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(54) MOUNTING STRUCTURE AND AIR CONDITIONER

(57) A mounting structure and an air conditioner are provided in the present invention, which relates to the field of air conditioners. A mounting structure applied to a wiring device is provided in the present invention. The wiring device includes a second wiring terminal mounted to a first base through the mounting structure, wherein the mounting structure includes a mounting body, a fixing buckle and a positioning member. The mounting body is connected to the second wiring terminal, and the fixing buckle and one end of the positioning member are used to be connected to the first base. The fixing buckle passes through the mounting body and is buckled to the mounting body, and the positioning member passes through the mounting body. An air conditioner adopts the above-mentioned mounting structure. The mounting structure and the air conditioner provided in the present invention can ensure assembly accuracy of the second wiring terminal, improve wiring accuracy of the second wiring terminal, and prevent needles in the second wiring terminal from being broken or bent.

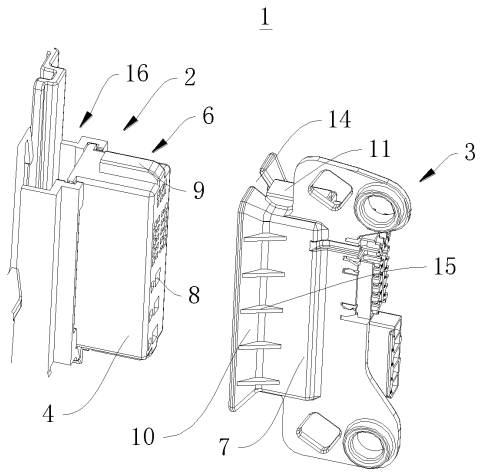

Fig. 1

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Description

FIELD OF THE INVENTION

[0001] The present invention relates to the technical field of air conditioners, in particular to a mounting structure and an air conditioner.

BACKGROUND OF THE INVENTION

[0002] Electric wires and signal wires are important components of air conditioners, which are related to the start and stop operation of the air conditioner and the realization of various control functions. The wires of a conventional air conditioner are placed in the electric control box in a chaotic manner, and a dedicated work station is required to manage the wires. Due to the chaos of the wires, the production efficiency of plugging and closing the cover of the electric control box is very low. And it is easy to cause jamming, crimping and other phenomena, increasing hidden dangers of quality. Therefore, integrated terminals for the electric wires emerge.

[0003] In particular, for an air conditioner in which an upper base can be detachably connected with a lower base, some wires are connected to the detachable bases, but when in assembly, there is a problem of inaccurate assembly of the terminal, which is easy to break or bend the pin in the terminal.

SUMMARY OF THE INVENTION

[0004] In view of this, the present invention provides a mounting structure to ensure the assembly accuracy of a second wiring terminal, to improve the wiring accuracy of the second wiring terminal, and to avoid breakage and bending of the pin in the second wiring terminal.

[0005] To achieve the above purpose, the technical solution of the present invention is implemented as follows.

[0006] A mounting structure applied to a wiring device is provided in the present invention. The wiring device includes a second wiring terminal, and the second wiring terminal is mounted to a first base through the mounting structure, wherein the mounting structure includes a mounting body, a fixing buckle and a positioning member. The mounting body is connected to the second wiring terminal, and the fixing buckle and one end of the positioning member are used to be connected to the first base. The fixing buckle passes through the mounting body and is buckled to the mounting body, and the positioning member passes through the mounting body.

[0007] Further, a mounting hole and a positioning hole are disposed on the mounting body, the fixing buckle passes through the mounting hole and is buckled to a side surface of the mounting body, and the positioning member passes through the positioning hole.

[0008] Further, the mounting body has two bodies. The two mounting bodies are disposed at two opposite sides of the second wiring terminal, respectively. At least one positioning hole and at least one positioning hole are respectively disposed on each of the mounting bodies.

[0009] Further, the fixing buckle includes a plurality of hooks, and one end of each of the hooks is provided with a third stop surface. The third stop surface is disposed towards the first base, and the plurality of hooks pass through the mounting body, such that the third stop surface abuts against the side surface of the mounting body. The ends of the plurality of hooks away from the third stop surface are used to be connected to the first base.

[0010] Further, the hook includes an elastic connecting portion and an abut portion, and one end of the elastic connecting portion is used to be connected to the first base. The abut portion is connected to the other end of the elastic connecting portion, and the third stop surface is disposed at one side of the abut portion close to the elastic connecting portion. One side of the abut portion away from the elastic connecting portion is an inclined plane.

[0011] Further, a plurality of the elastic connecting portions is arranged along a circumferential direction, and the plurality of the elastic connecting portions is disposed at intervals. A plurality of the abut portions are protruded from a side away from each other of the plurality of the elastic connecting portions, such that the plurality of the third stop surfaces are respectively located on one side away from each other of the plurality of the elastic connecting portions.

[0012] Further, the mounting structure includes an elastic member, the elastic member is wound around the plurality of elastic connecting portions, and the elastic member abuts between the first base and the mounting body.

[0013] Further, the positioning member includes a plurality of positioning posts, ends of the plurality of the positioning posts are used to be connected to the first base, and heights of the plurality of the positioning posts are greater than a height of the fixing buckle.

[0014] Further, the mounting structure includes a plurality of ribs, the plurality of the ribs are disposed at intervals on ends of the fixing buckle and the positioning member, and the plurality of the ribs are used to be connected to the first base.

[0015] Compared with the prior art, the mounting structure of the present invention has the following advantages:

(1) The mounting structure of the present invention can accurately position the mounting body at an appropriate mounting position through a positioning member, and the mounting body is mounted on the first base through the fixing buckle. Furthermore, the connection error of the second wiring terminal can be adjusted by the elastic member abutting between mounting body and the first base, that is, the second wiring terminal can be accurately mounted on the first base. That is, the second wiring terminal can be located at an appropriate position, thereby avoiding the problem of breakage and bending of the pin inside the second wiring terminal.

[0016] Another object of the present invention is to provide an air conditioner, which can ensure the assembly accuracy of the second wiring terminal, improve the wiring accuracy of the second wiring terminal, and avoids breakage and bending of the pin in the second wiring terminal.

[0017] To achieve the above purpose, the technical solution of the present invention is implemented as follows.

[0018] An air conditioner including a mounting structure is provided. The mounting structure includes a mounting body, a fixing buckle, an elastic member, and a positioning member. The mounting body is connected to the second wiring terminal, and the fixing buckle and one end of the positioning member are used to be connected to the first base. The fixing buckle passes through the mounting body and is buckled to the mounting body. The elastic member is disposed near the fixing buckle, and the elastic member is used to abut between the first base and the mounting body. The positioning member passes through the mounting body.

[0019] Compared to the prior art, the air conditioner of the present invention has the following advantages:
The air conditioner has the same advantages as the above-mentioned mounting structure over the prior art, and details are not repeated here.

