to an upper portion of the first part, of the second part is formed with a top limiting structure; a position, corresponding to a lower part of the first part, of the second part is formed with a limit protrusion; and positions, corresponding to left and right sides of the first part, of the second part are formed with a limit rib.

[0017] In an exemplary embodiment, a sliding structure cooperated with the first part is provided on the second part, and the first part is configured to be pulled out or pushed into the second part by the sliding structure.

[0018] In an exemplary embodiment, the sliding structure is a slide, and the slide is a curved structure including a plurality of groups of circular arcs bent toward a same side and connected with each other in sequence.

[0019] Some embodiments of the present disclosure also provide an air conditioner, in which the first part is an air duct module and the second part is a base component.

[0020] The technical solution of some embodiments of the present invention has the following advantages:

1. The air conditioner provided by an embodiment of the present invention includes: a locking block slidably arranged on the guide member, and a biasing force toward the second part is disposed on the locking block; the guide member is moved to a locking position, the locking block is configured to extend out of the locking hole partially and lock the corresponding locking structure on the second part; when the guide member is moved to an unlocking position, and the locking block is configured to retract to the assembling and disassembling groove so as to disengage the first part from the second part. The first part and the second part are arranged separately, and the assemble and disassemble process between the locking block and the guide member are completed by a common action of the locking block and the guide member. Specifically, when the connection is required, an external force drives the

guide member to the locking position, and at this time, the locking block ejects and connects the first part and the second part as a whole; when the disassembly and cleaning process need to be performed, the operator pushes the guide member and the guide member moves to the unlocking position, and at this time, the locking block is contracted to an inside of the assembling and disassembling groove under an action of the guide member, and there is no connection between the first part and the second part. The second part directly slides out from the first part and then enters into the operator's hand under an action of gravity, and there is no need for an extra connecting member between the first part and the second part, and the operator can complete the disassembly process as long as the guide member is pushed during dismantlement, thereby greatly simplifying the whole disassembly process. The operator can complete the dismantle process by himself.

2. In the air conditioner provided by an embodiment of the present invention, the locking structure is a bayonet provided on the second part, and the locking block can extend out of the locking hole and insert into the bayonet so that the first part and the second part are integrally connected. One end of the locking block is inserted into the bayonet of the second part, and the other end is provided in the first part, so as to restrict a dropping movement perpendicular to the direction of the locking block from occurring between the first part and the second part, thereby ensuring connection stability between the first part and the second part.

3. In the air conditioner provided by an embodiment of the present invention, one end of the guide member entering into the assembling and disassembling groove is cooperated with the locking block in an inclined surface manner, and the guide member is configured to convert a movement direction of the guide member extending into or getting away from the assembling and disassembling groove into a movement direction of the locking block extending out or retracting to the assembling and disassembling groove.

It is convenient for the operator to control the guide member to move along the vertical direction of the assembling and disassembling groove, and at this time, a vertical movement is converted into a horizontal movement of the locking block by means of the slope fitting, and the movement of the locking block can be controlled by the operator only needs to operate the guide member, and the operation is simple.

4. The air conditioner provided by an embodiment of the present invention further includes a bias spring, wherein one end of the bias spring is provided in the assembling and disassembling groove, and the other end is connected to the locking block, and the bias spring is used for applying a biasing force

in a direction toward the locking hole to the locking block.

By providing the bias spring, the locking block is always subjected to a force protruding in the direction of the locking hole, and after the guide member moves to the position of the locking hole, the locking block can quickly eject the locking hole under the action of the bias spring and enter the bayonet, thereby ensuring the stability of the connection between the first part and the second part.

5 The air conditioner provided by an embodiment of the present invention, the locking block includes: a horizontal latch perpendicular to an extending direction of the guide member for extending into or retracting to the locking hole and the locking structure; and a wedge block having a second inclined surface cooperating with the guide member, one side of the wedge block is connected to the horizontal latch, and the other side is detachably connected to the bias spring.

When the guide member is extending into the assembling and disassembling groove, the second inclined surface pushes the wedge block, thereby driving the locking block to disengage from the connection with the bayonet to complete the disengagement between the first part and the second part, and the stability and simplicity of the dismantle process are ensured by the second inclined surface.

6 The air conditioner provided by an embodiment of the present invention further includes an ejection spring provided in the assembling and disassembling groove, and the ejection spring is configured to apply a biasing force to the guide member so as to make the guide member disengage a sliding direction of the assembling and disassembling groove. The ejection spring always supplies the force of the guide member to disengage the mounting groove, so that the guide member cannot be take off after being engaged into the assembling and disassembling groove.

7 In the air conditioner provided by an embodiment of the present invention, in the use state, a position, corresponding to an upper portion of the first part, of the second part is formed with a top limit structure; a position, corresponding to a lower part of the first part, of the second part is formed with a limit protrusion; and positions, corresponding to left and right sides of the first part, of the second part are formed with a limit rib.

Through the top limiting structure, the limit protrusion and the limit rib, an accommodating cavity can be formed, which facilitates placement of the second part, and improves the stability of the second part in the first part.

8 An embodiment of the present invention provides an air conditioner, a sliding structure cooperating with the air duct module is provided on the base component, and the air duct module is adapted to pull

out or push into the base component through the sliding structure, so that the air duct module smoothly enters the base component.

9 In an embodiment of the present invention, the slide is a curved structure including a plurality of groups of circular arcs bent toward a same side and connected with each other in sequence. When the base component is connected to the bottom chassis by a slide provided in a curved surface, belonging to the contact between the points and the surfaces, the friction noise between the friction surfaces due to thermal expansion contraction under the working condition can be significantly reduced compared with the contact between the conventional surfaces and the surfaces.

