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(54) BOTTOM HOUSING ASSEMBLY STRUCTURE AND AIR CONDITIONER

(57) Disclosed are a bottom housing assembly structure and an air conditioner. The bottom housing assembly structure comprises a bottom housing assembly (2) and a base (1), wherein a guide structure is arranged between the bottom housing assembly (2) and the base (1), and the guide structure is configured to guide installation of the bottom housing assembly (2) on the base (1). The bottom housing assembly structure can facilitate the realization of the installation of the bottom housing assembly (2) on the base (1), thereby improving the installation efficiency of the bottom housing assembly (2).

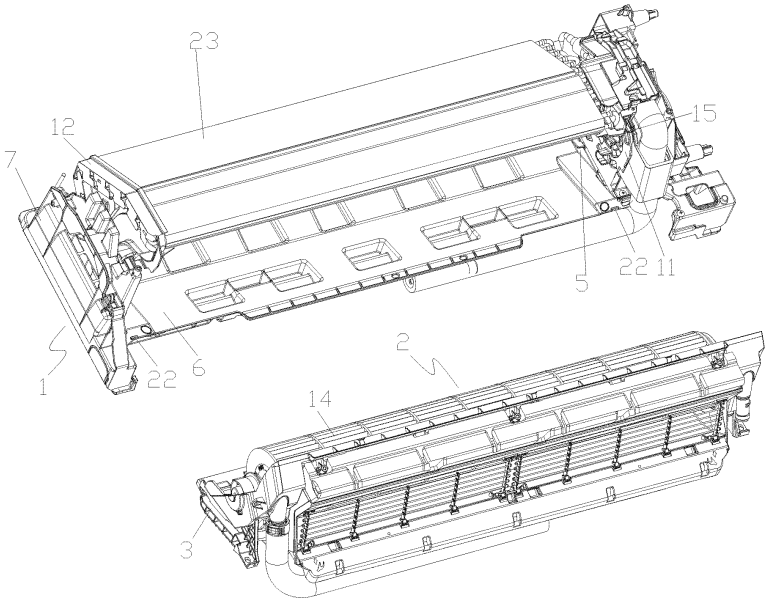


Fig. 1

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Description

Technical Field

[0001] The present invention belongs to the technical field of air conditioning equipment, and in particular relates to a bottom housing assembly structure and an air conditioner.

Background

[0002] As a widely used home appliance, the key part of an air conditioner is an air duct system. In a conventional air conditioner, the air duct system and a water channel system and a bottom housing as a whole are assembled and fixed first as basic parts. If it is needed to unpick and wash the air conditioner, professionals need to split the parts of the air conditioner to be detached and washed, which is quite inconvenient.

[0003] In order to maintain or wash the bottom housing assembly of the air conditioner, it is commonly arranged that the bottom housing is detachably connected to a housing of a wall-installed unit of the air conditioner. In the conventional art, when the bottom housing is installed, the position of the bottom housing is easily deviated from a preset position, so that the installation position of the bottom housing assembly needs to be adjusted for many times to accomplish the installation, reducing the installation efficiency of the bottom housing assembly.

Summary

[0004] Therefore, the technical problem to be solved by some embodiments of the present invention is to provide a bottom housing assembly structure and an air conditioner, which makes it convenient to install the bottom housing assembly on a housing, so that the installation assembly of the bottom housing assembly is improved.

[0005] In order to solve the problem, the present invention provides a bottom housing assembly structure which includes a bottom housing assembly and a base. A guide structure is arranged between the bottom housing assembly and the base, and the guide structure is configured to guide the installation of the bottom housing assembly on the base.

[0006] In an exemplary embodiment, the guide structure includes a guide slot and a guide rail matched with each other slidably. The guide slot is arranged on one of the bottom housing assembly and the base, and the guide rail is arranged on the other one of the bottom housing assembly and the base.

[0007] In an exemplary embodiment, the guide slot is arranged on at least one end of the base, and the guide rail is arranged in a corresponding position of the bottom housing assembly.

[0008] In an exemplary embodiment, the guide slot includes a first guide slot. The base includes a bottom plate and a vertical plate arranged on a first end of the bottom plate, a side baffle plate extending outside laterally is arranged on the vertical plate, and the first guide slot is formed between the side baffle plate and the bottom plate.

[0009] In an exemplary embodiment, a first rib is arranged on a side, facing the bottom plate, of the side baffle plate.

[0010] In an exemplary embodiment, the guide slot further includes a second guide slot. A guide plate is arranged on a second end of the bottom plate, the guide plate is fixedly arranged on the bottom plate, and the second guide slot is formed between the guide plate and the bottom plate.

[0011] In an exemplary embodiment, the second guide slot is shorter than the first guide slot.

[0012] In an exemplary embodiment, a motor seat is further arranged on the second end of the bottom plate, and the guide plate is located on a side, close to the vertical plate, of the motor seat.

[0013] In an exemplary embodiment, an angular rack and a pressing plate are further separately arranged on both ends of the bottom plate of the base. The bottom housing assembly includes a fan blade which is installed in a guided manner by the pressing plate.

[0014] In an exemplary embodiment, a thread connection hole is arranged on at least one of the angular rack and the pressing plate, and the bottom housing assembly is fixedly connected to the thread connection hole.

[0015] In an exemplary embodiment, both ends of the bottom housing assembly are fixedly connected to both ends of the base through screws.