BRIEF DESCRIPTION OF THE DRAWINGS

[0020] Aspects of the present invention are best understood from the following detailed description when read with the accompanying figures. The exemplary embodiments of the present invention and the description thereof are used to explain the present invention, and do not constitute improper limitations on the preset invention. In the drawings:

Fig. 1 is a breakdown view of a wiring device according to an embodiment of the present invention.
Fig. 2 is an exploded view of a wiring device according to an embodiment of the present invention.
Fig. 3 is a structural diagram of a part of a second terminal assembly according to an embodiment of the present invention.
Fig. 4 is a structural diagram of a first terminal connected to a second terminal assembly according to an embodiment of the present invention.
Fig. 5 is a structural diagram of a part of a second terminal assembly according to an embodiment of the present invention.
Fig. 6 is a structural diagram of a part of a mounting structure according to an embodiment of the present invention.
Fig. 7 is a structural diagram of a mounting structure according to an embodiment of the present invention.
Fig. 8 is a structural diagram of a protective cover plate from a first perspective according to an embodiment of the present invention.
Fig. 9 is a structural diagram of a protective cover plate from a second perspective according to an embodiment of the present invention.

List of serial numbers in the figures:

1 - Wiring device;	2 - First terminal assembly;	3 - Second terminal assembly;
4 - First wiring terminal;	5 - Second wiring terminal;	6 - First sliding structure;
7 - First guiding structure;	8 - Wiring hole;	9 - First guiding block;
10 - Receiving body;	11 - Accommodating portion;	12 - Guiding space;
13 - First chute;	14 - Guiding port;	15 - Reinforcing rib;
16 - Guide mounting structure;	17 - Second sliding structure;	18 - Carrying body;
19 - Second guiding block;	20 - Carrying main body;	21 - Guiding body;
25 - Guiding portion;	23 - Limit portion;	24 - Second chute;
25 - Locking buckle;	26 - Second stop surface;	27 - Connecting portion;
28 - Wedge-shaped portion;	29 - Buckling portion;	30 - First stop surface;
31 - Mounting structure;	32 - Mounting body;	33 - Fixing buckle;
34 - Positioning member;	35 - Elastic member;	36 - Mounting hole;

(continued)

37 - Positioning hole;	38 - Hook;	39 - Elastic connecting portion;
40 - Abut portion;	41 - Third stop surface;	42 - Positioning post;
43 - Protective cover plate;	44 - Cover plate body;	45 - Top plate;
46 - Side plate;	47 - Receiving space;	48 - Positioning connecting portion;
49 - Mounting space;	50 - Positioning connecting hole;	
51 - Positioning connecting member;	52 - Rib.	

DESCRIPTION OF THE PREFERRED EMBODIMENTS

[0021] It should be noted that the embodiments of the disclosure and the features in the embodiments may be combined with each other without conflict.

[0022] The disclosure will be described in detail below with reference to the drawings and embodiments.

1st Embodiment

[0023] With reference to Fig. 1, the present embodiment provides a wiring device 1, which facilitates the wiring of an electric control box, and is easy to assemble and disassemble. Among them, the wiring device 1 includes a first terminal assembly 2 and a second terminal assembly 3, wherein the first terminal assembly 2 is used to be connected to the electric control box, the second terminal assembly 3 is used to be connected to the first base (not shown), and the first terminal assembly 2 is connected to the second terminal assembly 3, so as to achieve the connection of the wires, thereby connecting the electric control box with the electronic components in the first base for the conduction of the circuit.

[0024] It should be noted that in the present embodiment, the first base is a lower base of the air conditioner. It should be understood that in other embodiments, the first base may also be an upper base of the air conditioner, or the first base may also be other bases included in housings of other electronic components.

[0025] With combination of Figs. 1 and 2, the first terminal assembly 2 includes a first wiring terminal 4 and a first sliding structure 6, and the first wiring terminal 4 is used to be connected to the electric control box to guide the wires drawn out of the electric control box through the first wiring terminal 4, so that the wiring drawn out of the electric control box may avoid experiencing wiring confusion and crimping. Further, the first sliding structure 6 is connected to a side surface of the first wiring terminal 4. The second terminal assembly 3 includes a second wiring terminal 5 and a first guiding structure 7, wherein the first guiding structure 7 is connected to a side surface of the second wiring terminal 5. The first sliding structure 6 is connected to the first guiding structure 7, and the first sliding structure 6 may move relative to the first guiding structure 7 in a first direction, i.e., the first wiring terminal 4 may slidably connected to the second wiring terminal 5 through the first sliding structure 6 relative to the first guiding structure 7 in the first direction, i.e., the guiding for the first sliding structure 6 through the first guiding structure 7 may facilitate the connection of first wiring terminal 4 to the second wiring terminal 5.

[0026] It should be noted that among them, both the first wiring terminal 4 to the second wiring terminal 5 are opened with a wiring hole 8 extending in the first direction, and the guiding for the first sliding structure 6 in the first direction through the first guiding structure 7 may avoid a shear force caused by the wiring for the wiring hole 8 from the first wiring terminal 4 or the second wiring terminal 5 when the first wiring terminal 4 moves in the first direction and is connected to the second wiring terminal 5, i.e., the mounting efficiency between the first wiring terminal 4 and the second wiring terminal 5 is improved and the connection between the first wiring terminal 4 and the second wiring terminal 5 is facilitated without affecting the wire leading. Among them, in the present embodiment, the first base has a plane (not shown) for disposing the mounting structure 31, wherein the first direction is perpendicular to the plane.

[0027] Among them, the first sliding structure 6 includes a first guiding block 9 extending in the first direction, and the first guiding block 9 is connected to the side surface of the first wiring terminal 4. The first guiding block 9 extending in the first direction may cooperate with the first guiding structure 7, and slide relative to the first guiding structure 7 in the first direction, so that the first wiring terminal 4 may move relative to the second wiring terminal 5 in the first direction to be connected to the second wiring terminal 5.

[0028] In the present embodiment, the first wiring terminal 4 has a substantially rectangular prism shape. In addition, the first guiding block 9 has nine blocks, the plurality of the first guiding blocks 9 are connected to two opposite side surfaces of the first wiring terminal 4 respectively, and the first guiding block 9 extends from one end of the first wiring terminal 4 away from the first base toward the other end of the first wiring terminal 4 in the first direction. Further, a thickness of the end of the first guiding block 9 away from the first base gradually decreases along the extending direction thereof, i.e., the first guiding block first contacts one end of the first guiding structure 7 when the first guiding block 9 cooperates with the first guiding structure 7, so that one end surface of the first guiding block 9 forms an inclined surface

or a curved surface, so as to facilitate the cooperation between the first guiding block 9 and the first guiding structure 7. In the present embodiment, the first guiding block 9 has two blocks, the two first guiding blocks 9 are disposed on two opposite side surfaces of the first wiring terminal 4 respectively, and the two first guiding blocks 9 are disposed at a centerline of their respective side surface.

[0029] Moreover, the first guiding structure 7 includes a receiving body 10 and a first chute 13 opened on the receiving body 10, and the receiving body 10 is connected to the second wiring terminal 5 and corresponds to the first wiring terminal 4; the first wiring terminal 4 may move relative to the receiving body 10 in the first direction to abut against the second wiring terminal 5, and the first guiding block 9 may extend into the first chute 13 and slide relative to the first chute 13 in the first direction. Among them, the guiding for the first wiring terminal 4 through the receiving body 10 and the guiding for the first guiding block 9 through the first chute 13 may facilitate the connection and guiding between the first wiring terminal 4 and the second wiring terminal 5, thereby greatly simplifying the difficulty in connection between the first wiring terminal 4 and the second wiring terminal 5.

