



(11) **EP 3 805 658 B1**

(12) **EUROPEAN PATENT SPECIFICATION**

(45) Date of publication and mention
of the grant of the patent:
07.02.2024 Bulletin 2024/06

(21) Application number: **18920881.2**

(22) Date of filing: **11.12.2018**

(51) International Patent Classification (IPC):
F24F 13/20^(2006.01) F24F 1/0007^(2019.01)

(52) Cooperative Patent Classification (CPC):
F24F 1/0007; F24F 13/20

(86) International application number:
PCT/CN2018/120379

(87) International publication number:
WO 2019/227892 (05.12.2019 Gazette 2019/49)

(54) **BOTTOM HOUSING ASSEMBLY STRUCTURE AND AIR CONDITIONER**

AUFBAU EINER BODENGEHÄUSEANORDNUNG UND KLIMAAANLAGE

STRUCTURE D'ENSEMBLE BOÎTIER INFÉRIEUR ET CLIMATISEUR

(84) Designated Contracting States:
**AL AT BE BG CH CY CZ DE DK EE ES FI FR GB
GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO
PL PT RO RS SE SI SK SM TR**

(30) Priority: **29.05.2018 CN 201810531050**

(43) Date of publication of application:
14.04.2021 Bulletin 2021/15

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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.

[0004] CN106705239A discloses a wall-mounted air conditioner indoor unit and a wall-mounted air conditioner. The wall-mounted air conditioner indoor unit comprises a base plate, a heat exchanger and an air outlet frame. The base plate is provided with an upper end and a lower end in the width direction of the base plate. The base plate is provided with two opposite baffles extending in the up-down direction. First sliding grooves are formed in the inner surfaces of the two baffles. The first sliding groove of each baffle is provided with a groove bottom facing the other baffle, wherein the groove bottom is locally concaved to form a second sliding groove. The heat exchanger is arranged on the base plate, and an air flue inner cavity with a downward opening is jointly defined by the base plate, the two baffles and the heat exchanger. A cross-flow wind wheel is arranged through the air outlet frame, and each of the two opposite ends of the air outlet frame in the length direction of the base plate is provided with a first sliding block and a second sliding block. The air outlet frame and the two baffles are detachably arranged in the air flue inner cavity through cooperation of the first sliding grooves and first sliding block groove rails and cooperation of the second sliding grooves and second sliding block groove rails. According to the technical scheme, the detaching difficulty of the cross-flow wind wheel is lowered.

Summary

[0005] The scope of the invention is defined by the claims.

[0006] 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.

[0007] In order to solve the problem, the present invention provides a bottom housing assembly structure according to claim 1. In particular, it 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.

[0008] According to the invention, 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.

[0009] According to the invention, 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.

[0010] According to the invention, 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.

[0011] In an exemplary embodiment, a first rib is arranged on a side, facing the bottom plate, of the side baffle plate.

[0012] 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.

[0013] In an exemplary embodiment, the second guide slot is shorter than the first guide slot.

[0014] 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.

[0015] 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.

[0016] 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.

[0017] In an exemplary embodiment, both ends of the bottom housing assembly are fixedly connected to both ends of the base through screws.

[0018] 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.

[0019] In an exemplary embodiment, a width of the first slot is decreased gradually along the insertion direction of the bottom housing assembly.

[0020] 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.

[0021] In an exemplary embodiment, a second rib is arranged on at least one plugging surface of the first plug.

[0022] 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.

[0023] 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.

[0024] In an exemplary embodiment, anti-falling protrusions are arranged on the base. After the bottom housing 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.

[0025] In an exemplary embodiment, the anti-falling protrusions are arranged on both ends of the base in the length direction.

[0026] 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.

[0027] 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.

[0028] The bottom housing assembly structure provided by the present invention includes the features of claim 1. In particular, it 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 adjust-

ing 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

[0029]

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.

[0030] 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

[0031] 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.

[0032] 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.

[0033] 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.

[0034] 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.

[0035] 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.

[0036] 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.

[0037] 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.

[0038] 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.

[0039] 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.

[0040] 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.

[0041] 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.

[0042] 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.

[0043] 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.

[0044] 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.