[0016] In an exemplary embodiment, a first slot is arranged on the base corresponding to an insertion tail end of the bottom housing assembly, a first plug is arranged on the insertion tail end of the bottom housing assembly, and the first plug is inserted into the first slot.

[0017] In an exemplary embodiment, a width of the first slot is decreased gradually along the insertion direction of the bottom housing assembly.

[0018] In an exemplary embodiment, limiting protrusions are arranged on both ends of the first slot, and the first plug is limited between the two limiting protrusions.

[0019] In an exemplary embodiment, a second rib is arranged on at least one plugging surface of the first plug.

[0020] In an exemplary embodiment, the second slot is further arranged on the base corresponding to the insertion tail end of the bottom housing assembly, the second slot is arranged on at least one side of the first slot, a second plug is arranged on the insertion tail end of the bottom housing assembly, and the second plug is inserted into the second slot.

[0021] In an exemplary embodiment, there are two second slots separately arranged on both sides of the first slot, and the first slot is located in a middle of a length direction of the base.

[0022] In an exemplary embodiment, anti-falling protrusions are arranged on the base. After the bottom hous-

ing assembly is inserted onto the base, the anti-falling protrusions are located on an outer side of the bottom housing assembly and stop the bottom housing assembly.

[0023] In an exemplary embodiment, the anti-falling protrusions are arranged on both ends of the base in the length direction.

[0024] In an exemplary embodiment, a heat exchanger is arranged on the base, an accommodation cavity is formed between the heat exchanger and the base, and the bottom housing assembly is located in the accommodation cavity.

[0025] According to another aspect of the present invention, an air conditioner is provided. The air conditioner includes a bottom housing assembly structure which is the above bottom housing assembly structure described herein.

[0026] The bottom housing assembly structure provided by the present invention includes a bottom housing assembly and a base, and a guide structure is arranged between the bottom housing assembly and the base. The guide structure is configured to guide the installation of the bottom housing assembly on the base. As the guide structure is arranged between the bottom housing assembly and the base of the bottom housing assembly structure, the installation of the bottom housing assembly on the base can be guided, so that the bottom housing assembly is installed on the base in position quickly without adjusting the installation position of the bottom housing assembly on the base for many times. The bottom housing assembly is simple and convenient to mount, and the installation efficiency of the bottom housing assembly can be improved effectively.

Brief Description of the Drawings

[0027]

Fig. 1 is an exploded structural schematic diagram of the bottom housing assembly structure of the embodiment of the present invention;

Fig. 2 is an assembled structural schematic diagram of the bottom housing assembly structure of the embodiment of the present invention;

Fig. 3 is a first axonometric structural diagram of the bottom housing assembly structure without the bottom housing assembly of the embodiment of the present invention;

Fig. 4 is a second axonometric structural diagram of the bottom housing assembly structure without the bottom housing assembly of the embodiment of the present invention;

Fig. 5 is a three-dimensional structural schematic diagram of the base of the bottom housing assembly structure of the embodiment of the present invention;

Fig. 6 is a three-dimensional structural schematic diagram of the bottom housing assembly of the bottom housing assembly structure of the embodiment of the present invention.

[0028] Signs of the drawings are represented as follows:

1. Base; 2. Bottom housing assembly; 3. Guide rail; 4. First guide slot; 5. Second guide slot; 6. Bottom plate; 7. Vertical plate; 8. Side baffle plate; 9. First rib; 10. Guide plate; 11. Motor seat; 12. Angular rack; 13. Pressing plate; 14. Fan blade; 15. Thread connection hole; 16. First slot; 17. First plug; 18. Limiting protrusion; 19. Second rib; 20. Second slot; 21. Second plug; 22. Anti-falling protrusion; 23. Heat exchanger; 24. Accommodation cavity; 25. Reinforcing rib

Detailed Description of the Embodiments

[0029] Referring to Fig. 1 to Fig. 6, according to the embodiments of the present invention, the bottom housing assembly structure includes a bottom housing assembly 2 and a base 1, and a guide structure is arranged between the bottom housing assembly 2 and the base 1. The guide structure is configured to guide the installation of the bottom housing assembly 2 on the base 1.

[0030] As the guide structure is arranged between the bottom housing assembly 2 and the base 1 of the bottom housing assembly structure, the installation of the bottom housing assembly on the base 1 can be guided, so that the bottom housing assembly 2 is installed on the base 1 in position quickly without adjusting the installation position of the bottom housing assembly 2 on the base 1 for many times. The bottom housing assembly is simple and convenient to mount, and the installation efficiency of the bottom housing assembly 2 can be improved effectively.

[0031] The guide structure includes a guide slot and a guide rail 3 matched with each other slidably. The guide slot is arranged on one of the bottom housing assembly 2 and the base 1, and the guide rail 3 is arranged on the other one of the bottom housing assembly 2 and the base 1. A sliding guide matching structure is formed by matching the guide slot with the guide rail 3 between the bottom housing assembly 2 and the base 1, so that the installation of the bottom housing assembly 2 on the base 1 is guided slidably, and the bottom housing assembly 2 is installed on the base 1 in position conveniently.

[0032] The guide slot is arranged on at least one end of the base 1, and the guide rail 3 is arranged in a corresponding position of the bottom housing assembly 2. After the guide slot is arranged on the at least one end of the base 1, slidable installation of the bottom housing assembly 2 may be guided through the guide rail 3 arranged on the bottom housing assembly 2. Under the sliding matching action of the guide rail 3 and the guide slot, it may be ensured that the bottom housing assembly 2 is installed on the base 1 in position quickly.