[0030] In the present embodiment, the receiving body 10 is provided inside with a guiding space 12 extending in the first direction, and the second wiring terminal 5 is disposed in the receiving body 10 and located on one end of the guiding space 12. The first wiring terminal 4 may extend into the guiding space 12 and slide along the guiding space 12 to abut against the second wiring terminal 5, i.e., guiding the first wiring terminal 4 through the guiding space 12. In addition, a diameter of an end of the guiding space 12 away from the second wiring terminal 5 gradually increases in a direction away from the second wiring terminal 5, i.e., the diameter of the end of the receiving body 10 away from the second wiring terminal 5 is larger than a diameter of an end of the receiving body 10 close to the second wiring terminal 5, so as to facilitate the alignment of the first wiring terminal 4, so that the first wiring terminal 4 may easily extend into the guiding space 12.

[0031] Further, the receiving body 10 is provided outside with a plurality of reinforcing ribs 15, and the plurality of reinforcing ribs 15 are disposed at intervals on one side of an end of the receiving body 10 away from the second wiring terminal 5, which is opposite to the guiding space 12, i.e., the reinforcing ribs 15 are disposed at a larger end of the receiving body 10 and the reinforcing ribs 15 are connected outside the receiving body 10, so that an impact force of the first wiring terminal 4 on the receiving body 10 when extending into the guiding space 12 may be received by the reinforcing ribs 15 for ensuring the strength of the receiving body 10 and prolonging the service life of the receiving body 10.

[0032] It should be noted that in the present embodiment, the receiving body 10 is adapted to the first wiring terminal 4, i.e., a shape enclosed by an outline of a cross section of the receiving body 10 is substantially rectangular, so that the first wiring terminal 4 may stably be received inside the guiding space 12. In addition, the plurality of reinforcing ribs 15 are disposed on two opposite side surfaces of the receiving body 10, and the first chute 13 is opened on the other two side surfaces.

[0033] A side surface of the receiving body 10 is provided with a plurality of accommodating portions 11, a plurality of the first chutes 13 are respectively formed inside the plurality of accommodating portions 11, and the plurality of the first chutes 13 are communicated to the inside of the receiving body 10. That is, in the present embodiment, the plurality of accommodating portions 11 are disposed on two opposite side surfaces of the receiving body 10 respectively, and the accommodating portions 11 are disposed outside the receiving body 10. The first chute 13 is opened inside the accommodating portion 11, and the first chute 13 penetrates through a circumferential wall of the receiving body 10 to be communicated to the guiding space 12, so that when the first wiring terminal 4 extends into the guiding space 12, the first guiding block 9 connected to the first wiring terminal 4 may extend into the first chute 13 and slide along the first chute 13. Further, in the present embodiment, an end of the receiving body 10 away from the second wiring terminal 5 is provided with a guiding port 14 corresponding to the plurality of accommodating portions 11, and the guiding port 14 penetrates through the circumferential wall of the receiving body 10 and is communicated to the second chute 24, so that when the first wiring terminal 4 extends into the guiding space 12, the first guiding block 9 may be guided through the guiding port 14 such that the first guiding block 9 extends into the first chute 13.

[0034] In the present embodiment, the accommodating portion 11 corresponds to the first guiding block 9, i.e., the accommodating portion 11 has two portions, and the two accommodating portions 11 are disposed on two opposite side surfaces of the receiving body 10 respectively, i.e., the accommodating portions 11 are disposed on two side surfaces on the receiving body 10 in which the reinforcing ribs 15 are disposed adjacent to the receiving body 10. And, the accommodating portions 11 are disposed at a centerline of respectively side surfaces to facilitate the extension of the first guiding block 9 into the first chute 13 when the first wiring terminal 4 cooperates with the guiding space 12, so as to facilitate the guiding for the first wiring terminal 4 by the guiding space 12 and the guiding for the first guiding block 9 by the first chute 13.

[0035] When the first wiring terminal 4 is required to be connected to the second wiring terminal 5, the first wiring terminal 4 is extended into the guiding space 12 and the first guiding block 9 is aligned to the guiding port 14, so that the first wiring terminal 4 extends into the first chute 13 through the guiding port 14 and moves the first wiring terminal 4 in the first direction, i.e., extending the first wiring terminal 4 into the guiding space 12 and extending the first guiding block 9 into the first chute 13. Moving the first wiring terminal 4 to abut against the second wiring terminal 5 may complete

the connection between the first wiring terminal 4 and the second wiring terminal 5.

[0036] It should be noted that in the present embodiment, the first sliding structure 6 is integrally formed with the first wiring terminal 4, and the first guiding structure 7 is integrally formed with the second wiring terminal 5. It is to be understood that in other embodiments, the first sliding structure 6 may also be connected to the first wiring terminal 4 by other methods, such as by welding or bonding. Similarly, in other embodiments, the first sliding structure 6 may also be connected to the second wiring terminal 5 by other methods, such as by welding or bonding.

[0037] With combination of Figs. 2, 3 and 4, in addition, the wiring device 1 further includes a carrying body 18, and the carrying body 18 is used to be connected to the electric control box. The first terminal assembly 2 further includes a second sliding structure 17, the second sliding structure 17 is connected to a side surface of the first wiring terminal 4, and the second sliding structure 17 extends in a second direction. The second sliding structure 17 cooperates with the carrying body 18, so that the first wiring terminal 4 is connected to the electric control box through the cooperation of the second sliding structure 17 and the carrying body 18. Among them, the second sliding structure 17 includes a plurality of second guiding blocks 19 extending in the second direction, and the plurality of second guiding blocks 19 are connected to the side surface of the first wiring terminal 4. The carrying body 18 is opened with a plurality of second chutes 24 corresponding to the plurality of second guiding blocks 19, and the second guiding blocks 19 may extend into the second chute 24 and move relative to the second chute 24 in the second direction. That is, the first wiring terminal 4 may be connected to the electric control box through the guiding of the plurality of second guiding blocks 19 by the second chute 24.

[0038] It should be noted that in the present embodiment, the second direction is perpendicular to the first direction.

[0039] In addition, the first terminal assembly 2 further includes a locking buckle 25, the locking buckle 25 is disposed on the side surface of the first wiring terminal 4, and the locking buckle 25 is located on one side of the second sliding structure 17 in the second direction. Moreover, the carrying body 18 is further provided with a buckling portion 29 matching with the locking buckle 25, the buckling portion 29 is located on one end of the second chute 24, and the locking buckle 25 may move in the first direction to be engaged to the buckling portion 29. That is, when the first wiring terminal 4 moves along the second chute 24 through the second guiding block 19, the locking buckle 25 is driven to move in the second direction, and when the locking buckle 25 is engaged to the buckling portion 29, the first wiring terminal 4 is stably connected to the electric control box.

[0040] It should be noted that the second sliding structure 17, the carrying body 18, the locking buckle 25 and the buckling portion 29 together form a guide mounting structure 16, i.e., the guide mounting structure 16 includes the carrying body 18, the second sliding structure 17, the locking buckle 25 and the buckling portion 29. That is, the first wiring terminal 4 is connected to the electric control box through the guide mounting structure 16, so as to simplify the difficulty in connection between the first wiring terminal 4 and the electric control box.

[0041] In the present embodiment, the buckling portion 29 is connected to one side of the carrying body 18, both the second sliding structure 17 and the locking buckle 25 are connected to the first wiring terminal 4, and the locking buckle 25 is located on one side of the second sliding structure 17; the second sliding structure 17 is slidably connected to the carrying body 18, and the second sliding structure 17 may slide relative to the carrying body 18 until the locking buckle 25 is buckled to the buckling portion 29. Thus, the stable connection between the first wiring terminal 4 and the electric control box may be realized by the cooperation between the locking buckle 25 and the buckling portion 29.