[0045] 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.

[0046] 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.

[0047] 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.

[0048] 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.

[0049] 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 im-

proved. 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.

[0050] 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.

[0051] 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.

[0052] 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.

[0053] 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.

[0054] 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.

[0055] 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.

[0056] When the bottom housing assembly 2 is in-

stalled, 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.

[0057] 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.

[0058] 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.

[0059] 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.

[0060] It should be easily understood by those skilled in the art that the above advantageous embodiments can be combined and superposed freely without confliction as long as within the scope of the claims.

Claims

1. A bottom housing assembly structure for an air conditioner, comprising 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 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), 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), 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), the bottom plate (6) comprises an inclined segment and a horizontal segment, the inclined segment and the side baffle plate (8) form the downward inclined first guide slot (4), for installing the bottom housing assembly (2) obliquely downward along the first guide slot (4) first, and when arriving at the tail end of the first guide slot (4), installing the bottom housing assembly (2) horizontally along the horizontal segment.

2. The bottom housing assembly structure for an air conditioner as claimed in claim 1, wherein a first rib (9) is arranged on a side, facing the bottom plate (6), of the side baffle plate (8).
3. The bottom housing assembly structure for an air conditioner as claimed in claim 1, 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), the second guide slot (5) is shorter than the first guide slot (4), 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, facing to the vertical plate (7), of the motor seat (11).
4. The bottom housing assembly structure for an air conditioner as claimed in any one of claim 1 to claim 3, wherein an angular rack (12) and a pressing plate (13) are further separately arranged on both ends of the bottom plate (6) of a 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), 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).
5. The bottom housing assembly structure for an air conditioner as claimed in any one of claim 1 to claim

- 3, wherein both ends of the bottom housing assembly (2) are fixedly connected to both ends of the base (1) through screws.
6. The bottom housing assembly structure for an air conditioner as claimed in any one of claim 1 to claim 3, 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), a width of the first slot (16) is decreased gradually along the insertion direction of the bottom housing assembly (2), 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), a second rib (19) is arranged on at least one plugging surface of the first plug (17).
7. The bottom housing assembly structure for an air conditioner as claimed in claim 6, 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).
8. The bottom housing assembly structure for an air conditioner as claimed in claim 7, 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).
9. The bottom housing assembly structure for an air conditioner as claimed in any one of claims 1 to 3, 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).
10. The bottom housing assembly structure for an air conditioner as claimed in claim 9, wherein the anti-falling protrusions (22) are arranged on both ends of the base (1) in the length direction.
11. The bottom housing assembly structure for an air conditioner as claimed in any one of claims 1 to 3, 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).

12. 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 11.

Patentansprüche

1. Gehäuseboden-Baugruppenstruktur für eine Klimaanlage, die eine Gehäuseboden-Baugruppe (2) und eine Basis (1) aufweist, wobei zwischen der Gehäuseboden-Baugruppe (2) und der Basis (1) eine Führungsstruktur angeordnet ist und die Führungsstruktur dazu ausgelegt ist, einen Einbau der Gehäuseboden-Baugruppe (2) an der Basis (1) zu führen, wobei die Führungsstruktur einen Führungsschlitz und eine Führungsschiene (3) aufweist, die gleitbar aufeinander abgestimmt sind, wobei der Führungsschlitz an einem der Gehäuseboden-Baugruppe (2) und der Basis (1) angeordnet ist und die Führungsschiene (3) am anderen der Gehäuseboden-Baugruppe (2) und der Basis (1) angeordnet ist, der Führungsschlitz an mindestens einem Ende der Basis (1) angeordnet ist und die Führungsschiene (3) in einer entsprechenden Position an der Gehäuseboden-Baugruppe (2) angeordnet ist, der Führungsschlitz einen ersten Führungsschlitz (4) aufweist, die Basis (1) eine Bodenplatte (6) und eine vertikale Platte (7) aufweist, die an einem ersten Ende der Bodenplatte (6) angeordnet ist, eine Seitenumleitplatte (8), die sich seitlich nach außen erstreckt, an der vertikalen Platte (7) angeordnet ist und der erste Führungsschlitz (4) zwischen der Seitenumleitplatte (8) und der Bodenplatte (6) gebildet ist, die Bodenplatte (6) ein geneigtes Segment und ein horizontales Segment aufweist, wobei das geneigte Segment und die Seitenumleitplatte (8) den nach unten geneigten ersten Führungsschlitz (4) zuerst zum Einbau der Gehäuseboden-Baugruppe (2) schräg nach unten entlang des ersten Führungsschlitzes (4) und, bei Ankunft am hinteren Ende des ersten Führungsschlitzes (4), Einbauen der Gehäuseboden-Baugruppe (2) horizontal entlang des horizontalen Segments bilden.
2. Gehäuseboden-Baugruppenstruktur für eine Klimaanlage nach Anspruch 1, wobei auf einer der Bodenplatte (6) zugewandten Seite der Seitenumleitplatte (8) eine erste Rippe (9) angeordnet ist.
3. Gehäuseboden-Baugruppenstruktur für eine Klimaanlage nach Anspruch 1, wobei der Führungsschlitz ferner einen zweiten Führungsschlitz (5) aufweist, eine Führungsplatte (10) an einem zweiten Ende der Bodenplatte (6) angeordnet ist, die Führungsplatte (10) fest auf der Bodenplatte (6) angeordnet ist und der zweite Führungsschlitz (5) zwischen der Führungsplatte (10) und der Bodenplatte (6) gebildet ist,

