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(54) **HOUSING ASSEMBLY OF AIR CONDITIONER, AND AIR CONDITIONER**

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Description

FIELD

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

BACKGROUND

[0002] In the field of air conditioners, when an air conditioner works in a high temperature indoor environment, hot and humid ambient air meets a surface of the air conditioner with a temperature below the dew point, and water vapor may condense on the surface of the air conditioner and form condensation. The long-term presence of condensation shortens the service life of the air conditioner and causes malfunction of the air conditioner. JPH0960913A relates generally to an indoor unit structure for an air conditioner for improving the assembly between an air outlet and a front panel located in front of the upper portion of the air outlet.

SUMMARY

[0003] The invention is defined in claim 1.

[0004] Aspects of the invention are set out in the claims. In the following, each of the described methods, apparatuses, embodiments, examples, and aspects, which do not fully correspond to the invention as defined in the claims is thus not according to the invention and is, as well as the whole following description, present for illustration purposes only or to highlight specific aspects or features of the claims. Embodiments not falling under the scope of the claims should be interpreted as examples useful for understanding the invention. The present invention aims to solve at least one of the technical problems existing in the related art.

[0005] Accordingly, an objective of the present invention is to provide a housing assembly of an air conditioner. The housing assembly has a double sealing structure that reduces a risk of condensation due to fresh air entering via an air outlet.

[0006] Another objective of the present invention is to provide an air conditioner that has the above housing assembly.

[0007] A housing assembly of an air conditioner according to embodiments of the present invention includes: a face frame having a first sealing part; a panel coupled to the face frame and arranged on a side of the face frame, the panel having a second sealing part; and a chassis having an opening and coupled to the face frame, the chassis having a third sealing part and a fourth sealing part spaced apart from each other, the fourth sealing part being arranged at an edge of the opening, the third sealing part being fitted with the first sealing part, and the fourth sealing part being fitted with the second sealing part.

[0008] For the housing assembly according to embodiments of the present invention, the first sealing structure is formed by the contact between the first sealing part of the face frame and the second sealing part of the chassis, and the second sealing structure is formed by the contact between the second sealing part of the panel and the fourth sealing part of the chassis. Such a double sealing structure can block the airflow in the indoor environment from entering the interior of the housing assembly, and can reduce the risk of generating condensation at the opening.

[0009] In some embodiments of the present invention, one of the first sealing part and the third sealing part includes a first groove, and the other of the first sealing part and the third sealing part includes a first protrusion.

[0010] In some embodiments of the present invention, the first groove extends along the edge of the opening.

[0011] One of the second sealing part and the fourth sealing part includes a second groove, and the other of the second sealing part and the fourth sealing part includes a second protrusion.

[0012] In some embodiments of the present invention, the second groove is formed by bending a partial edge of the panel.

[0013] In some embodiments of the present invention, the second groove extends along the edge of the opening.

[0014] In some embodiments of the present invention, a partial edge of the panel is bent to form a bend, and the bend and an edge of the face frame are fit to define the second groove.

[0015] In some embodiments of the present invention, the chassis includes a first corner plate and a second corner plate; the first corner plate has a first main body segment and a first thinned segment coupled to the first main body segment, and a ratio of a thickness of the first thinned segment to a thickness of the first main body segment ranges from 0.5 to 0.9; the second corner plate has a second main body segment and a second thinned segment coupled to the second main body segment, and a ratio of a thickness of the second thinned segment to a thickness of the second main body segment ranges from 0.5 to 0.9; the first thinned segment and the second thinned segment are coupled and form an angle structure, and the first main body segment and the second main body segment are opposite each other and spaced apart.

[0016] In some embodiments of the present invention, the housing assembly further includes an air guide plate coupled to the face frame, the air guide plate being rotatable between a first position and a second position. The air guide plate closes the opening when the air guide plate is in the first position. The air guide plate is located inside the face frame, overlaps the first corner plate, and opens the opening, when the air guide plate is in the second position.