[0042] Among them, the plurality of second guiding blocks 19 are connected to two opposite side surfaces of a side surface of the first wiring terminal 4 in which the first guiding block 9 is disposed adjacent to the first wiring terminal 4, and the plurality of second guiding blocks 19 are disposed adjacent to a side of a side surface in which the first guiding block 9 is disposed perpendicular to the first wiring terminal 4. In the present embodiment, the second guiding blocks 19 disposed on the same side of the first wiring terminal 4 have two blocks, the two second guiding blocks 19 are disposed on two ends of the above sides respectively, and the two second guiding blocks 19 are arranged in the second direction.

[0043] The carrying body 18 includes a carrying main body 20 and two guiding bodies 21. Among them, the carrying main body 20 has a first side and a second side that are disposed oppositely, the first side of the carrying main body 20 is used to be connected to the electronic control box, wherein the connection manner may be integrated molding, welding or fastening, etc., and in the present embodiment, the integrated molding method is adopted. The two guiding bodies 21 are disposed oppositely on the second side of the carrying main body 20, wherein there is a gap between the two guiding bodies 21, and the second sliding structure 17 slides in a gap between the two guiding bodies 21. Among them, the second chute 24 are opened on the side surfaces of the two guiding bodies 21 that are close to each other, the plurality of second guiding blocks 19 on two sides of the first wiring terminal 4 that are disposed oppositely may extend into the second chute 24 of the two guiding bodies 21 respectively and slide relative to the second chute 24. A distance between the two guiding bodies 21 is adapted to a distance between the two sides of the first wiring terminal 4 where the second guiding body 21 is disposed, i.e., the distance between the two guiding bodies 21 is adapted to a thickness of the first wiring terminal 4, so that the first wiring terminal 4 may stably slide between the two guiding bodies 21.

[0044] The guiding body 21 includes a guiding portion 22 and a plurality of limit portions 23, wherein a side of the

guiding portion 22 is connected to the carrying main body 20, and the guiding portion 22 extends in the second direction. The plurality of limit portions 23 are disposed on the other side of the guiding portion 22, and the plurality of limit portions 23 are arranged in the second direction, wherein the carrying main body 20, the guiding portion 22 and the plurality of limit portions 23 form the second chute 24 together.

[0045] In the present embodiment, the plurality of limit portions 23 correspond to the plurality of second guiding blocks 19, and the plurality of second guiding blocks 19 may slide relative to the second chute 24 to be located between the corresponding limit portions 23 and the carrying main body 20. That is, in the present embodiment, both the limit portions 23 and the second guiding blocks 19 have two, and the two limit portions 23 are disposed at two end so the guiding portion 22 respectively, so that when the two second guiding blocks 19 slide to the end of the guiding body 21 along the second chute 24, the two second guiding blocks 19 may be located between the two limit portions 23 and the carrying main body 20 respectively, so that the second guiding blocks 19 may be prevented from being disengaged with the second chute 24 through the limit portions 23.

[0046] In addition, the buckling portions 29 are connected to the carrying main body 20, and the buckling portions 29 are located on one end of the guiding portion 22 in the second direction. The locking buckle 25 is connected to the first wiring terminal 4, and the locking buckle 25 is located on one side of the second guiding blocks 19 in the second direction. Thus, the first wiring terminal 4 slides relative to the two guiding bodies 21 to the end of the guiding bodies 21, so as to facilitate the buckling of the locking buckle 25 on the first wiring terminal 4 to the buckling portions 29 disposed on the guiding portion 22.

[0047] One end of the buckling portions 29 away from the guiding portion 22 is provided with a first stop surface 30, and the first stop surface 30 faces towards the second direction; the locking buckle 25 is provided with a second stop surface 26 facing towards the second guiding blocks 19, and the first stop surface 30 may abut against the second stop surface 26 such that the buckling portions 29 are buckled to the locking buckle 25.

[0048] Among them, in the present embodiment, the buckling portions 29 have two portions, the two buckling portions 29 are connected to the end of the two guiding portions 22 respectively, and the two buckling portions 29 extend in a direction away from the guiding portions 22. Further, a distance between the two buckling portions 29 gradually decreases in the second direction. As a result, side surface of the two buckling portions 29 that are close to each other form two inclined planes, so that the locking buckles 25 are buckled to the buckling portions 29.

[0049] Similarly, the number of the locking buckles 25 corresponds to the number of the buckling portions 29, i.e., there are two locking buckles 25, and the two locking buckles 25 are respectively disposed on two sides of the first guiding blocks 9. Among them, the locking buckle 25 includes connecting portions 27 and wedge-shaped portions 28; one end of the connecting portions 27 is connected to the first wiring terminal 4, the wedge-shaped portions 28 are connected to one end of the connecting portions 27 away from the first wiring terminal 4, and one side of the wedge-shaped portions 28 away from the connecting portions 27 is an inclined plane; the second stop surface 26 is disposed on one side of the wedge-shaped portions 28 close to the connecting portions 27. That is, the two wedge-shape portions 28 are protruded from side surfaces of the two connecting portions 27 that are away from each other.

[0050] When the locking buckle 25 moves to the buckling portion 29 in the second direction, the inclined plane on the wedge-shaped portion 28 is affixed to the inclined plane of the buckling portion 29; when the locking buckle 25 continues to move in the second direction, the connecting portion 27 experiences an elastic deformation, and the two connecting portions 27 move close to each other, so that the wedge-shaped portion 28 may bypass the buckling portion 29. When the wedge-shaped portion 28 may bypass the buckling portion 29, the wedge portion 28 is rebounded and the first stop surface 30 is abutted against the second stop surface 26 due to the elastic restoring force of the connecting portion 27, thereby completing the buckling between the locking buckle 25 and the buckling portion 29.

[0051] With combination of Figs. 5, 6 and 7, the wiring device 1 further includes a mounting structure 31, wherein the mounting structure 31 is connected to the second wiring terminal 5, and the second wiring terminal 5 is connected to the first base through the mounting structure 31. The mounting structure 31 includes a mounting body 32, a fixing buckle 33, an elastic member 35 and a positioning member 34, wherein the mounting body 32 is connected to the second wiring terminal 5. One ends of the fixing buckle 33 and the positioning member 34 are used to be connected to the first base. The fixing buckle 33 may pass through the mounting body 32 and be buckled to the mounting body 32, and the elastic member 35 is disposed close to the fixing buckle 33 and the elastic member 35 is used to be abutted between the first base and the mounting body 32, so that the fixing buckle 33 may stably be buckled to the mounting body 32 by an elastic force of the elastic member 35. The positioning member 34 passes through the mounting body 32, wherein the positioning member 34 is used for positioning when the second wiring terminal 5 is connected to the first base, so that through the positioning of the positioning member 34, the positioning accuracy of the second wiring terminal 5 is improved to ensure that the second wiring terminal 5 may be connected at a suitable position. In addition, the connection error between the second wiring terminal 5 and the first wiring terminal 4 may be eliminated by the elastic member 35, and the tolerance may be automatically adjusted by the elastic member 35, so that the tolerance caused by the user's inaccurate mounting is reduced, and a situation where the second wiring terminal 5 and the first wiring terminal 4 are not plugged in and the pin is bent is avoided.