Brief Description of the Drawings

[0021] To illustrate the technical solutions in the embodiments of the present invention or in the prior art more clearly, the following briefly introduces the accompanying drawings required for describing the embodiments or the prior art. Obviously, the accompanying drawings in the following description are some embodiments of the present invention.

[0022] For a person of ordinary skill in the art, other drawings can be obtained from these drawings without creative efforts.

Fig. 1 illustrates a schematic structural diagram of a second part provided in Embodiment 1 or an air duct module provided in Embodiment 3;

Fig. 2 illustrates an assembly schematic diagram between a guide member and a locking block according to the present disclosure;

Fig. 3 illustrates a schematic structural diagram of a locking block provided by the present disclosure;

Fig. 4 illustrates a structural schematic diagram of a first part provided in Embodiment 1 or a base part provided in Embodiment 3;

Fig. 5 illustrates a structural schematic diagram of a guide member provided by the present disclosure;

Fig. 6 illustrates a schematic structural diagram of a guide member according to Embodiment 2 of the present disclosure;

Fig. 7 illustrates another schematic structural diagram of a guide member according to Embodiment 2 of the present disclosure.

[0023] In the drawings:

1, assembling and disassembling groove; 2, guide member; 21, elongate hole; 3, locking block; 31, horizontal latch; 32, wedge block; 321, second inclined surface; 4, bias spring; 5, locking hole; 6, ejection spring; 7, top limiting structure; 8, limit protrusion; 9, limit rib; 10, slide; 11, first part; 12, second part; 13, transverse bar; 14, pressing block.

Detailed Description of the Embodiments

[0024] The technical solutions of the present invention will be clearly and completely described below with reference to the accompanying drawings, and obviously, the described embodiments are a part of the embodiments of the present invention rather than all of the embodiments. Based on the embodiments of the present invention, all other embodiments obtained by those skilled in the art without creative efforts fall within the scope of protection of the present invention which is defined by the appended claims.

[0025] In the description of the present invention, it should be noted that the azimuth or positional relationship indicated by the terms "center," "upper," "lower," "left," "right," "vertical," "horizontal," "inner," and "outer" is based on the azimuth or positional relationship shown in the drawings. Rather than indicating or implying that the indicated device or element must have a particular orientation, be constructed and operated in a particular orientation, and therefore is not to be construed as limiting the present disclosure. Furthermore, the terms "first," "second," "third," are used for the purpose of description only and cannot be understood to indicate or imply relative importance.

[0026] In the description of the present invention, it should be noted that the terms "installation," "connection" and "connection" should be understood broadly, for example, may be a fixed connection, may also be a detachable connection, or may be integrally connected, unless otherwise specified and defined, may be a mechanical connection or an electrical connection; it may be a direct connection, or an indirect connection via an intermediate medium, or may be a communication within two elements. For a person of ordinary skill in the art, the specific meaning of the above terms in the present invention can be understood in particular.

[0027] Moreover, the technical features involved in different embodiments of the present invention described below can be combined with each other as long as no conflict is constituted between each other.

Example 1

[0028] This embodiment provides an air conditioner, as shown in Figs. 1, 2 and 4, the air conditioner includes: a first part, a assembling and disassembling groove 1 is provided on the first part, and a locking hole 5 is provided on the assembling and disassembling groove 1;

a second part having a locking structure thereon; a guide member 2 slidably cooperated with the assembling and disassembling groove 1; a locking block 3 slidably arranged on the guide member 2, and a biasing force toward the second part 12 is applied to the locking block 3; the guide member 2 is moved to a locking position, and the locking block 3 is configured to extend out of the locking hole 5 par-

tially and lock the locking structure on the second part 12; when the guide member 2 is moved to an unlocking position, and the locking block 3 is configured to retract to the assembling and disassembling groove 1 so as to disengage the first part 11 from the second part 12.

[0029] The first part 11 and the second part 12 are arranged separately, the assembly and the disassembly between the first part 11 and the second part 12 are completed by a common action of the locking block 3 and the guide member 2. Specifically, when a connection is required, an external force drives the guide member 2 to the locking position, and at this time, the locking block 3 pops up, and the first part 11 and the second part 12 are connected together; When the disassembly is required, an operator pushes the guide member 2, and the guide member 2 moves to the unlocking position. In this case, the locking block 3 is retracted into an inside of the assembling and disassembling groove 1 under an action of the guide member 2, and there is no connection between the first part 11 and the second part 12. The second part 12 slides out of the first part 11 directly, and then into the operator's hand under an action of gravity, the operator himself is sufficient to complete a disassembly process

[0030] Only through the locking block 3 and the guide member 2, there is no need for an extra connector between the first part 11 and the second part 12, and the operator can complete the disassembly process as long as the guide member 2 is pushed during disassembly, and an operation process is simple.

[0031] In the present embodiment, the locking structure is a bayonet provided on the second part 12, and the locking block 3 can extend out of the locking hole 5 and inserted into the bayonet so that the first part 11 and the second part 12 are integrally connected. One end of the locking block 3 is inserted into the bayonet of the second part 12, and the other end is disposed in the first part 11, so as to restrict a dropping movement between the first member 11 and the second part 12 perpendicular to a direction of the locking block 3, thereby ensuring connection stability between the first member 11 and the second part 12.

[0032] In an exemplary embodiment, the locking structure may be a protrusion, and after the locking block 3 extends out of the locking hole 5, the protrusion is supported on the locking structure, thereby limiting the relative movement between the first part 11 and the second part 12.

[0033] In the present embodiment, one end of the guide member 2 entering into the dismounting groove is matched with an inclined surface of the locking block 3, so that a movement direction of the guide member 2 extending into or getting away from the dismounting groove 1 is converted into a movement direction of the locking block 3 extending or retracting the dismounting groove 1.

