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(72) Inventors:
• **YU, Weiquan**
Zhuhai City
Guangdong 519070 (CN)
• **HU, Baoguo**
Zhuhai City
Guangdong 519070 (CN)
• **DENG, Haoguang**
Zhuhai City
Guangdong 519070 (CN)

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(71) Applicant: **Gree Electric Appliances, Inc. of Zhuhai**
Zhuhai, Guangdong 519070 (CN)

(74) Representative: **V.O.**
P.O. Box 87930
2508 DH Den Haag (NL)

(54) **AIR CONDITIONER**

(57) An air conditioner, including: a first part (11) on which a assembling and disassembling groove (1) is provided, and a locking hole (5) is provided on the assembling and disassembling groove (1); a second part (12) 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), a biasing force toward the second part (12) is provided disposed on the locking block,

when the guide member (2) is moved to a locking position, the locking block (3) is configured to extend out of the locking hole (5) partially and to retract to a corresponding locking structure on the second part (12); when the guide member (2) is moved to an unlocking position, 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).

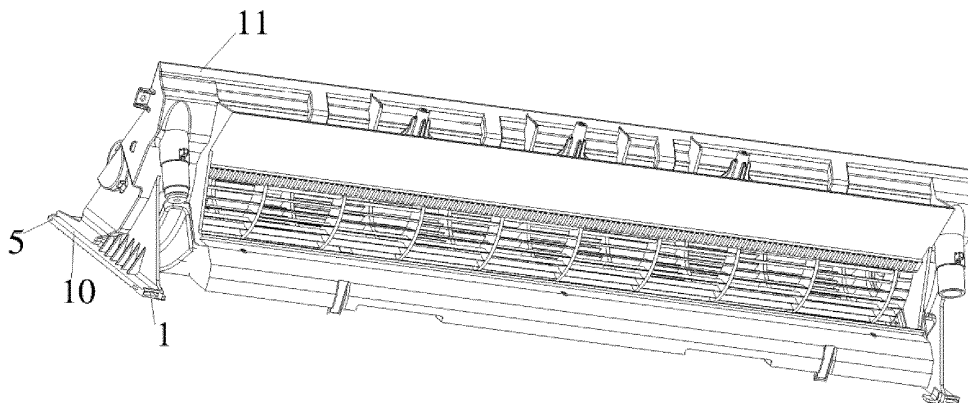


Fig.1

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, some embodiments of the present disclosure provide an air conditioner, including: an assembling and disassembling groove provided on a first part, on which a locking hole and a guide member slidably cooperated with the assembling and disassembling groove are provided; a locking block slidably arranged on the guide member, a biasing force toward the second part is disposed on the locking block; the guide member is moved to a locking position, and the locking block is configured to extend out of the locking hole partially and lock the corresponding locking structure on the second part; the guide member is moved to an unlocking position, and the locking block is configured to retract to the assembling and disassembling groove to disengage the first part from the second part.

[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 disclosure has the following advantages:

1. The air conditioner provided by an embodiment of the present disclosure 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 disclosure, 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 disclosure, 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 disclosure 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 disclosure, 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 disclosure 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 disclosure, 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 disclosure 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 disclosure, 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 disclosure 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 disclosure. 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 dia-

gram of a guide member according to Embodiment 2 of the present disclosure.

[0022] 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

[0023] The technical solutions of the present disclosure 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 disclosure rather than all of the embodiments. Based on the embodiments of the present disclosure, all other embodiments obtained by those skilled in the art without creative efforts fall within the scope of protection of the present disclosure

[0024] In the description of the present disclosure, 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.

[0025] In the description of the present disclosure, 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 disclosure can be understood in particular.

[0026] Moreover, the technical features involved in different embodiments of the present disclosure described below can be combined with each other as long as no conflict is constituted between each other.

Example 1

[0027] 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 partially 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.

[0028] 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

[0029] 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.

[0030] 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.

[0031] 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.

[0032] 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.

[0033] 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.

[0034] 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.

[0035] 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.

[0036] 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.

[0037] 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.

[0038] 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.

[0039] 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

[0040] 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.

[0041] 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.

[0042] 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

[0043] 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.

