



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

(43) Date of publication:
17.02.2021 Bulletin 2021/07

(51) Int Cl.:
F24F 1/00 ^(2019.01) **F24F 13/14** ^(2006.01)
F24F 13/28 ^(2006.01)

(21) Application number: **18929878.9**

(86) International application number:
PCT/CN2018/120957

(22) Date of filing: **13.12.2018**

(87) International publication number:
WO 2020/034508 (20.02.2020 Gazette 2020/08)

(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:
KH MA MD TN

(30) Priority: **15.08.2018 CN 201810928212**

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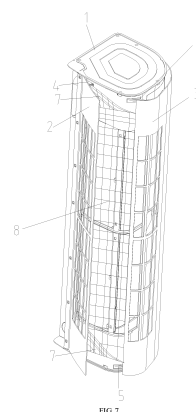
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(54) **AIR CONDITIONER**

(57) The present invention provides an air conditioner including an air conditioner body (1), air intake plates, and a filter screen. The air conditioner body is provided with an air inlet and an air outlet. The air intake plates cover the air inlet and each has an air intake grid. The air intake plates are hingedly connected to the air conditioner body (1) and are capable of being switched between an expanded state and a closed state. The filter screen is disposed between the air intake plates and the air inlet and is configured to filter air entering the air conditioner body (1) from the air intake grid (9). In the present invention, the air intake plates are designed to be a structure capable of expanding and closing. When the air intake plates are in the expanded state, air is taken in through the entire air inlet instead of from the air intake grid (9), thereby increasing the air intake area. When the air intake plates are in the closed state, the air intake

area is reduced, but the amount of the intake air reaches a certain extent, without affecting the appearance of the air conditioner.



Description

TECHNICAL FIELD

[0001] The present invention relates to the field of air conditioning technology, and more particularly relates to an air conditioner.

BACKGROUND

[0002] With the development of the air conditioning industry, consumers' demand for size and appearance of an air conditioner is increasing. However, the size of the air conditioner may affect the performance of the air conditioner. Currently, on the condition that the size of the air conditioner is determined, a size of an air inlet of the air conditioner cannot be too small in order to ensure the amount of intake air. Meanwhile, a filter screen needs to be additionally provided to prevent abnormalities, such as dust, from entering the air inlet. However, the addition of the filter screen greatly affects the amount of the intake air, so that the size of the air inlet has to be increased, which may unfavorably affect the appearance of the air conditioner as well.

[0003] No matter a wall mounted air conditioner, a floor standing air conditioner, or a corner hung air conditioner in conventional art, the size of the air inlet thereof cannot be adjusted. Therefore, there is a need to provide an air conditioner with a variable air intake area. The area of the air inlet can be increased when the requirement for the intake air amount is relatively large, and area of the air inlet can be reduced when the air conditioner is not being used, or when the requirement for the intake air amount is relatively small, without affecting the appearance of the air conditioner.

SUMMARY

[0004] An object of the present invention is to provide an air conditioner to solve the problem that the air intake area of the existing air conditioner cannot be adjusted.

[0005] In order to achieve the object, the present invention provides a technical solution as follows. An air conditioner includes an air conditioner body, air intake plates, and a filter screen. The air conditioner body is provided with an air inlet and an air outlet. The air intake plates cover the air inlet and each has an air intake grid. The air intake plates are hingedly connected to the air conditioner body and are capable of being switched between an expanded state and a closed state. The filter screen is disposed between the air intake plates and the air inlet, and the filter screen is configured to filter air entering the air conditioner body from the air intake grid.

[0006] According to the air conditioner provided by the present invention, the air intake plates are designed to be a structure capable of expanding and closing. When the air intake plates are in the expanded state, air is taken in through the entire air inlet instead of from the air intake

grid, thereby increasing the air intake area. When the air intake plates are in the closed state, the air intake area is reduced, but the amount of the intake air reaches a certain extent, without affecting the appearance of the air conditioner.

[0007] In addition, the air conditioner according to the above-mentioned embodiment of the present invention can include additional technical features as follows.

[0008] In an embodiment of the present invention, the number of the air intake plates are two. The two air intake plates are respectively mounted on two sides of the air conditioner body. The two air intake plates are respectively a first air intake plate and a second air intake plate. One side of the first air intake plate is hingedly connected to the air conditioner body via a first rotating mechanism.

[0009] In an embodiment of the present invention, another side of the first air intake plate is detachably connected to the air conditioner body via a connecting mechanism.

[0010] In an embodiment of the present invention, the connecting mechanism is a snap-fit structure.

[0011] In an embodiment of the present invention, the first rotating mechanism includes a gear and a toothed fixing member meshed with each other. The toothed fixing member has a plurality of teeth evenly spaced and distributed along a circular arc. The gear is mounted on the air conditioner body. The toothed fixing member is disposed on an inner side of the first air intake plate.

[0012] In an embodiment of the present invention, two toothed fixing members are respectively disposed at an upper end and a lower end of the inner side of the first air intake plate. The air conditioner body is provided with two gears mating with the two toothed fixing members.

