



(12) **EUROPEAN PATENT APPLICATION**
published in accordance with Art. 153(4) EPC

(43) Date of publication:
04.03.2020 Bulletin 2020/10

(51) Int Cl.:
F24F 13/10 ^(2006.01) **F24F 1/00** ^(2019.01)

(21) Application number: **17906866.3**

(86) International application number:
PCT/CN2017/118320

(22) Date of filing: **25.12.2017**

(87) International publication number:
WO 2018/196418 (01.11.2018 Gazette 2018/44)

(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
Designated Extension States:
BA ME
Designated Validation States:
MA MD TN

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(30) Priority: **26.04.2017 CN 201710283589**

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(54) **AIR CONDITIONER**

(57) An air conditioner, including: a bottom shell (10); an air-out motor (30) detachably mounted on the bottom shell (10); a drive box (40) mounted on the bottom shell (10), and an avoidance structure (46) mounted on the bottom shell (10) on a path for dismounting and moving

the air-out motor (30). This solves a problem that all the appearance members and the evaporator of the air conditioner need to be disassembled when the motor is detected and repaired due to the motor pressing plate fixing motor.

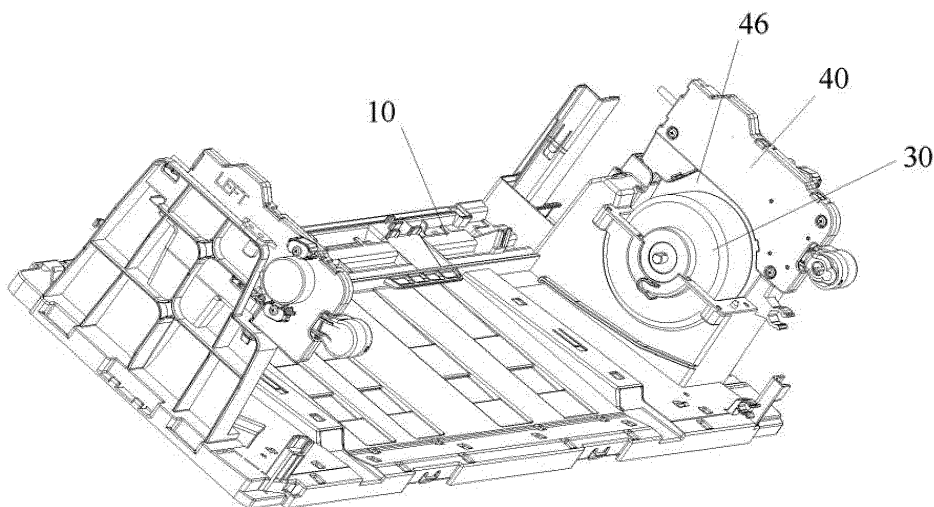


Fig. 12

Description

Technical Field

[0001] The present disclosure relates to a technical field of air conditioning, and in particular, to an air conditioner.

Background

[0002] As the continuous development of scientific technologies and the continuous increase of human life levels, the demand for air conditioners in the market is also increasing. Currently, a motor of a conventional air conditioner is mounted on bottom shell, and then the motor is fixed by a motor pressing plate. When the maintenance detection is performed on the motor, an appearance member of all the air conditioners and the evaporator needs to be dismantled, so that the motor is completely exposed. The layout of the above structure greatly increases the disassembly and assembly workload during of the motor maintenance, which is disadvantageous for the maintenance detection of the motor.

Summary

[0003] Some embodiments of the present disclosure provide an air conditioner, so as to solve a problem in the prior art that the appearance member and the evaporator of all the air conditioners need to be disassembled when the motor is maintained and detected by the motor pressing plate increases the disassembly and assembly workload.

[0004] To achieve the above object, an embodiment of the present disclosure provides an air conditioner, including: a bottom shell; an air-out motor detachably mounted on the bottom shell; a drive box mounted on the bottom shell, and the drive box is mounted on the bottom shell with an avoidance structure retained on a path for dismounting and moving the wind electric motor.

[0005] In an exemplary embodiment, the avoidance structure extends from the installation position of the air-out motor to a side surface of the air conditioner.

[0006] In an exemplary embodiment, the drive box is arranged on a side, away from the bottom shell, of the air-out motor, and the side opposites to the bottom shell; a bottom, close to the air-out motor, of the drive box is provided with an avoidance groove recessed inwards, so that the avoidance groove forms an avoidance structure.

[0007] In an exemplary embodiment, a groove wall of the avoidance groove is an arch structure.

[0008] In an exemplary embodiment, the bottom shell is provided with a boss protruding toward one side of a mounting of the drive box, wherein the air-out motor and the drive box are mounted on the boss.

[0009] In an exemplary embodiment, two sides of the drive box are mounted on the boss, and the two sides

are located on the avoidance groove.

[0010] In an exemplary embodiment, one side, close to the drive box, of the boss is provided with a mounting position for mounting the air-out motor.

[0011] In an exemplary embodiment, the mounting position is a mounting groove.

[0012] In an exemplary embodiment, at least one mounting portion is formed on the boss, at least one matched mounting portion corresponding to the at least one mounting portion in a one-to-one manner is provided on the drive box, and the at least one mounting portion and the matched mounting portion are clamped or screwed.

[0013] In an exemplary embodiment, when the at least one mounting portion is in a snap fit with the at least one matched mounting portion, each of the at least one mounting portion is a snap hole, and each of the at least one matched mounting portion is a snap clamped with the snap hole, or, each of the at least one mounting portion is a snap, and each of the at least one matched mounting portion is a snap hole clamped with the snap.

[0014] In an exemplary embodiment, when the each of the at least one mounting portion is a snap hole, the number of the snap hole is two, two snap holes are arranged at intervals along a width direction of the bottom shell, the two snap holes are formed at an upper part of the boss and are cooperated with a snap located at a bottom part of the drive box.

[0015] In an exemplary embodiment, the two snap holes are formed on a top surface and/or a side surface of the boss, and are configured to correspondingly engage with the snap formed by a convex column, protruded outwardly and disposed on a bottom wall and/or side-wall when the drive box is in a mounted state.

[0016] In an exemplary embodiment, one snap hole in the two snap holes is formed on an inner side surface of the boss and is adapted to cooperate with the snap on the rear side wall when the drive box is mounted.

[0017] In an exemplary embodiment, when the at least one mounting portion is screwed with the at least one matched mounting portion, the each of the at least one mounting portion is a threaded hole or a screw post, and the each of the at least one matched mounting portion is a screw hole screwed with the threaded hole or the screw post.

[0018] In an exemplary embodiment, one side wall of the drive box is provided with a mounting ear protruded outwardly, and the screw hole is formed on the mounting ear.

[0019] In an exemplary embodiment, there are two bosses, and the two bosses are respectively formed on two ends of the bottom shell along a longitudinal direction thereof, each of the two bosses is provided with a drive box, and one of the two bosses is provided with the air-out motor.

[0020] The technical solution of the present disclosure has the following advantages: the drive box has an avoidance structure for avoiding a path of demounting and

moving the air-out motor, and when the air-out motor is maintained and detected, the side plate is firstly dismantled and then the appliance box is dismantled, and the air-out motor is exposed at this time, and then the air-out motor is dismantled, and the drive box has an avoidance structure which does not interfere with the air-out motor. The disassembly of the air-out motor is facilitated, the maintenance detection of the air-out motor is facilitated, and the workload of the personnel is reduced.

Brief Description of the Drawings

[0021] To illustrate the technical solutions in the embodiments of the present disclosure or in the prior art more clearly, the following briefly introduces the accompanying drawings required for describing the embodiments or the prior art. Obviously, the accompanying drawings in the following description are some embodiments of the present disclosure. For a person of ordinary skill in the art, other drawings can be obtained from these drawings without creative efforts, drawing

Fig. 1 is an exploded view of a bottom shell, a left drive box and a right drive box according to an embodiment of an air conditioner of the present disclosure;

Fig. 2 shows an enlarged view of an A place of the bottom shell in Fig. 1;

Fig. 3 shows an enlarged view of a B place of the bottom shell in Fig. 1;

Fig. 4 shows a schematic perspective view of the left drive box in Fig. 1;

Fig. 5 shows a schematic perspective view of the right drive box in Fig. 1;

Fig. 6 is a schematic perspective view of a bottom shell, a panel body, a drive box, an appliance box and a side plate of the air conditioner shown in Fig. 1;

Fig. 7 is a schematic perspective view illustrating a bottom shell, a panel body and a drive box in Fig. 6.