[0052] In the present embodiment, the mounting body 32 is opened with a mounting hole 36 and a positioning hole 37, and the fixing buckle 33 passes through the mounting hole 36 to be buckled to a side surface of the mounting body 32. The positioning member 34 passes through the positioning hole 37 for positioning the mounting body 32 through the cooperation of the positioning member 34 and the positioning hole 37.

[0053] Further, the mounting body 32 has two bodies, the two mounting bodies 32 are disposed at two opposite sides of the second wiring terminal 5 respectively, and each of the mounting bodies 32 is at least opened with one mounting hole 36 and at least one positioning hole 37, i.e., being connected to the corresponding fixing buckle 33 and the corresponding positioning hole 37 through the mounting bodies 32 disposed on two opposite sides of the second wiring terminal 5, so that the stability of connection between the second wiring terminal 5 and the first base is improved. In the present embodiment, each of the mounting bodies 32 is opened with one mounting hole 36 and one positioning hole 37.

[0054] In addition, the fixing buckle 33 includes a plurality of hooks 38, one end of the plurality of hooks 38 is provided with a third stop surface 41 facing towards the other side of the hooks 38, and the hooks 38 may pass through the mounting bodies 32 such that the third stop surface 41 is abutted against a side surface of the mounting bodies 32, i.e., buckling the hooks 38 to the mounting bodies 32. One end of the hooks 38 away from the third stop surface 41 is used to be connected to the first base. In the present embodiment, the plurality of hooks 38 pass through the mounting hole 36, and the portion of the hooks 38 passing through the mounting hole 36 abuts against the side surface of the mounting bodies 32 such that the hooks 38 are buckled to the mounting bodies 32.

[0055] The hook 38 includes an elastic connecting portion 39 and an abut portion 40, and one end of the elastic connecting portion 39 is used to be connected to the first base; the abut portion 40 is connected to the other end of the elastic connecting portion 39, and the third stop surface 41 is disposed at one side of the abut portion 40 close to the elastic connecting portion 39; one side of the abut portion 40 away from the elastic connecting portion 39 is an inclined plane. That is, in the present embodiment, through the abutment of a side of the abut portion 40 close to the elastic connecting portion 39 against the mounting bodies 32, the buckling of the hooks 38 to the mounting bodies 32 is achieved.

[0056] In addition, in the present embodiment, the plurality of elastic connecting portions 39 are disposed at intervals, and enclosed to form a circle. The plurality of the abut portions 40 are protruded from a side away from each other of the plurality of the elastic connecting portions 39 such that the plurality of the third stop surfaces 41 are respectively located on one side away from each other of the plurality of the elastic connecting portions 39. In the present embodiment, a circle formed by the side surfaces of the plurality of elastic connecting portions 39 away from each other is adapted to a hole diameter of the mounting hole 36, so that when the elastic connecting portions 39 pass through the mounting hole 36, the elastic connecting portions may be attached to an inner peripheral wall of the mounting hole 36, and may be engaged with the mounting bodies 32 through the abut portion 40 protruding from the elastic connecting portions 39. Further, a side of the abut portion 40 away from the elastic connecting portion 39 is an inclined plane, and a plurality of inclined planes on the plurality of abut portions 40 face towards the sides of the plurality of elastic connecting portions 39 away from each other, so that when the plurality of hooks 38 are required to extend into the mounting hole 36, a hole wall of the mounting hole 36 is abutted by the inclined plane disposed on the abut portion 40 to continue to extend the hooks 38 into the mounting hole 36; through the abutment of the abut portion 40 by the hole wall of the mounting hole 36, the plurality of elastic connecting portions 39 experience an elastic deformation and move close to each other, so that the abut portion 40 may pass through the mounting hole 36; after the plurality of abut portions 40 pass through the mounting hole 36, the abut portion 40 may be restored to the original position due to the elastic restoring force of the elastic connecting portion 39, so that the third stop surface 41 abuts against the side surface of the mounting body 32, thereby achieving the buckling of the hooks 38 to the mounting bodies 32.

[0057] In the present embodiment, the hooks 38 have two hooks, and the two hooks 38 are disposed oppositely, that is, when two of the elastic connecting portions 39 extend into the mounting hole 36, the two elastic connecting portions 39 are located at two sides in a center of the mounting hole 36 respectively, and the two abut portions 40 protrude from the side surfaces of the two elastic connecting portions 39 away from each other respectively.

[0058] In addition, the elastic member 35 is wound around the plurality of elastic connecting portions 39, i.e., the elastic member 35 is sleeved outside the fixing buckle 33, so that when the mounting body 32 is mounted to the fixing buckle 33 for being abutted between the mounting body 32 and the first base through the elastic member 35 and providing a guide for the elastic member 35 through the fixing buckle 33, so that the elastic member 35 may stably provide an elastic force for the mounting body 32, and hence the elastic member 35 stably and effectively provides the effect of correcting the mounting tolerance for the mounting body 32. In the present embodiment, the elastic member 35 is a spring.

[0059] The positioning member 34 includes a plurality of positioning posts 42, ends of the plurality of the positioning posts 42 are used to be connected to the first base, and heights of the plurality of the positioning posts 42 are greater than a height of the fixing buckle 33. As a result, when the mounting body 32 is mounted to the first base through the positioning posts 42 and the fixing buckle 33, the fixing buckle 33 may firstly extend into the mounting hole 36 through the positioning of the plurality of positioning posts 42, thereby improving the assemble efficiency between the mounting body 32 and the fixing buckle 33.

[0060] In addition, one end of the positioning post 42 away from the first base is opened with a round chamfer, i.e.,

the end of the positioning post 42 away from the first base has a diameter that gradually decreases away from the first base, so that the positioning post 42 may extend into the positioning hole 37, which facilitates the positioning of the positioning post 42 for the mounting body 32.

[0061] Further, the mounting structure 31 further includes a plurality of ribs 52, the plurality of ribs 52 are disposed at intervals on the ends of the fixing buckle 33 and the positioning member 34, and the plurality of ribs 52 are used to be connected to the first base. That is, when the fixing buckle 33 and the positioning member 34 are connected to the first base, the plurality of ribs 52 are connected to the fixing buckle 33 and the first base, or the plurality of ribs 52 are connected to the positioning member 34 and the first base, so that the stability of connecting between the fixing buckle 33 and the first base and the stability of connecting between the positioning member 34 and the first base are enhanced by the ribs 52.

[0062] With combination of Figs. 8 and 9, the second wiring terminal 3 further includes a wiring head and a protective cover plate 43, and the wiring head is connected to one end of the second wiring terminal 5 away from the first wiring terminal 4 for drawing out connecting wires through the wiring head. The protective cover plate 43 has inside a receiving space 47; the protective cover plate 43 covers the second wiring terminal 5 such that the wiring head is received inside the receiving space 47, the protective cover plate 43 is opened with a positioning connecting member 51 matching with the positioning member 34, and the positioning member 34 is connected to the positioning connecting member 51 to be connected to the protective cover plate 43.

[0063] That is, in the present embodiment, the protective cover plate 43 includes a cover plate body 44 and the positioning connecting member 51. The cover plate body 44 is used to cover the second wiring terminal 5, and make the second wiring terminal 5 be received inside the cover plate body 44, i.e., making the wiring head be received inside the cover plate body 44. The positioning connecting portion 48 is connected to the cover plate body 44, and the positioning connecting portion 48 is used to be connected to the positioning member 34.