[0013] In an embodiment of the present invention, a central angle corresponding to the circular arc is 90 degrees.

[0014] In an embodiment of the present invention, one side of the second air intake plate is hingedly connected to the air conditioner body via a second rotating mechanism.

[0015] In an embodiment of the present invention, the second rotating mechanism is a hinge.

[0016] In an embodiment of the present invention, another side of the second air intake plate is connected to the air conditioner body via a push-pull mechanism configured to make the other side of the second air intake plate distant from and adjacent to the air conditioner body.

[0017] In an embodiment of the present invention, the push-pull mechanism includes a linear reciprocal moving mechanism, the linear reciprocal moving mechanism includes a fixing portion and a linear moving portion connected with each other. The fixing portion is mounted on the air conditioner body. The linear moving portion is connected to the second air intake plate.

[0018] In an embodiment of the present invention, the push-pull mechanism includes a gear and a rack. The gear is mounted on the air conditioner body. The rack is

respectively connected to the gear and the second air intake plate.

[0019] In an embodiment of the present invention, the first air intake plate and the second air intake plate are respectively located at the two sides of the air conditioner body, and the two sides are adjacent to each other. The first air intake plate and the second air intake plate rotate in opposite directions during expanding.

[0020] In an embodiment of the present invention, the filter screen is a flexible filter screen.

[0021] In an embodiment of the present invention, the filter screen includes a first filter screen body, a second filter screen body, and a third filter screen body. The first filter screen body is connected to the air conditioner body and the first air intake plate. The second filter screen body is connected to the first air intake plate and the second air intake plate. The third filter screen body is connected to the air conditioner body and the second air intake plate. When the first air intake plate and the second air intake plate are in the expanded state, the first filter screen body, the second filter screen body, the third filter screen body, the first air intake plate, and the second air intake plate jointly form a screen cover covering the air inlet.

[0022] In an embodiment of the present invention, the first filter screen body includes a first portion and a second portion. Two opposite sides of the first portion are respectively connected to the air conditioner body and an upper end of the first air intake plate. Two opposite sides of the second portion are respectively connected to the air conditioner body and a lower end of the first air intake plate.

[0023] In an embodiment of the present invention, the second filter screen body includes a third portion and a fourth portion. Two opposite sides of the third portion are respectively connected to the air conditioner body and an upper end of the second air intake plate. Two opposite sides of the fourth portion are respectively connected to the air conditioner body and a lower end of the second air intake plate.

[0024] Some advantages of the above additional aspects are set forth in the following description, and others thereof are apparent from the following description or can be understood by implementing the present invention.

BRIEF DESCRIPTION OF THE DRAWINGS

[0025]

FIG 1 is a schematic structural view of a first air intake plate of an air conditioner according to an embodiment of the present invention.

FIG 2 is a schematic structural view of a second air intake plate of the air conditioner according to an embodiment of the present invention.

FIG 3 is a top view of the air intake plates of the air conditioner in a closed state according to an embodiment of the present invention.

FIG 4 is a side view of the air intake plates of the air conditioner in the closed state according to an embodiment of the present invention.

FIG 5 is a top view of the air intake plates of the air conditioner in an expanded state according to an embodiment of the present invention.

FIG 6 is a side view of the air intake plates of the air conditioner in the expanded state according to an embodiment of the present invention.

FIG 7 is a perspective view of the air intake plates of the air conditioner in the expanded state according to an embodiment of the present invention.

FIG 8 is a schematic view showing a mounting position of the air intake plates of the air conditioner according to an embodiment of the present invention.

[0026] In the drawings, reference numbers representing respective components are listed as follows:

1. air conditioner body; 2. first air intake plate; 3. second air intake plate; 4. toothed fixing member; 5. push-pull mechanism; 6. mating portion; 7. first filter screen body; 8. second filter screen body; 9. air intake grid; 10. room.

DETAILED DESCRIPTION OF THE EMBODIMENTS

[0027] The principles and features of the present invention are described below in combination with the accompanying drawings, in which illustrative examples are merely used for explaining the present invention, and are not intended to limit the scope of the present invention.

[0028] As shown in FIGs. 1 to 8, embodiments of an air conditioner are provided. The air conditioner includes an air conditioner body 1, air intake plates, and a filter screen. The air conditioner body 1 is provided with an air inlet and an air outlet (not shown). Specifically, the air inlet and the air outlet are disposed on a housing of the air conditioner body 1. The air intake plate covers the air inlet. The air intake plate has an air intake grid 9 through which an external air flow enters the air conditioner body 1. The air intake grid 9 is also provided with a filter screen. The air intake plates are hingedly connected to the air conditioner body 1, so that the air intake plates are capable of being switched between an expanded state and a closed state. The filter screen is disposed between the air intake plates and the air inlet, and the filter screen is configured to filter air entering the air conditioner body 1 from the air intake grids 9.