[0034] The operator conveniently controls a vertical

movement of the guide member 2 along the dismounting groove 1, and at this time, the vertical movement is converted into a horizontal movement of the locking block 3 by means of an inclined fitting, and a movement of the locking block 3 can be controlled by the operator through operating the guide member 2, and the operation is simple.

[0035] Specifically, as shown in Fig. 2, the air conditioner further includes a bias spring 4, one end of the bias spring 4 is arranged in the dismounting groove 1, the other end is connected to the locking block 3, and the bias spring 4 is used for applying a biasing force, toward a direction of the locking hole 5, to the locking block 3. The locking block 3 includes: a horizontal latch 31 perpendicular to an extending direction of the guide member 2 for extending into or retracting the locking hole 5 and the locking structure; A wedge block 32 has a second inclined surface 321 cooperating with the guide member 2, one side of the wedge block 32 is connected to the horizontal latch 31, and the other side of the wedge block 32 is detachably connected to the bias spring 4. Meanwhile, as shown in Fig. 5, an elongated hole 21 extending in a sliding direction of the guide member 2 is formed on the guide member 2, and a length of the elongated hole 21 is not less than a length of the sliding direction through which the horizontal latch 31 passes from fully extending into the locking structure to fully dropping out the locking hole 5.

[0036] With the bias spring 4, the locking block 3 is always subjected to a force protruding in the direction of the locking hole 5, and after the guide member 2 moves to a position of the locking hole 5, the locking block 3 is quickly ejected out of the locking hole 5 under the action of the bias spring 4 and inserted into the bayonet, thereby ensuring the stability of the connection between the first member 11 and the second part 12.

[0037] In the present embodiment, as shown in Fig. 2, the air conditioner further includes an ejection spring 6 disposed in the assembling and disassembling groove 1, and the ejection spring is configured to apply a biasing force to the guide member 2, so as to make the guide member 2 disengage the assembling and disassembling groove 1 along a sliding direction of the assembling and disassembling groove 1. The ejection spring 6 always applies the force that separates the guide member 2 from the assembling and disassembling groove 1, so that a problem that the guide member 2 cannot be disengaged after being engaged into the mounting groove 1 can be prevented.

[0038] Specifically, one end of the ejection spring 6 abuts against one end of the guide member entering into the assembling and disassembling groove 1, and the other end of the ejection spring abuts against an inner wall of the assembling and disassembling groove 1.

[0039] As shown in Fig. 4, in the present embodiment, in the use state, a position, corresponding to an upper portion of the first part 11, of the second part 12 is formed with a top limit structure 7; a position, corresponding to

a lower part of the first part 11, of the second part 12 is formed with a limit protrusion 8; and positions, corresponding to left and right sides of the first part 11, of the second part 12 are formed with a limit rib 9. Through the top limiting structure 7, the limit protrusion 8 and the limit rib 9, an accommodating cavity can be formed to facilitate placement of the second part 12, and improve the stability of the second part 12 in the first part 11.

[0040] In the present embodiment, the second part 12 is provided with a sliding structure cooperating with the first part 11, and the first part 11 is adapted to be pulled out or pushed into the second part 12 by the sliding structure. The sliding structure is a slide 10, and the slide 10 is a curved structure including a plurality of groups of circular arcs bent toward a same side and sequentially connected with each other. By means of the slide 10 arranged in a curved surface, when the base component is connected to the bottom shell, belonging to the contact between the points and the surfaces, the friction noise between the friction surfaces due to thermal expansion and contraction under the working condition can be significantly reduced compared with the contact between the conventional surfaces and the surfaces.

Example 2

[0041] This embodiment is made on the basis of Embodiment 1. As shown in Fig. 6, the assembling and disassembling groove 1 is two groups, and is arranged at two ends of the first part 11 along longitudinal length direction, and one guide member 2 is respectively mounted in each assembling and disassembling groove 1, in the present embodiment, the two guide members 2 are connected together by a transverse bar 13, and a pressing block 14 is mounted in a middle of the transverse bar 13, the operator only needs to press the pressing block 14, and the two groups of the guide members 2 synchronously push the two locking blocks 3, at this time, the two locking blocks 3 are synchronously retracted into the inside of the assembling and disassembling groove 1 to complete the separation of the first part 11 and the second part 12.

[0042] By means of adopting one pressing block 14 to simultaneously manipulate the two guide members 2, the operation is simple and the disassembly efficiency of the first part 11 and the second part 12 is improved.

[0043] As a variant, as shown in Fig. 7, the ejection spring 6 may be one, and mounted on a side, close to the second part 12, of the transverse bar 13, this helps to reduce the number of parts and the assembly efficiency of the air conditioner as a whole.

Example 3

[0044] This embodiment is provided on the basis of Embodiment 1 and Embodiment 2. This embodiment specifically provides an air conditioner. In this embodiment, the first part 11 is an air duct module and the second

part 12 is a base component. Specifically, the air duct module includes an air duct assembly, the air duct assembly has a bottom shell, and an air duct and a water duct are formed on the bottom shell. A fan support is arranged inside the bottom shell, a fan support is arranged in a centralized manner with an impeller shaft, and an impeller is arranged in the impeller shaft. A fan motor is mounted on the base component, and the fan motor and the impeller are detachably connected by a sleeve. The motor drives the impeller to rotate to generate wind, the wind generated by the impeller during refrigeration process is discharged through the air duct, and the water generated by the air conditioner is discharged through the water duct.

[0045] In the air conditioner provided in this embodiment, the air duct module and the base component are separately arranged, and when the air duct module is required to be mounted on the base component, the air duct module is pushed first into the accommodating cavity of the base component, and then the locking block 3 protrudes out of the locking hole 5 of the air duct module and enters into the locking structure of the base component to complete the connection between the air duct module and the base component. When it is necessary to clean the air duct module, the guide member 2 is pushed to move along the disassembly groove 1, and the locking block 3 and the guide member 2 cooperate with each other by an inclined surface and are retracted into the disassembly groove 1, and at this time, the air duct module and the base component are in a separated state, thereby completing the disassembly process.