[0017] An air conditioner according to embodiments of the present invention includes the above housing assembly.

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[0018] For the air conditioner according to embodiments of the present invention, the first sealing structure is formed by the contact between the first sealing part of the face frame and the second sealing part of the chassis, and the second sealing structure is formed by the contact between the second sealing part of the panel and the fourth sealing part of the chassis. Such a double sealing structure can block the airflow in the indoor environment from entering the interior of the housing assembly, and can reduce the risk of generating condensation at the opening.

[0019] Additional aspects and advantages of present invention will be given in part in the following descriptions, become apparent in part from the following descriptions, or be learned from the practice of the embodiments of the present invention.

BRIEF DESCRIPTION OF DRAWINGS

[0020] These and/or other aspects and advantages of embodiments of the present invention will become apparent and more readily appreciated from the following descriptions made with reference to the drawings, in which:

FIG. 1 is an exploded view of a housing assembly of an air conditioner according to an embodiment of the present invention;

FIG. 2 is a schematic view of a housing assembly of an air conditioner according to an embodiment of the present invention;

FIG. 3 is a schematic view of a housing assembly of an air conditioner according to an embodiment of the present invention;

FIG. 4 is a sectional view in FIG. 3 along A-A direction;

FIG. 5 is a partially enlarged view at B in FIG. 4;

FIG. 6 is a partially enlarged view at C in FIG. 4.

Reference numerals:

[0021]

housing assembly 100,
face frame 1, panel 2, chassis 3;
first sealing part 4, second sealing part 5, third sealing part 6, fourth sealing part 7,
first groove 8, first protrusion 9, second groove 10, second protrusion 11,
first corner plate 12, second corner plate 13, air guide plate 14,
first position 15, second position 16,
first main body segment 17, first thinned segment 18, second main body segment 19, second thinned segment 20,
opening 21.

DETAILED DESCRIPTION OF EMBODIMENTS

[0022] Embodiments of the present invention will be described below in detail, and examples of the embodiments are illustrated in the accompanying drawings, where the same or similar reference numerals throughout the specification refer to the same or similar elements or elements having the same or similar functions. The embodiments described below with reference to the accompanying drawings are exemplary and are intended to explain the present invention rather than limit the present invention.

[0023] A housing assembly 100 of an air conditioner, and an air conditioner according to embodiments of the present invention will be described below with reference to FIGS. 1-6.

[0024] As shown in FIGS. 1-6, the housing assembly 100 of the air conditioner according to embodiments of the present invention includes: a face frame 1, a panel 2, and a chassis 3.

[0025] Specifically, as shown in FIGS. 4-5, the chassis 3 has an opening 21, the face frame 1 is coupled to the chassis 3 and coupled to the panel 2, and the panel 2 is arranged on a side of the face frame 1. The face frame 1 has a first sealing part 4, the panel 2 has a second sealing part 5, and the chassis 3 has a third sealing part 6 and a fourth sealing part 7 spaced apart from each other.

[0026] The fourth sealing part 7 is located at an edge of the opening 21 of the chassis 3. An airflow inside the air conditioner can flow out through the opening 21. As shown in FIG. 5, the first sealing part 4 of the face frame 1 is in contact with the third sealing part 6 of the chassis 3 to form a first sealing structure. The second sealing part 5 of the face frame 2 is in contact with the fourth sealing part 7 of the chassis 3 to form a second sealing structure. As a result, a double sealing structure can be formed on the chassis 3.

[0027] In the related art, when the air conditioner is in a cooling mode, cold air in an indoor environment can enter an interior of the housing assembly through a gap at the opening, and the temperature of air inside the housing is low while the indoor ambient temperature is high, so that condensate water is easily generated when hot and cold air streams meet.