[0029] In this configuration, the air intake plates are designed to be a structure capable of expanding and closing. When the air intake plates are in the expanded state, air is taken in through the entire air inlet instead of only from the air intake grids 9, increasing the air intake area. When the air intake plates are in the closed state, the air intake area is reduced, but the amount of the intake air reaches a certain extent, without affecting the appearance of the air conditioner.

[0030] Specifically, in the present embodiment, the

number of the air intake plates is two. The two air intake plates are respectively mounted on two sides of the air conditioner body 1. The two air intake plates are respectively a first air intake plate 2 and a second air intake plate 3, as shown in the drawings. One side of the first air intake plate 2 is hingedly connected to the air conditioner body 1 via a first rotating mechanism. Another side of the first air intake plate 2 is detachably connected to the air conditioner body 1 via a connecting mechanism. In this way, the first air intake plate 2 is capable of being expanded and closed through the first rotating mechanism, and a connection relationship between the first air intake plate 2 and the air conditioner body 1 can be ensured in the closed state, thereby improving the connection stability therebetween.

[0031] Specifically, in the present embodiment, the connecting mechanism is a snap-fit structure (not shown). The snap-fit structure includes a snap-fit clip and a snap-fit slot capable of mating with each other. The first air intake plate 2 is provided with one of the snap-fit clip and the snap-fit slot, and the air conditioner body 1 is provided with another of the snap-fit clip and the snap-fit slot. This configuration facilitates the connection and the disconnection between the air conditioner body 1 and the first air intake plate 2 and reduces the cost.

[0032] Specifically, as shown in FIG 1, in the present embodiment, the first rotating mechanism includes a gear (not shown) and a toothed fixing member 4 meshed with each other. The toothed fixing member has a plurality of teeth evenly spaced and distributed along a circular arc. The gear is mounted on the air conditioner body 1. The toothed fixing member 4 is disposed on an inner side of the first air intake plate 2.

[0033] Preferably, in the present embodiment, two toothed fixing members 4 are respectively disposed at an upper end and a lower end of the inner side of the first air intake plate 2. The air conditioner body 1 is provided with two gears mating with the two toothed fixing members 4. By disposing the toothed fixing members 4 at both the upper end and the lower end of the first air intake plate 2, the connection between the first air intake plate 2 and the air conditioner body 1 is more stable, and the rotation therebetween is more stable. In addition, a central angle corresponding to the above-mentioned circular arc is preferably 90 degrees; that is, the circular arc corresponds to the quarter-circular plate as shown in FIG 1. The plurality of teeth are evenly spaced and distributed on the circular arc surface of the quarter-circular plate. By designing the central angle corresponding to the circular arc to be 90 degrees, the requirements of the first air intake plate 2 for a rotation radius and a rotation angle are satisfied, and the material consumption of the circular plate is saved.

[0034] Specifically, in the present embodiment, one side of the second air intake plate 3 is hingedly connected to the air conditioner body 1 via a second rotating mechanism (not shown). The second rotating mechanism can be a hinge. The hinges in various types can be used so

long as the second air intake plate 3 can be rotated with respect to the air conditioner body 1. Since the structure of the hinge is well known in the related art, the specific structure thereof is not described in the present embodiment.

[0035] Specifically, in the present embodiment, another side of the second air intake plate 3 is connected to the air conditioner body 1 via a push-pull mechanism 5. The push-pull mechanism 5 is configured to make the other side of the second air intake plate 3 distant from and adjacent to the air conditioner body 1.

[0036] Specifically, in the present embodiment, the push-pull mechanism 5 includes a linear reciprocal moving mechanism. The linear reciprocal moving mechanism includes a fixing portion and a linear moving portion connected with each other. The fixing portion is mounted on the air conditioner body 1. The linear moving portion is connected to the second air intake plate 3.

[0037] The linear reciprocal moving mechanism in various types and structures, such as an air cylinder, an electric cylinder, a ball bearing screw, and the like, can be used. In the present embodiment, the push-pull mechanism 5 is preferably a gear and a rack with simple structures. The gear is mounted on the air conditioner body 1, and the rack is respectively connected to the gear and the second air intake plate 3. As shown in FIG 2, in the present embodiment, a mating portion 6 is disposed on the second air intake plate 3 and mated with the rack. The rack is detachably connected to the mating portion 6.

[0038] In addition, it should be noted that the gear of the first rotating mechanism and the gear of the linear reciprocal moving mechanism are different gears, and both can be driven to rotate by a driving mechanism (not shown). The driving mechanism is controlled by a control device. When the air intake area needs to be increased, the driving mechanism can be actuated by the control device to drive the gears or one of the gears to rotate, thereby realizing the rotations of the first air intake plate 2 and the second air intake plate 3. The driving mechanism and the control device can be omitted, and thus the above-mentioned first air intake plate 2 and the second air intake plate 3 can be expanded manually; and in this case, both gears are driven gears.