Fig. 8 is a schematic diagram showing a partial structure of the bottom shell, the panel body and the drive box in Fig. 7;

Fig. 9 is a schematic perspective view of the bottom shell and the base in Fig. 7;

Fig. 10 shows a partial schematic diagram of the bottom shell matched with the base in Fig. 9;

Fig. 11 shows an enlarged view of a local C portion of the bottom shell and the base in Fig. 10;

Fig. 12 is a schematic perspective view illustrating a bottom shell, an air-out motor and a drive box cooperating with each other of the air conditioner in Fig. 1;

Fig. 13 shows a schematic side view of the fitting of the bottom shell, the air-out motor and the drive box in Fig. 12;

Fig. 14 is a partial schematic diagram showing another angle of the cooperation of the bottom shell, the air-out motor and the drive box in Fig. 12.

[0022] Reference numerals in the drawings are:

10, bottom shell; 11, boss; 111, snap hole; 112, threaded hole; 113: limiting post; 114, avoidance position; 115, mounting position; 20, panel body; 30, air-out motor; 40, drive box; 41, snap; 42, screw hole; 43, left mounting ear; 44, limited hole; 45, right mounting ear; 46, avoidance structure; 50, side plate; 60, appliance box.

Detailed Description of the Embodiments

[0023] The technical solutions of the present disclosure will be clearly and completely described below with reference to the accompanying drawings, and obviously, the described embodiments are a part of the embodiments of the present disclosure rather than all of the embodiments. Based on the embodiments of the present disclosure, all other embodiments obtained by those skilled in the art without creative efforts fall within the scope of protection of the present disclosure

[0024] The design of a modular air conditioner is a heat tendency developed in the air conditioner industry at present, and the design requirements of the modular air conditioner can facilitate the production assembly of the air conditioner and the post-sale maintenance detection.

[0025] In the modular air conditioner, based on the consideration that the modular air conditioner is easy-to-disassemble and easy-to-cleaning and the electric appliance's safety aspect during the disassembly process, the present disclosure designs an assembly manner of a drive box, specifically, as shown in Fig. 1, the air conditioner of the present embodiment includes a bottom shell 10 and a drive box 40, the bottom shell 10 has a boss 11 protruding toward an impeller on which the air conditioner is mounted, and the drive box 40 is mounted on the boss 11.

[0026] By applying the air conditioner of the present embodiment, the drive box 40 is mounted on the boss 11 of the non-dismantling member bottom shell 10, and when the air conditioner is cleaned and dismantled, it is not necessary to dismantle the drive box, and the dismantling workload can be greatly reduced, and meanwhile, an operator's safety in the whole dismantling process is improved.

[0027] In the present embodiment, the number of the drive boxes 40 is two, the number of the protrusions 11 is also two, the two protrusions 11 are respectively formed on two ends of the bottom shell 10 along a longitudinal direction thereof, and each of the two protrusions 11 is provided with one drive box 40. Since the drive box is to drive an air deflector at an air outlet, the boss 11 increases the height, and the drive box can be conveniently installed. The each of the two bosses 11 has three mounting portions, each of the two drive boxes 40 has three matched mounting portions, and the mounting portions are engaged with or screwed with the matched mounting portions. In an exemplary embodiment, the two mounting portions are engaged with the two mating mounting portions on the drive box 40, and

the other mounting portion in the three mounting portions is screwed with the other matched mounting portion on the drive box 40. The drive box is fixed on the boss by means of engagement and screw fitting, and the fixing is more reliable and convenient to install. Of course, the drive box may also be fixed to the boss by screwing or engagement connection, and the number of mounting portions is not limited thereto, and needs to be selected according to specific situations.

[0028] In the present embodiment, as shown in Fig. 2 to Fig. 5, the three mounting portions are two snap holes 111 and one threaded hole 112 respectively, the three matching mounting portions are two snaps 41 and one threaded hole 42 respectively, the snap hole 111 is engaged with the snap 41, and the threaded hole 112 is threaded with the threaded hole 42. The snap hole and the snap form a snap structure, which is simple in structure and easy to operate. In an exemplary embodiment, the two snap holes 111 are arranged at intervals along a width direction of the bottom shell 10, and the two snap holes 111 are formed on an upper part of the boss 11 and cooperated with a bottom part of the drive box 40. This facilitates the manufacture and reduces the processing difficulty. Of course, the snap may be arranged on the boss, the snap hole may be arranged on the drive box, and the snap is provided with a screw post cooperated with the screw hole.

[0029] In the present embodiment, the two snap holes 111 are respectively formed on a top surface and a side surface of the boss 11, and are adapted to match with the snap 41 formed by an outwardly protruded convex column on a bottom wall and a side wall when the drive box 40 is in a mounted state. The protruding column is convenient to manufacture, simple to manufacture and reduces costs. In an exemplary embodiment, one snap hole 111 is formed on an inner side surface of the boss 11 and is adapted to cooperate with the snap 41 on the rear side wall when the drive box 40 is mounted. Wherein, a side where an extension end of a moving piece of the drive box is located is a front side, and the other side, away from the extension end of the moving piece, of the drive box is a rear side, and a wall, facing the bottom shell, of the drive box is a bottom wall. Of course, the two snap holes are also merely formed on the top surface or the side surface of the boss, and at this time, the two convex columns are merely formed on the bottom wall or the side wall when the drive box is in a mounted state.

[0030] In the present embodiment, one side wall of the drive box 40 has a mounting ear protruded outwardly, and the screw hole 42 is formed on the mounting ear. The arrangement of the mounting ear can simplify the structure of the drive box, and also facilitate the installation of screws. Specifically, the drive box mounted at a left end of the bottom shell 10 is a left drive box, the drive box mounted at a right end of the bottom shell 10 is a right drive box, when the drive box is in a mounted state, a left side wall in the left drive box has an outwardly projecting left mounting ear 43, and a right side wall in the

right drive box has an outwardly projecting right mounting ear 45.

[0031] In the present embodiment, the boss 11 on the left side is provided with a limiting structure, and the left mounting ear 43 is provided with a limited structure cooperated with the limiting structure. The limiting structure cooperates with the limited structure to serve as a limiting function, and the drive box can be prevented from moving. Of course, the installation position of the limited structure is not limited thereto, and may also be installed at other positions of the drive box. In the embodiment not shown in the figure, a limiting structure may also be arranged on the right boss, and in this case, the right drive box is provided with a limited structure that cooperated with the limiting structure.

[0032] As shown in Figs. 2 and 4, preferably, the limiting structure is a limiting post 113, the limited structure is a limited hole 44 arranged spaced from the screw hole 42 and cooperated with the limiting post 113, and the limited hole 44 and the screw hole 42 are arranged along a longitudinal direction of the drive box. The structure of the limiting column and the limited hole is simple and convenient to process. Of course, the limiting structure may also be a limiting hole, and in this case, the limited structure is a limited post.

[0033] In the present embodiment, as shown in Figs. 2 and 3, a side close to an evaporator of the air conditioner, of the boss 11 on the left side is provided with an avoidance position 114 for avoiding the evaporator, and a mounting position 115 for mounting the air-out motor of the air conditioner is provided on the boss 11 on the right side. In this case, two snap holes in the boss 11 on the left side are respectively located on opposite sides of the avoidance position 114, and two snap holes in the boss 11 on the right side are respectively located on opposite sides of the mounting position 115.

[0034] The assembly structure of the bottom shell and the left drive box is described below with reference to Figs. 2 and 4, and a boss 11 is provided on a left end of the bottom shell, and a threaded hole 112, a limiting post 113 and two snap holes 111 are provided on the boss 11. A screw hole 42, a limited hole 44 and two snaps 41 are disposed on a corresponding left drive box, the two snap holes 111 on the boss 11 are cooperated with the two snaps 41 on the left drive box respectively, and the limiting post 113 on the boss 11 is cooperated with the limited hole 44 on the left drive box; the threaded hole on the boss 11 is fitted with the screw hole on the left drive box through the screw, and the left drive box can be mounted on the left end of the bottom shell by the above fitting structure.

[0035] The assembly structure of the bottom shell and the right drive box is described below with reference to Figs. 3, 5, 10, 11 and 14, a boss 11 is provided on a right end of the bottom shell, a threaded hole 112 and two snap holes 111 are provided on the boss 11, a screw hole 42 and two snaps 41 are provided on a corresponding right drive box, and one snap 41 is provided adjacent

to the screw hole 42. two snap holes 111 on the boss 11 are matched with two snaps 41 on the right drive box; the threaded hole 112 on the boss 11 and the screw hole 42 on the right drive box are matched by screws, and the right drive box can be mounted on the right end of the bottom shell by the above fitting structure.

[0036] Through the above mounting and fitting structure of the drive box and the bottom shell, the drive box can be mounted and fixed on the bottom shell, when the whole machine needs to be cleaned and dismantled, the drive box is retained on the bottom shell of the dismantling member, the disassembly workload can be greatly reduced without disassembling the charging component drive box, which provides convenience for the cleaning and disassembling of the whole machine.