der zweite Führungsschlitz (5) kürzer ist als der erste Führungsschlitz (4), ferner am zweiten Ende der Bodenplatte (6) ein Motorsitz (11) angeordnet ist und die Führungsplatte (10) sich auf einer Seite, die der vertikalen Platte (7) zugewandt ist, des Motorsitzes (11) befindet.

4. Gehäuseboden-Baugruppenstruktur für eine Klimaanlage nach einem von Anspruch 1 bis Anspruch 3, wobei ferner getrennt an beiden Enden der Bodenplatte (6) der Basis (1) ein Winkelgestell (12) und eine Druckplatte (13) angeordnet sind, die Gehäuseboden-Baugruppe (2) eine Gebläseschaukel (14) aufweist und die Gebläseschaukel (14) in einer geführten Weise durch die Druckplatte (13) installiert wird, an mindestens einem des Winkelgestells (12) und der Druckplatte (13) ein Gewindeverbindungsloch (15) angeordnet ist und die Gehäuseboden-Baugruppe (2) fest mit dem Gewindeverbindungsloch (15) verbunden ist.
5. Gehäuseboden-Baugruppenstruktur für eine Klimaanlage nach einem von Anspruch 1 bis Anspruch 3, wobei beide Enden der Gehäuseboden-Baugruppe (2) mittels Schrauben fest mit beiden Enden der Basis (1) verbunden sind.
6. Gehäuseboden-Baugruppenstruktur für eine Klimaanlage nach einem von Anspruch 1 bis Anspruch 3, wobei an der Basis (1) entsprechend dem hinteren Einsetzende der Gehäuseboden-Baugruppe (2) ein erster Schlitz (16) angeordnet ist, am hinteren Einsetzende der Gehäuseboden-Baugruppe (2) ein erster Stopfen (17) angeordnet ist und der erste Stopfen (17) in den ersten Schlitz (16) eingesetzt wird, eine Breite des ersten Schlitzes (16) entlang der Einsetzrichtung der Gehäuseboden-Baugruppe (2) allmählich abnimmt, an beiden Enden des ersten Schlitzes (16) Begrenzungsvorsprünge (18) angeordnet sind und zwischen den zwei Begrenzungsvorsprüngen (18) ein erster Stopfen (17) begrenzt wird, auf mindestens einer Stopffläche des ersten Stopfens (17) eine zweite Rippe (19) angeordnet ist.
7. Gehäuseboden-Baugruppenstruktur für eine Klimaanlage nach Anspruch 6, wobei ferner an der Basis (1) entsprechend dem hinteren Einsetzende der Gehäuseboden-Baugruppe (2) ein zweiter Schlitz (20) angeordnet ist, der zweite Schlitz (20) auf mindestens einer Seite des ersten Schlitzes (16) angeordnet ist, am hinteren Einsetzende der Gehäuseboden-Baugruppe (2) ein zweiter Stopfen (21) angeordnet ist und der zweite Stopfen (21) in den zweiten Schlitz (20) eingesetzt ist.
8. Gehäuseboden-Baugruppenstruktur für eine Klimaanlage nach Anspruch 7, wobei es zwei zweite Schlitzes (20) gibt, die auf beiden Seiten des ersten

Schlitzes (16) separat angeordnet sind, und der erste Schlitz (16) sich in einer Mitte einer Längenrichtung der Basis (1) befindet.