[0064] The receiving space 47 is opened inside the cover plate body 44, and the receiving space 47 is used to receive the second wiring terminal 5 and the wiring head. And, the positioning connecting portion 48 is disposed inside the receiving space 47, which simplifies the structure of the protective cover plate 43.

[0065] Among them, the cover plate body 44 includes a top plate 45 and a plurality of side plates 46, the plurality of side plates 46 are connected to a plurality of sides of the top plate 45 respectively, i.e., the plurality of side plates 46 and the top plate 45 enclose the receiving space 47 together, one end of the plurality of side plates 46 away from the top plate 45 is used to abut against the first base, and one of the side plates 46 of the top plate 45 forms an opening so that the second wiring terminal 5 extends into the receiving space 47 through the opening. Among them, in the present embodiment, a shape of the top plate 45 matches an overall shape formed by the second wiring terminal 5 and the mounting body 32, so that the cover plate body 44 receives the second wiring terminal 5 and the mounting body 32 in the receiving space 47 to ensure that the protective cover plate 43 may effectively provide protection to the second wiring terminal 5 and the mounting body 32, thereby preventing water stains from falling on the second wiring terminal 5 or the mounting body 32.

[0066] In addition, the plurality of side plates 46 are provided with a circular arc transition section at the joint where it is connected to the top plate 45, so as to prevent the user from being harmed when the protective cover plate 43 is disassembled.

[0067] In the present embodiment, the positioning connecting portion 48 is disposed on one side of the top plate 45 close to the receiving space 47, and the positioning connecting portion 48 is used to abut against the positioning member 34. That is, when the cover plate body 44 covers the second wiring terminal 5, the positioning connecting portion 48 abuts against the positioning member 34 extending from the mounting body 32 within the receiving space 47, so as to achieve the positioning of the cover plate body 44, and to facilitate the connection of the cover plate body 44.

[0068] Further, the protective cover plate 43 further includes a positioning connecting member 51, and the positioning connecting member 51 passes through the positioning connecting portion 48 and is used to be connected to the positioning member 34, so that the cover plate body 44 may stably cover the second wiring terminal 5 through the previous cooperation between the positioning connecting member 51 and the positioning member 34.

[0069] In the present embodiment, the positioning connecting portion 48 is provided inside with a mounting space 49, and an end surface of the positioning connecting portion 48 away from the top plate 45 is opened with a positioning connecting hole 50, and the mounting space 49 is communicated to the receiving space 47 through the positioning connecting hole 50, so that the positioning connecting member 51 may pass through the positioning connecting hole 50 to facilitate the connection between the positioning connecting member 51 and the positioning member 34.

[0070] Further, a diameter of one end of the mounting space 49 away from the receiving space 47 gradually increases in a direction away from the receiving space 47, so as to facilitate the extension of the positioning connecting member 51 into the mounting space 49. Thus, the assembly efficiency of the positioning connecting member 51 may be improved. In addition, a diameter of the positioning connecting hole 50 is smaller than a diameter of the mounting space 49, so that when the positioning connecting member 51 is connected to the positioning member 34, the positioning connecting portion 48 may abut against the positioning member 34 to ensure that the cover plate body 44 may stably cover the

second wiring terminal 5.

[0071] Moreover, it should be noted that in the present embodiment, the positioning connecting member 51 is a screw, and passing the screw through the positioning connecting hole 50 and screwing the screw into the positioning member 34 may abut the positioning connecting portion 48 against the position member 34 by a screw nut of the screw, and may make the cover plate body 44 stably cover the second wiring terminal 5.

[0072] In the wiring device 1 provided by the present embodiment, through the mutual cooperation between the first sliding structure 6 disposed on the first wiring terminal 4 and the first guiding structure 7 provided on the second wiring terminal 5, wherein the first sliding structure 6 may slide in the first direction relative to the first guiding structure 7, the first wiring terminal 4 may move in the first direction relative to the second wiring terminal 5 and is connected to the second wiring terminal 5, so as to ensure that the guiding connection between the first wiring terminal 4 and the second wiring terminal 5 is facilitated without affecting leads in the wiring hole 8 that extends in the first direction, thereby facilitating the assembly and disassembly between the first wiring terminal 4 and the second wiring terminal 5. And through provision of the guiding space 12 and the first chute 13 in the first guiding structure 7, the first wiring terminal 4 may be guided by the guiding space 12 when the first wiring terminal 4 is connected to the second wiring terminal 5, and through the guiding for the first guiding block 9 by the first chute 13, the guiding connection between the first wiring terminal 4 and the second wiring terminal 5 is further facilitated, thereby making the assembly and disassembly more convenient and fast. In addition, through the provision of the second sliding structure 17 and the carrying body 18 for being connected to the electronic control box, the first wiring terminal 4 may be connected to the carrying body 18 through the second sliding structure 17 by the sliding cooperation between the second sliding structure 17 and the carrying body 18, i.e., facilitating the guiding connection between the first wiring terminal 4 and the electronic control box, thereby facilitating the connection of the first wiring terminal 4 to the electronic control box. Through the provision of the mounting structure 31 on the second wiring terminal 5, the connection of the second wiring terminal 5 to the first base is facilitated by the engagement between the fixing buckle 33 and the mounting body 32, by the positioning between the positioning member 34 and the mounting body 32, and by the error adjustment of the second wiring terminal 5 with the elastic member 35. Through the provision of the protective cover plate 43 covering the second wiring terminal 5 for preventing the user from connecting the wires inside the second wiring terminal 5, the stability in connection of the wires is guaranteed and the danger of electric shock to users is avoided, and water stains will be ensured not to splash into the second terminal 5 and not to cause a short circuit in the wiring when the wiring device 1 is cleaned.

2nd Embodiment

[0073] The present embodiment provides an air conditioner, which employs the wiring device 1 provided in Embodiment One, which facilitates the wiring of an electric control box, and is easy to assemble and disassemble.

[0074] The above are only preferred embodiments of the disclosure and are not intended to limit the disclosure. Any modification, equivalent replacement, and improvement made within the spirit and principle of the disclosure shall be included in the protection scope of the disclosure.

Claims

1. A mounting structure, applied to a wiring device (1), **characterized in that**, the wiring device (1) comprises a second wiring terminal (5), the second wiring terminal (5) mounted to a first base through the mounting structure (31), wherein the mounting structure (31) comprises a mounting body (32), a fixing buckle (33) and a positioning member (34); the mounting body (32) is connected to the second wiring terminal (5), and the fixing buckle (33) and one end of the positioning member (34) are used to be connected to the first base; the fixing buckle (33) passes through the mounting body (32) and is buckled to the mounting body (32), and the positioning member (34) passes through the mounting body (32).

2. The mounting structure according to claim 1, wherein a mounting hole (36) and a positioning hole (37) are disposed on the mounting body (32), the fixing buckle (33) passes through the mounting hole (36) and is buckled to a side surface of the mounting body (32), and the positioning member (34) passes through the positioning hole (37).

3. The mounting structure according to claim 2, wherein the mounting body (32) has two bodies; the two mounting bodies (32) are disposed at two opposite sides of the second wiring terminal (5), respectively, and at least one positioning hole (36) and at least one positioning hole (37) are respectively disposed on each of the mounting bodies (32).

