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(54) WALL-MOUNTED AIR CONDITIONER INDOOR UNIT AND AIR CONDITIONER

(57) Disclosed is an indoor unit of a wall-mounted air conditioner and an air conditioner. The indoor unit of the wall-mounted air conditioner includes: a housing, which includes a chassis defining an air duct; a face frame, where the air duct defines an air outlet, and an installation plate is disposed at one side of the air outlet along a length direction of the air outlet; a motor assembly disposed at an end of the installation plate facing away from the air outlet; a first extending plate disposed on the chassis, where the first extending plate extends along the length direction of the air outlet and disposed above the motor assembly, where the first extending plate, the installation plate, and the face frame are enclosed to define an accommodating space including an opening opposite to the installation plate; and a rats-proof plate disposed on an inner surface of the face frame and extending rearwardly, where the rats-proof plate at least partially covers the opening, where the motor component is disposed between the rats-proof plate and the air outlet.

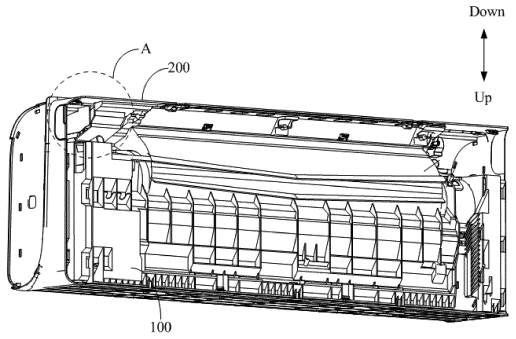

FIG. 1

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Description

CROSS-REFERENCE TO RELATED APPLICATIONS

[0001] The present disclosure claims the priority of Chinese Patent Application with No. 201910159184.9, entitled " INDOOR UNIT OF WALL-MOUNTED AIR CONDITIONER AND AIR CONDITIONER", filed on March 03, 2019, and Chinese Patent Application with No. 201920267967.4, entitled " INDOOR UNIT OF WALL-MOUNTED AIR CONDITIONER AND AIR CONDITIONER", filed on March 03, 2019, the entirety of which are hereby incorporated herein by reference.

FIELD

[0002] The present application relates to the field of indoor units of wall-mounted air conditioners, and more particularly to an indoor unit of a wall-mounted air conditioner and an air conditioner.

BACKGROUND

[0003] An indoor unit of a wall-mounted air conditioner usually has a motor assembly that drives an air guiding structure. A large through hole or gap may be defined between the chassis and the face frame after they are assembled, through which rats, insects and cockroaches may enter the installation space of the motor assembly. In severe cases, the wires or other materials and components may be bitten off, eventually causing leakage or fire and seriously threatening the personal safety of users.

SUMMARY

[0004] The main purpose of this application is to provide an indoor unit of a wall-mounted air conditioner, aiming at blocking the entry of rats into the installation space of the motor assembly and improving the safety of the motor assembly and the wiring connecting the motor assembly.

[0005] To achieve the above purpose, the present application provides an indoor unit of a wall-mounted air conditioner including:

a housing, including:
a chassis defining an air duct having an air outlet;
a face frame; and
an installation plate disposed at an end of the air outlet along a length direction of the air outlet;
a motor assembly disposed at a side of the installation plate opposite to the air outlet;
a first extending plate disposed on the chassis, extended along the length direction of the air outlet and disposed above the motor assembly;
where the first extending plate, the installation plate, and the face frame are enclosed to define an accommodating space comprising an opening opposite to the installation plate; and
a rats-proof plate disposed on an inner surface of the face frame and extending rearwardly,
where the rats-proof plate is configured to cover at least a part of the opening, and
where the motor component is disposed between the rats-proof plate and the air outlet.

[0006] Optionally, a minimum gap between the motor assembly and the face frame is at most 10 mm.

[0007] Optionally, a gap between the rats-proof plate and the motor assembly is at most 10 mm.

[0008] Optionally, a gap between the first extending plate and the rats-proof plate is at most 10 mm.

[0009] Optionally, the first extending plate extends rearwardly and downwardly.

[0010] Optionally, the indoor unit of the wall-mounted air conditioner further includes:

a second extending plate disposed on the installation plate,
where the second extending plate is extended along the length direction of the air outlet and disposed behind the motor assembly; and
a transition plate disposed on the installation plate,
where the transition plate is connected to the first extending plate and the second extending plate.

[0011] Optionally, the transition plate has a stepped shape protruding towards the motor assembly.

[0012] Optionally, the transition plate includes:

a first step surface extending downwardly and connecting the first extending plate; and
a second step surface extending downwardly and rearwardly and connecting the first step surface and the second extending plate.

[0013] Optionally, a minimum gap between the second extending plate and the face frame is at most 10 mm.

[0014] Optionally, the chassis further includes:

an end plate connecting the installation plate and the first extending plate,
where the end plate is disposed at a side of the installation plate adjacent to the motor assembly and in front of the first extending plate.

[0015] Optionally, a gap between the rats-proof plate and the end plate is at most 10 mm.