[0046] Obviously, the above-described embodiments are merely examples made for clarity, and are not limited to the embodiments. Other variations or variations in different forms can also be made by those skilled in the art on the basis of the above description. All embodiments need not be exhaustive here. Apparently obvious variations or variations that are thus introduced are still within the scope of protection created by the present invention which is defined by the appended claims.

Claims

1. An air conditioner, comprising:

a first part (11), an assembling and disassembling groove (1) being provided thereon, a locking hole (5) being provided on the assembling and disassembling groove (1); a second part (12) having a locking structure thereon; the air conditioner being **characterized by** comprising a guide member (2) slidably cooperated with the dismounting groove (1); and a locking block (3) slidably arranged on the guide member (2), a biasing force toward the second part (12) being disposed on the locking block

(3); the guide member (2) being movable to a locking position, and the locking block (3) being configured to extend out of the locking hole (5) partially and lock the locking structure on the second part (12); the guide member (2) being movable to an unlocking position, the locking block (3) being configured to retract to the dismounting groove (1) so as to disengage the first part (11) from the second part (12).

2. The air conditioner according to claim 1, wherein the locking structure is a bayonet provided on the second part (12), and the locking block (3) extends out of the locking hole (5) and inserts into the bayonet so that the first part (11) and the second part (12) are integrally connected.

3. The air conditioner according to claim 2, wherein one end of the guide member (2) entering into the assembling and disassembling groove (1) is cooperated with the locking block (3) in an inclined surface manner, and the guide member (2) being configured to convert a movement direction of the guide member (2) extending into or getting away from the assembling and disassembling groove (1) into a movement direction of the locking block (3) extending or retracting to the assembling and disassembling groove (1).

4. The air conditioner according to claim 3, further comprising a bias spring (4), wherein one end of the bias spring (4) is provided in the assembling and disassembling groove (1), the other end is connected to the locking block (3), and the bias spring (4) is used for applying a biasing force, toward a direction of the locking hole (5), to the locking block (3).

5. The air conditioner according to claim 4, wherein the locking block (3) comprises:

a horizontal latch (31) perpendicular to an extending direction of the guide member (2) for extending into or retracting to the locking hole (5) and the locking structure; and a wedge block (32) having a second inclined surface (321) cooperating with the guide member (2), one side of the wedge block (32) being connected to the horizontal latch (31), and the other side being detachably connected to the bias spring (4).

6. The air conditioner according to claim 5, wherein an elongated hole (21) extending in a sliding direction of the guide member (2) is formed on the guide member (2), and a length of the elongated hole (21) is not less than a length of the horizontal latch (31) from fully extending into the locking structure to fully exit of the locking hole (5) along the sliding direction.

7. The air conditioner according to claim 4, further comprising a ejection spring (6) provided in the assembling and disassembling groove (1), and the ejection spring (6) is configured to apply a biasing force to the guide member (2), so as to make the guide member (2) disengage a sliding direction of the assembling and disassembling groove (1). 5
8. The air conditioner according to claim 7, wherein one end of the ejection spring (6) abuts against one end of the guide member (2) entering into the assembling and disassembling groove (1), and the other end of the ejection spring (6) abuts against an inner wall of the assembling and disassembling groove (1). 10
9. The air conditioner according to any one of claims 1 to 8, wherein under a use state, a position, corresponding to an upper portion of the first part (11), of the second part (12) is formed with a top limiting structure (7); a position, corresponding to a lower part of the first part (11), of the second part (12) is formed with a limit protrusion (8); and positions, corresponding to left and right sides of the first part (11), of the second part (12) are formed with a limit rib (9). 15 20
10. The air conditioner according to claim 9, wherein a sliding structure cooperated with the first part (11) is provided on the second part (12), and the first part (11) is configured to be pulled out or pushed into the second part (12) by the sliding structure. 25 30
11. The air conditioner according to claim 10, wherein the sliding structure is a slide (10), and the slide (10) is a curved structure comprising a plurality of groups of circular arcs bent toward a same side and connected with each other in sequence. 35
12. The air conditioner according to any one of claims 1 to 8, wherein the first part (11) is an air duct module and the second part (12) is a base component. 40

Patentansprüche

1. Klimaanlage, umfassend:
 - einen ersten Teil (11), an dem eine Montage- und Demontagenut (1) bereitgestellt ist, ein Verriegelungsloch (5), das an der Montage- und Demontagenut (1) bereitgestellt ist; einen zweiten Teil (12), die eine Verriegelungsstruktur aufweist; 50
 - wobei die Klimaanlage **dadurch gekennzeichnet ist, dass** sie umfasst
 - ein Führungselement (2), das gleitend mit der Demontagenut (1) zusammenwirkt; und 55
 - einen Verriegelungsblock (3), der gleitend auf dem Führungselement (2) angeordnet ist, wobei

eine Vorspannkraft in Richtung des zweiten Teils (12) auf den Verriegelungsblock (3) einwirkt; wobei das Führungselement (2) in eine Verriegelungsposition bewegt werden kann, und der Verriegelungsblock (3) so ausgelegt ist, dass er sich teilweise aus dem Verriegelungsloch (5) heraus erstreckt und die Verriegelungsstruktur auf dem zweiten Teil (12) verriegelt; wobei das Führungselement (2) in eine Entriegelungsposition bewegt werden kann, wobei der Verriegelungsblock (3) so ausgelegt ist, dass er sich in die Demontagenut (1) zurückzieht, um den ersten Teil (11) von dem zweiten Teil (12) zu lösen.