[0028] For the housing assembly 100 according to the embodiments of the present invention, the first sealing structure is formed by the contact between the first sealing part 4 of the face frame 1 and the second sealing part 5 of the chassis 3, and the second sealing structure is formed by the contact between the second sealing part 5 of the panel 2 and the fourth sealing part 7 of the chassis 3. Such a double sealing structure can block the airflow in the indoor environment from entering the interior of the housing assembly 100, and can reduce the risk of generating condensation at the opening 21.

[0029] According to some embodiments of the present invention, as shown in FIG. 5, one of the first sealing part 4 and the third sealing part 6 includes a first groove 8, and

the other of the first sealing part 4 and the third sealing part 6 includes a first protrusion 9. It can be understood that the third sealing part 6 may include the first protrusion 9 when the first sealing part 4 includes the first groove 8; alternatively, the first sealing part 4 may include the first protrusion 9 when the third sealing part 6 includes the first groove 8.

[0030] For example, as shown in FIG. 5, the first sealing part 4 includes the first groove 8 and the third sealing part 6 includes the first protrusion 9. In addition, it should be noted that the first groove 8 and the first protrusion 9 may be mutually embedded structures, and the first groove 8 and the first protrusion 9 have complementary shapes, to improve the sealing performance between the first sealing part 4 and the third sealing part 6. That is, the third sealing part 6 can be inserted into the first sealing part 4 to form a sealing structure. The sealing structure blocks the airflow in the indoor environment from entering an interior of the air conditioner, and can prevent hot and cold air from generating condensation at the opening 21.

[0031] Further, the first groove 8 may extend along the edge of the opening 21 of the chassis 3. Accordingly, the first protrusion 9 may also extend along the edge of the opening 21 of the chassis 3, so that a mating structure formed by the first groove 8 and the first protrusion 9 may extend along the edge of the opening 21, and the edge of the opening 21 can be effectively sealed. When the mating structure of the first groove 8 and the first protrusion 9 is arranged along a peripheral direction of the opening 21, the first groove 8 and the first protrusion 9 form an annular sealing structure, and the opening 21 can be sealed more effectively.

[0032] One of the second sealing part 5 and the fourth sealing part 7 includes a second groove 10, and the other of the second sealing part 5 and the fourth sealing part 7 includes a second protrusion 11. It can be understood that the fourth sealing part 7 may include the second protrusion 11 when the second sealing part 5 includes the second groove 10; alternatively, the second sealing part 5 may include the second protrusion 11 when the fourth sealing part 7 includes the second groove 10.

[0033] For example, as shown in FIG. 5, the second sealing part 5 includes the second groove 10, and the fourth sealing part 7 includes the second protrusion 11. In addition, it should be noted that the second groove 10 and the second protrusion 11 may be mutually embedded structures, and the second groove 10 and the second protrusion 11 have complementary shapes, to improve the sealing performance between the second sealing part 5 and the fourth sealing part 7. That is, the fourth sealing part 7 can be inserted into the second sealing part 5 to form a sealing structure. The sealing structure blocks the airflow in the indoor environment from entering the interior of the air conditioner, and can prevent hot and cold air from generating condensation at the opening 21.

[0034] Further, the second groove 10 may be formed by bending a partial edge of the panel 2. After the edge of the panel 2 is bent, a bent portion forms the second

groove 10, simplifying a manufacturing process of the panel 2 and shortening a processing cycle of the panel 2.

[0035] According to some embodiments of the present invention, as shown in FIG. 5, a partial edge of the panel 2 is bent to form a bend, and the bend and an edge of the face frame 1 are fit to define the second groove 10. It can be understood that a lower edge of the face frame 1 provides a groove surface for the second groove 10, and the lower edge of the face frame 1 and the bend of the edge of the panel 2 define the second groove 10. With the groove and protrusion structures, the fourth sealing part 7 can be inserted into the second sealing part 5 to form a sealing structure. The sealing structure blocks fresh air from entering the interior of the air conditioner and avoids condensation since hot fresh air meets cold air inside the air conditioner.