[0016] Optionally, a strengthening rib is provided at a connection of the rats-proof plate and the face frame.

[0017] Optionally, the indoor unit of the wall-mounted air conditioner further includes a fresh air module disposed inside the housing and at a side of the first extending plate away from the air duct.

[0018] The present application further provides an air conditioner including the above-described indoor unit of the wall-mounted air conditioner.

[0019] According to the technical solution of the present application, the motor assembly is enclosed by the first extending plate, the installation plate and the face frame, and the first extending plate is disposed above the motor assembly, so that the rats may be prevented from entering the accommodating space from the top of the motor assembly. A rats-proof plate is further provided for at least partially covering the opening of the accommodating space, so as to prevent the rats from entering the accommodating space and the installation space of the motor assembly from the opening, thereby facilitating prevention of the rats from damaging the motor assembly, conductors and other air-conditioning components.

BRIEF DESCRIPTION OF THE DRAWINGS

[0020] In order to more clearly illustrate the embodiments of the present application or the technical solutions in the prior art, the drawings to be used in the embodiments or the prior art description will be briefly described below. Obviously, the drawings in the following description are only certain embodiments of the present application, and other drawings may be obtained according to the structures shown in the drawings without any creative work for those skilled in the art.

FIG. 1 is a schematic structural view of an indoor unit of a wall-mounted air conditioner according to an embodiment of the present application;
FIG. 2 is a partial enlarged view of a portion A of the indoor unit of the wall-mounted air conditioner in FIG. 1;
FIG. 3 is a schematic structural view of a chassis and a motor assembly of the indoor unit of the wall-mounted air conditioner in FIG. 1; and
FIG. 4 is a schematic structural view of a surface frame and the motor assembly of the indoor unit of the wall-mounted air conditioner in FIG. 1.

Description of the reference numerals:

Reference numeral	Name	Reference numeral	Name
100	Chassis	110	First extending plate
120	Second extending plate	130	Transition plate
131	First step surface	132	Second step surface
140	End plate	200	Face frame
210	Rats-proof	300	Motor assembly

[0021] The implementation, functional features and advantages of the present application will be further described with reference to the accompanying drawings.

DETAILED DESCRIPTION OF THE EMBODIMENTS

[0022] The technical solutions in the embodiments of the present application are clearly and completely described in the following with reference to the drawings in the embodiments of the present application. It is obvious that the described embodiments are only a part of the embodiments of the present application, and not all of the embodiments. All other embodiments obtained by a person having ordinary skill in the art based on the embodiments of the present application without making any creative work fall within the scope of the present application.

[0023] It should be noted that, if there is a directional indicator (such as up, down, left, right, front, rear, ...) in the embodiment of the present application, it is only used to explain the relative position relationship and movement of the components in a particular posture (as shown in the attached drawings), and if the specific posture changes, the directional indicator will change accordingly.

[0024] In addition, if there is a description relating to "first", "second", etc. in the embodiments of the present disclosure, it is used for descriptive purposes only, and cannot be understood to indicate or imply its relative importance or to imply the number of technical features indicated. Thus, features defining "first" or "second" may include at least one of the features, either explicitly or implicitly. In addition, the technical solutions between the various embodiments may be combined with each other, but must be based on the realization of those skilled in the art, and when the combination of the technical solutions is contradictory or impossible to implement, it should be considered that the combination of the technical solutions does not exist, nor is it within the scope of protection required by the present disclosure.

[0025] The present application provides an indoor unit of a wall-mounted air conditioner.

[0026] In some embodiments of the present application, as shown in FIGS. 1 to 4, the indoor unit of the wall-mounted air conditioner includes: a housing, which includes a chassis 100 defining an air duct having an air outlet; a face frame 200; an installation plate disposed at an end of the air outlet along a length direction of the air outlet; a motor assembly 300 disposed at a side of the installation plate opposite to the air outlet; a first extending plate 110 disposed on the chassis 100, extended along the length direction of the air outlet and disposed above the motor assembly 300, where the first extending plate 110, the installation plate, and the face frame 200 are enclosed to define an accommodating space including an opening opposite to the installation plate; and a rats-proof plate 210 disposed on an inner surface of the face frame 200 and extending rearwardly, where the rats-proof plate 210 is configured to cover at least a part of the opening, and the motor component 300 is disposed between the rats-proof plate 210 and the air outlet. The indoor unit of the wall-mounted air conditioner generally may include an air guiding structure for guiding air outlet in the air duct, and the motor assembly 300 may be connected with the air guiding structure and drive the air guiding structure. In some embodiments, the motor assembly 300 may include a motor and a speed reduction assembly. The motor assembly 300 and the wires connecting the motor assembly 300 are disposed in the accommodating space, and the wires are at risk of being bitten by the rats when the rats enters the installation space of the motor assembly 300 through a gap between the face frame 200 and the chassis 100.