2. Klimaanlage nach Anspruch 1, wobei die Verriegelungsstruktur ein Bajonett ist, das an dem zweiten Teil (12) bereitgestellt ist, und sich der Verriegelungsblock (3) aus dem Verriegelungsloch (5) heraus erstreckt und in das Bajonett eingesetzt wird, so dass der erste Teil (11) und der zweite Teil (12) einstückig verbunden sind.
3. Klimaanlage nach Anspruch 2, wobei ein Ende des Führungselements (2), das in die Montage- und Demontagenut (1) eintritt, mit dem Verriegelungsblock (3) mit einer geneigten Oberfläche zusammenwirkt, und das Führungselement (2) so ausgelegt ist, dass es eine Bewegungsrichtung des Führungselements (2), das sich in die Montage- und Demontagenut (1) hinein oder von ihr weg erstreckt, in eine Bewegungsrichtung des Verriegelungsblocks (3) umwandelt, der sich in die Montage- und Demontagenut (1) hinein oder zu ihr hin zurückzieht.
4. Klimaanlage nach Anspruch 3, ferner umfassend eine Vorspannfeder (4), wobei ein Ende der Vorspannfeder (4) in der Montage- und Demontagenut (1) bereitgestellt ist, das andere Ende mit dem Verriegelungsblock (3) verbunden ist, und die Vorspannfeder (4) zum Aufbringen einer Vorspannkraft in Richtung des Verriegelungslochs (5) auf den Verriegelungsblock (3) verwendet wird.
5. Klimaanlage nach Anspruch 4, wobei der Verriegelungsblock (3) umfasst:
 - einen horizontalen Riegel (31), der senkrecht zu einer Erstreckungsrichtung des Führungselements (2) in das Verriegelungsloch (5) und die Verriegelungsstruktur hineinragt oder sich dort hin zurückzieht; und
 - einen Keilblock (32) mit einer zweiten geneigten Fläche (321), die mit dem Führungselement (2) zusammenwirkt, wobei eine Seite des Keilblocks (32) mit dem horizontalen Riegel (31) verbunden ist und die andere Seite lösbar mit der Vorspannfeder (4) verbunden ist.

6. Klimaanlage nach Anspruch 5, wobei ein Langloch (21), das sich in einer Gleitrichtung des Führungselements (2) erstreckt, an dem Führungselement (2) ausgebildet ist, und eine Länge des Langlochs (21) nicht geringer ist als eine Länge des horizontalen Riegels (31) von der vollständigen Erstreckung in die Verriegelungsstruktur bis zum vollständigen Austritt aus dem Verriegelungsloch (5) entlang der Gleitrichtung. 5
7. Klimaanlage nach Anspruch 4, ferner umfassend eine Ausstoßfeder (6), die in der Montage- und Demontagenut (1) bereitgestellt ist, und wobei die Ausstoßfeder (6) ist so ausgelegt, dass sie eine Vorspannkraft auf das Führungselement (2) aufbringt, um das Führungselement (2) dazu zu bringen, sich von einer Gleitrichtung der Montage- und Demontagenut (1) zu lösen. 10
8. Klimaanlage nach Anspruch 7, wobei ein Ende der Ausstoßfeder (6) an einem Ende des in die Montage- und Demontagenut (1) eintretenden Führungselements (2) anliegt, und das andere Ende der Ausstoßfeder (6) an einer Innenwand der Montage- und Demontagenut (1) anliegt. 15
9. Klimaanlage nach einem der Ansprüche 1 bis 8, wobei in einem Gebrauchszustand eine Position des zweiten Teils (12), die einem oberen Abschnitt des ersten Teils (11) entspricht, mit einer oberen Begrenzungsstruktur (7) ausgebildet ist; eine Position des zweiten Teils (12), die einem unteren Teil des ersten Teils (11) entspricht, mit einem Begrenzungsvorsprung (8) ausgebildet ist; und Positionen des zweiten Teils (12), die den linken und rechten Seiten des ersten Teils (11) entsprechen, mit einer Begrenzungsrippe (9) ausgebildet sind. 20
10. Klimaanlage nach Anspruch 9, wobei eine mit dem ersten Teil (11) zusammenwirkende Gleitstruktur am zweiten Teil (12) bereitgestellt ist, und wobei der erste Teil (11) so ausgelegt ist, dass er durch die Gleitstruktur aus dem zweiten Teil (12) herausgezogen oder in diesen hineingeschoben wird. 25
11. Klimaanlage nach Anspruch 10, wobei die Gleitstruktur eine Gleitschiene (10) ist, und die Gleitschiene (10) eine gekrümmte Struktur ist, die mehrere Gruppen von Kreisbögen umfasst, die zu einer gleichen Seite gebogen und miteinander in Reihe verbunden sind. 30
12. Klimaanlage nach einem der Ansprüche 1 bis 8, wobei der erste Teil (11) ein Luftführungsmodul und der zweite Teil (12) ein Basisbauteil ist. 35

Revendications

1. Climatiseur, comprenant :

5 une première partie (11), une rainure d'assemblage et de désassemblage (1) étant disposée sur celle-ci, un trou de verrouillage (5) étant disposé sur la rainure d'assemblage et de désassemblage (1) ; une seconde partie (12) qui présente une structure de verrouillage sur celle-ci ; le climatiseur étant **caractérisé en ce qu'il** comprend un élément de guidage (2) qui coopère de manière coulissante avec la rainure de désassemblage (1) ; et 10 un bloc de verrouillage (3) agencé de manière coulissante sur l'élément de guidage (2), une force de sollicitation vers la seconde partie (12) étant disposée sur le bloc de verrouillage (3) ; l'élément de guidage (2) étant mobile vers une position de verrouillage, et le bloc de verrouillage (3) étant configuré pour s'étendre en partie hors du trou de verrouillage (5) et verrouiller la structure de verrouillage sur la seconde partie (12) ; l'élément de guidage (2) étant mobile vers 20 une position de déverrouillage, le bloc de verrouillage (3) étant configuré pour se rétracter vers la rainure de désassemblage (1) de manière à mettre hors de prise la première partie (11) et la seconde partie (12). 25