[0044] 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.

[0045] 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 disclosure.

Claims

1. An air conditioner, comprising:

a first part, 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 having a locking structure thereon;

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 moved 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); when the guide member (2) being moved 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.

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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). 10
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). 15
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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). 25
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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. 35
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. 40
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. 45

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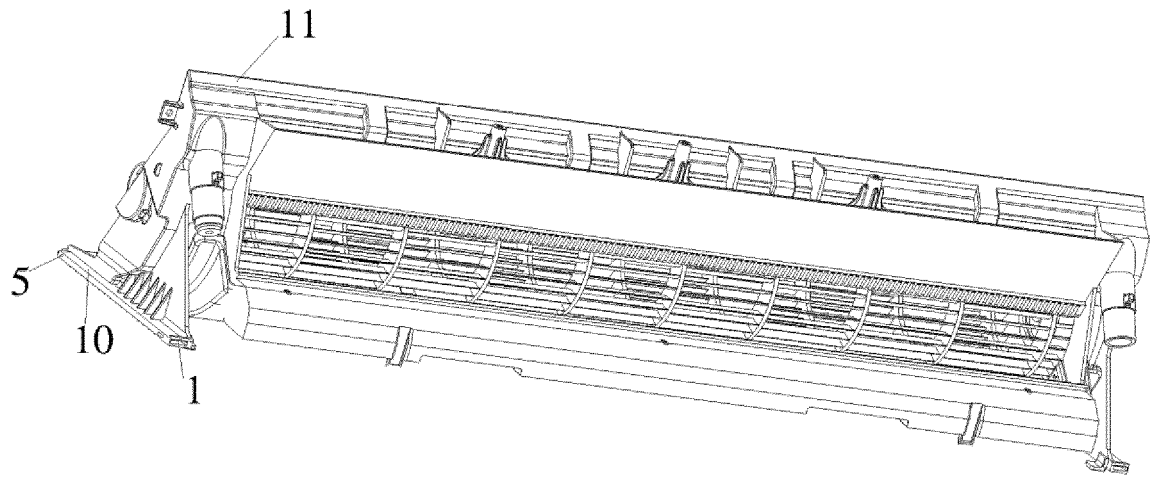