[0027] According to the technical solution of the present application, the accommodating space is defined by enclosing the first extending plate 110, the installation plate and the face frame 200, and the motor assembly 300 is disposed in the accommodating space. The first extending plate 110 is disposed above the motor assembly 300 and may prevent the rats from entering the accommodating space from the top of the motor assembly 300. A rats-proof plate 210 is further provided for covering at least a part of the opening of the accommodating space, so as to prevent the rats from entering the accommodating space from the opening.

[0028] Specifically, in the present application, the first extending plate 110 is connected with the installation plate such that no gap is left between the first extending plate 110 and the installation plate, and the anti-rat and anti-insect function of the first extending plate 110 may be reinforced.

[0029] The structure of the rats-proof plate is not limited to the above technical solution. In other embodiments, the rats-proof plate may totally cover the opening, thereby preventing the rats from entering the accommodating space from the opening and damaging the air conditioning components in the accommodating space.

[0030] Further, in some embodiments, as shown in FIG. 2, the minimum gap between the motor assembly 300 and the face frame 200 is at most 10 mm, and the rats cannot get through the gap when the gap is at most 10 mm. The gap between the face frame 200 and the motor assembly 300 is controlled to be at least 0 mm and at most 10 mm, so that the rats may be effectively prevent from getting through the gap between the face frame 200 and the motor assembly 300.

[0031] Further, in some embodiments, as shown in FIG. 2, the gap between the rats-proof plate 210 and the motor assembly is at most 10 mm. The gap between the rats-proof plate 210 and the motor assembly 300 is small, which can effectively prevent the rats from getting through the gap between the rats-proof plate 210 and the motor. The outer housing of the motor and the rats-proof plate 210 may act together to prevent the rats from entering the space between the rats-proof plate 210 and the installation plate from the rear side of the motor and from a side away from the air duct, so that the wires of the motor assembly 300 installed in the space between the rats-proof plate 210 and the mounting plate may be prevented from being bitten by the rats.

[0032] Further, in some embodiments, as shown in FIG. 2, the gap between the first extending plate 110 and the rats-

proof plate 210 is at most 10 mm. The gap between the first extending plate 110 and the rats-proof plate 210 is small, which can effectively prevent the rats from getting through the gap between the first extending plate 110 and the rats-proof plate 210. A gap is formed between the rats-proof plate 210 and the first extending plate 110, so that the fit precision between the rats-proof plate 210 and the first extending plate 110 is low, which is favorable for reducing the processing difficulty of the rats-proof plate plate 210. The embodiment is not limited to the above technical solution. In other embodiments, a sealing strip may be provided at an edge of the rats-proof plate 210 adjacent to the first extending plate 110, and the sealing strip abuts against the rats-proof plate, so that the gap between the rats-proof plate 210 and the first extending plate 110 may be eliminated to enhance the anti-insects effect of the rats-proof plate 210.

[0033] Further, in some embodiments, as shown in FIG. 2, the first extending plate 110 extends rearwardly and downwardly. The first extending plate 110 is disposed above the motor assembly 300. Therefore, the first extending plate 110 extends downwardly to facilitate reducing the minimum gap between the motor assembly 300 and the first extending plate 110, so that the outer housing of the motor assembly 300 may cooperate with the first extending plate 110 to enhance the anti-rats effect.

[0034] Further, in some embodiments, as shown in FIG. 2, the indoor unit of the wall-mounted air conditioner further includes: a second extending plate 120 disposed on the installation plate, where the second extending plate 120 is extended along the length direction of the air outlet and disposed behind the motor assembly 300; and a transition plate 130 disposed on the installation plate, where the transition plate 130 is connected to the first extending plate 110 and the second extending plate 120. The second extending plate 120 is configured to prevent the rats from entering the accommodating space from the rear side of the motor assembly 300, and the transition plate 130 blocks the gap between the first extending plate 110 and the second extending plate 120, thereby enhancing the anti-rats effect. On the other hand, the second extending plate 120 and the transition plate 130 may act together to enhance the mechanical strength of the first extending plate 110.

[0035] Further, in some embodiments, as shown in FIG. 2 and FIG. 3, the transition plate 130 has a stepped shape protruding towards the motor assembly 300, which is advantageous to reduce the gap between the transition plate 130 and the motor assembly 300, so that it is difficult for the rats to pass between the transition plate 130 and the motor assembly 300, so that the transition plate 130 has a stronger anti-rats effect.

[0036] Further, in some embodiment, as shown in FIG. 2 and FIG. 3, the transition plate includes: a first step surface 131 extending downwardly and connecting the first extending plate 110; and a second step surface 132 extending downwardly and rearwardly and connecting the first step surface 131 and the second extending plate 120. The second step surface 132 is inclined downwardly and rearwardly, so that the distance between the connection of the second step surface 132 and the second extending plate 120 and the motor assembly 300 is reduced, which is advantageous for improving the anti-rats effect of the transition plate 130 and the second extending plate 120.