[0033] The guide slot includes a first guide slot 4. The base 1 includes a bottom plate 6 and a vertical plate 7 arranged on a first end of the bottom plate 6. A side baffle

plate 8 extending outside laterally is arranged on the vertical plate 7. The first guide slot 4 is formed between the side baffle plate 8 and the bottom plate 6. The vertical plate 7 may be either fixedly connected to the bottom plate 6 by way of bolt connection and the like, or integrally formed with the bottom plate 6 directly. The side baffle plate 8 may be either fixedly arranged on the vertical plate 7 by way of bolt connection and the like, or fixed to the vertical plate 7 by way of welding or integrally formed with the vertical plate 7.

[0034] The bottom plate 6 includes an inclined segment and a horizontal segment. The inclined segment and the side baffle plate 8 form downward inclined the first guide slot 4. The bottom housing assembly 2 is installed obliquely downward along the first guide slot 4 first. When arriving at the tail end of the first guide slot 4, the bottom housing assembly 2 is installed horizontally along the horizontal segment. By matching the inclined segment with the horizontal segment, it is further effectively ensured that the bottom housing assembly 2 is installed in position while it is convenient to mount the bottom housing assembly 2 on the base 1, and the stability of an installation structure of the bottom housing assembly 2 on the base 1 can be guaranteed.

[0035] A first rib 9 is arranged on a side, facing the bottom plate 6, of the side baffle plate 8. The first rib 9 can be in contact with the side, facing the first rib 9, of the guide rail 3, so that the guide rail 3 is compressed by the first rib 9 to prevent abnormal sound of the whole air conditioner in an operation process.

[0036] The guide rail 3 may be of a structure connected by ribs in an external frame, so that the structural strength of the guide rail 3 is guaranteed, and the problem that the guide rail 3 cannot be guided effectively as the guide rail matched with the first guide slot deforms is solved. Meanwhile, the weight of the guide rail 3 can be reduced, and the weight of the bottom housing assembly 2 can be alleviated, so that light weight of the bottom housing assembly 2 is achieved and the material cost is lowered.

[0037] The guide slot further includes a second guide slot 5, a guide plate 10 is arranged on a second end of the bottom plate 6, the guide plate 10 is fixedly arranged on the bottom plate 6, and the second guide slot 5 is formed between the guide plate 10 and the bottom plate 6. By way of arranging the guide slots on both ends of the bottom plate 6 in the length direction, the installation of the bottom housing assembly 2 on the base 1 can be guided from both ends simultaneously when the bottom housing assembly 2 is installed. The guide structure is more stable, so that it may be ensured that the bottom housing assembly 2 is installed in position more quickly and accurately.

[0038] In an exemplary embodiment, the second guide slot 5 is shorter than the first guide slot 4, so that a differentiation design of the guide slots on both ends may be achieved. A more reasonable structural design is adopted according to different structures on both ends. Existing structures on the base 1 are prevented from being intervened while the bottom housing assembly 2 is guided effectively, so that the rationality of inner structural layout is improved.

[0039] A motor seat 11 is further arranged on the second end of the bottom plate 6, and the guide plate 10 is located on a side, close to the vertical plate 7, of the motor seat 11. As the guide plate 10 is fixedly arranged on the bottom plate 6 directly rather than installed on the motor seat 11, structural installation of other parts on the motor seat 11 is not affected, and there is no need to change the structure of the motor seat 11, so that the processing cost is lowered.

[0040] An angular rack 12 and a pressing plate 13 are further separately arranged on both ends of the bottom plate 6 of the base 1. The bottom housing assembly 2 includes a fan blade 14 which is installed in a guided manner by the pressing plate 13. The pressing plate 13 is provided with a guide surface structure which can be matched with the second guide slot 5. In a position where cannot be guided by the second guide slot 5, the bottom housing assembly 2 may be further guided through the guide surface structure of the pressing plate 13, so that it is ensured that the base 1 guides the bottom housing assembly 2 on the second end, and therefore, the bottom housing assembly 2 may be ensured to be installed in position.

[0041] A thread connection hole 15 is arranged on at least one of the angular rack 12 and the pressing plate 13, and the bottom housing assembly 2 is fixedly connected to the thread connection hole 15. After the bottom housing assembly 2 is installed in position, the screw hole in the bottom housing assembly 2 corresponds to the threaded connection hole 15, and at the moment, a screw may be driven to fixedly connect the bottom housing assembly 2, the angular rack 12 and the pressing plate 13.

[0042] In order to further improve the stability of the installation structure of the bottom housing assembly 2 on the base 1, the bottom housing assembly 2 is fixedly connected to both ends of the base 1.

[0043] A first slot 16 is arranged on an insertion tail end, corresponding to the bottom housing assembly 2, of the base 1, a first plug 17 is arranged on the insertion tail end of the bottom housing assembly 2, and the first plug 17 is inserted into the first slot 16. When the bottom housing assembly 2 is to be installed on the base 1 in position, the first plug 17 arrives at a position of the first slot 16 and is guided by the first slot 16 to be inserted, and the insertion position of the first plug 17 is guided and limited by means of the first slot 16, so that it is ensured that the bottom housing assembly 2 is inserted in position more quickly, and the insertion position is accurate.