9. Gehäuseboden-Baugruppenstruktur für eine Klimaanlage nach einem der Ansprüche 1 bis 3, wobei an der Basis (1) Fallschutzvorsprünge (22) angeordnet sind und sich die Fallschutzvorsprünge (22) nach Einsetzen der Gehäuseboden-Baugruppe (2) in die Basis (1) auf einer Außenseite der Gehäuseboden-Baugruppe (2) befinden und die Gehäuseboden-Baugruppe (2) abfangen.
10. Gehäuseboden-Baugruppenstruktur für eine Klimaanlage nach Anspruch 9, wobei die Fallschutzvorsprünge (22) in der Längenrichtung an beiden Enden der Basis (1) angeordnet sind.
11. Gehäuseboden-Baugruppenstruktur für eine Klimaanlage nach einem der Ansprüche 1 bis 3, wobei an der Basis (1) ein Wärmetauscher (23) angeordnet ist, zwischen dem Wärmetauscher (23) und der Basis (1) ein Aufnahmehohlraum (24) angeordnet ist und die Gehäuseboden-Baugruppe (2) sich im Aufnahmehohlraum (24) befindet.
12. Klimaanlage, die eine Gehäuseboden-Baugruppenstruktur aufweist, wobei die Gehäuseboden-Baugruppenstruktur die Gehäuseboden-Baugruppenstruktur nach einem der Ansprüche 1 bis 11 ist.

Revendications

1. Structure d'ensemble boîtier inférieur pour un climatiseur, comprenant un ensemble boîtier inférieur (2) et une base (1), dans laquelle une structure de guidage est agencée entre l'ensemble boîtier inférieur (2) et la base (1), et la structure de guidage est configurée pour guider l'installation de l'ensemble boîtier inférieur (2) sur la base (1), la structure de guidage comprend une fente de guidage et un rail de guidage (3) correspondant entre eux de manière coulissante, dans laquelle la fente de guidage est agencée sur l'un parmi l'ensemble boîtier inférieur (2) et la base (1), et le rail de guidage (3) est agencé sur l'autre parmi l'ensemble boîtier inférieur (2) et la base (1), la fente de guidage est agencée sur au moins une extrémité de la base (1), et le rail de guidage (3) est agencé dans une position correspondante de l'ensemble boîtier inférieur (2), la fente de guidage comprend une première fente de guidage (4), la base (1) comprend une plaque inférieure (6) et une plaque verticale (7) agencée sur une première extrémité de la plaque inférieure (6), une plaque déflectrice latérale (8) s'étirant à l'extérieur latéralement est agencée sur la plaque verticale (7) et la première fente de guidage (4) est formée entre la plaque déflectrice