[0037] The first extending plate 110, the second extending plate 120, and the transition plate 130 are not limited to the above technical solutions. In other embodiments, the transition plate 130 may be curved to smoothly transit the first extending plate 110 and the second extending plate 120, which may facilitate reducing the distance between the connection of the first extending plate 110 and the transition plate 130 and the motor assembly 300, and reducing the distance between the connection of the transition plate 130 and the second extending plate 120 and the motor assembly 300, which enhances the anti-rats effect.

[0038] Further, in some embodiments, as shown in FIG. 2, the minimum gap between the second extending plate 120 and the face frame 200 is at most 10 mm, and the face frame 200 and the second extending plate 120 may act together to block the rats. The rats cannot get through the gap between the face frame 20 and the second extending plate 120 because the minimum gap between the second extending plate 120 and the face frame 200 is small after the face frame 200 and the chassis 100 are assembled.

[0039] Further, in some embodiments, as shown in FIG. 2 and FIG. 3, the chassis 100 further includes: an end plate 140 connecting the installation plate and the first extending plate 110, where the end plate 140 is disposed at a side of the installation plate adjacent to the motor assembly 300 and in front of the first extending plate 110. The end plate 140 is connected with the first extending plate 110 to increase the anti-rats range. In some embodiments, the end plate 140, the first extending plate 110, the transition plate 130, the first extending plate 110, and the face frame 200 enclose the motor assembly 300 to define a protection circle which has the advantage of comprehensive anti-rats angle.

[0040] Further, in some embodiments, as shown in FIG. 2, the gap between the rats-proof plate 210 and the end plate 140 is at most 10 mm. The rats-proof plate 210 is disposed below the end plate 140, and the rats-proof plate 210 extends from an inner side of the face frame 200. The gap between the rats-proof plate 210 and the end plate 140 is controlled to be at most 10 mm, so as to prevent the rats from getting through the gap between the rats-proof plate 210 and the end plate 140. In some embodiments, the rats-proof plate 210 is connected to the face frame 200, and the end plate 140 is disposed on the chassis 100, so that a gap is provided between the end plate 140 and the rats-proof plate 210, which is advantageous for decrease the fit precision between the end plate 140 and the rats-proof plate 210, thereby reducing the processing precision of the rats-proof plate 210, and facilitating the assembly of the face frame 200 and the chassis 100. The structure of the rats-proof plate 210 and the end plate 140 may not limited to the above technical

solutions. In other embodiments, a sealing strip may be provided at an edge of the rats-proof plate 210 adjacent to the end plate 140, and the sealing strip abuts against the end plate 140, so that the gap between the rats-proof plate 210 and the end plate 140 may be eliminated to enhance the anti-insects effect of the rats-proof plate 210.

[0041] Further, in some embodiments, a strengthening rib may be provided at the connection between the rats-proof plate 210 and the face frame 200, and the strengthening rib has the function of strengthening the mechanical strength of the rats-proof plate 210, which is advantageous for enhancing the resistance against the rats of the rats-proof plate 210, and enhancing the reliability of the rats-proof plate 210.

[0042] Further, in some embodiments, the indoor unit of the wall-mounted air conditioner further includes an electric control box disposed at one side of the air duct, and the motor assembly 300 is disposed at the other end of the air duct. In order to make reasonable use of the installation space of the indoor unit of the wall-mounted air conditioner, the motor assembly 300 configured to drive the air guiding structure and the electric control box are respectively disposed on both sides of the air duct, and the air outlet is disposed closer to the center of the indoor unit of the wall-mounted air conditioner, which is advantageous for making the indoor unit of the wall-mounted air conditioner have a more aesthetically appealing shape.

[0043] Further, in some embodiments, the indoor unit of the wall-mounted air conditioner further includes a fresh air module disposed inside the housing and at a side of the first extending plate 110 away from the air duct. The fresh air module is configured to introduce fresh air into the room, while the rats may be easily get into the motor assembly 300 through the fresh air module, so the rats-proof plate 210 is more important in the indoor unit of the wall-mounted air conditioner with the fresh air module.

[0044] In some embodiment, as shown in FIG. 2 and FIG. 4, the rats-proof plate 210 extends rearwardly to one side of the motor assembly 300, and does not continue to extend to the second extending plate 120. The rats-proof plate 210 and the outer housing of the motor may act together to block the rats. In addition, the length of the rats-proof plate 210 is controlled, which may prevent the rats-proof plate 210 from being too long to reduce the mechanical strength, and reduce materials and manufacturing costs of the rats-proof plate 210.

[0045] The present application further provides an air conditioner including an indoor unit of a wall-mounted air conditioner. The specific structure of the indoor unit of the wall-mounted air conditioner may refer to the above embodiments. Since the air conditioner adopts all the technical solutions of all the above embodiments, it at least has all the features brought by the technical solutions of the above embodiments, which are not described herein again.

[0046] The above description refers to only optional embodiments of the present disclosure, and thus does not limit the scope of the present disclosure, and any transformation of equivalent structure made under the inventive concept of the present disclosure by using the contents of this specification and attached drawings, or direct/indirect application in other relevant technical fields, shall be included in the scope of the present disclosure.