[0044] The width of the first slot 16 is decreased gradually along the insertion direction of the bottom housing assembly 2, so that a guiding role can be played to insertion of the first plug 17 in the first slot 16, and therefore, the insertion difficulty of the first plug 17 is reduced and

the installation efficiency of the bottom housing assembly 2 on the base 1 is improved.

[0045] Limiting protrusions 18 are arranged on both ends of the first slot 16, and the first plug 17 is limited between the two limiting protrusions 18. The two limiting protrusions 18 can further limit installation of the first plug 17 in the first slot 16 from both sides of the first plug 17, so that the accuracy of the installation position of the bottom housing assembly 2 on the base 1 is further improved and the debugging program is reduced.

[0046] A second rib 19 is arranged on at least one plugging surface of the first plug 17, so that the plugging surface of the first slot 16 can be extruded by means of the second rib 19 to prevent abnormal sound of the whole air conditioner in a working process, so that generation of noise is reduced.

[0047] A second slot 20 is further arranged on the base 1 corresponding to the insertion tail end of the bottom housing assembly 2, the second slot 20 is arranged on at least one side of the first slot 16, a second plug 21 is arranged on the insertion tail end of the bottom housing assembly 2, and the second plug 21 is inserted into the second slot 20. The second slot 20 may be matched with the first slot 16 to form more comprehensive positioning guidance to the bottom housing assembly 2 on the insertion tail end of the bottom housing assembly 2, so that the accuracy and reliability of the installation position of the bottom housing assembly 2 on the base 1 are improved. Preferably, the limiting protrusions 18 are arranged in positions between the first slot 16 and the second slot 20, and limiting grooves are arranged in positions, corresponding to the limiting protrusions 18, between the first plug 17 and the second plug 21.

[0048] There are two second slots 20 separately arranged on both sides of the first slot 16, and the first slot 16 is located in the middle of the base 1 in the length direction to make position distribution of the first slot 16 and the second slots 20 more reasonable on the base 1, so that the bottom housing assembly 2 inserted onto the base 1 is stressed more uniformly, and therefore, the installation structure is more stable.

[0049] Preferably, the second rib 19 is further arranged on the plugging surfaces of the second plug 21, so that abnormal sound of the whole air conditioner in the working process may be further prevented.

[0050] Anti-falling protrusions 22 are arranged on the base 1. After the bottom housing assembly 2 is inserted onto the base 1, the anti-falling protrusions 22 are located on an outer side of the bottom housing assembly 2 and stop the bottom housing assembly 2. In the embodiment, the anti-falling protrusions 22 are arranged corresponding to the guide rail 3 of the bottom housing assembly 2. When the bottom housing assembly 2 is installed, after the bottom housing assembly 2 is pushed to the installation position, the end part of the guide rail 3 on the bottom housing assembly 2 leans against the anti-falling protrusions 22 on the base 1 precisely, thus, the bottom housing assembly 2 may be pre-fixed to prevent the bottom housing assembly 2 from slipping from the base 1 before the screws are driven.

[0051] Preferably, the anti-falling protrusions 22 are arranged on both ends of the base 1 in the length direction to pre-fix the bottom housing assembly 2 simultaneously from both ends of the bottom housing assembly 2 in the length direction, so that the limiting effect is better.

[0052] A heat exchanger 23 is arranged on the base 1, an accommodation cavity 24 is formed between the heat exchanger 23 and the base 1, and the bottom housing assembly 2 is located in the accommodation cavity 24. In the embodiment, one end of the heat exchanger 23 is fixed to the angular rack 12 while the other end is fixed to the pressing plate 13. When the bottom housing assembly 2 is in an installation state, the pressing plate 13 is positioned on the upper part of the motor seat 11.

[0053] Preferably, a plurality of compression plates are arranged on the base 1, the first slot 16 and the second slot 20 are formed between the compression plates and the bottom plate 16 of the base 1, and a reinforcing rib 25 is arranged on the upper surfaces of the compression plates to reinforce the structural strength of the compression plates to prevent a condition that effective guiding and positioning roles cannot be played as the compression plates upwarp in the process that the plug is inserted into the slot, so that the stability of the compression plate structure is improved.

[0054] When the bottom housing assembly 2 is installed, at first, the guide rail 3 on one end of the bottom housing assembly 2 slides into the first guide slot 4 with a long stroke by an operator, and then the end side, close to the fan blade 14, of the other end of the bottom housing assembly 2 is matched with a guide bevel of the pressing plate 13 and is matched with the second guide slot 5 to guide the bottom housing assembly 2, so that the end side of the bottom housing assembly 2 starts to slide into the front accommodation cavity 24. Thus, one end of the bottom housing assembly 2 leans against the first guide slot 4 on the base 1 while the other end of the bottom housing assembly 2 leans against the guide bevel on the pressing plate 13 to restrain the bottom housing assembly 2 to slide according to a preset route to the installation position.

[0055] When the bottom housing assembly 2 arrives at the installation position, the first plug 17, the second plug 20 and the limiting grooves on the bottom housing assembly 2 are matched with the first slot 16, the second slot 21 and the limiting protrusions 18, separately, to realize hermetic match on the upper end surface of the bottom housing assembly 2. The plurality of second ribs 19 are designed on the first plug 17 and the second plug 21 on the bottom housing assembly 2, and the second ribs 19 are in contact with the slots on the base 1 to prevent abnormal sound of the whole air conditioner in the operating process.