2. Climatiseur selon la revendication 1, dans lequel la structure de verrouillage est une baïonnette disposée sur la seconde partie (12), et le bloc de verrouillage (3) s'étend hors du trou de verrouillage (5) et s'insère dans la baïonnette de telle sorte que la première partie (11) et la seconde partie (12) soient connectés d'une pièce. 30

3. Climatiseur selon la revendication 2, dans lequel une extrémité de l'élément de guidage (2) qui pénètre dans la rainure d'assemblage et de désassemblage (1) coopère avec le bloc de verrouillage (3) à la manière d'une surface inclinée, et l'élément de guidage (2) est configuré pour convertir la direction de déplacement de l'élément de guidage (2) qui s'étend dans, ou qui s'éloigne de, la rainure d'assemblage et de désassemblage (1) en direction de déplacement du bloc de verrouillage (3) qui s'étend vers, ou se rétracte de, la rainure d'assemblage et de désassemblage (1). 35

4. Climatiseur selon la revendication 3, comprenant en outre un ressort de sollicitation (4), dans lequel une extrémité du ressort de sollicitation (4) est disposée dans la rainure d'assemblage et de désassemblage (1), l'autre extrémité est connectée au bloc de verrouillage (3), et le ressort de sollicitation (4) est utilisé 40

pour appliquer au bloc de verrouillage (3) une force de sollicitation, dans la direction du trou de verrouillage (5).

5. Climatiseur selon la revendication 4, dans lequel le bloc de verrouillage (3) comprend :

un verrou horizontal (31) perpendiculaire à la direction d'extension de l'élément de guidage (2) destiné à s'étendre ou se rétracter vers le trou de verrouillage (5) et la structure de verrouillage ; et
un bloc en coin (32) qui présente une seconde surface inclinée (321) qui coopère avec l'élément de guidage (2), un côté du bloc en coin (32) étant connecté au verrou horizontal (31), et l'autre côté étant connecté de manière amovible au ressort de sollicitation (4).

6. Climatiseur selon la revendication 5, dans lequel un trou allongé (21) qui s'étend dans la direction de coulissement de l'élément de guidage (2) est formé sur l'élément de guidage (2), et la longueur du trou allongé (21) n'est pas inférieure à la longueur du verrou horizontal (31) qui s'étend complètement dans la structure de verrouillage pour sortir complètement du trou de verrouillage (5) le long de la direction de coulissement.

7. Climatiseur selon la revendication 4, comprenant en outre un ressort d'éjection (6) disposé dans la rainure d'assemblage et de désassemblage (1), et le ressort d'éjection (6) est configuré pour appliquer une force de sollicitation à l'élément de guidage (2), de manière à ce que l'élément de guidage (2) se désengage de la direction de coulissement de la rainure d'assemblage et de désassemblage (1).

8. Climatiseur selon la revendication 7, dans lequel une extrémité du ressort d'éjection (6) vient en butée contre une extrémité de l'élément de guidage (2) qui pénètre dans la rainure d'assemblage et de désassemblage (1), et l'autre extrémité du ressort d'éjection (6) vient en butée contre une paroi intérieure de la rainure d'assemblage et de désassemblage (1).

9. Climatiseur selon l'une quelconque des revendications 1 à 8, dans lequel, dans un état d'utilisation, une position de la seconde partie (12), correspondant à une partie supérieure de la première partie (11), est formée avec une structure de limitation supérieure (7) ; une position de la seconde partie (12), correspondant à une partie inférieure de la première partie (11), est formée avec une saillie de limitation (8) ; et des positions de la seconde partie (12), correspondant aux côtés gauche et droit de la première partie (11), sont formées avec une nervure de limitation (9).

10. Climatiseur selon la revendication 9, dans lequel une structure coulissante qui coopère avec la première partie (11) est disposée sur la seconde partie (12), et la première partie (11) est configurée pour être retirée de, ou poussée dans, la seconde partie (12) par la structure coulissante.

11. Climatiseur selon la revendication 10, dans lequel la structure coulissante est une coulisse (10), et la coulisse (10) est une structure incurvée qui comprend une pluralité de groupes d'arcs circulaires courbés vers un même côté, et connectés à la suite les uns aux autres.

12. Climatiseur selon l'une quelconque des revendications 1 à 8, dans lequel la première partie (11) est un module conduit d'air, et la seconde partie (12) est un composant base.