Fig.1

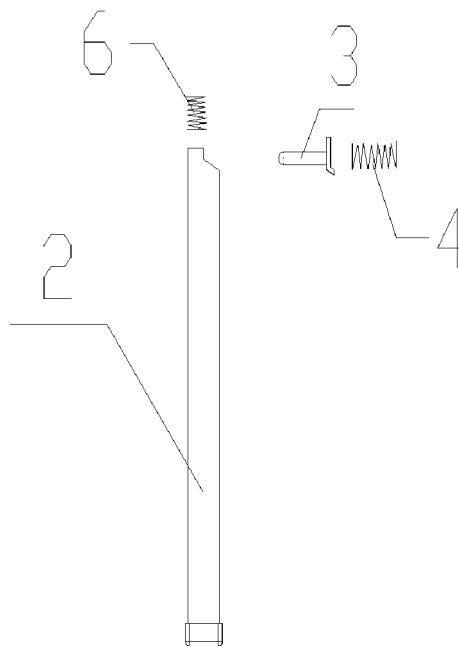


Fig.2

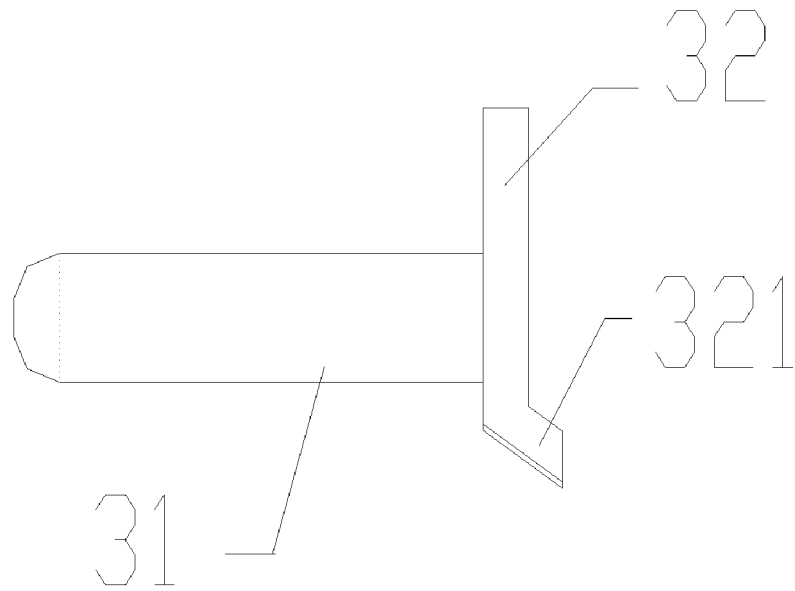


Fig.3

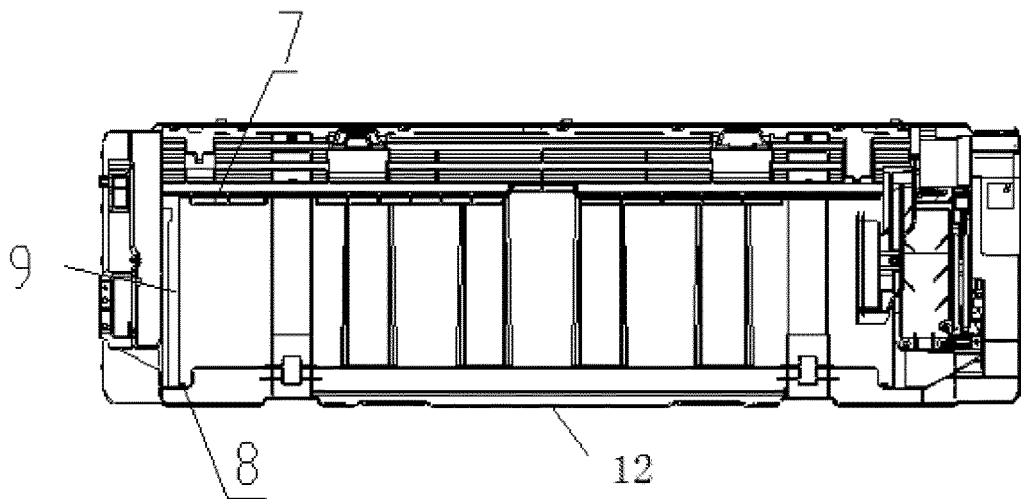


Fig.4

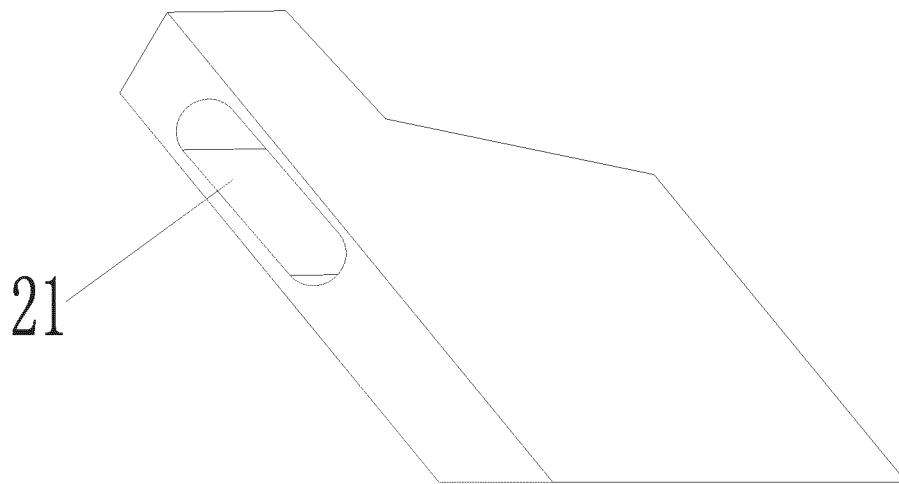


Fig.5

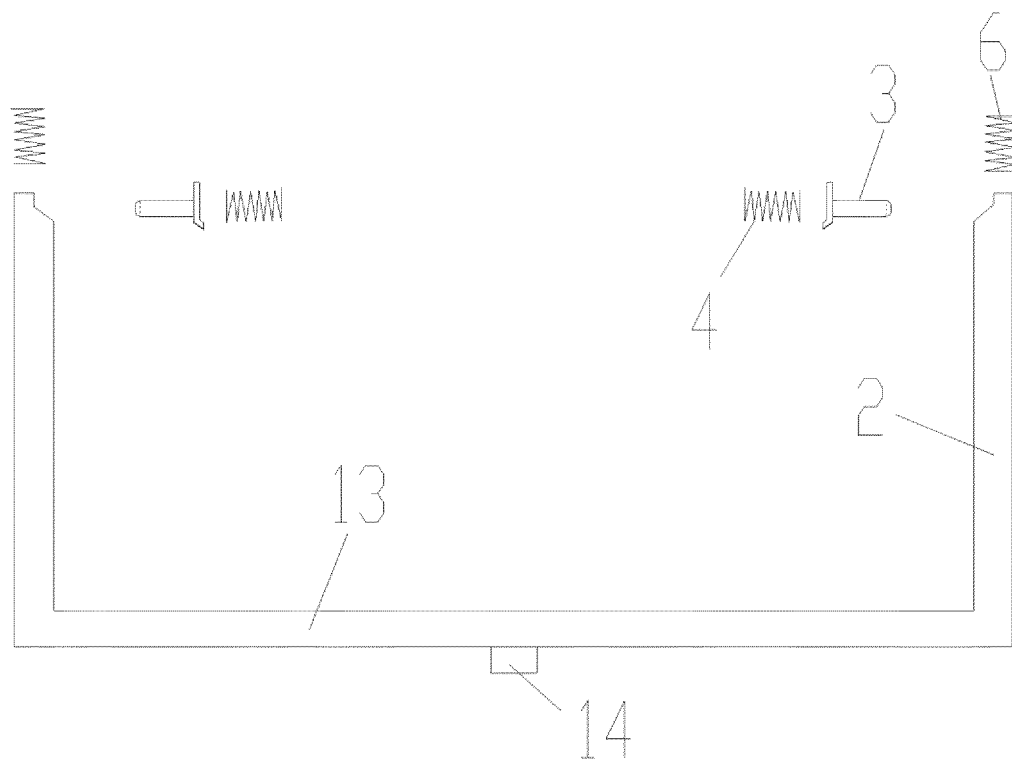


Fig.6

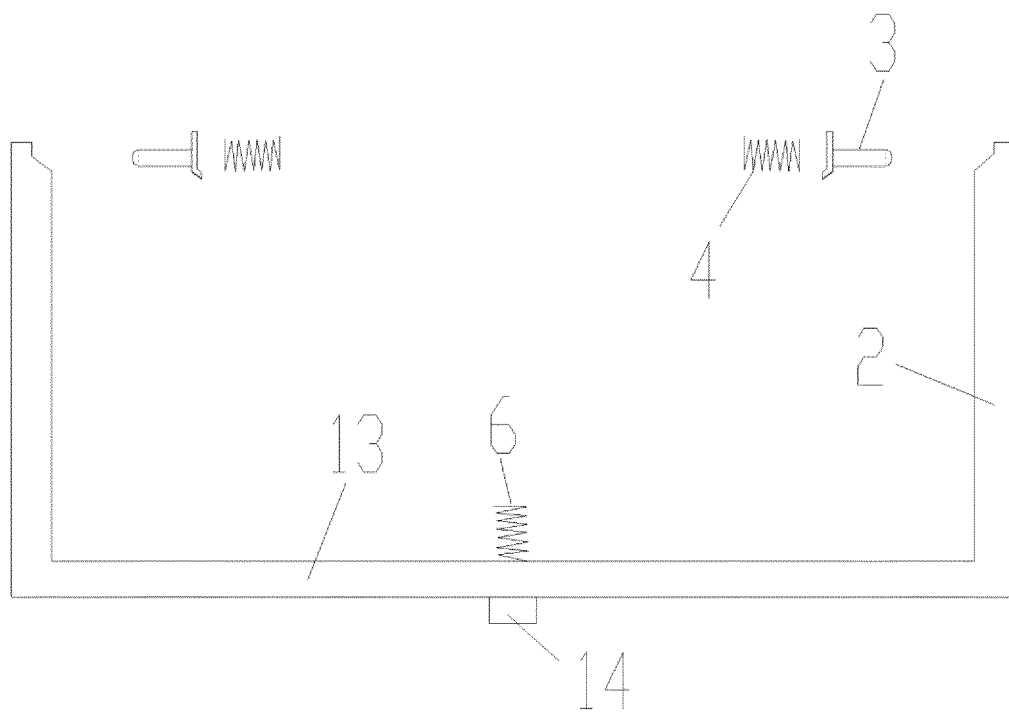


Fig.7

INTERNATIONAL SEARCH REPORT

International application No.
PCT/CN2018/084231

A. CLASSIFICATION OF SUBJECT MATTER

F24F 1/00 (2011.01) i; F24F 13/20 (2006.01) i

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

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

F24F 1, F24F 13

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

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

CNABS, SIPOABS, CNKI, CNTXT, VEN: 空调, 空气调节, 空气调和, 拆装槽, 装配槽, 锁定, 孔, 滑动, 导向, 偏压, 解锁, 偏压力, air condition+, detach+, disassembly, assembly, mount+, dismount+, groove, trough, slot, lock+, hole, slid+, guid+, bias, side, deviat+, stress, press, unlock+

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	CN 204629734 U (GUANGDONG MIDEA REFRIGERATION EQUIPMENT CO., LTD. et al.) 09 September 2015 (09.09.2015), description, paragraphs [0063]-[0099] and figures 1-21	1-12
A	CN 204629969 U (GUANGDONG MIDEA REFRIGERATION EQUIPMENT CO., LTD. et al.) 09 September 2015 (09.09.2015), entire document	1-12