[0056] After the bottom housing assembly 2 slides into the installation position, the guide rails 3 on both ends of the bottom housing assembly 2 lean against the anti-

falling protrusions 22 on the base 1, so that a condition that the bottom housing assembly 2 slides before being fixed is prevented. Being pre-fixed against the anti-falling protrusions 22, the bottom housing assembly 2 is fixed to the base 1 through screw fixing parts. Then, the bottom housing assembly 2, the angular rack 12 and the pressing plate 13 are fixedly connected through the screw fixing parts, so that the bottom housing assembly 2 is fixedly installed on the base 1.

[0057] According to the embodiments of the present invention, the air conditioner includes the bottom housing assembly structure, and the bottom housing assembly structure is the above bottom housing assembly structure described herein.

[0058] It should be easily understood by those skilled in the art that the above advantageous embodiments can be combined and superposed freely without confliction.

[0059] What are described above are merely preferred embodiments of the present invention, and are not to limit the present invention. Any modifications, equivalent replacements, improvements and the like made within the spirit and principle of the disclosure shall fall within the scope of protection of the present invention. The above descriptions are only preferred implementing modes of the present invention, and it should be noted that for those of ordinary skill in the art, improvements and variations may be further made without departing from the technical principles of the present invention, and these improvements and variations shall be within the protection scope of the present invention.

Claims

1. A bottom housing assembly structure, comprising a bottom housing assembly (1) and a base (2), wherein a guide structure is arranged between the bottom housing assembly (2) and the base (1), and the guide structure is configured to guide installation of the bottom housing assembly (2) on the base (1).

2. The bottom housing assembly structure as claimed in claim 1, wherein the guide structure comprises a guide slot and a guide rail (3) matched with each other slidably, wherein the guide slot is arranged on one of the bottom housing assembly (2) and the base (1), and the guide rail (3) is arranged on the other one of the bottom housing assembly (2) and the base (1).

3. The bottom housing assembly structure as claimed in claim 2, wherein the guide slot is arranged on at least one end of the base (1), and the guide rail (3) is arranged on a corresponding position of the bottom housing assembly (2).

4. The bottom housing assembly structure as claimed in claim 3, wherein the guide slot comprises a first guide slot (4), the base (1) comprises a bottom plate (6) and a vertical plate (7) arranged on a first end of the bottom plate (6), a side baffle plate (8) stretching outside laterally is arranged on the vertical plate (7), and the first guide slot (4) is formed between the side baffle plate (8) and the bottom plate (6).

5. The bottom housing assembly structure as claimed in claim 4, wherein a first rib (9) is arranged on a side, facing the bottom plate (6), of the side baffle plate (8).

6. The bottom housing assembly structure as claimed in claim 4, wherein the guide slot further comprises a second guide slot (5), a guide plate (10) is arranged on a second end of the bottom plate (6), the guide plate (10) is fixedly arranged on the bottom plate (6), and the second guide slot (5) is formed between the guide plate (10) and the bottom plate (6).

7. The bottom housing assembly structure as claimed in claim 6, wherein the second guide slot (5) is shorter than the first guide slot (4).

8. The bottom housing assembly structure as claimed in claim 7, wherein a motor seat (11) is further arranged on the second end of the bottom plate (6), and the guide plate (10) is located on a side, close to the vertical plate (7), of the motor seat (11).

9. The bottom housing assembly structure as claimed in any one of claim 1 to claim 8, wherein an angular rack (12) and a pressing plate (13) are further separately arranged on both ends of the bottom plate (6) of the base (1), the bottom housing assembly (2) comprises a fan blade (14), and the fan blade (14) is installed in a guided manner by the pressing plate (13).

10. The bottom housing assembly structure as claimed in claim 9, wherein a threaded connection hole (15) is arranged on at least one of the angular rack (12) and the pressing plate (13), and the bottom housing assembly (2) is fixedly connected to the threaded connection hole (15).

11. The bottom housing assembly structure as claimed in any one of claim 1 to claim 8, wherein both ends of the bottom housing assembly (2) are fixedly connected to both ends of the base (1) through screws.

12. The bottom housing assembly structure as claimed in any one of claim 1 to claim 8, wherein a first slot (16) is arranged on the base (1) corresponding to the insertion tail end of the bottom housing assembly (2), a first plug (17) is arranged on the insertion tail end of the bottom housing assembly (2), and the first plug (17) is inserted into the first slot (16).

13. The bottom housing assembly structure as claimed in claim 12, wherein a width of the first slot (16) is decreased gradually along the insertion direction of the bottom housing assembly (2).

14. The bottom housing assembly structure as claimed in claim 12, wherein limiting protrusions (18) are arranged on both ends of the first slot (16), and the first plug (17) is limited between the two limiting protrusions (18).

15. The bottom housing assembly structure as claimed in claim 12, wherein a second rib (19) is arranged on at least one plugging surface of the first plug (17).

16. The bottom housing assembly structure as claimed in claim 12, wherein a second slot (20) is further arranged on the base (1) corresponding to the insertion tail end of the bottom housing assembly (2), the second slot (20) is arranged on at least one side of the first slot (16), a second plug (21) is arranged on the insertion tail end of the bottom housing assembly (2), and the second plug (21) is inserted into the second slot (20).

17. The bottom housing assembly structure as claimed in claim 16, wherein there are two second slots (20) separately arranged on both sides of the first slot (16), and the first slot (16) is located in a middle of a length direction of the base (1).