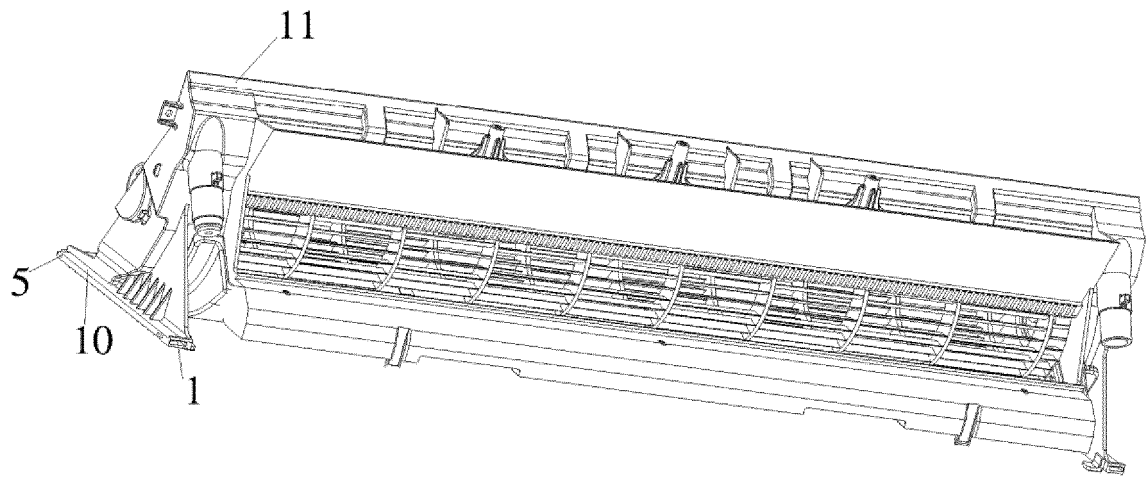


Fig.1

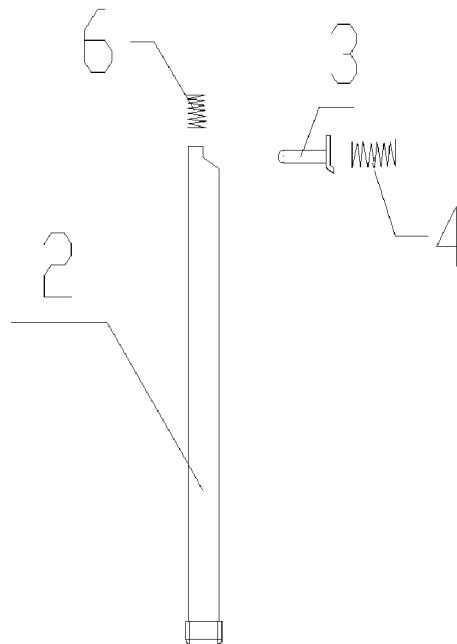


Fig.2

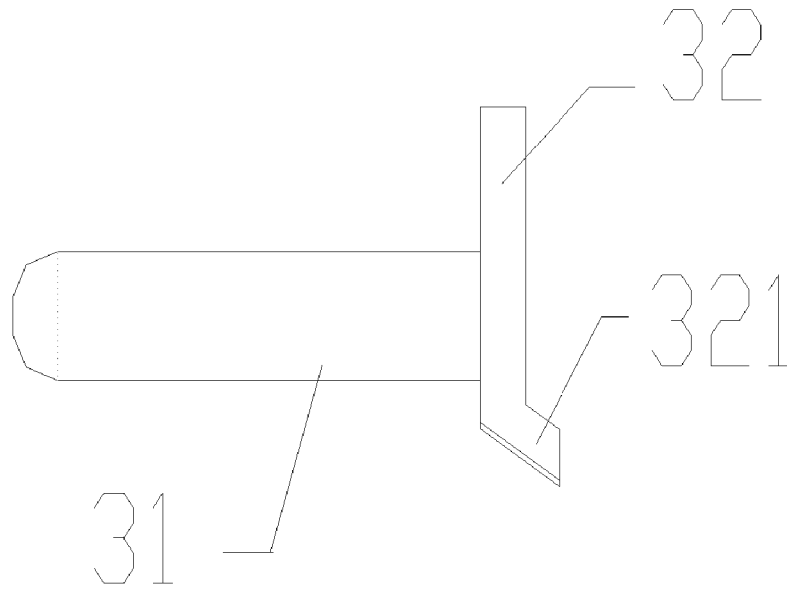


Fig.3

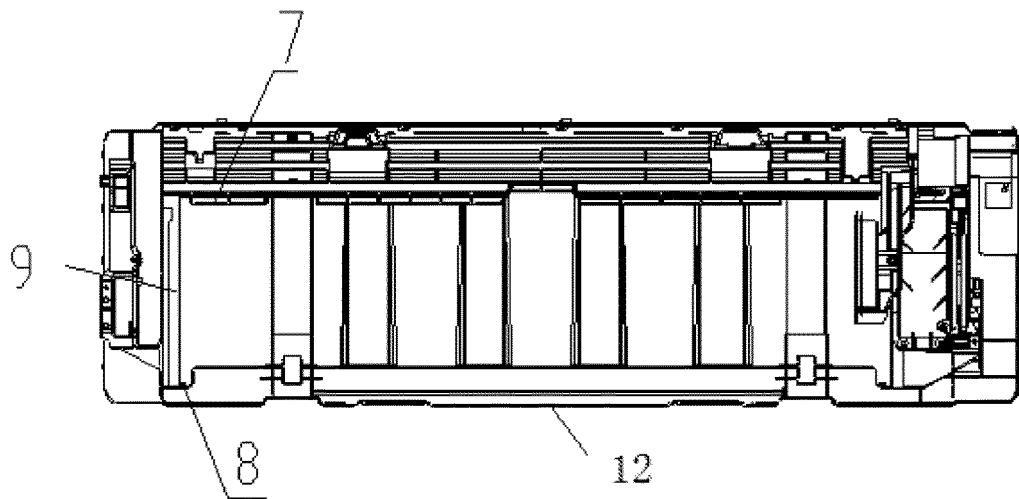


Fig.4

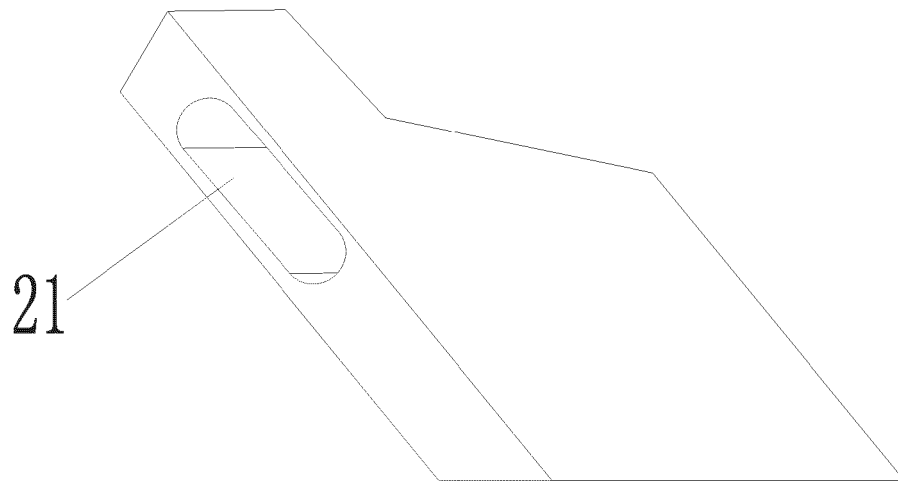


Fig.5