[0039] In addition, in the present embodiment, the structure of the filter screen is improved on the basis of the above-mentioned structure. A conventional filter screen is fixedly disposed between an air intake plate and an air inlet. Air enters the air conditioner through meshes of the conventional filter screen, so that the air entered the air conditioner from the air intake grid 9 is filtered. The diameters and the number of the meshes of the conventional filter screen are constant; thus, the air intake area is constant. However, in the present embodiment, the filter screen is designed to be variable, and the air intake area of the filter screen can be maximized by unfolding the folded filter screen.

[0040] Specifically and firstly, as shown in FIG 7, in the present embodiment, the first air intake plate 2 and the

second air intake plate 3 are respectively located at two adjacent sides of the air conditioner body 1. The first air intake plate 2 and the second air intake plate 3 rotate in opposite directions during the expending. In other words, a distance between a position at which the first air intake plate 2 is hinged to the air conditioner body 1 and a position at which the second air intake plate 3 is hinged to the air conditioner body 1 is the farthest.

[0041] In the present embodiment, on the basis of the above-mentioned positional relationship between the first air intake plate 2 and the second air intake plate 3, the filter screen is designed to be a flexible filter screen, which is a filter screen with a variable and foldable structure. The filter screen includes three parts: a first filter screen body 7 connected to the air conditioner body 1 and the first air intake plate 2, a second filter screen body 8 connected to the first air intake plate 2 and the second air intake plate 3, and a third filter screen body (not shown) connected to the air conditioner body 1 and the second air intake plate 3. When the first air intake plate 2 and the second air intake plate 3 are in the expanded state, the first filter screen body 7, the second filter screen body 8, the third filter screen body, the first air intake plate 2, and the second air intake plate 3 jointly form a screen cover covering the air inlet, thereby maximizing the air intake area.

[0042] Specifically, the first filter screen body 7 includes a first portion located at an upper position and a second portion located at a lower position. Two opposite sides of the first portion are respectively connected to the air conditioner body 1 and an upper end of the first air intake plate 2. Two opposite sides of the second portion are respectively connected to the air conditioner body 1 and a lower end of the first air intake plate 2.

[0043] Similarly, the second filter screen body 8 includes a third portion located at an upper position and a fourth portion located at a lower position. Two opposite sides of the third portion are respectively connected to the air conditioner body 1 and an upper end of the second air intake plate 3. Two opposite sides of the fourth portion are respectively connected to the air conditioner body 1 and a lower end of the second air intake plate 3.

[0044] As shown in FIGs. 5 to 7, with this configuration, the filter screen is unfolded when the first air intake plate 2 and the second air intake plate 3 are expanded, such that the filter screen is completely in an unfolded state, thereby increasing the air intake area. As shown in FIGs. 3 to 4, when the requirement for the air intake area is lower, the first air intake plate 2 and the second air intake plate 3 can be closed to have the filter screen in the folded state without affecting the air intake effect.

[0045] As shown in FIG 8, two air conditioners of the present embodiment are respectively mounted at two opposite corners of a room 10. There is a distance between the air inlet, at the side perpendicular to the wall-mounting surface, and a wall. When the air conditioner is turned on, both the first air intake plate 2 and the second air intake plate 3 are opened to a preset angle, and the flex-

ible filter screen is in the unfold state. There are three air intake places: the first place is the air intake grid 9 of the first air intake plate 2, the second place is the air intake grid 9 of the second air intake plate 3, and the third place is the flexible filter screen, so that the air intake area can be increased and the amount of intake air can be increased. Meanwhile, it can be seen from the drawing that, when the air conditioner is hung at the corner, all of the air intake places are at relatively concealed locations, and the air inlet is barely visible from a common living place of a user, thereby improving the overall aesthetics of the air conditioner.

[0046] In describing the present invention, it should be understood that a directional relationship or a positional relationship indicated by the terms "upper", "lower", "inside", "outside" or the like is merely on the basis of the directional relationship or the positional relationship shown in the drawings, intended to facilitate describing the present invention and simplify the description, instead of indicating or implying that the device in question has to involve a specific direction, to be constructed and operated in the specific direction, and should not be understood as a limitation of the present invention.

[0047] In addition, the terms "first", "second" or the like are used only for the purpose of description and should not be understood as indicating or implying a relative importance or implicitly indicating the number of technical features in question. Therefore, a feature which is defined by the term "first" or "second" may explicitly or implicitly include one or more of the features. In describing the present invention, the term "a plurality of" means two or more, unless otherwise specifically stated.

[0048] In the present invention, the terms "mount", "connect", "engage" and the like should be interpreted broadly, unless otherwise specified and limited. For example, the "connect" can be "fixedly connect" "detachable connect", "integrate with" or the like. For a person skilled in the art, the specific meaning of the above terms can be understood in the present invention based on the specific situations.

[0049] Although various embodiments of the present invention have been illustrated and described above, it should be understood that the various embodiments are exemplary and should not be understood as a limitation of the present invention. The person skilled in the art can change, modify, replace, or convert the various embodiments within the scope of the present invention.