- latérale (8) et la plaque inférieure (6), la plaque inférieure (6) comprend un segment incliné et un segment horizontal, le segment incliné et la plaque déflectrice latérale (8) forment la première fente de guidage (4) inclinée vers le bas pour installer l'ensemble boîtier inférieur (2) obliquement vers le bas le long de la première fente de guidage (4) tout d'abord, et lorsqu'il arrive au niveau de l'extrémité arrière de la première fente de guidage (4), installer l'ensemble boîtier inférieur (2) horizontalement le long du segment horizontal.
2. Structure d'ensemble boîtier inférieur pour un climatiseur selon la revendication 1, dans laquelle une première nervure (9) est agencée sur un côté, faisant face à la plaque inférieure (6), de la plaque déflectrice latérale (8).
 3. Structure d'ensemble boîtier inférieur pour un climatiseur selon la revendication 1, dans laquelle la fente de guidage comprend en outre une seconde fente de guidage (5), une plaque de guidage (10) est agencée sur une seconde extrémité de la plaque inférieure (6), la plaque de guidage (10) est agencée, de manière fixe, sur la plaque inférieure (6), et la seconde fente de guidage (5) est formée entre la plaque de guidage (10) et la plaque inférieure (6), la seconde fente de guidage (5) est plus courte que la première fente de guidage (4), un siège de moteur (11) est en outre agencé sur la seconde extrémité de la plaque inférieure (6), et la plaque de guidage (10) est positionnée sur un côté, faisant face à la plaque verticale (7), du siège de moteur (11).
 4. Structure d'ensemble boîtier inférieur pour un climatiseur selon l'une quelconque des revendications 1 à 3, dans laquelle une crémaillère angulaire (12) et une plaque de pression (13) sont en outre agencées séparément sur les deux extrémités de la plaque inférieure (6) d'une base (1), l'ensemble boîtier inférieur (2) comprend une pale de ventilateur (14) et la pale de ventilateur (14) est installée d'une manière guidée par la plaque de pression (13), un trou de raccordement fileté (15) est agencé sur au moins l'une parmi la crémaillère angulaire (12) et la plaque de pression (13), et l'ensemble boîtier inférieur (2) est raccordé, de manière fixe, au trou de raccordement fileté (15).
 5. Structure d'ensemble boîtier inférieur pour un climatiseur selon l'une quelconque des revendications 1 à 3, dans laquelle les deux extrémités de l'ensemble boîtier inférieur (2) sont raccordées, de manière fixe, aux deux extrémités de la base (1) par le biais de vis.
 6. Structure d'ensemble boîtier inférieur pour un climatiseur selon l'une quelconque des revendications 1 à 3, dans laquelle une première fente (16) est agencée sur la base (1) correspondant à l'extrémité arrière d'insertion de l'ensemble boîtier inférieur (2), un premier bouchon (17) est agencé sur l'extrémité arrière d'insertion de l'ensemble boîtier inférieur (2), et le premier bouchon (17) est inséré dans la première fente (16), une largeur de la première fente (16) est diminuée progressivement le long de la direction d'insertion de l'ensemble boîtier inférieur (2), des saillies de limitation (18) sont agencées sur les deux extrémités de la première fente (16), et le premier bouchon (17) est limité entre les deux saillies de limitation (18), une seconde nervure (19) est agencée sur au moins une surface d'obturation du premier bouchon (17).
 7. Structure d'ensemble boîtier inférieur pour un climatiseur selon la revendication 6, dans laquelle une seconde fente (20) est en outre agencée sur la base (1) correspondant à l'extrémité arrière d'insertion de l'ensemble boîtier inférieur (2), la seconde fente (20) est agencée sur au moins un côté de la première fente (16), un second bouchon (21) est agencé sur l'extrémité arrière d'insertion de l'ensemble boîtier inférieur (2), et le second bouchon (21) est inséré dans la seconde fente (20).
 8. Structure d'ensemble boîtier inférieur pour un climatiseur selon la revendication 7, dans laquelle il y a deux secondes fentes (20) agencées séparément sur les deux côtés de la première fente (16) et la première fente (16) est positionnée au milieu d'une direction de longueur de la base (1).
 9. Structure d'ensemble boîtier inférieur pour un climatiseur selon l'une quelconque des revendications 1 à 3, dans laquelle des saillies antichute (22) sont agencées sur la base (1) et après que l'ensemble boîtier inférieur (2) a été inséré sur la base (1), les saillies antichute (22) sont positionnées sur un côté externe de l'ensemble boîtier inférieur (2) et arrêtent l'ensemble boîtier inférieur (2).
 10. Structure d'ensemble boîtier inférieur pour un climatiseur selon la revendication 9, dans laquelle les saillies antichute (22) sont agencées sur les deux extrémités de la base (1) dans la direction de longueur.
 11. Structure d'ensemble boîtier inférieur pour un climatiseur selon l'une quelconque des revendications 1 à 3, dans laquelle un échangeur de chaleur (23) est agencé sur la base (1), une cavité de logement (24) est formée entre l'échangeur de chaleur (23) et la base (1), et l'ensemble boîtier inférieur (2) est positionné dans la cavité de logement (24).
 12. Climatiseur comprenant une structure d'ensemble boîtier inférieur, dans lequel la structure d'ensemble

boîtier inférieur est la structure d'ensemble boîtier inférieur selon l'une quelconque des revendications 1 à 11.