Claims

1. An indoor unit of a wall-mounted air conditioner, **characterized by** comprising:

a housing, comprising:

a chassis defining an air duct having an air outlet;
a face frame; and
an installation plate disposed at an end of the air outlet along a length direction of the air outlet;

a motor assembly disposed at a side of the installation plate opposite to the air outlet;
a first extending plate disposed on the chassis, extended along the length direction of the air outlet and disposed above the motor assembly,
wherein the first extending plate, the installation plate, and the face frame are enclosed to define an accommodating space comprising an opening opposite to the installation plate; and
a rats-proof plate disposed on an inner surface of the face frame and extending rearwardly,
wherein the rats-proof plate is configured to cover at least a part of the opening, and
wherein the motor component is disposed between the rats-proof plate and the air outlet.

2. The indoor unit of the wall-mounted air conditioner according to claim 1, **characterized in that**, a minimum gap between the motor assembly and the face frame is at most 10 mm.

3. The indoor unit of the wall-mounted air conditioner according to claim 1, **characterized in that**, a gap between the rats-proof plate and the motor assembly is at most 10 mm.

4. The indoor unit of the wall-mounted air conditioner according to claim 1, **characterized in that**, a gap between the first extending plate and the rats-proof plate is at most 10 mm.

5. The indoor unit of the wall-mounted air conditioner according to claim 1, **characterized in that**, the first extending plate is configured to extend rearwardly and downwardly.

6. The indoor unit of the wall-mounted air conditioner according to claim 1, **characterized by** further comprising:

a second extending plate disposed on the installation plate,
wherein the second extending plate is extended along the length direction of the air outlet and disposed behind the motor assembly; and
a transition plate disposed on the installation plate,
wherein the transition plate is connected to the first extending plate and the second extending plate.

7. The indoor unit of the wall-mounted air conditioner according to claim 6, **characterized in that**, the transition plate has a stepped shape protruding towards the motor assembly.

8. The indoor unit of the wall-mounted air conditioner according to claim 6, **characterized in that**, the transition plate comprises:

a first step surface extending downwardly and connecting the first extending plate; and
a second step surface extending downwardly and rearwardly and connecting the first step surface and the second extending plate.

9. The indoor unit of the wall-mounted air conditioner according to claim 6, **characterized in that**, a minimum gap between the second extending plate and the face frame is at most 10 mm.

10. The indoor unit of the wall-mounted air conditioner according to claim 1, **characterized in that**, the chassis further comprises:
an end plate connecting the installation plate and the first extending plate,
wherein the end plate is disposed at a side of the installation plate adjacent to the motor assembly , and in front of the first extending plate.

11. The indoor unit of the wall-mounted air conditioner according to claim 10, **characterized in that**, a gap between the rats-proof plate and the end plate is at most 10 mm.

12. The indoor unit of the wall-mounted air conditioner according to claim 1, **characterized by** comprising:
a strengthening rib provided at a connection of the rats-proof plate and the face frame.

13. The indoor unit of the wall-mounted air conditioner according to claim 1, **characterized by** further comprising:
a fresh air module disposed inside the housing and at a side of the first extending plate away from the air duct.

14. An air conditioner, **characterized by** comprising:
an indoor unit of a wall-mounted air conditioner comprising:

a housing, comprising:

a chassis defining an air duct having an air outlet;
a face frame; and
an installation plate disposed at an end of the air outlet along a length direction of the air outlet;

a motor assembly disposed at a side of the installation plate opposite to the air outlet;
a first extending plate disposed on the chassis, extended along the length direction of the air outlet and disposed above the motor assembly;
wherein the first extending plate, the installation plate, and the face frame are enclosed to define an accommodating space comprising an opening opposite to the installation plate; and
a rats-proof plate disposed on an inner surface of the face frame and extending rearwardly,

wherein the rats-proof plate is configured to cover at least a part of the opening, and
wherein the motor component is disposed between the rats-proof plate and the air outlet.

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

an indoor unit of a wall-mounted air conditioner comprising:

a housing, comprising:

a chassis defining an air duct having an air outlet;
a face frame; and
an installation plate disposed at an end of the air outlet along a length direction of the air outlet;

a motor assembly disposed at a side of the installation plate opposite to the air outlet;
a first extending plate disposed on the chassis, extended along the length direction of the air outlet and disposed above the motor assembly;
wherein the first extending plate, the installation plate, and the face frame are enclosed to define an accommodating space comprising an opening opposite to the installation plate; and
a rats-proof plate disposed on an inner surface of the face frame and extending rearwardly,

wherein the rats-proof plate is configured to cover at least a part of the opening, and
wherein the motor component is disposed between the rats-proof plate and the air outlet; and

wherein the indoor unit of the wall-mounted air conditioner further comprises:

an electric control box disposed at one side of the air duct,
wherein the motor assembly is disposed at the other end of the air duct.