Claims

1. An air conditioner, **characterized by** comprising:

an air conditioner body (1) provided with an air inlet and an air outlet;
air intake plates covering the air inlet and each having an air intake grid (9), the air intake plates being hingedly connected to the air conditioner

- body (1) and being capable of being switched between an expanded state and a closed state; and
a filter screen disposed between the air intake plates and the air inlet, and the filter screen being configured to filter air entering the air conditioner body (1) from the air intake grid (9).
2. The air conditioner according to claim 1, **characterized in that** the number of the air intake plates are two; the two air intake plates are respectively mounted on two sides of the air conditioner body (1), and the two air intake plates are respectively a first air intake plate (2) and a second air intake plate (3); one side of the first air intake plate (2) is hingedly connected to the air conditioner body (1) via a first rotating mechanism.
 3. The air conditioner according to claim 2, **characterized in that** another side of the first air intake plate (2) is detachably connected to the air conditioner body (1) via a connecting mechanism.
 4. The air conditioner according to claim 3, **characterized in that** the connecting mechanism is a snap-fit structure.
 5. The air conditioner according to claim 2, **characterized in that** the first rotating mechanism comprises a gear and a toothed fixing member (4) meshed with each other; the toothed fixing member (4) has a plurality of teeth evenly spaced and distributed along a circular arc; the gear is mounted on the air conditioner body (1), and the toothed fixing member is disposed on an inner side of the first air intake plate (2).
 6. The air conditioner according to claim 5, **characterized in that** two of the toothed fixing members (4) are respectively disposed at an upper end and a lower end of the inner side of the first air intake plate (2); the air conditioner body (1) is provided with two of the gears mating with the two toothed fixing members (4).
 7. The air conditioner according to claim 5, **characterized in that** a central angle corresponding to the circular arc is 90 degrees.
 8. The air conditioner according to claim 2, **characterized in that** one side of the second air intake plate (3) is hingedly connected to the air conditioner body (1) via a second rotating mechanism.
 9. The air conditioner according to claim 8, **characterized in that** the second rotating mechanism is a hinge.
 10. The air conditioner according to claim 8, **characterized in that** another side of the second air intake plate (3) is connected to the air conditioner body (1) via a push-pull mechanism (5) configured to make the other side of the second air intake plate (3) distant from and adjacent to the air conditioner body (1).
 11. The air conditioner according to claim 10, **characterized in that** the push-pull mechanism (5) comprises a linear reciprocal moving mechanism, and the linear reciprocal moving mechanism comprises a fixing portion and a linear moving portion connected with each other; the fixing portion is mounted on the air conditioner body (1), and the linear moving portion is connected to the second air intake plate (3).
 12. The air conditioner according to claim 11, **characterized in that** the push-pull mechanism comprises a gear and a rack, the gear is mounted on the air conditioner body (1), and the rack is respectively connected to the gear and the second air intake plate (3).
 13. The air conditioner according to any one of claims 8 to 12, **characterized in that** the first air intake plate (2) and the second air intake plate (3) are respectively located at the two sides of the air conditioner body (1), and the two sides are adjacent to each other; the first air intake plate (2) and the second air intake plate (3) rotate in opposite directions during expanding.
 14. The air conditioner according to claim 13, **characterized in that** the filter screen is a flexible filter screen.
 15. The air conditioner according to claim 14, **characterized in that** the filter screen comprises:
 - a first filter screen body (7) connected to the air conditioner body (1) and the first air intake plate (2);
 - a second filter screen body (8) connected to the first air intake plate (2) and the second air intake plate (3); and
 - a third filter screen body connected to the air conditioner body (1) and the second air intake plate (3);
 when the first air intake plate (2) and the second air intake plate (3) are in the expanded state, the first filter screen body (7), the second filter screen body (8), the third filter screen body, the first air intake plate (2), and the second air intake plate (3) jointly form a screen cover covering the air inlet.
 16. The air conditioner according to claim 15, **characterized in that** the first filter screen body (7) comprises a first portion and a second portion; two op-

posite sides of the first portion are respectively connected to the air conditioner body (1) and an upper end of the first air intake plate (2); and two opposite sides of the second portion are respectively connected to the air conditioner body (1) and a lower end of the first air intake plate (2). 5

17. The air conditioner according to claim 15, **characterized in that** the second filter screen body (8) comprises a third portion and a fourth portion; two opposite sides of the third portion are respectively connected to the air conditioner body (1) and an upper end of the second air intake plate (3); and two opposite sides of the fourth portion are respectively connected to the air conditioner body (1) and a lower end of the second air intake plate (3). 10 15