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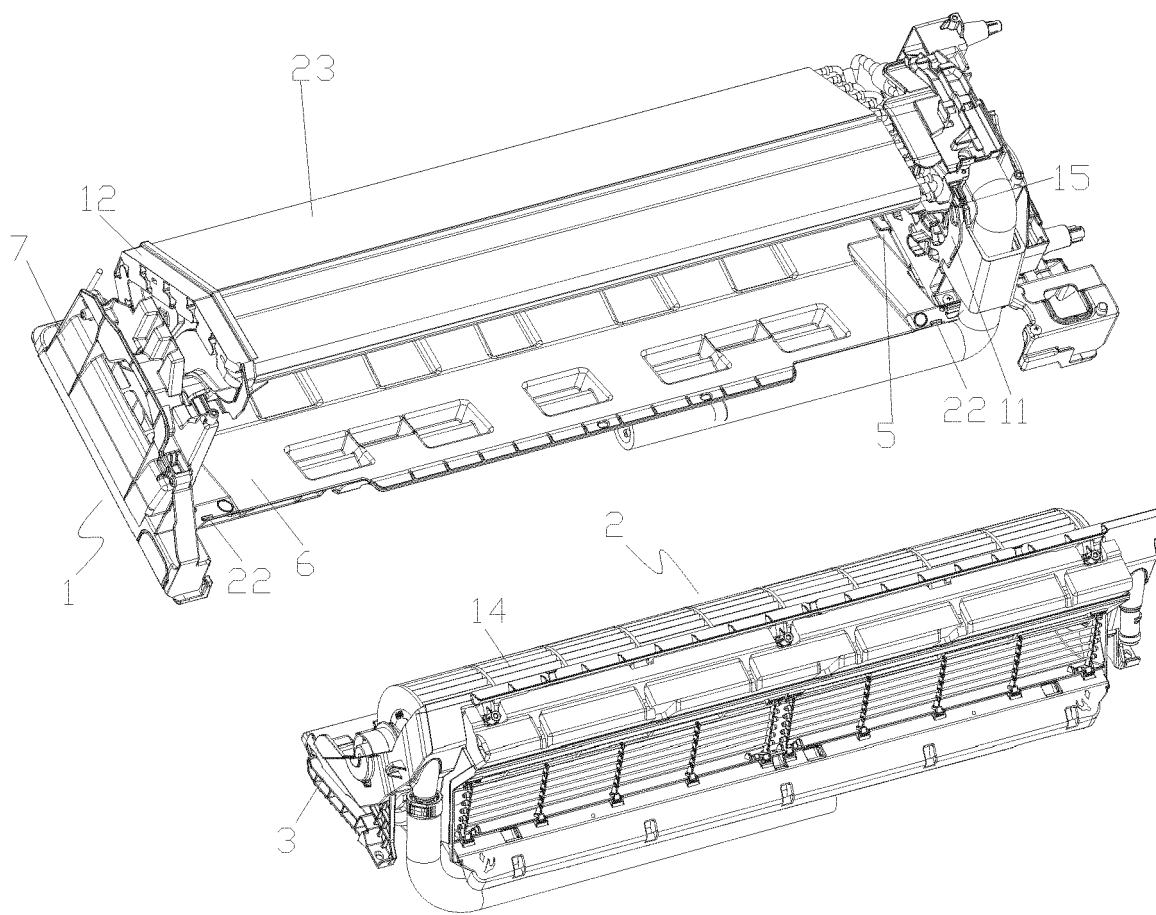