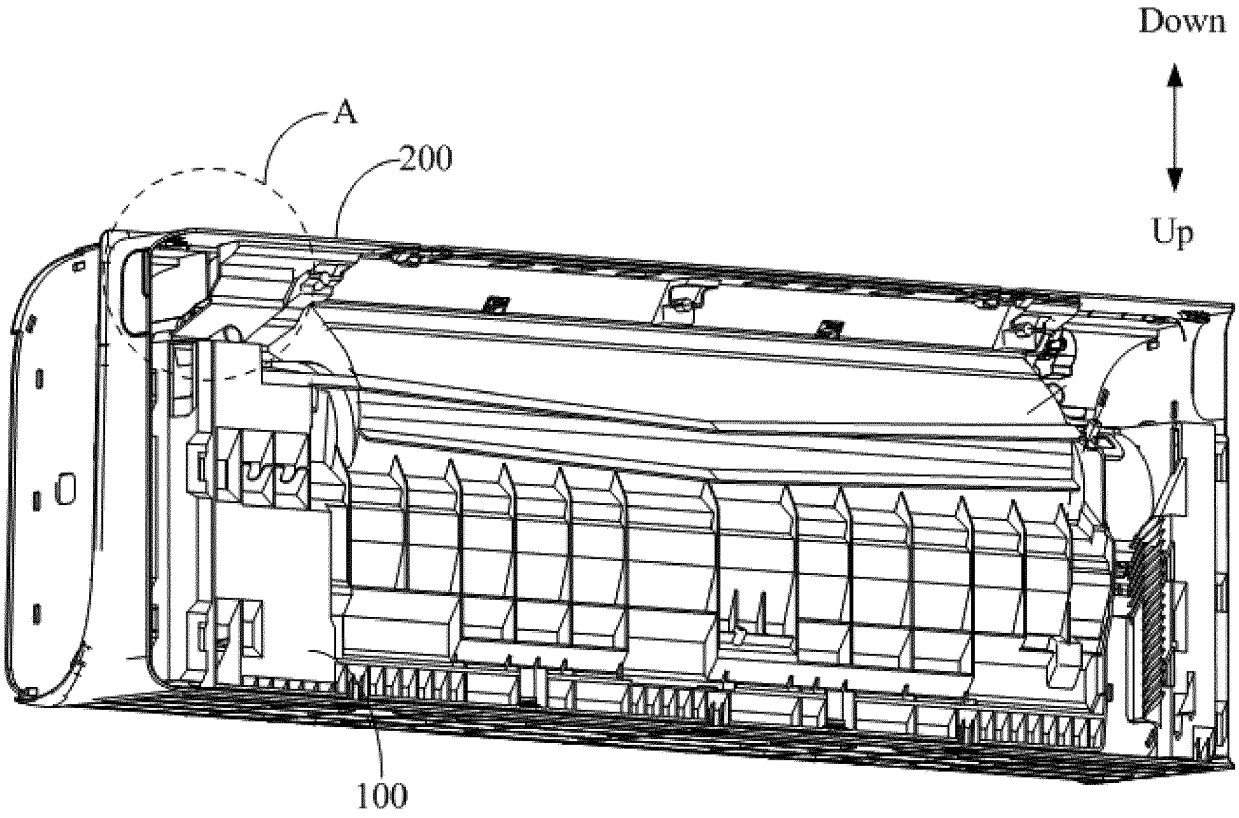

FIG. 1

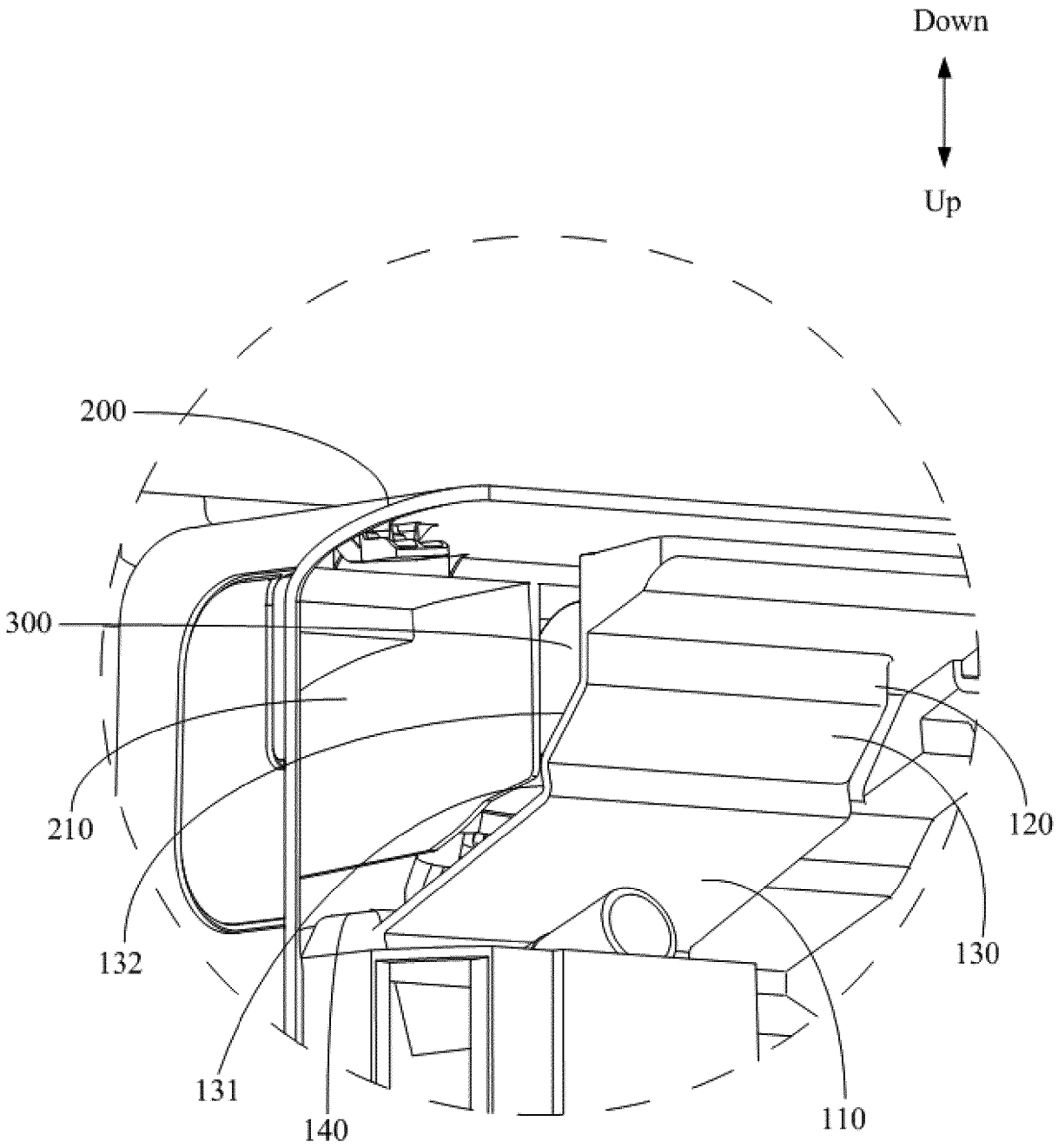

FIG. 2

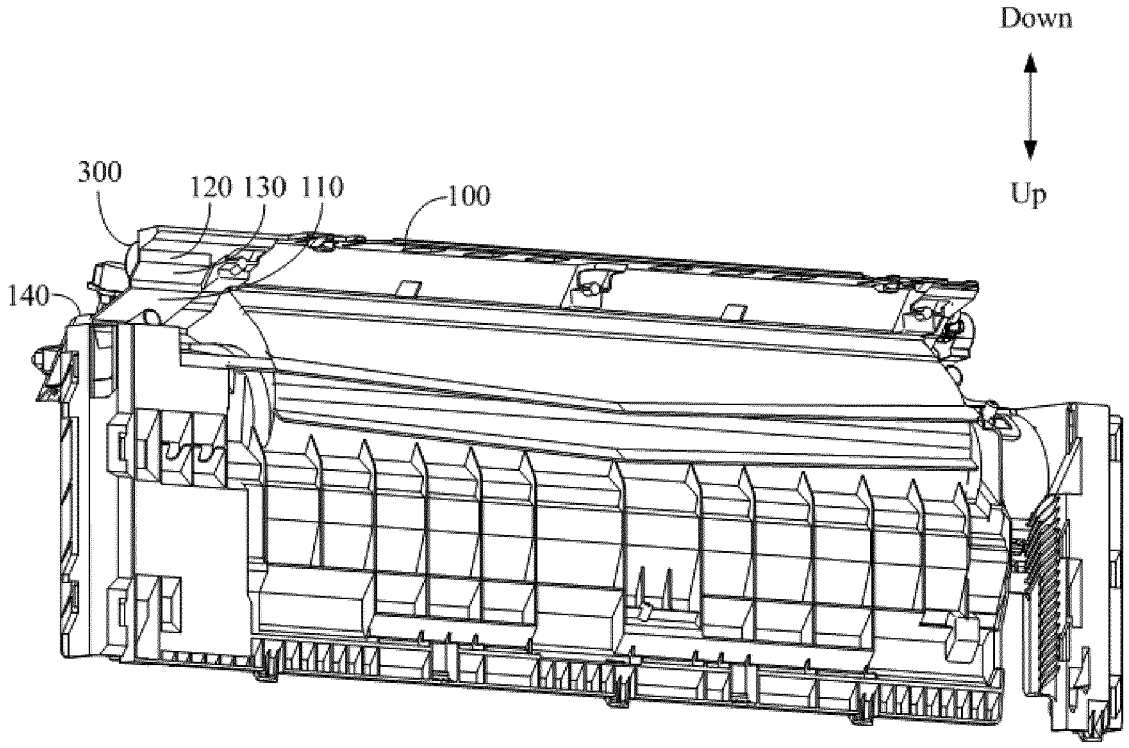

FIG. 3

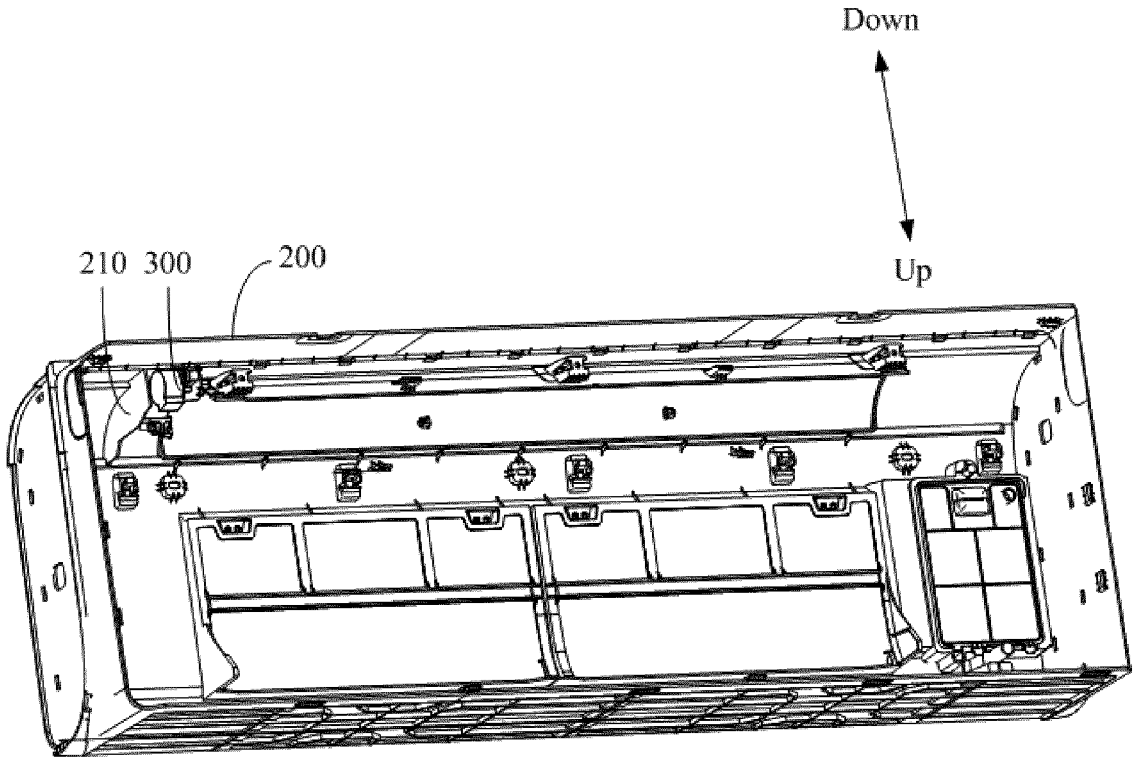

FIG. 4

INTERNATIONAL SEARCH REPORT

International application No.
PCT/CN2019/112438

A. CLASSIFICATION OF SUBJECT MATTER

F24F 1/0007(2019.01)i; F24F 13/00(2006.01)i

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

F24F

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

CNTXT; CNABS; DWPI; SIPOABS; PATENTICS: 美的; 张华军, 吴小波, 吕建华; 空调, 壁挂, 室内; 鼠; 电机, 马达; 导风, 扫风; 板; air condition+; indoor, inside;rat, mouse, animal, insect, gecko; motor; panel, plate

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