4. The mounting structure according to claim 1, wherein the fixing buckle (33) comprises a plurality of hooks (38), and

one end of each of the hooks (38) is provided with a third stop surface (41); the third stop surface (41) is disposed towards the first base, and the plurality of hooks (38) pass through the mounting body (32), such that the third stop surface (41) abuts against the side surface of the mounting body (32); and ends of the plurality of hooks (38) away from the third stop surface (41) are used to be connected to the first base.

5. The mounting structure according to claim 4, wherein the hook (38) comprises an elastic connecting portion (39) and an abut portion (40), and one end of the elastic connecting portion (39) is used to be connected to the first base; the abut portion (40) is connected to the other end of the elastic connecting portion (39), and the third stop surface (41) is disposed at one side of the abut portion (40) close to the elastic connecting portion (39); one side of the abut portion (40) away from the elastic connecting portion (39) is an inclined plane.

6. The mounting structure according to claim 5, wherein a plurality of the elastic connecting portions (39) are arranged along a circumferential direction, and the plurality of the elastic connecting portions (39) are disposed at intervals; a plurality of the abut portions (40) are protruded from a side away from each other of the plurality of the elastic connecting portions (39), such that the plurality of the third stop surfaces (41) are respectively located on one side away from each other of the plurality of the elastic connecting portions (39).

7. The mounting structure according to claim 5, wherein the mounting structure (31) further comprises an elastic member (35), the elastic member (35) is wound around the plurality of elastic connecting portions (39), and the elastic member (35) abuts between the first base and the mounting body (32).

8. The mounting structure according to claim 1, wherein the positioning member (34) comprises a plurality of positioning posts (42), ends of the plurality of the positioning posts (42) are used to be connected to the first base, and heights of the plurality of the positioning posts (42) are greater than a height of the fixing buckle (33).

9. The mounting structure according to any one of claims 1 to 8, wherein the mounting structure (31) further comprises a plurality of ribs, the plurality of the ribs are disposed at intervals on ends of the fixing buckle (33) and the positioning member (34), and the plurality of the ribs are used to be connected to the first base.

10. An air conditioner, **characterized in that**, the air conditioner comprises the mounting structure (31) according to any one of claims 1 to 9.