Fig. 1

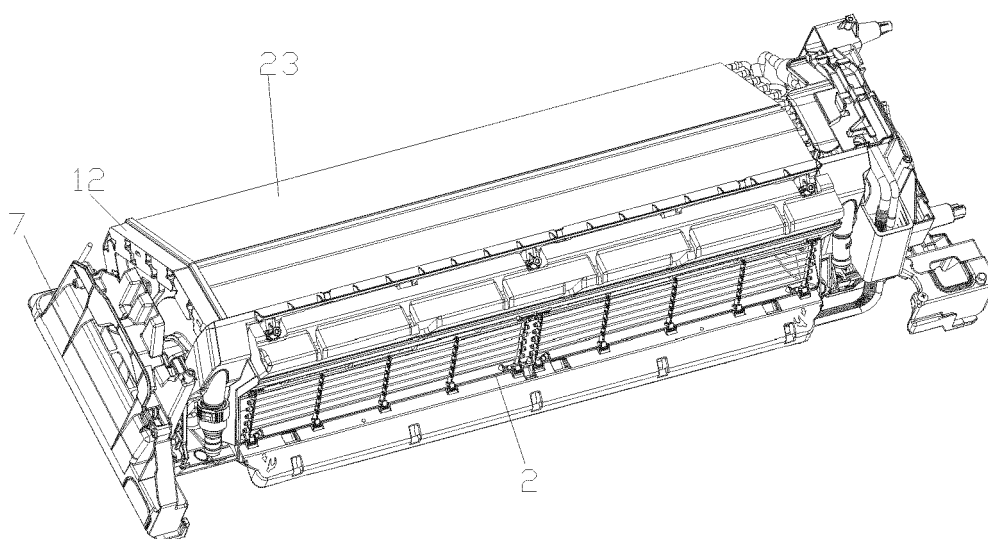


Fig. 2

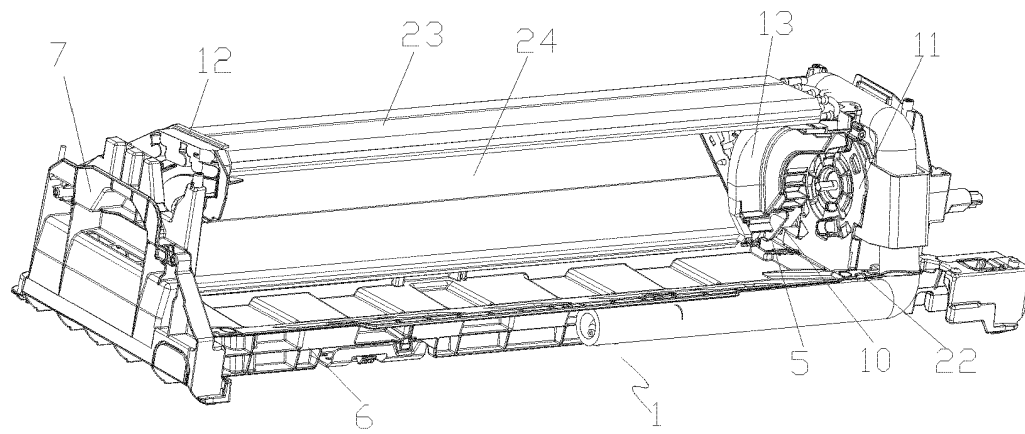


Fig. 3

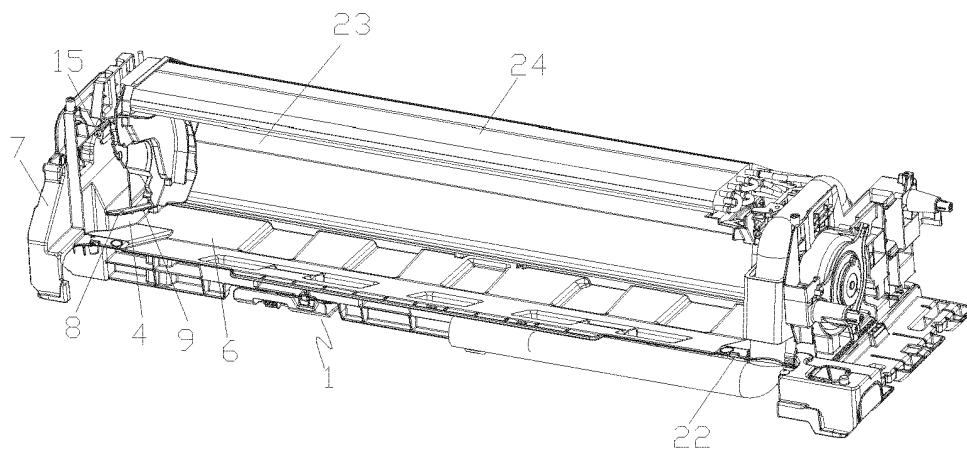


Fig. 4

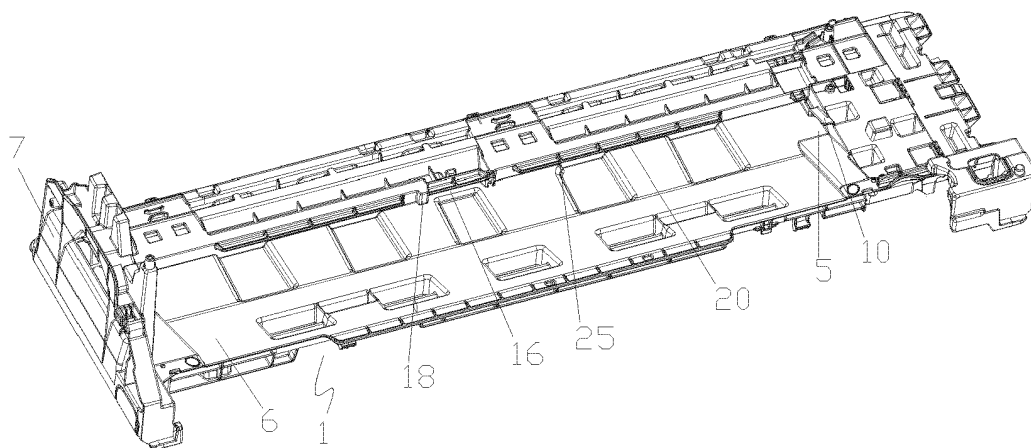


Fig. 5