[0036] According to some other embodiments of the present invention, as shown in FIGS. 4 and 6, the chassis 3 includes a first corner plate 12 and a second corner plate 13. The first corner plate 12 has a first main body segment 17 and a first thinned segment 18 coupled to the first main body segment 17. A ratio of a thickness of the first thinned segment 18 to a thickness of the first main body segment 17 ranges from 0.5 to 0.9. As shown in FIGS. 4 and 6, the second corner plate 13 has a first main body segment 19 and a second thinned segment 20 coupled to the first main body segment 19. A ratio of a thickness of the second thinned segment 20 to a thickness of the first main body segment 19 ranges from 0.5 to 0.9. As shown in FIG. 6, the first thinned segment 18 and the second thinned segment 20 are coupled and form an angle structure, and the first main body segment 17 and the first main body segment 19 are opposite each other and spaced apart.

[0037] When the air conditioner is in the cooling mode, the first corner plate 12 has a low temperature since the first corner plate 12 is close to an air outlet duct, and may be called a cold corner plate. The second corner plate 13 has a temperature approximate to the indoor ambient temperature since it is far away from the air outlet duct, and may be called a hot corner plate. When a distance between the cold corner plate and the hot corner plate is short, condensate water may be easily generated due to the cross between hot and cold environments. By arranging a thinned structure at a connection position of the cold corner plate and the hot corner plate, the distance between the first corner plate 12 and the second corner plate 13 can be increased to provide space for temperature homogenization of the air around the cold corner plate and the hot corner plate, avoiding the condensate water at the connection position of the first corner plate 12 and the second corner plate 13. By arranging the first thinned segment 18 in the first corner plate 12 and arranging the second thinned segment 19 in the second corner plate 13, the amount of cold air carried by the first corner plate 12 and the amount of heat carried by the second corner plate 13 can be reduced, so that the amount of hot and cold airflow at the connection position

of the first corner plate 12 and the second corner plate 13 can be effectively reduced, and thus the generation of condensate water can be reduced.

[0038] According to some embodiments of the present invention, as shown in FIGS. 3-4, the housing assembly 100 further includes an air guide plate 14 coupled to the face frame 1, and the air guide plate 14 is rotatable between a first position 15 and a second position 16. When the air guide plate 14 is in the first position 15, the air guide plate 14 closes the opening 21. When the air guide plate 14 is in the second position 16, the air guide plate 14 is located inside the face frame 1, overlaps the first corner plate 12, and opens the opening 21. Thus, the air output volume and air output direction can be adjusted by rotating the air guide plate 14, improving user experience.

[0039] In some embodiments, an outer surface of the air guide plate 14 may be an appearance surface of the air conditioner. It can be understood that when the air guide plate 14 is in the second position 16, the outer surface of the air guide plate 14 overlaps or adheres to the first corner plate 12; when the air guide plate 14 is in the first position 15, the air guide plate 14 closes the opening 21 and the outer surface of the air guide plate 14 serves as the appearance surface of the air conditioner.

[0040] The housing assembly 100 of the air conditioner according to embodiments of the present invention will be described in detail below with reference to FIGS. 1-6. It should be understood that the following description is merely exemplary illustration rather than specific limitation on the present invention.

[0041] As shown in FIGS. 1-6, the housing assembly 100 includes: a face frame 1, a panel 2, a chassis 3, and an air guide plate 14.

[0042] Specifically, the chassis 3 has an opening 21, and the opening 21 may be used as an air outlet of the air conditioner. The face frame 1 has a first sealing part 4, the panel 2 has a second sealing part 5, and the chassis 3 has a third sealing part 6 and a fourth sealing part 7 spaced apart from each other, the fourth sealing part 7 being located at an edge of the opening 21 of the chassis 3. The first sealing part 4, the second sealing part 5, the third sealing part 6, and the fourth sealing part 7 may be sealing parts designed to reduce the condensation phenomenon.