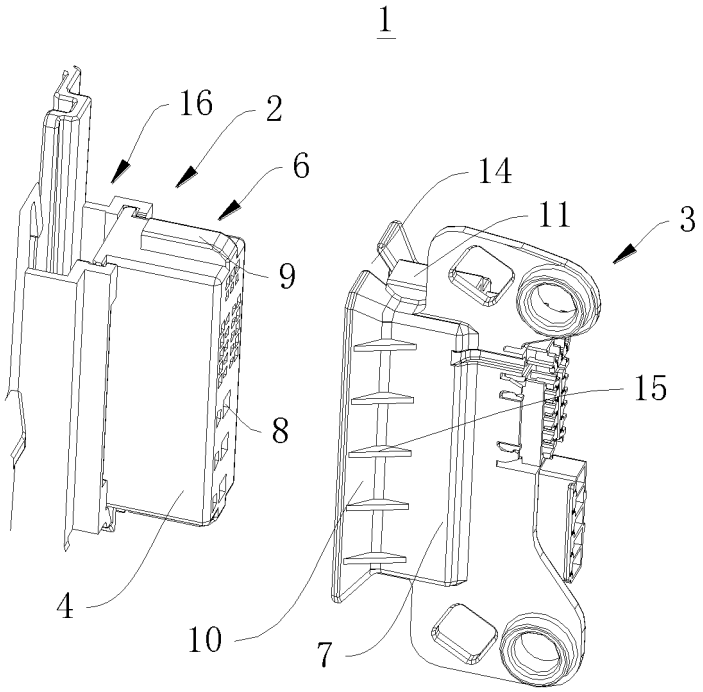

Fig. 1

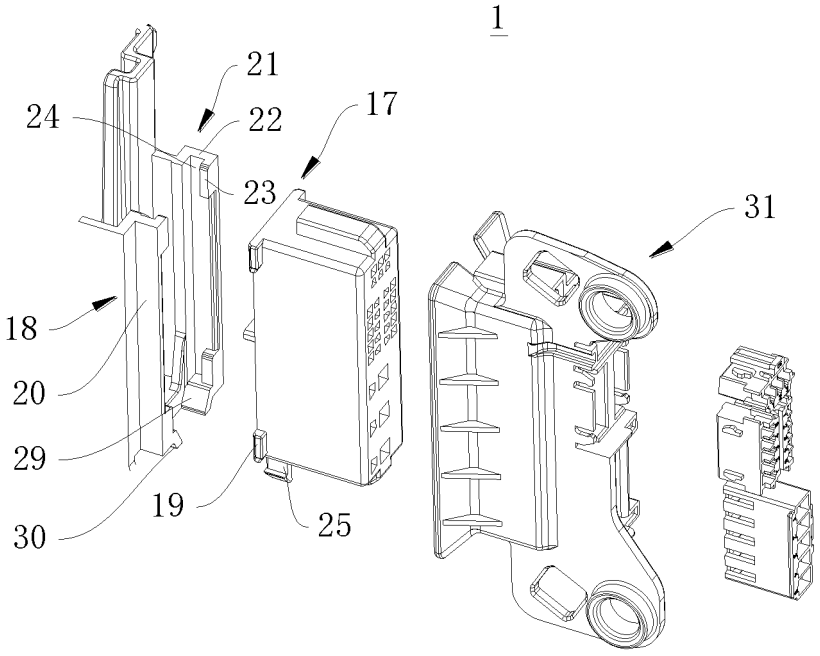

Fig. 2

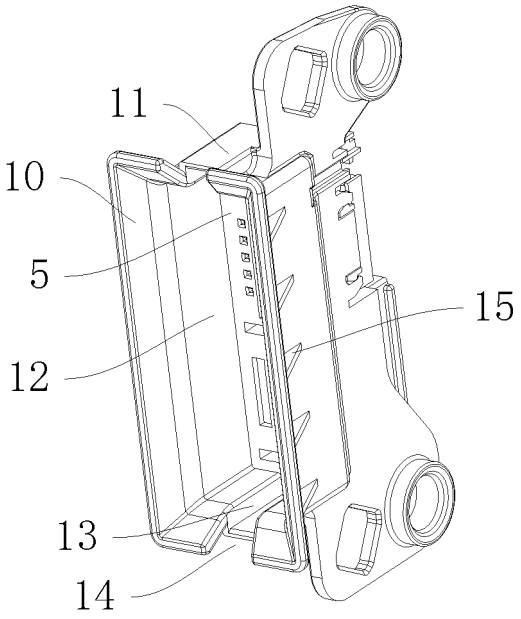

Fig. 3

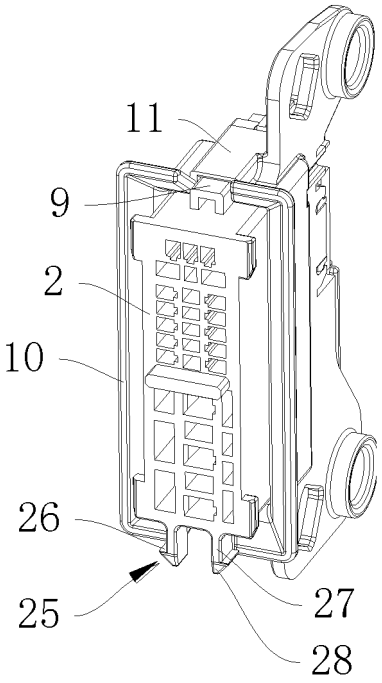

Fig. 4

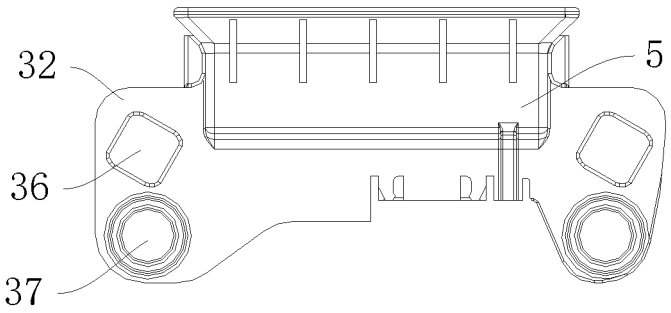

Fig. 5

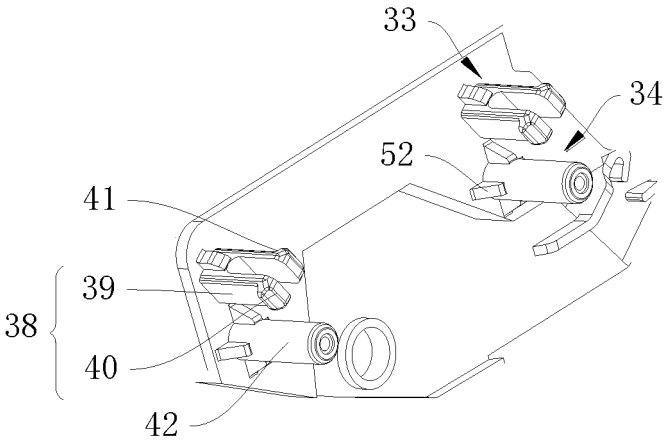

Fig. 6

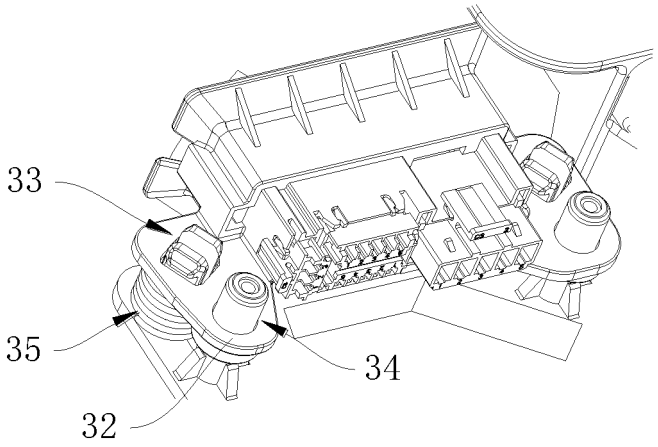

Fig. 7

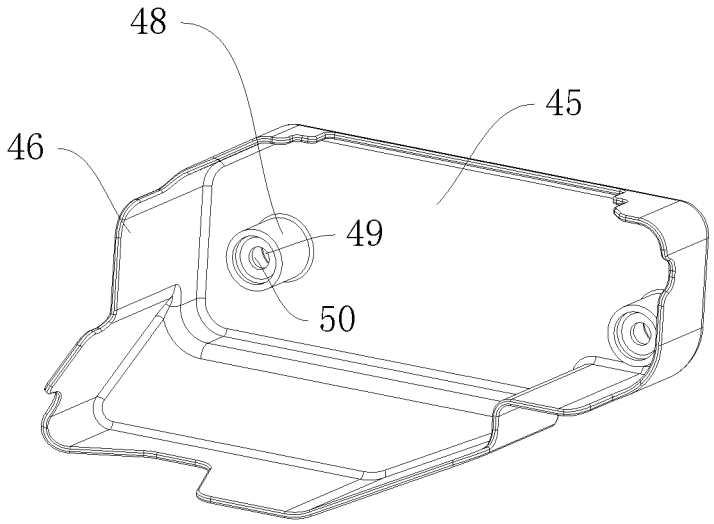

Fig. 8

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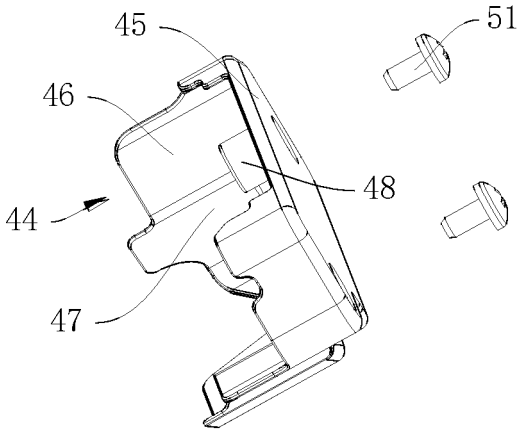

Fig. 9

INTERNATIONAL SEARCH REPORT

International application No.
PCT/CN2018/125498

A. CLASSIFICATION OF SUBJECT MATTER

H01R 13/422(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)

H01R

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)

WPI, EPODOC, CNPAT, CNKI: 空调, 端子, 接线, 安装, 固定, 扣, 定位, air, conditioner, terminal, connetion, mounting, fix +, buckle, locat+

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
PX	CN 207743432 U (AUX AIR CONDITIONING CO., LTD.) 17 August 2018 (2018-08-17) description, paragraphs 0065-0075, and figures 1-7	1-10
PX	CN 108306155 A (AUX AIR CONDITIONER CO., LTD.) 20 July 2018 (2018-07-20) description, paragraphs 0065-0075, and figures 1-7	1-10
PX	CN 207743489 U (AUX AIR CONDITIONER CO., LTD.) 17 August 2018 (2018-08-17) description, paragraphs 0065-0075, and figures 1-7	1-10
PX	CN 207743465 U (AUX AIR CONDITIONER CO., LTD.) 17 August 2018 (2018-08-17) description, paragraphs 0065-0075, and figures 1-7	1-10
PX	CN 207743488 U (AUX AIR CONDITIONER CO., LTD.) 17 August 2018 (2018-08-17) description, paragraphs 0064-0074, and figures 1-7	1-10
X	CN 104656815 A (WISTRON CORPORATION ET AL.) 27 May 2015 (2015-05-27) description, paragraphs 0002-0003, and figure 1	1-10
A	CN 203984800 U (WUHU REFRIGERATION EQUIPMENT CO., LTD. OF MIDEA GROUP) 03 December 2014 (2014-12-03) entire document	1-10

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

* Special categories of cited documents:

"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

"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)

"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

"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

"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

"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

"&" document member of the same patent family

Date of the actual completion of the international search	Date of mailing of the international search report
19 March 2019	**03 April 2019**
Name and mailing address of the ISA/CN **National Intellectual Property Administration, PRC** **No. 6, Xitucheng Road, Jimenqiao Haidian District, Beijing 100088** **China** Facsimile No. **(86-10)62019451**	Authorized officer Telephone No.

Form PCT/ISA/210 (second sheet) (January 2015)

INTERNATIONAL SEARCH REPORT
Information on patent family members

International application No.
PCT/CN2018/125498

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		TW 201526755 A	01 July 2015
		TW I594680 B	01 August 2017
CN 203984800 U	03 December 2014	None	

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