A	CN 104791979 A (GUANGDONG MIDEA REFRIGERATION EQUIPMENT CO., LTD. et al.) 22 July 2015 (22.07.2015), entire document	1-12
A	CN 204629966 U (GUANGDONG MIDEA REFRIGERATION EQUIPMENT CO., LTD. et al.) 09 September 2015 (09.09.2015), entire document	1-12
A	CN 205037533 U (GUANGDONG MIDEA REFRIGERATION EQUIPMENT CO., LTD. et al.) 17 February 2016 (17.02.2016), entire document	1-12

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

* Special categories of cited documents:	"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
"A" document defining the general state of the art which is not considered to be of particular relevance	
"E" earlier application or patent but published on or after the international filing date	"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)	"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
"O" document referring to an oral disclosure, use, exhibition or other means	
"P" document published prior to the international filing date but later than the priority date claimed	"&" document member of the same patent family

Date of the actual completion of the international search

14 June 2018

Date of mailing of the international search report

27 June 2018

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

Authorized officer

YANG, Xiuhua

Telephone No. (86-10) 62084899

INTERNATIONAL SEARCH REPORT

International application No.
PCT/CN2018/084231

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C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	JP 2004251527 A (FUJITSU GENERAL LTD.) 09 September 2004 (09.09.2004), entire document	1-12
A	JP 0886463 A (HITACHI LTD. et al.) 02 April 1996 (02.04.1996), entire document	1-12
A	JP 07260244 A (FUJITSU GENERAL LTD.) 13 October 1995 (13.10.1995), entire document	1-12

INTERNATIONAL SEARCH REPORT
Information on patent family members

International application No.
PCT/CN2018/084231

Patent Documents referred in the Report	Publication Date	Patent Family	Publication Date
CN 204629734 U	09 September 2015	None	
CN 204629969 U	09 September 2015	None	
CN 104791979 A	22 July 2015	None	
CN 204629966 U	09 September 2015	None	
CN 205037533 U	17 February 2016	None	
JP 2004251527 A	09 September 2004	None	
JP 0886463 A	02 April 1996	None	
JP 07260244 A	13 October 1995	None	

REFERENCES CITED IN THE DESCRIPTION

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Patent documents cited in the description

- CN 205037533 U [0004]