[0043] As shown in FIGS. 4-5, the face frame 1 is coupled to the chassis 3. The first sealing part 4 of the face frame 1 is in contact with the third sealing part 6 of the chassis 3 to form a first sealing structure. As shown in FIGS. 4-5, the face frame 1 is coupled to the panel 2, and the panel 2 is arranged on a side of the face frame 1. In such a case, the second sealing part 5 of the panel 2 is in contact with the fourth sealing part 7 of the chassis 3 to form a second sealing structure. Such a double sealing structure can block the airflow in the indoor environment from entering the interior of the housing assembly 100, and can reduce the risk of generating condensation at the opening 21.

[0044] The face frame 1 is also coupled to the air guide plate 14 as shown in FIGS. 3-4. The air guide plate 14 is rotatable between a first position 15 and a second position 16. When the air guide plate 14 is in the first position 15, the air guide plate 14 closes the opening 21 of the chassis 3; when the air guide plate 14 is in the second position 16, the air guide plate 14 overlaps the first corner plate 12 and opens the opening 21 of the chassis 3. The air output volume and air output direction can be adjusted by rotating the air guide plate 14, bringing about better user experience.

[0045] As shown in FIG. 5, the first sealing part 4 includes a first groove 8, and the third sealing part 6 includes a first protrusion 9. The first groove 8 extends along the edge of the opening 21 of the chassis 3. As shown in FIG. 5, two surfaces of the first groove 8 and the first protrusion 9 are fitted with each other, and the first groove 8 and the first protrusion 9 are complementary in shape. As a result, the third sealing part 6 can be inserted into the first sealing part 4 to form a sealing structure. The sealing structure blocks fresh air from entering the interior of the air conditioner and avoids condensation since hot fresh air meets cold air inside the air conditioner.

[0046] As shown in FIG. 5, the second sealing part 5 includes a second groove 10, and the third sealing part 6 includes a second protrusion 11. The second groove 10 is formed by bending a partial edge of the panel 2. The second groove 10 extends along the edge of the opening 21 of the chassis 3. As shown in FIG. 5, surfaces of the second groove 10 and the second protrusion 11 are fitted with each other, and the second groove 10 and the second protrusion 11 are complementary in shape. Thus, the fit between the second groove 10 and the second protrusion 11 achieved by the complementary shape improves the sealing performance of the sealing structure.

[0047] As shown in FIG. 5, a lower edge of the face frame 1 provides a groove surface for the second groove 10, such that the lower edge of the face frame 1 and a bent edge of the panel 2 define the second groove 10. With the groove and protrusion structures, the fourth sealing part 7 can be inserted into the second sealing part 5 to form a sealing structure. The sealing structure blocks fresh air from entering the interior of the air conditioner and avoids condensation since hot fresh air meets cold air inside the air conditioner.

[0048] As shown in FIGS. 4 and 6, the chassis 3 includes a first corner plate 12 and a second corner plate 13. The first corner plate 12 has a first main body segment 17 and a first thinned segment 18 coupled to the first main body segment 17. A ratio of a thickness of the first thinned segment 18 to a thickness of the first main body segment 17 ranges from 0.5 to 0.9. As shown in FIGS. 4 and 6, the second corner plate 13 has a first main body segment 19 and a second thinned segment 20 coupled to the first main body segment 19. A ratio of a thickness of the second thinned segment 20 to a thickness of the first main body segment 19 ranges from 0.5 to 0.9. As shown

in FIG. 6, the first thinned segment 18 and the second thinned segment 20 are coupled and form an angle structure, and the first main body segment 17 and the first main body segment 19 are opposite each other and spaced apart.