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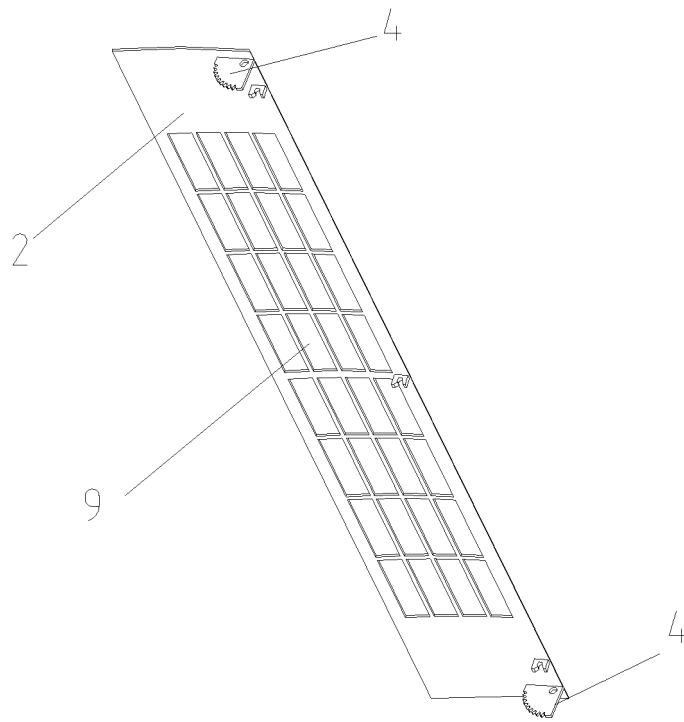