[0037] In order to facilitate the disassembly and maintenance detection of the drive box, an embodiment of the present disclosure provides a simple manner of the drive box, and specifically, as shown in Figs. 6 to 9, the air conditioner of the present embodiment further includes a panel body 20, the panel body 20 is arranged on the bottom shell 10 and configures a housing having an inner cavity together with the bottom shell 10; the drive box 40 is arranged in the inner cavity; the drive box 40 is detachably mounted on the bottom shell 10, and the panel body 20 is provided with an avoiding structure for avoiding movement of the detachable drive box 40 there between.

[0038] By applying the air conditioner of the present embodiment, the panel body 20 is provided with an avoiding structure for avoiding a movement of the disassembly drive box 40 there between, when the drive box 40 is detected and maintained, a side plate 50 is dismantled firstly and then an appliance box 60 is dismantled, in this case, the drive box 40 may be exposed to the outside, the drive box 40 is dismantled from the avoiding structure of the panel body 20, which greatly facilitates post-sale repair detection of the drive box of the whole machine, however, the panel body does not need to be dismantled, and the workload of post-sale detection and maintenance is reduced..

[0039] In the present embodiment, the positioning structure is formed at an end portion, close to the drive box 40, of the panel body 20. In this way, the drive box is conveniently dismantled from a front of the air conditioner, and then detection is performed, which greatly facilitates dismantling and detection of the drive box. In an exemplary embodiment, the avoiding structure is an avoiding gap. The avoiding gap has a simple structure and facilitates processing.

[0040] In the present embodiment, as shown in Fig. 6, the air conditioner further includes a side plate 50 detachably disposed at one end of the bottom shell 10 and located outside the drive box 40, the side plate 50 has an auxiliary plate parallel to the panel body 20 and extending toward the panel body 20, and the auxiliary plate extends to a position covering the drive box 40. An extension front end of the auxiliary plate is matched with a side edge of the panel body 20.

[0041] The operation process of detecting and servicing the drive box will be described below. By optimizing the structure of the panel body, the panel body retains an avoiding gap for facilitating the disassembly of the drive box from the front surface, and when detecting and maintaining the drive box, the side plate is firstly dismantled and then the appliance box is dismantled. In this case, the drive box can be completely exposed to the outside (as shown in Fig. 6), and then the drive box is dismantled to perform detection. The above structure does not need to dismantle the panel body when the drive box is maintained, and only the side plate and the appliance box need to be dismantled, which greatly facilitates the dismantling of the drive box, greatly facilitates the post-sale detection of the drive box of the whole machine, and provides great convenience for the detection and maintenance of the drive box of the whole machine.

[0042] Based on the consideration that the modular air conditioner is easy to dismantle and easy to maintain, an embodiment of the present disclosure designs a layout form of an air-out motor and an appliance box. Specifically, as shown in Figs. 12 to 14, the air conditioner in this embodiment further includes an air-out motor 30, and the air-out motor 30 is detachably mounted on the bottom shell 10; the drive box 40 is mounted on the bottom shell 10, and the drive box 40 is mounted on the bottom shell 10 with an avoidance structure 46 retained on a path for demounting and moving the air-out motor 30.

[0043] By applying the air conditioner of the present embodiment, the drive box 40 has an avoidance structure 46 for avoiding a path of detaching and moving the air-out motor 30, and when the air-out motor 30 is maintained, the side plate is firstly dismantled and then the appliance box 60 is dismantled, and at this time, the air-out motor 30 is exposed, and then the air-out motor is dismantled. The drive box has an avoidance structure which does not interfere with the air-out motor, and facilitates the disassembly of the air-out motor, so that facilitates the maintenance and detection of the air-out motor, and reduces the workload of the maintenance personnel.

[0044] In the present embodiment, the avoidance structure 46 extends from the mounting position of the air-out motor 30 to the side surface of the air conditioner. The above-mentioned structure leaves a channel for facilitating disassembly of the motor from the side surface of the air conditioner, facilitates extracting the air-out motor from the side surface of the air conditioner, and during disassembly, the air-out motor and the drive box do not interfere with each other, thereby facilitating disassembly and detection of the motor.

[0045] In the present embodiment, the drive box 40 is disposed on a side, away from the bottom shell 10, of the wind outlet motor 30, and the side opposites to the bottom shell 10; The bottom, close to the wind outlet motor 30, of the drive box 40 is provided with an inwardly recessed avoidance groove, so that the avoidance groove forms an avoidance structure 46. That is to say, when the air conditioner is mounted on a wall surface,

the drive box 40 is located in a right front of the air-out motor 30. Thus, the structure of the avoidance groove is simplified, and the machining is facilitated. Preferably, the groove wall of the avoidance groove is of an arch structure. The arched structure facilitates processing and reduces manufacturing costs. Of course, the shape of the groove wall of the avoidance groove is not limited thereto.

[0046] In the present embodiment, as shown in Fig. 14, the air-out motor 30 and the drive box 40 are both mounted on the boss 11. A high of the boss 11 is increased, and it is convenient to install the drive box and the air-out motor.

[0047] In the present embodiment, both sides, located on the avoidance groove, of the drive box 40 is mounted on the boss 11. In this way, the drive box can be mounted on the boss, and the fixing is more firmly stable.

[0048] In the present embodiment, one of the two bosses 11 is mounted with a air-out motor 30, and a side, close to the drive box 40, of the boss 11 is provided with a mounting position 115 for mounting the air-out motor 30. The mounting position 115 facilitates the installation of the air-out motor and simplifies the structure of the drive box. In an exemplary embodiment, the mounting position 115 is a mounting groove. The mounting groove is adapted to a shape of the air-out motor.

[0049] The operation process of detecting and servicing the motor will be described below. The drive box is mounted on a side, close to a front of the air conditioner, of the air-out motor, and a bottom, close to the air-out motor, of the drive box is provided with an arch-shaped avoidance groove, so that the avoidance groove forms a dismantling channel for dismantling the air-out motor from a side of the air conditioner. When the detecting and servicing is performed on the air-out motor, the side plate is firstly removed and then the appliance box is removed, and at this time, an end cover of the motor is exposed, the screw fixing the end cover of the motor is removed, and the end cover of the motor is removed to dismantle the air-out motor. In a process of extracting the motor from the side edge of the air conditioner, the drive box does not interfere with the motor, which greatly facilitates the disassembly and maintenance detection of the motor, and does not need to dismantle the appearance part when the motor is maintained and detected, which is convenient for disassembling the motor and relieves the workload of the person.

[0050] In the description of the present disclosure, it should be noted that the azimuth or positional relationship indicated by the terms "center," "upper," "lower," "left," "right," "vertical," "horizontal," "inner," and "outer" is based on the azimuth or positional relationship shown in the drawings. Rather than indicating or implying that the indicated device or element must have a particular orientation, be constructed and operated in a particular orientation, and therefore is not to be construed as limiting the present disclosure. Furthermore, the terms "first," "second," "third," are used for the purpose of de-

scription only and cannot be understood to indicate or imply relative importance.

[0051] Obviously, the above-described embodiments are merely examples made for clarity, and are not limited to the embodiments. Other variations or variations in different forms can also be made by those skilled in the art on the basis of the above description. All embodiments need not be exhaustive here. Apparently obvious variations or variations that are thus introduced are still within the scope of protection created by the present disclosure.

Claims

1. An air conditioner comprising:
 - a bottom shell (10);
 - an air-out motor (30) detachably mounted on the bottom shell (10);
 - wherein a drive box (40) is mounted on the bottom shell (10), and the drive box (40) is mounted on the bottom shell (10) with an avoidance structure (46) retained on a path for demounting and moving the air-out motor (30).
2. The air conditioner according to claim 1, wherein the avoidance structure (46) extends from a mounting position of the air-out motor (30) to a side surface of the air conditioner.
3. The air conditioner according to claim 2, wherein the drive box (40) is arranged on a side, away from the bottom shell (10), of the air-out motor (30), and the side opposites to the bottom shell (10); a bottom, close to the wind outlet motor (30), of the drive box (40) is provided with an avoidance groove recessed inward, and the avoidance groove forms the avoidance structure (46).
4. The air conditioner according to claim 3, wherein a groove wall of the avoidance groove is an arch structure.
5. The air conditioner according to claim 3, wherein the bottom shell (10) is provided with a boss (11) protruding toward one side of a mounting of the drive box (40), wherein the air-out motor (30) and the drive box (40) are mounted on the boss (11).
6. The air conditioner according to claim 5, wherein two sides of the drive box (40) are mounted on the boss (11), and the two sides are located on the avoidance groove.
7. The air conditioner according to claim 5, wherein one side, close to the drive box (40), of the boss (11) is provided with a mounting position (115) for mounting the air-out motor (30).