[0049] When the air conditioner is in the cooling mode, the first corner plate 12 has a low temperature since the first corner plate 12 is close to an air outlet duct, and may be called a cold corner plate. The second corner plate 13 has a temperature approximate to the indoor ambient temperature since it is far away from the air outlet duct, and may be called a hot corner plate. When a distance between the cold corner plate and the hot corner plate is short, condensate water may be easily generated due to the cross between hot and cold environments. By arranging a thinned structure at a connection position of the cold corner plate and the hot corner plate, the distance between the first corner plate 12 and the second corner plate 13 can be increased to provide space for temperature homogenization of the air around the cold corner plate and the hot corner plate, avoiding the condensate water at the connection position of the first corner plate 12 and the second corner plate 13. By arranging the first thinned segment 18 in the first corner plate 12 and arranging the second thinned segment 19 in the second corner plate 13, the amount of cold air carried by the first corner plate 12 and the amount of heat carried by the second corner plate 13 can be reduced, so that the amount of hot and cold airflow at the connection position of the first corner plate 12 and the second corner plate 13 can be effectively reduced, and thus the generation of condensate water can be reduced.

[0050] As shown in FIGS. 2-3, an air conditioner according to embodiments of the present invention includes the housing assembly 100 described above.

[0051] For the air conditioner according to embodiments of the present invention, the first sealing structure is formed by the contact between the first sealing part 4 of the face frame 1 and the second sealing part 5 of the chassis 3, and the second sealing structure is formed by the contact between the second sealing part 5 of the panel 2 and the fourth sealing part 7 of the chassis 3. Such a double sealing structure can block the airflow in the indoor environment from entering the interior of the housing assembly 100, and can reduce the risk of generating condensation at the opening 21.

Claims

1. A housing assembly (100) for an air conditioner, comprising:

a face frame (1) having a first sealing part (4);
a panel (2) coupled to the face frame (1) and arranged on a side of the face frame (1), the panel (2) having a second sealing part (5); and
a chassis (3) having an opening (21) and

coupled to the face frame (1), **characterised by** the chassis (3) having a third sealing part (6) and a fourth sealing part (7) spaced apart from each other, the fourth sealing part (7) being arranged at an edge of the opening (21), the third sealing part (6) being fitted with the first sealing part (4), and the fourth sealing part (7) being fitted with the second sealing part (5);
wherein one of the second sealing part (5) and the fourth sealing part (7) comprises a second groove (10), and the other of the second sealing part (5) and the fourth sealing part (7) comprises a second protrusion (11).

2. The housing assembly (100) according to claim 1, wherein one of the first sealing part (4) and the third sealing part (6) comprises a first groove (8), and the other of the first sealing part (4) and the third sealing part (6) comprises a first protrusion (9).
3. The housing assembly (100) according to claim 2, wherein the first groove (8) extends along the edge of the opening (21).
4. The housing assembly (100) according to any one of claims 1 to 3, wherein the second sealing part (5) comprises the second groove (10), and the second groove (10) is formed by bending a partial edge of the panel (2).
5. The housing assembly (100) according to any one of claims 1 to 3, wherein the second groove (10) extends along the edge of the opening (21).
6. The housing assembly (100) according to any one of claims 1 to 3, wherein the second sealing part (5) comprises the second groove (10), and a partial edge of the panel (2) is bent to form a bend, and the bend and an edge of the face frame (1) are fit to define the second groove (10).
7. The housing assembly (100) according to any one of claims 1 to 6, wherein:

the chassis (3) comprises a first corner plate (12) and a second corner plate (13);
the first corner plate (12) has a first main body segment (17) and a first thinned segment (18) coupled to the first main body segment (17), and a ratio of a thickness of the first thinned segment (18) to a thickness of the first main body segment (17) ranges from 0.5 to 0.9;
the second corner plate (13) has a second main body segment (19) and a second thinned segment (20) coupled to the second main body segment (19), and a ratio of a thickness of the second thinned segment (20) to a thickness of the second main body segment (19) ranges from

0.5 to 0.9;
the first thinned segment (18) and the second thinned segment (20) are coupled and form an angle structure, and the first main body segment (17) and the second main body segment (19) are opposite each other and spaced apart.