18. The bottom housing assembly structure as claimed in any one of claim 1 to claim 8 and claim 13 to claim 17, wherein anti-falling protrusions (22) are arranged on the base (1), and after the bottom housing assembly (2) is inserted onto the base (1), the anti-falling protrusions (22) are located on an outer side of the bottom housing assembly (2) and stop the bottom housing assembly (2).

19. The bottom housing assembly structure as claimed in claim 18, wherein the anti-falling protrusions (22) are arranged on both ends of the base (1) in the length direction.

20. The bottom housing assembly structure as claimed in any one of claim 1 to claim 8 and claim 13 to claim 17, wherein a heat exchanger (23) is arranged on the base (1), an accommodation cavity (24) is formed between the heat exchanger (23) and the base (1), and the bottom housing assembly (2) is located in the accommodation cavity (24).

21. An air conditioner comprising a bottom housing assembly structure, wherein the bottom housing assembly structure is the bottom housing assembly structure as claimed in any one of claims 1 to 20.

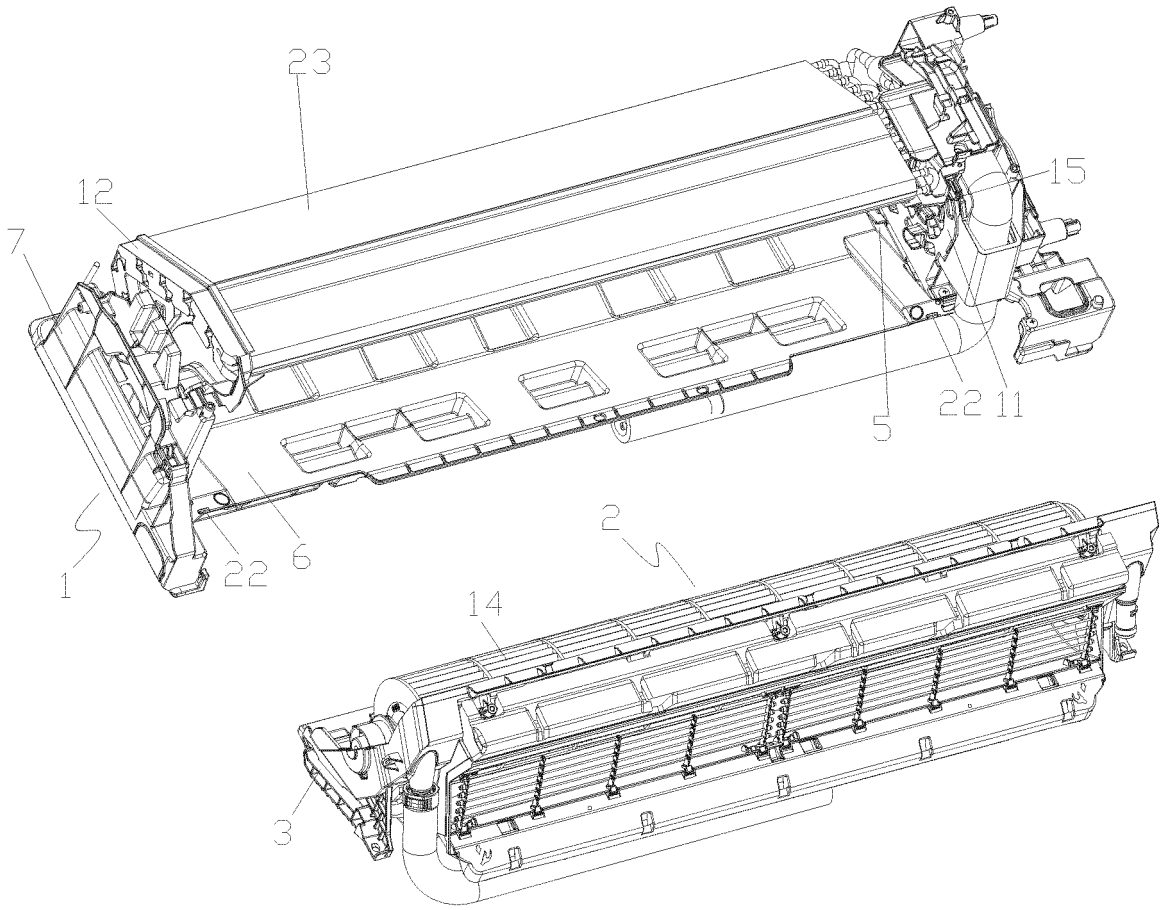


Fig. 1

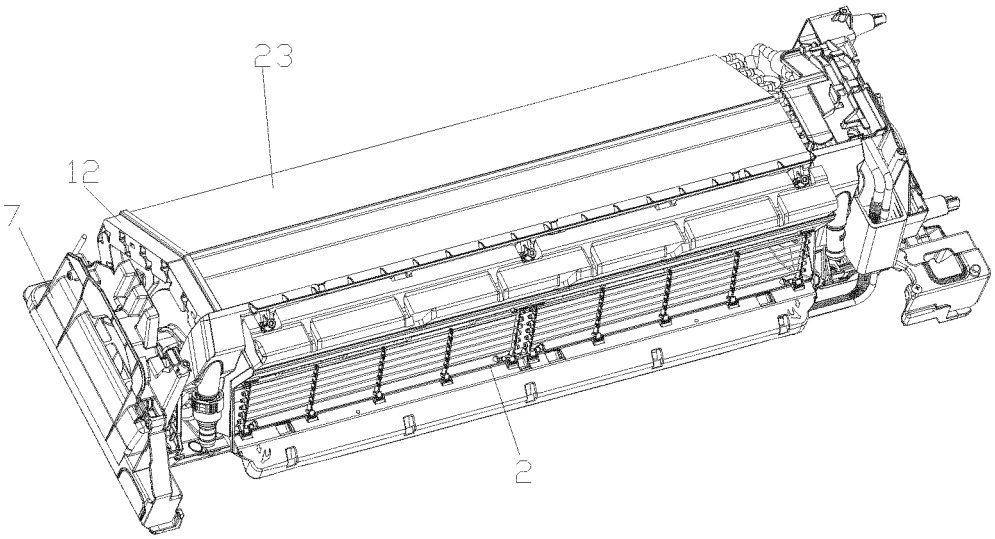


Fig. 2

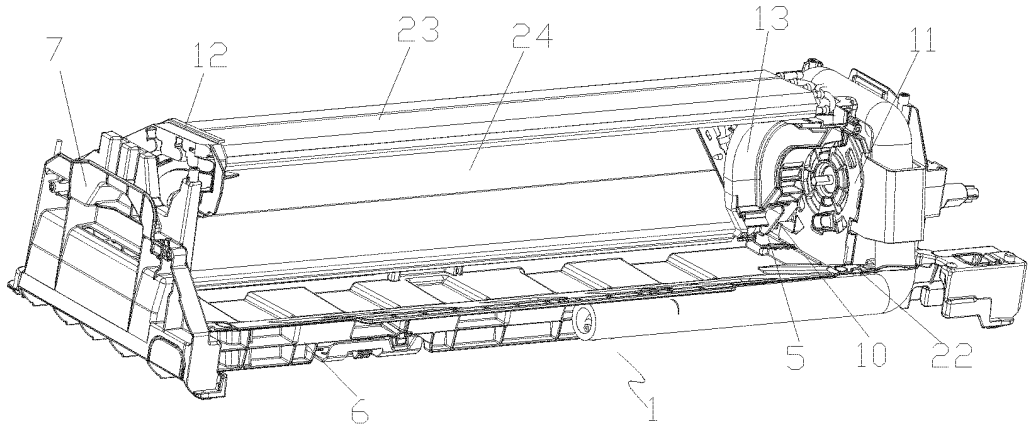


Fig. 3

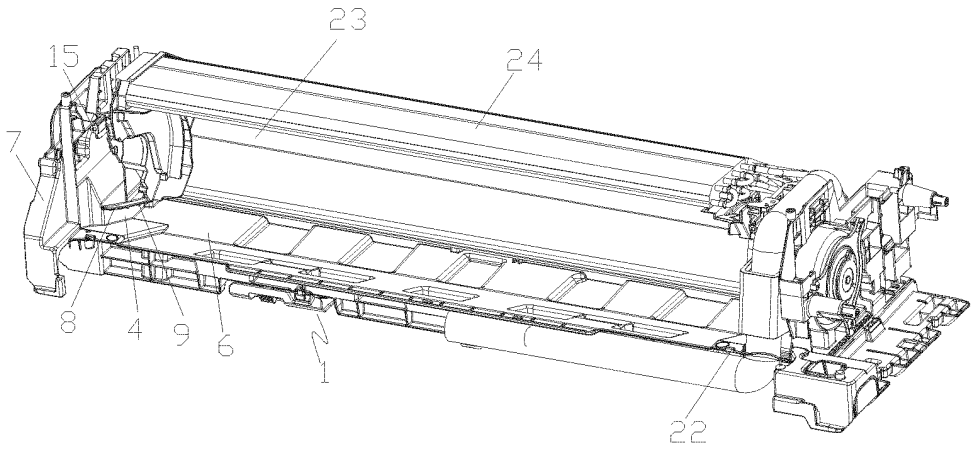


Fig. 4

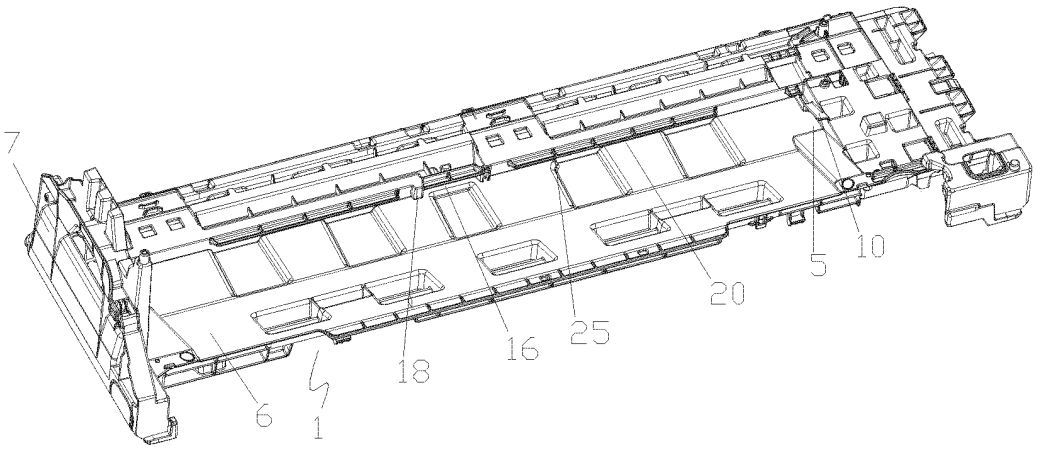


Fig. 5

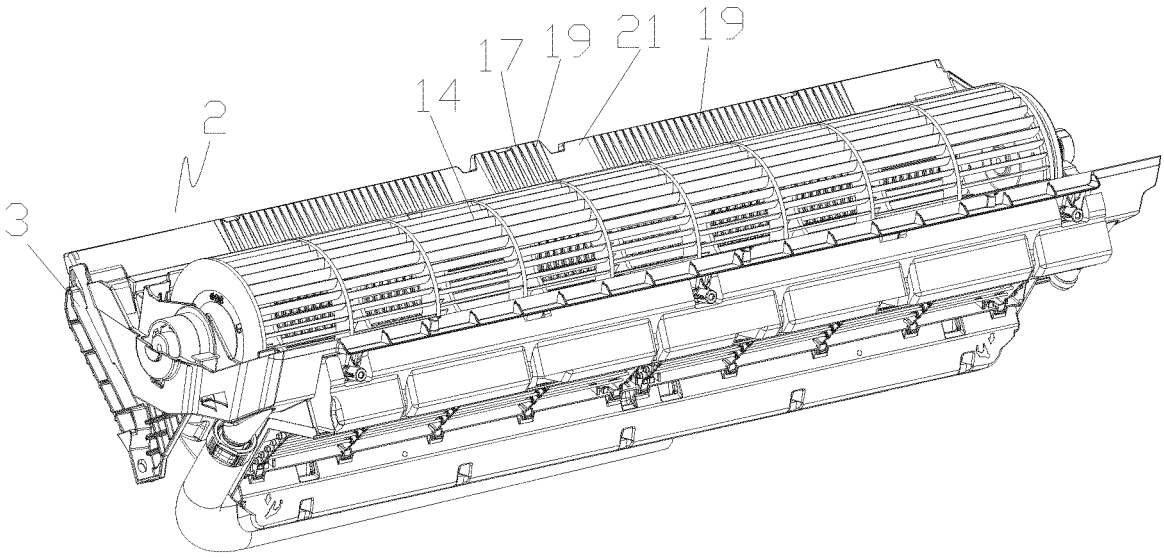


Fig. 6

INTERNATIONAL SEARCH REPORT