FIG 1

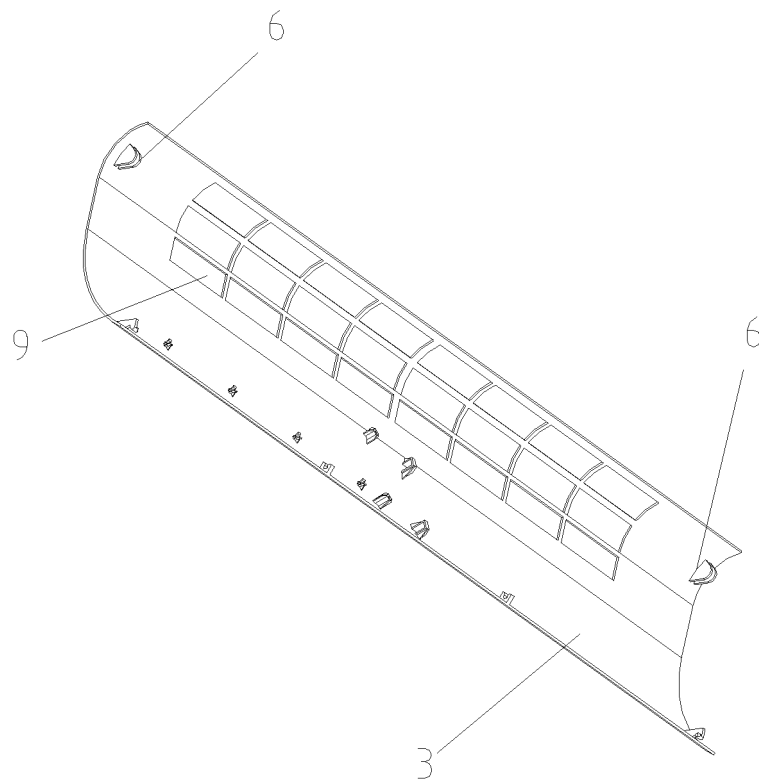


FIG 2

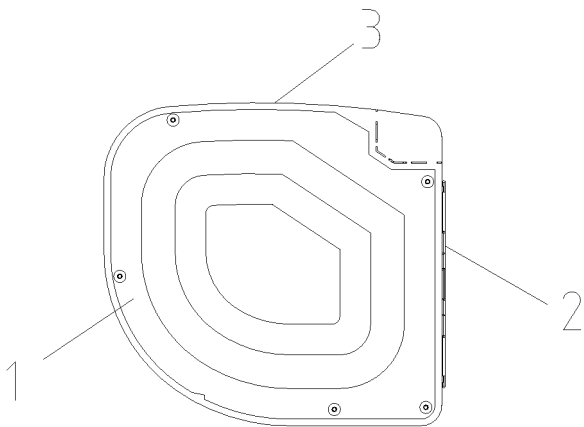


FIG 3

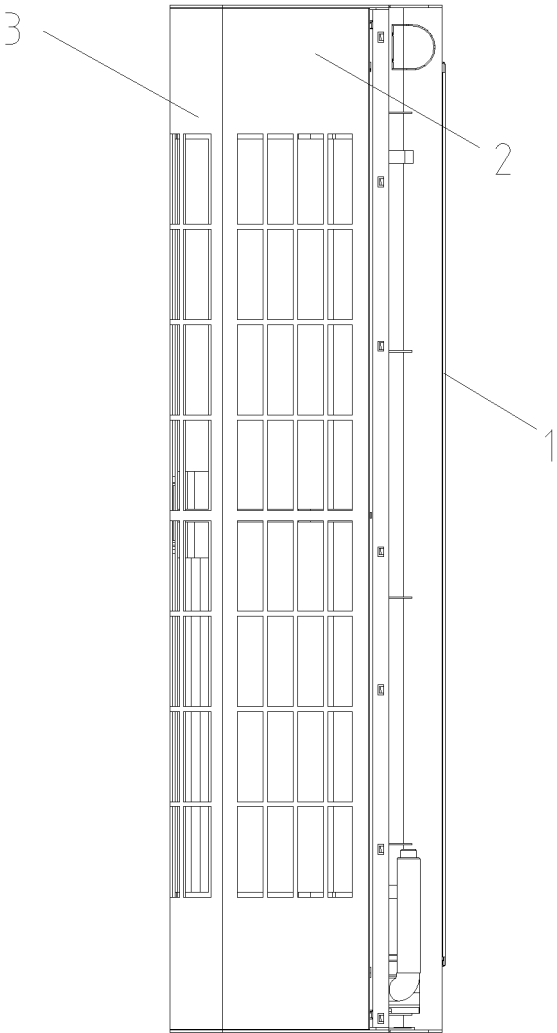


FIG 4

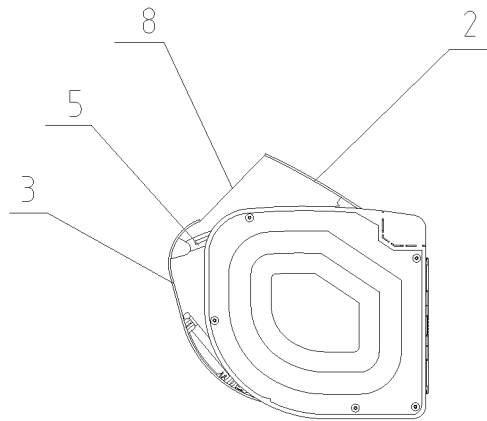


FIG 5

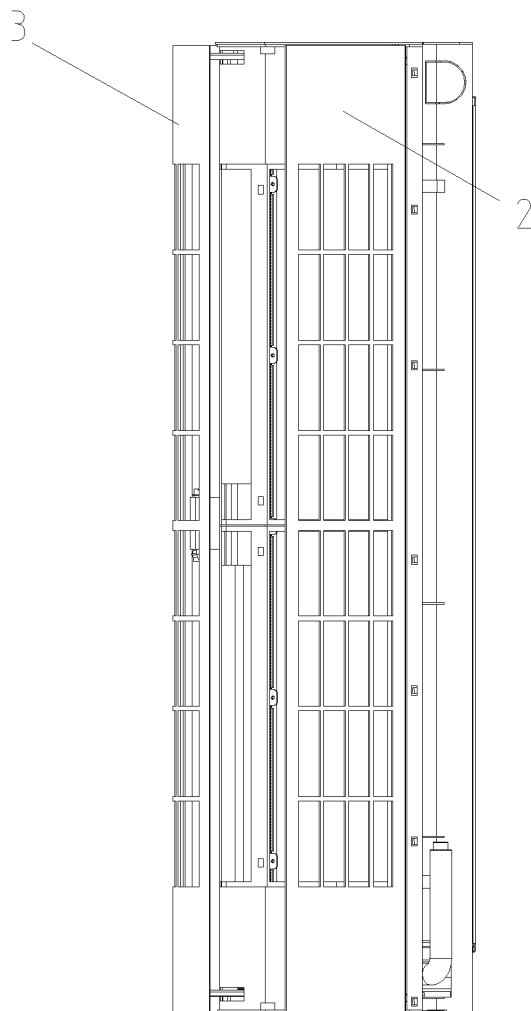


FIG 6

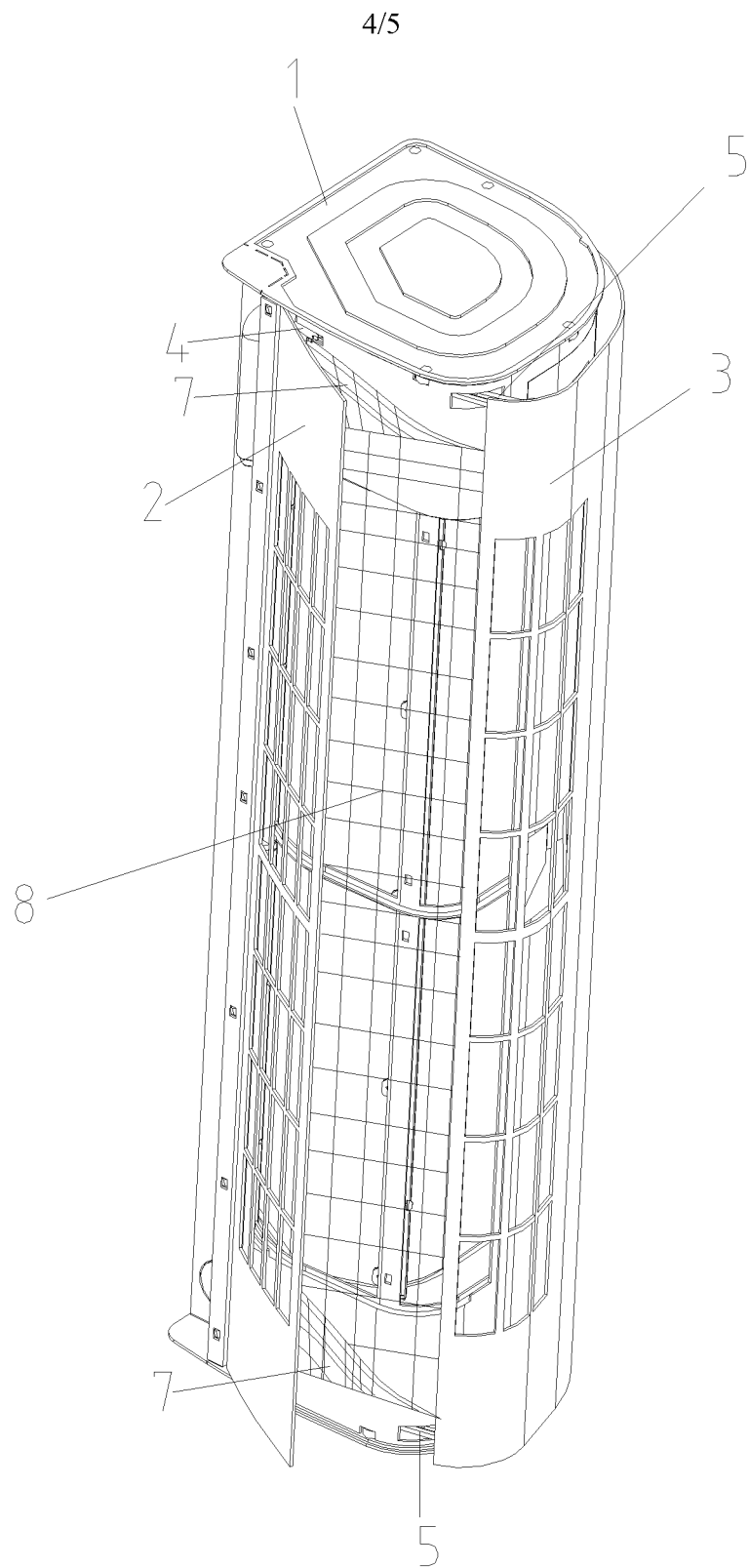


FIG 7



FIG 8

INTERNATIONAL SEARCH REPORT

International application No.

PCT/CN2018/120957

5	A. CLASSIFICATION OF SUBJECT MATTER		
	F24F 1/00(2019.01)i; F24F 13/14(2006.01)i; F24F 13/28(2006.01)i		
	According to International Patent Classification (IPC) or to both national classification and IPC		
	B. FIELDS SEARCHED		
10	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		
15	Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)		
	DWPI, CNKI, CNABS, SIPOABS, CNTXT, 格力, 美的, 海尔, 大金, 陈英强, 陈志伟, 廖俊杰, 王现林, 张兴钰, 向新贤, 刘鹏, 黎优霞, 赵万东, 连彩云, 周金声, 吴俊鸿, 高旭, 空调, 进风口, 吸气口, 第一, 第二, 铰接, 转动, 滤网, 柔性, 软, 折叠, 展开; GLDS, LC, air, condition+, inlet, suction, opening+, first, second, joint, pivot+, hinge+, rotat+, filt+, flexibl+, elastic, fold+, retract+, collaps+, telescop+, expan+, spread+		
20	C. DOCUMENTS CONSIDERED TO BE RELEVANT		
	Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
	PX	CN 108954526 A (GREE ELECTRIC APPLIANCES, INC. OF ZHUHAI) 07 December 2018 (2018-12-07) description, paragraphs [0036]-[0054], and figures 1-8	1-17
25	Y	CN 105841324 A (GREE ELECTRIC APPLIANCES, INC. OF ZHUHAI) 10 August 2016 (2016-08-10) description, embodiment 5, and figures 1 and 2	1-14
	Y	JP 2000-234760 A (FUJITSU GENERAL LTD.) 29 August 2000 (2000-08-29) description, paragraphs [0019]-[0035], and figures 1-3	1-14
30	Y	CN 105841327 A (GREE ELECTRIC APPLIANCES, INC. OF ZHUHAI) 10 August 2016 (2016-08-10) description, embodiment 5, and figures 1 and 2	1-14
35	A	CN 105650731 A (QINGDAO HAIER AIR CONDITIONER CO., LTD.) 08 June 2016 (2016-06-08) entire document	1-17
	☒ Further documents are listed in the continuation of Box C. ☒ See patent family annex.		
40	* Special categories of cited documents: "A" document defining the general state of the art which is not considered to be of particular relevance "E" earlier application or patent but published on or after the international filing date "L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified) "O" document referring to an oral disclosure, use, exhibition or other means "P" document published prior to the international filing date but later than the priority date claimed "T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention "X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone "Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art "&" document member of the same patent family		
45	Date of the actual completion of the international search		Date of mailing of the international search report
	26 April 2019		07 May 2019
50	Name and mailing address of the ISA/CN		Authorized officer
	National Intellectual Property Administration, PRC (ISA/CN) No. 6, Xitucheng Road, Jimenqiao Haidian District, Beijing 100088 China		
55	Facsimile No. (86-10)62019451		Telephone No.

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