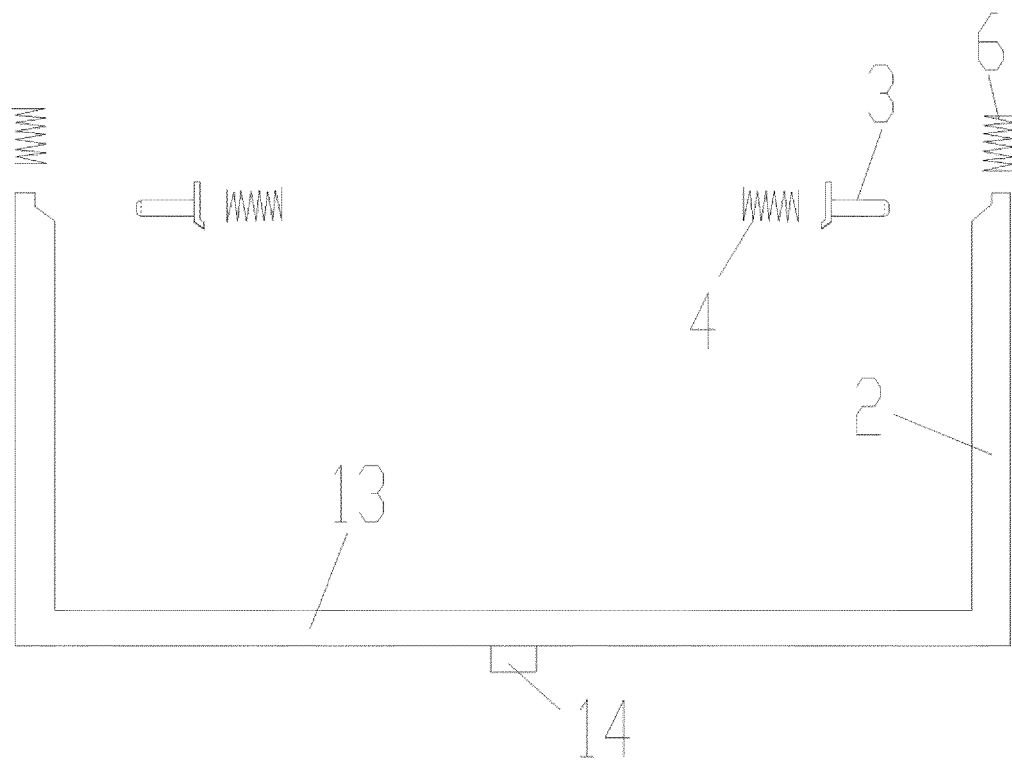


Fig.6

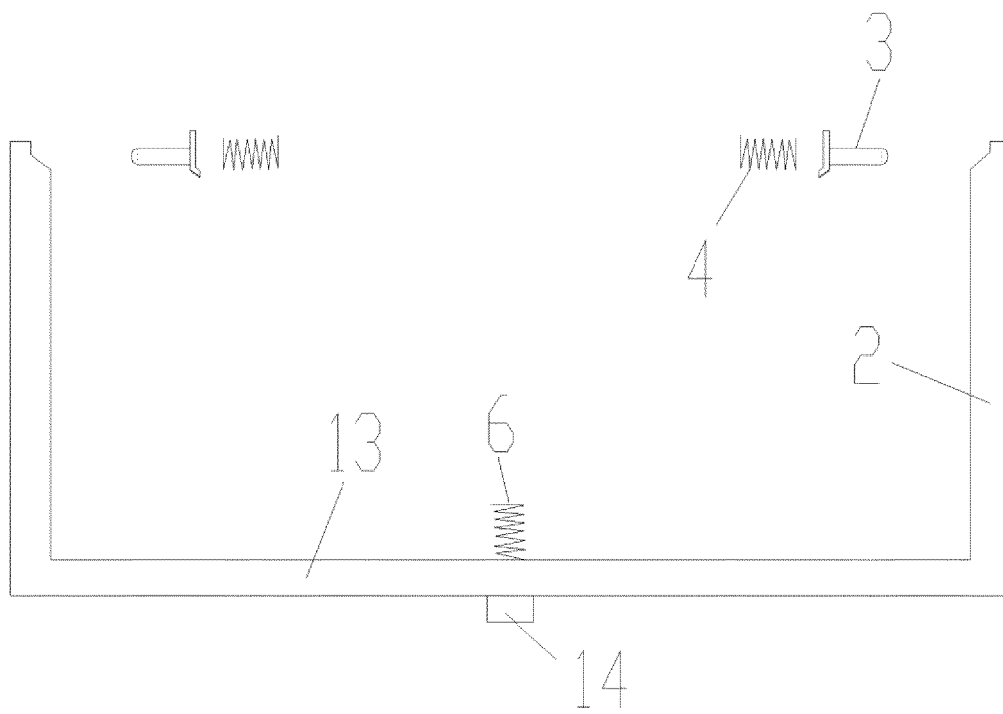


Fig.7

REFERENCES CITED IN THE DESCRIPTION

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Patent documents cited in the description

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