8. The air conditioner according to claim 7, wherein the mounting position (115) is a mounting groove.
9. The air conditioner according to claim 5, wherein at least one mounting portion is formed on the boss (11), at least one matched mounting portion corresponding to the at least one mounting portion in a one-to-one manner is provided on the drive box (40), and the at least one mounting portion and the at least one matched mounting portion are clamped or screwed.
10. The air conditioner according to claim 9, wherein when the at least one mounting portion is in snap fit with the at least one matched mounting portion, each of the at least one mounting portion is a snap hole (111), each of the at least one matched mounting portion is a snap (41) clamped with the snap hole (111), or each of the at least one mounting portion is a snap, and each of the at least one matched mounting portion is a snap hole clamped with the snap.
11. The air conditioner according to claim 10, wherein when the each of the at least one mounting portion is the snap hole (111), the number of the snap hole (111) is two, and two snap holes (111) are arranged at intervals along a width direction of the bottom shell (10), the two snap holes (111) are formed at an upper part of the boss (11) and are cooperated with a snap (41) located at a bottom part of the drive box (40).
12. The air conditioner according to claim 11, wherein the two snap holes (111) are formed on a top surface and/or a side surface of the boss (11), and are configured to correspondingly engage with the snap (41) formed by a convex column protruded outwardly and disposed on a bottom wall and/or a side wall of the drive box (40) when the drive box is in a mounted state.
13. The air conditioner according to claim 12, wherein one snap hole (111) in the two snap holes is formed on an inner side surface of the boss (11) and is adapted to cooperate with the snap (41) on a rear side wall when the drive box (40) is mounted.
14. The air conditioner according to claim 9, wherein when the at least one mounting portion is screwed with the at least one matched mounting portion, the each of the at least one mounting portion is a threaded hole (112) or a screw post, and the each of the at least one matched mounting portion is a screw hole (42) screwed with the threaded hole (112) or the screw post.
15. The air conditioner according to claim 14, wherein one side wall of the drive box (40) is provided with a mounting ear protruded outwardly, and the screw hole (42) is formed on the mounting ear.
16. The air conditioner according to any one of claims 5 to 15, wherein there are two bosses (11), and the two bosses (11) are respectively formed on two ends of the bottom shell (10) along a longitudinal direction thereof, each of the two bosses (11) is provided with one drive box (40), and one of the two bosses (11) is mounted with the air-out motor (30).
17. An air conditioner comprising:
 a bottom shell (10);
 an air-out motor (30) detachably mounted on the bottom shell (10);
 wherein the air conditioner further comprises a drive box (40) mounted on the bottom shell (10), wherein when the drive box (40) is mounted on the bottom shell (10), an avoidance structure (46) is provided on a path for demounting and moving the air-out motor (30).