International application No.
PCT/CN2018/120379

A. CLASSIFICATION OF SUBJECT MATTER

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

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)

CNPAT, CNKI, WPI, EPODOC: 底壳, 装配, 结构, 空调器, 组件, 底座, 导向, 安装, 效率, 导向槽, 导轨, 侧挡板, 筋条, 导向板, 电机座, 立板, 角形架, 压板, 螺纹连接孔, 插头, 插槽, 防脱落凸起, 换热器 bottom, shell, assembl+, structure, air, conditioner, assembly, base, guid+, mount+, efficiency, groove, rail, side, baffle, plate, rib, bar, motor, cabinet, riser, angular, rack, support, hold down, screw+, thread+, connect+, hole, plug, slot, prevent+, fall off, convex, protrud+, exchanger

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	CN 106705239 A (GUANGDONG MIDEA AIR-CONDITIONING EQUIPMENT CO., LTD. ET AL.) 24 May 2017 (2017-05-24) description, paragraphs [0040]-[0058], and figures 1-9	1-8, 11, 20, 21
Y	CN 106705239 A (GUANGDONG MIDEA REFRIGERATION EQUIPMENT CO., LTD. ET AL.) 24 May 2017 (2017-05-24) description, paragraphs [0040]-[0058] and figures 1-9	9, 10, 12-19
Y	CN 205641163 U (MIDEA GROUP WUHAN REFRIGERATION EQUIPMENT CO., LTD.) 12 October 2016 (2016-10-12) description, paragraphs [0043]-[0052]	9, 10, 12-19
PX	CN 108692445 A (GREE ELECTRIC APPLIANCES INC. OF ZHUHAI) 23 October 2018 (2018-10-23) description, paragraphs [0036]-[0063] and figures 1-6	1-21
A	KR 20110034109 A (LG ELECTRONICS INC) 05 April 2011 (2011-04-05) entire document	1-21

☑ 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

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"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

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"&" document member of the same patent family

Date of the actual completion of the international search	Date of mailing of the international search report
21 February 2019	**06 March 2019**

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INTERNATIONAL SEARCH REPORT

International application No.
PCT/CN2018/120379

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	CN 206919333 U (GREE ELECTRIC APPLIANCES INC. OF ZHUHAI) 23 January 2018 (2018-01-23) entire document	1-21
A	CN 204629963 U (GUANGDONG MIDEA REFRIGERATION EQUIPMENT CO., LTD. ET AL.) 09 September 2015 (2015-09-09) entire document	1-21

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INTERNATIONAL SEARCH REPORT
Information on patent family members

International application No.
PCT/CN2018/120379

Patent document cited in search report	Publication date (day/month/year)	Patent family member(s)	Publication date (day/month/year)
CN 106705239 A	24 May 2017	SG 11201804605Q A	30 August 2018
		EP 3376124 A1	19 September 2018
		EP 3376124 A4	16 January 2019
		WO 2018133248 A1	26 July 2018
CN 205641163 U	12 October 2016	None	
CN 108692445 A	23 October 2018	None	
KR 20110034109 A	05 April 2011	None	
CN 206919333 U	23 January 2018	None	
CN 204629963 U	09 September 2015	None	

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