PX	CN 110017535 A (GUANGDONG MIDEA REFRIGERATION EQUIPMENT CO., LTD. et al.) 16 July 2019 (2019-07-16) description, specific embodiment, and figures 1-4	1-15
A	CN 108931046 A (GUANGDONG MIDEA REFRIGERATION EQUIPMENT CO., LTD. et al.) 04 December 2018 (2018-12-04) description, paragraphs [0046]-[0068], and figures 1-11	1-15
A	CN 207936377 U (GUANGDONG MEDIA REFRIGERATION EQUIPMENT CO., LTD.) 02 October 2018 (2018-10-02) entire document	1-15
A	CN 207268479 U (QINGDAO HAIER AIR CONDITIONER GENERAL CO., LTD.) 24 April 2018 (2018-04-24) entire document	1-15
A	CN 106766035 A (GUANGDONG CHIGO AIR CONDITIONING CO., LTD.) 31 May 2017 (2017-05-31) entire document	1-15

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

* Special categories of cited documents:
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02 January 2020	**10 January 2020**
Name and mailing address of the ISA/CN **China National Intellectual Property Administration (ISA/CN)** **No. 6, Xitucheng Road, Jimenqiao Haidian District, Beijing 100088** **China** Facsimile No. **(86-10)62019451**	Authorized officer Telephone No.

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C. DOCUMENTS CONSIDERED TO BE RELEVANT

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A	CN 207094789 U (GUANGDONG MIDEA REFRIGERATION EQUIPMENT CO., LTD et al.) 13 March 2018 (2018-03-13) entire document	1-15
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INTERNATIONAL SEARCH REPORT
Information on patent family members

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REFERENCES CITED IN THE DESCRIPTION

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