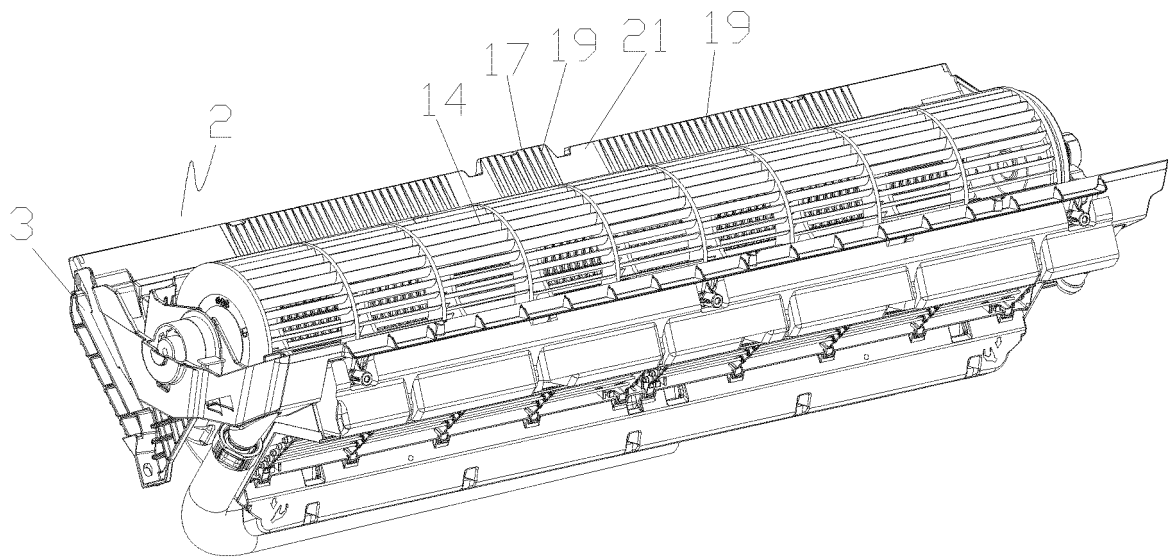


Fig. 6

REFERENCES CITED IN THE DESCRIPTION

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Patent documents cited in the description

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