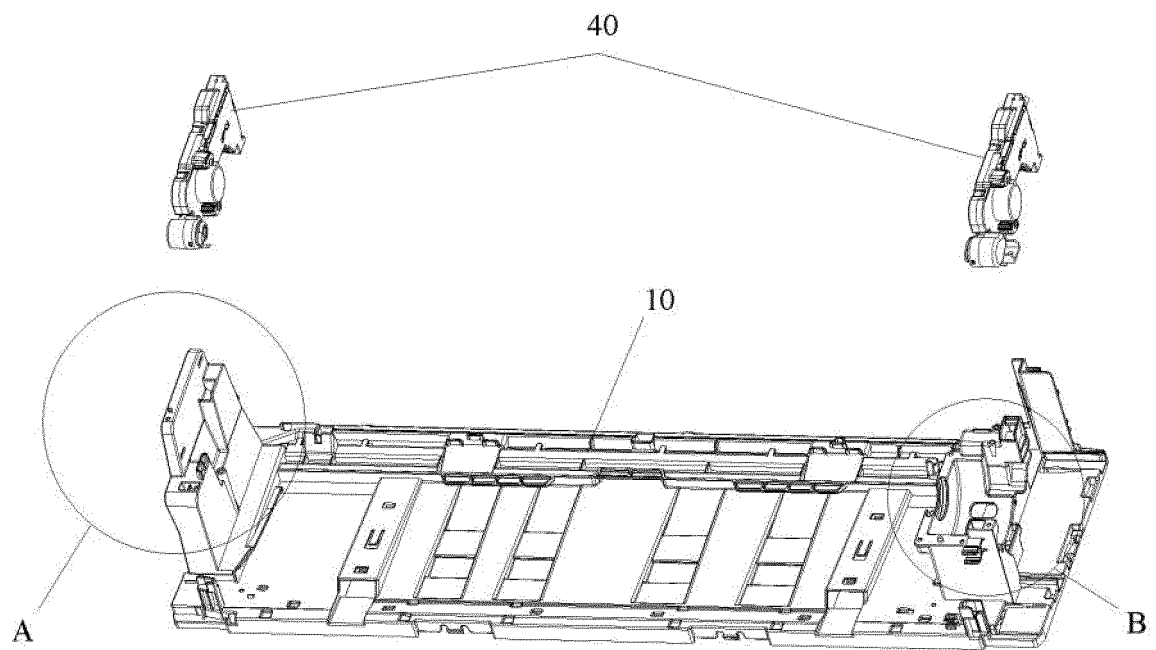


Fig. 1

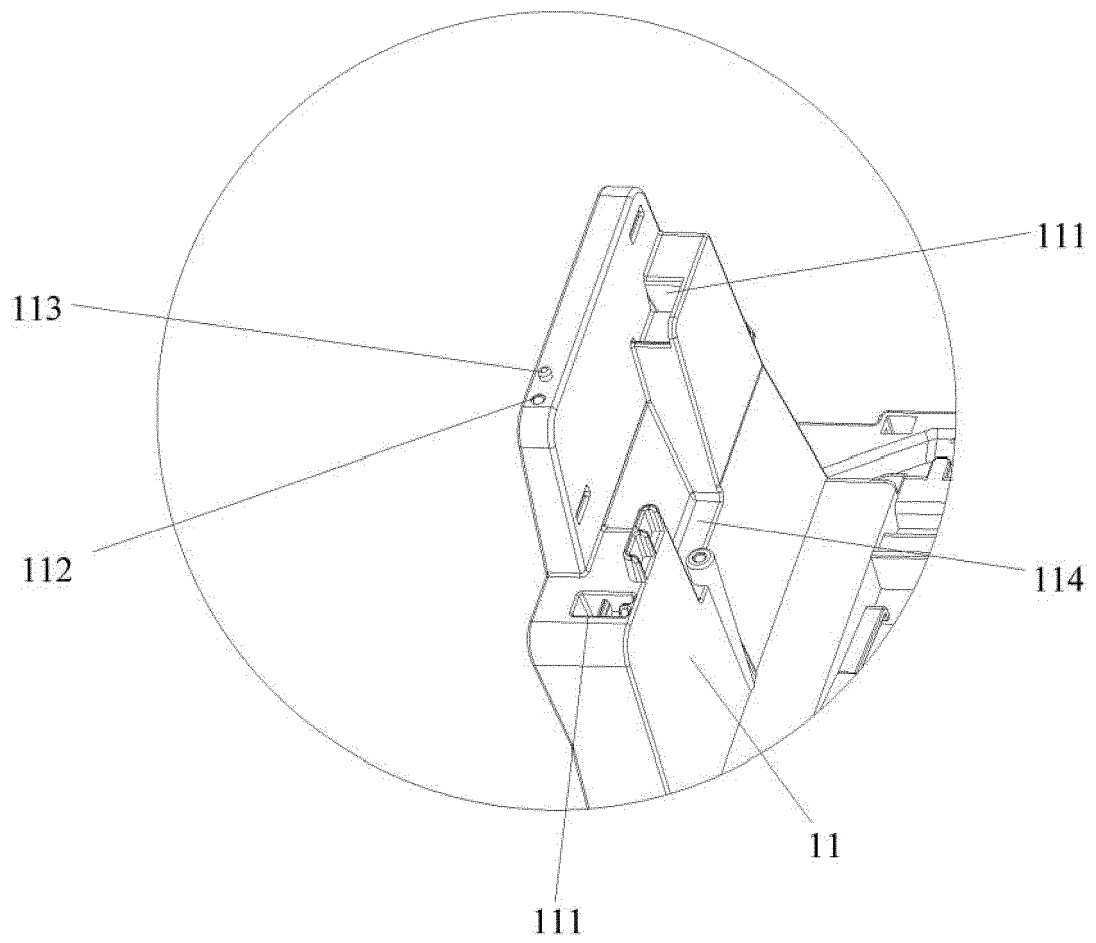


Fig. 2

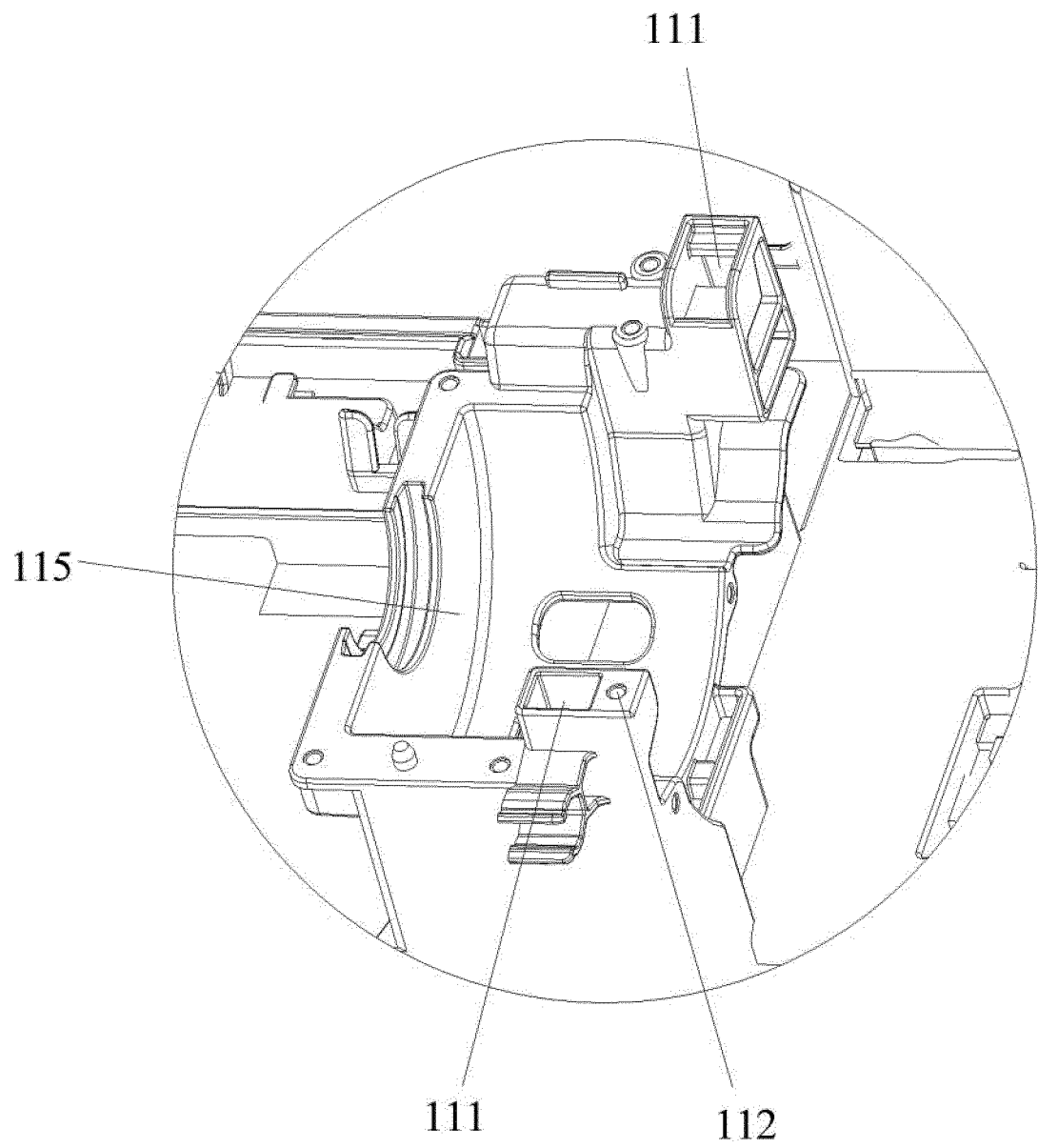


Fig. 3

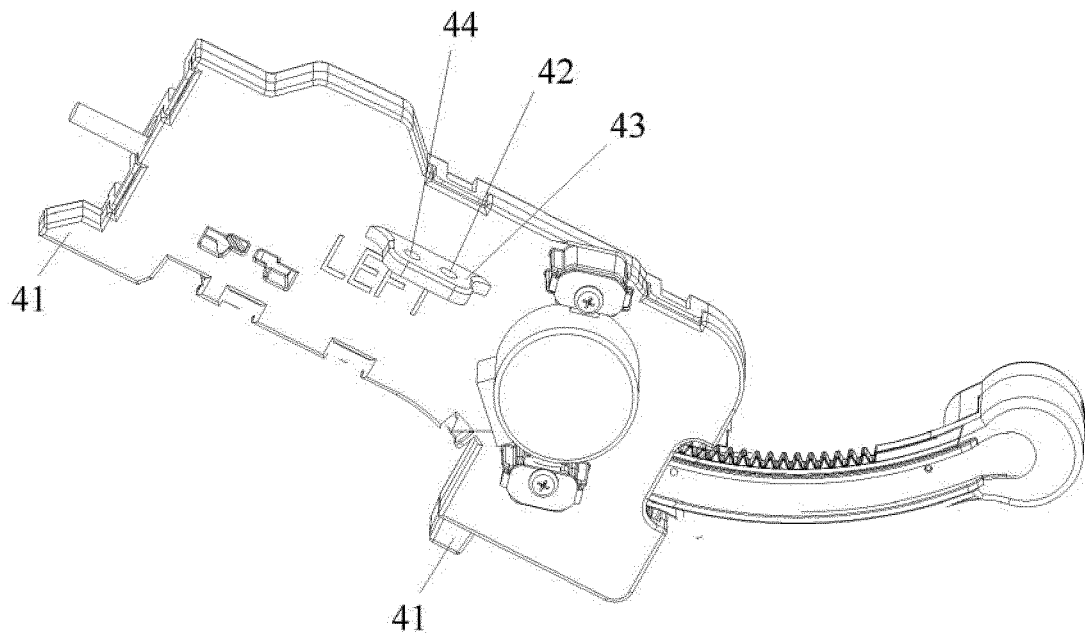


Fig. 4

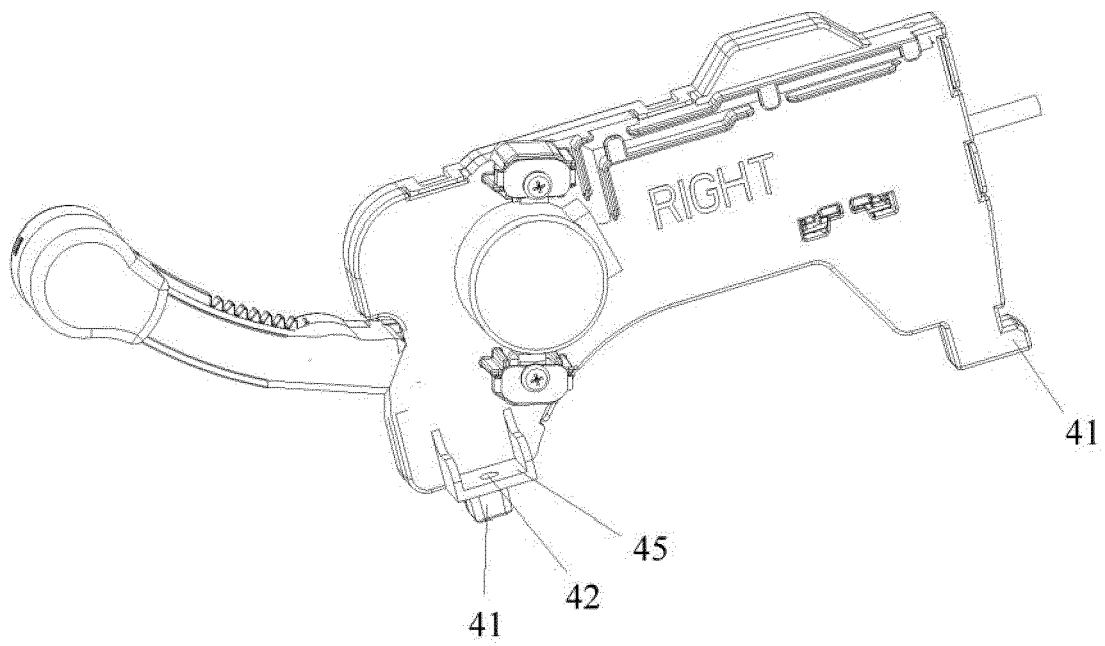


Fig. 5

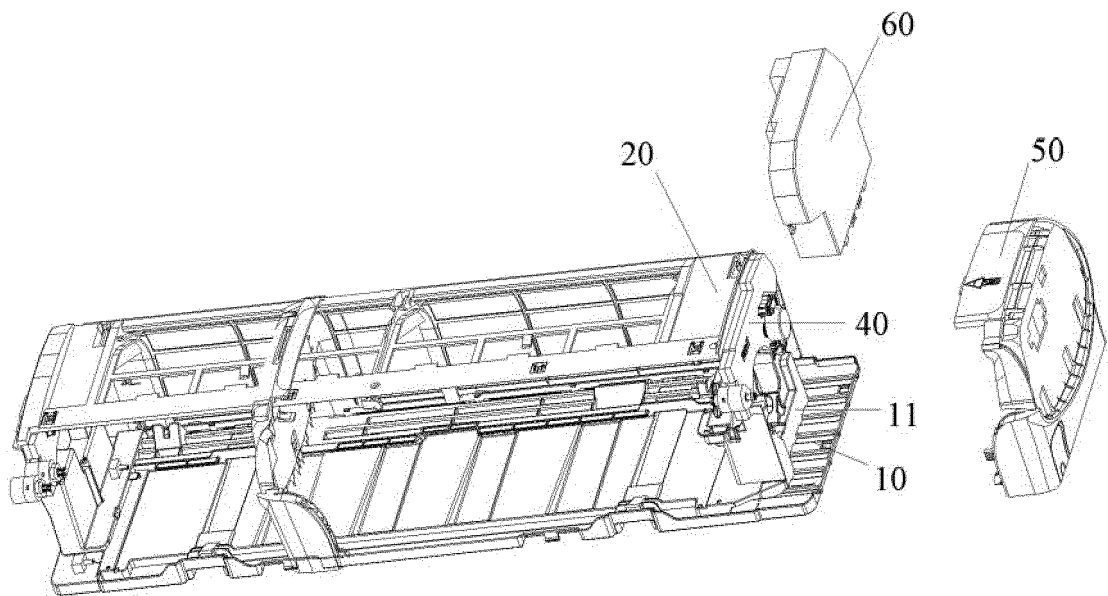


Fig. 6

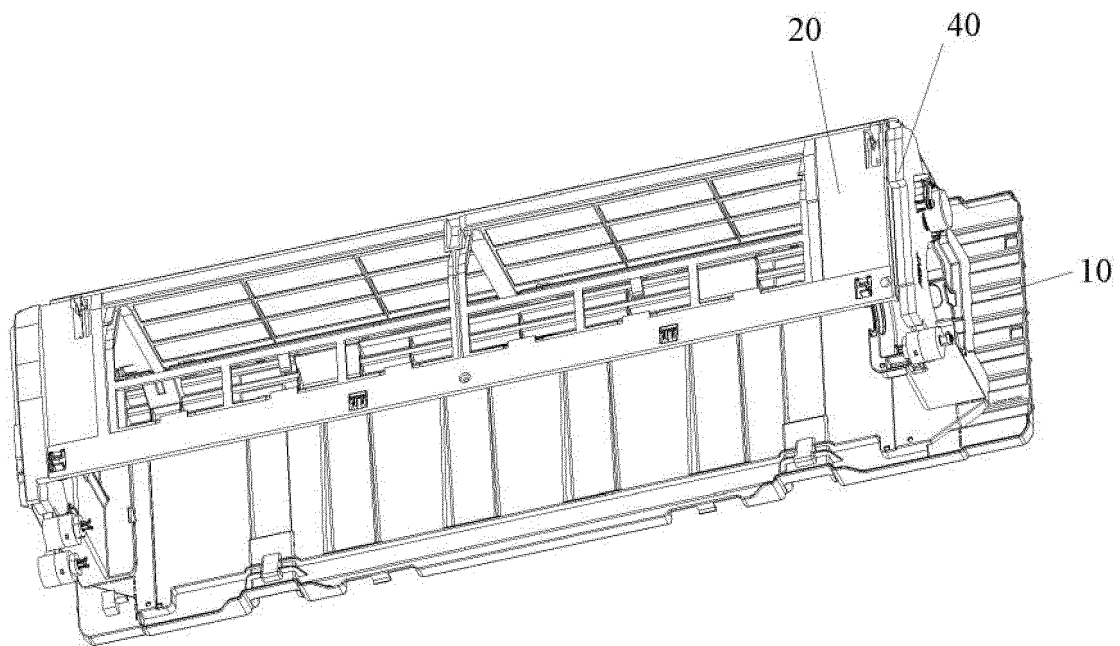


Fig. 7

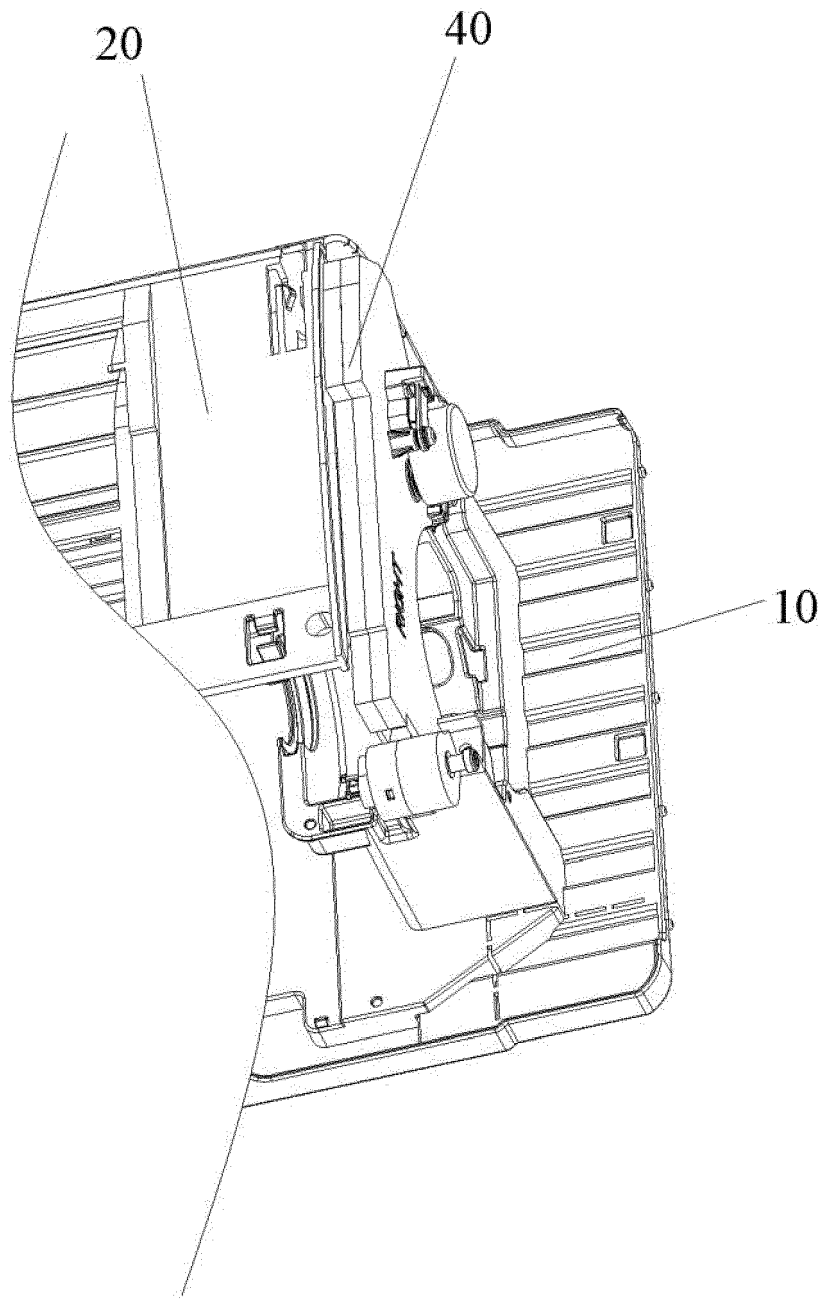


Fig. 8

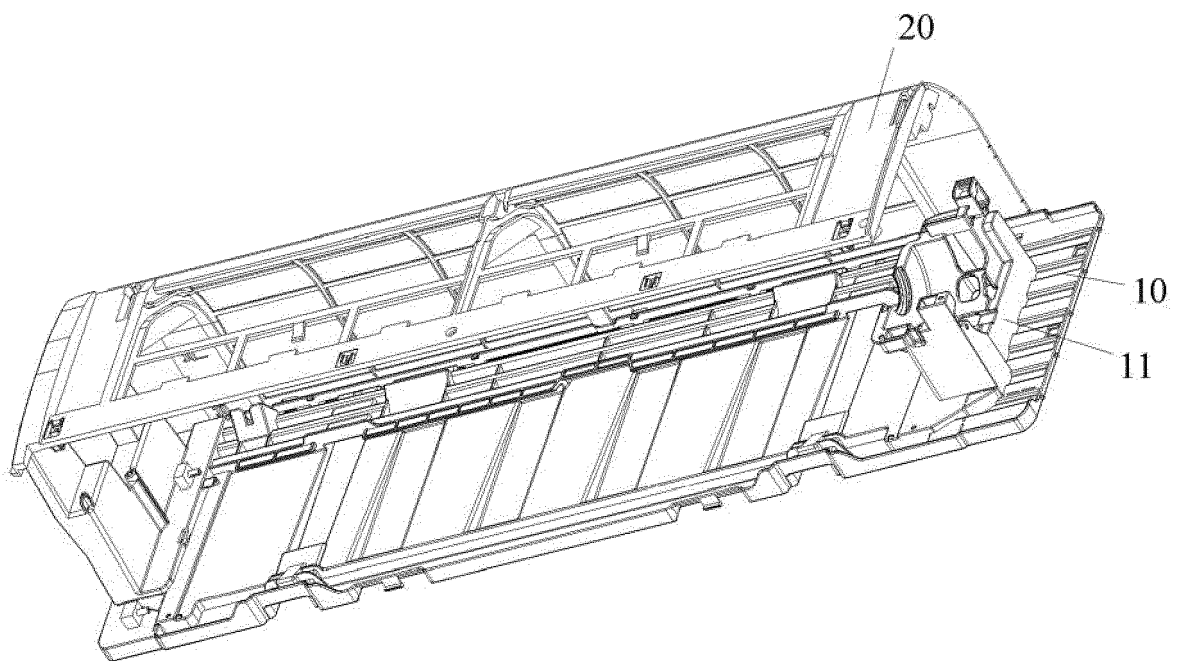


Fig. 9

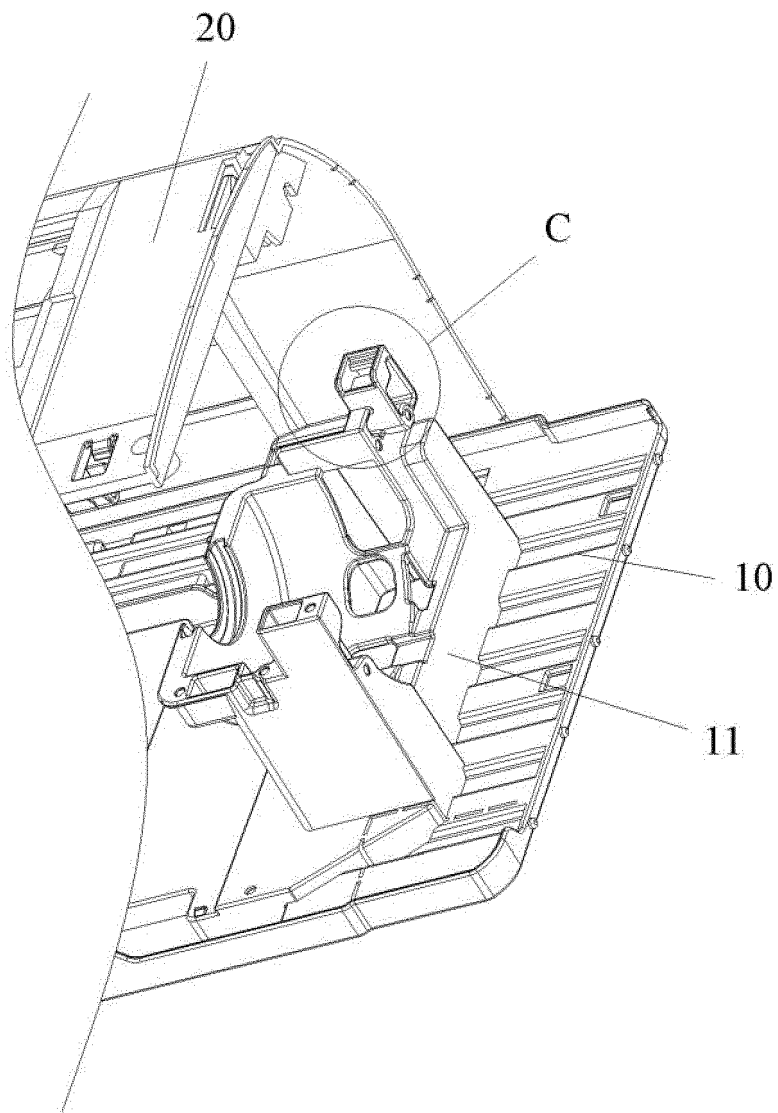


Fig. 10

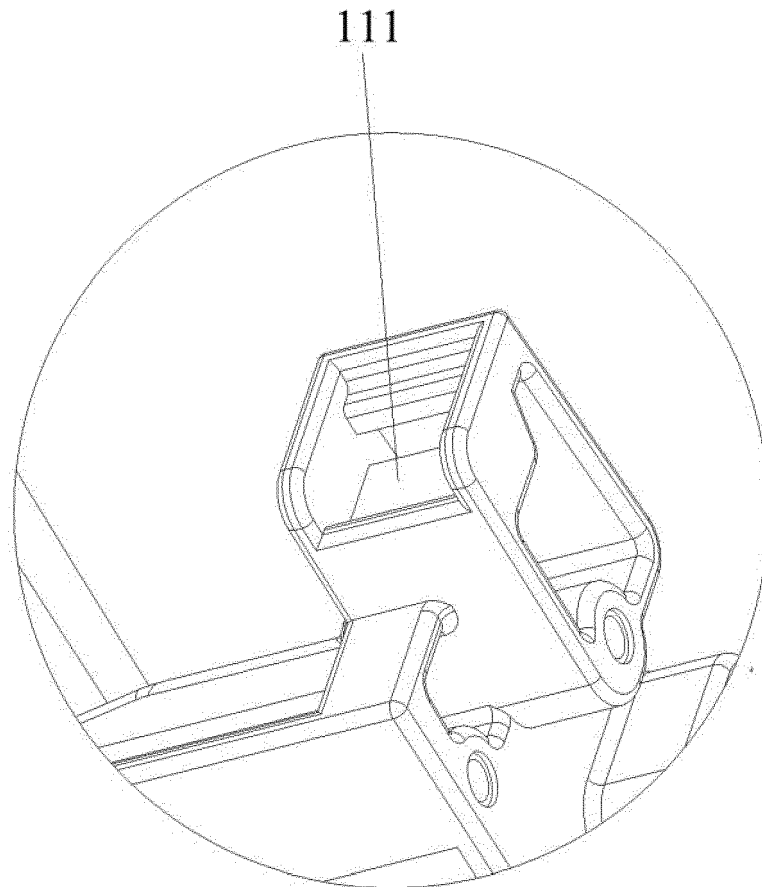


Fig. 11

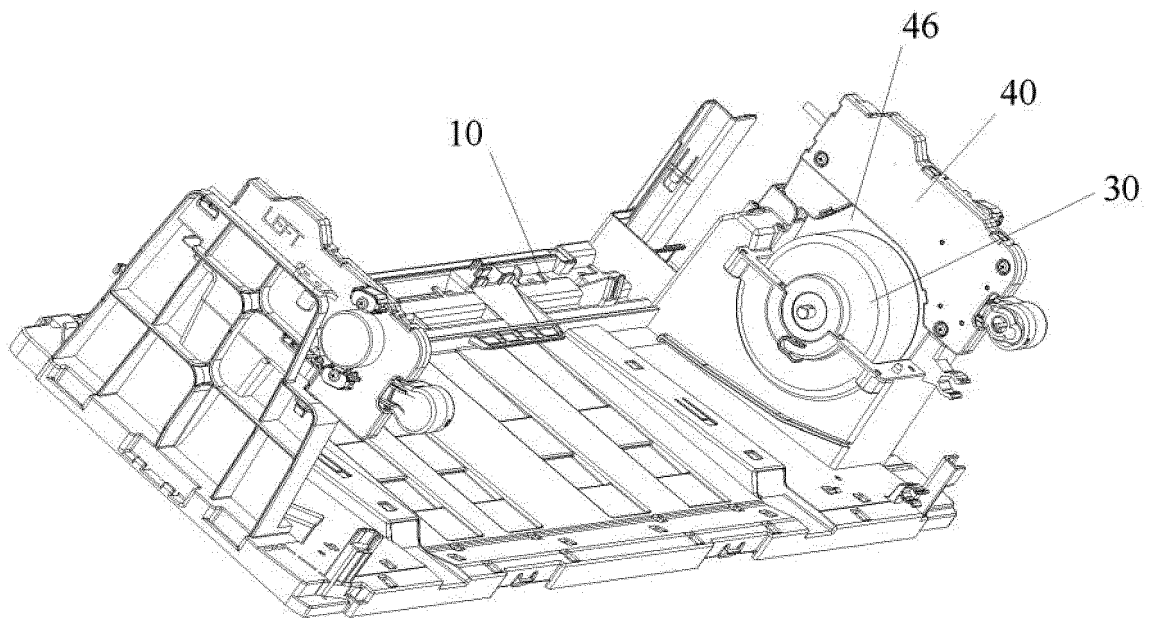


Fig. 12

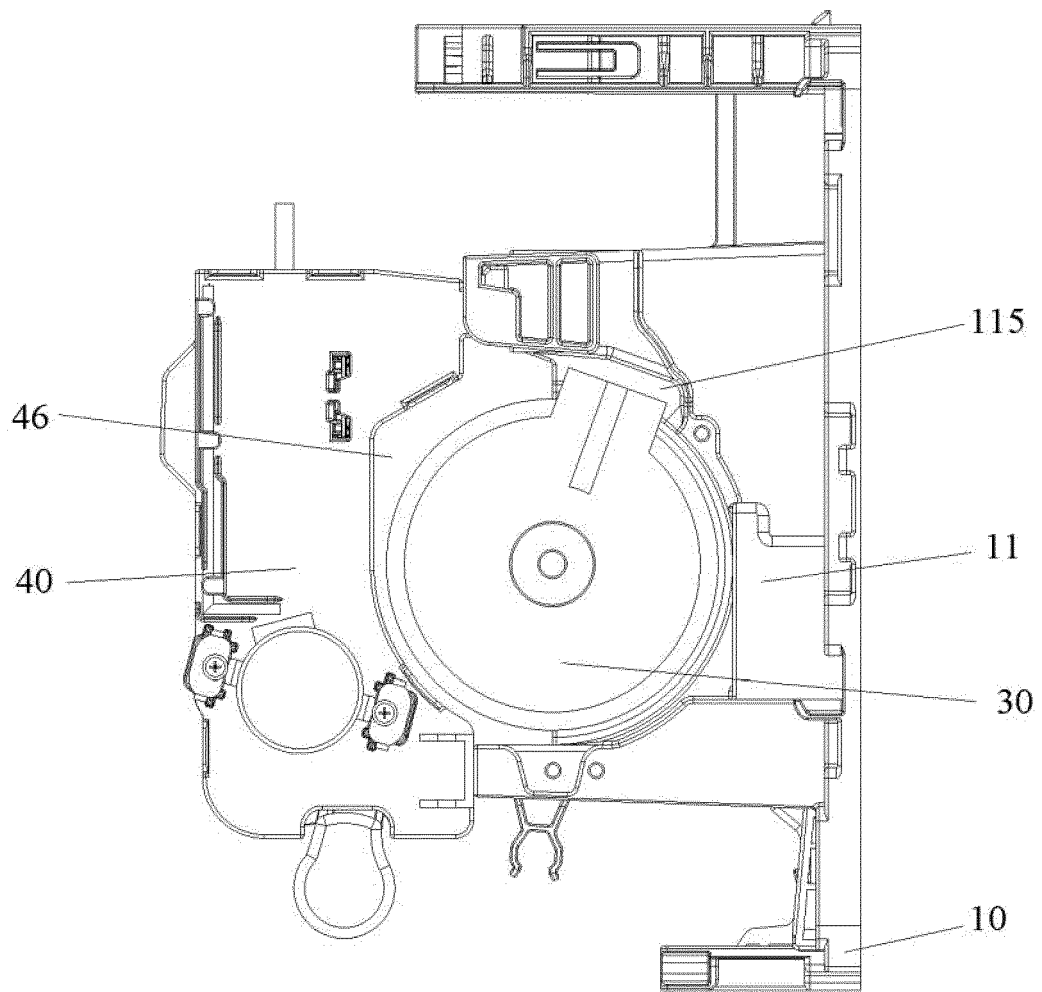


Fig. 13

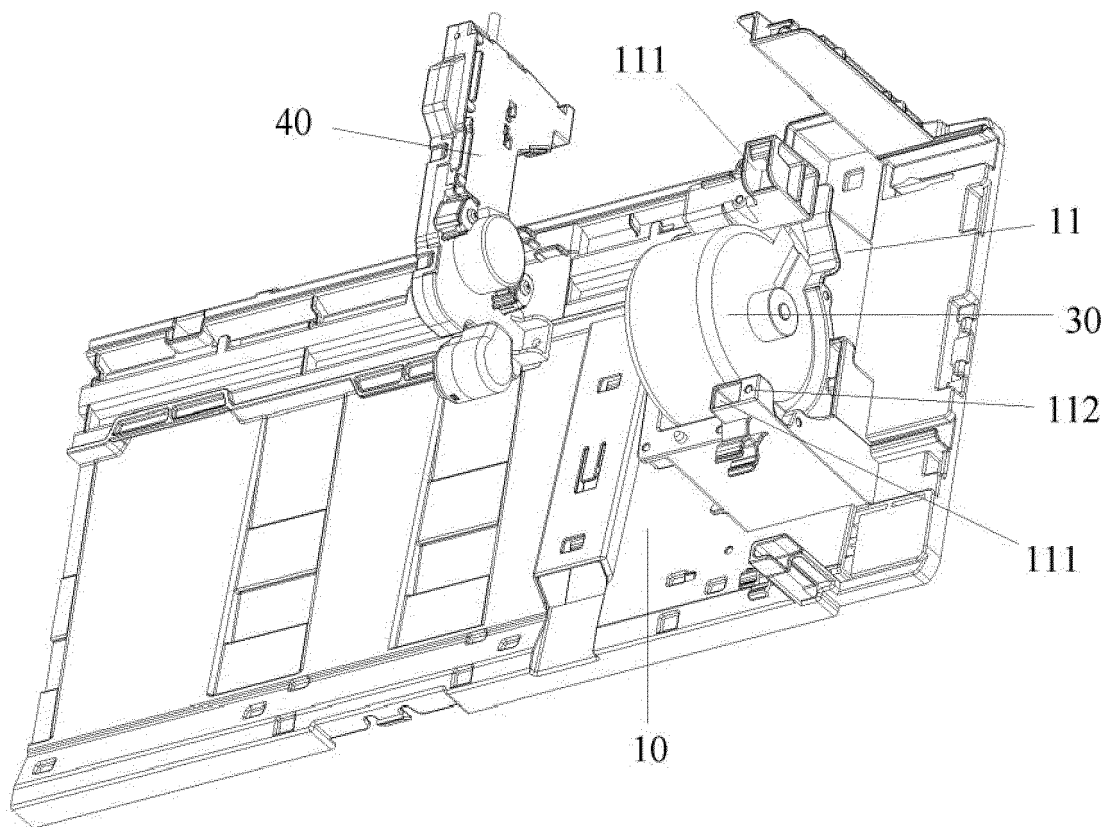


Fig. 14

INTERNATIONAL SEARCH REPORT

International application No.
PCT/CN2017/118320

A. CLASSIFICATION OF SUBJECT MATTER

F24F 13/10 (2006.01) i; F24F 1/00 (2011.01) 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)

CNABS, CNTXT, CNKI, VEN: 空调, 空气调节, 驱动盒, 驱动装置, 电机, 电动机, 拆卸, 拆装, 卸装, 可拆, 避让, 让位 air condition+, driv+, box, unit, gear, device, arrangement, motor, disassemble, dismount, demount, detachable, dismountable, removable, shelter, avoid

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	CN 106500293 A (GREE ELECTRIC APPLIANCES, INC. OF ZHUHAI), 15 March 2017 (15.03.2017), description, paragraphs [0059]-[0060], and figures 1-2	1-4, 17
Y	CN 201629619 U (GREE ELECTRIC APPLIANCES, INC. OF ZHUHAI), 10 November 2010 (10.11.2010), description, paragraphs [0021]-[0029], and figures 1-5	1-4, 17
A	CN 206094493 U (GREE ELECTRIC APPLIANCES, INC. OF ZHUHAI), 12 April 2017 (12.04.2017), entire document	1-17
A	CN 201926086 U (GREE ELECTRIC APPLIANCES, INC. OF ZHUHAI), 10 August 2011 (10.08.2011), entire document	1-17
A	JP H0727361 A (MITSUBISHI JUKOGYO KK), 27 January 1995 (27.01.1995), entire document	1-17
A	JP H09243160 A (FUJITSU GENERAL LTD.), 16 September 1997 (16.09.1997), entire document	1-17

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

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

Date of the actual completion of the international search 09 March 2018	Date of mailing of the international search report 29 March 2018
Name and mailing address of the ISA State Intellectual Property Office of the P. R. China No. 6, Xitucheng Road, Jimenqiao Haidian District, Beijing 100088, China Facsimile No. (86-10) 62019451	Authorized officer ZHONG, Dehui Telephone No. (86-10) 62084834

Form PCT/ISA/210 (second sheet) (July 2009)

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No.
PCT/CN2017/118320

Patent Documents referred in the Report	Publication Date	Patent Family	Publication Date
CN 106500293 A	15 March 2017	None	
CN 201629619 U	10 November 2010	None	
CN 206094493 U	12 April 2017	None	
CN 201926086 U	10 August 2011	None	
JP H0727361 A	27 January 1995	None	
JP H09243160 A	16 September 1997	None	