8. The housing assembly (100) according to claim 7, further comprising an air guide plate (14) coupled to the face frame (1), the air guide plate (14) being rotatable between a first position (15) and a second position (16),
wherein:

the air guide plate (14) closes the opening (21) when the air guide plate (14) is in the first position (15); and
the air guide plate (14) is located inside the face frame (1), overlaps the first corner plate (12), and opens the opening (21), when the air guide plate (14) is in the second position (16).

9. An air conditioner, comprising the housing assembly (100) according to any one of claims 1 to 8.

Patentansprüche

1. Gehäuseanordnung (100) für eine Klimaanlage, umfassend:

einen Frontrahmen (1), der einen ersten Dichtungsteil (4) aufweist;
eine Blende (2), die an den Frontrahmen (1) gekoppelt und auf einer Seite des Frontrahmens (1) angeordnet ist, wobei die Blende (2) einen zweiten Dichtungsteil (5) aufweist; und
einen Grundrahmen (3), der eine Öffnung (21) aufweist und an den Frontrahmen (1) gekoppelt ist, **dadurch gekennzeichnet**, dass der Grundrahmen (3) einen dritten Dichtungsteil (6) und einen vierten Dichtungsteil (7) aufweist, die voneinander beabstandet sind, wobei der vierte Dichtungsteil (7) an einem Rand der Öffnung (21) angeordnet ist, der dritte Dichtungsteil (6) mit dem ersten Dichtungsteil (4) zusammengepasst ist und der vierte Dichtungsteil (7) mit dem zweiten Dichtungsteil (5) zusammengepasst ist; wobei einer von dem zweiten Dichtungsteil (5) und dem vierten Dichtungsteil (7) eine zweite Nut (10) umfasst und der andere von dem zweiten Dichtungsteil (5) und dem vierten Dichtungsteil (7) einen zweiten Vorsprung (11) umfasst.

2. Gehäuseanordnung (100) nach Anspruch 1, wobei einer von dem ersten Dichtungsteil (4) und dem dritten Dichtungsteil (6) eine erste Nut (8) umfasst und der andere von dem ersten Dichtungsteil (4) und

dem dritten Dichtungsteil (6) einen ersten Vorsprung (9) umfasst.

3. Gehäuseanordnung (100) nach Anspruch 2, wobei sich die erste Nut (8) entlang des Rands der Öffnung (21) erstreckt.

4. Gehäuseanordnung (100) nach einem der Ansprüche 1 bis 3, wobei der zweite Dichtungsteil (5) die zweite Nut (10) umfasst und die zweite Nut (10) durch Biegen eines Teilrands der Blende (2) gebildet ist.

5. Gehäuseanordnung (100) nach einem der Ansprüche 1 bis 3, wobei sich die zweite Nut (10) entlang des Rands der Öffnung (21) erstreckt.

6. Gehäuseanordnung (100) nach einem der Ansprüche 1 bis 3, wobei der zweite Dichtungsteil (5) die zweite Nut (10) umfasst und ein Teilrand der Blende (2) gebogen ist, um eine Biegung zu bilden, und die Biegung und ein Rand des Frontrahmens (1) zusammengepasst sind, um die zweite Nut (10) zu definieren.

7. Gehäuseanordnung (100) nach einem der Ansprüche 1 bis 6, wobei:

der Grundrahmen (3) eine erste Eckplatte (12) und eine zweite Eckplatte (13) umfasst;
die erste Eckplatte (12) ein erstes Hauptkörpersegment (17) und ein an das erste Hauptkörpersegment (17) gekoppeltes erstes verdünntes Segment (18) aufweist und ein Verhältnis einer Dicke des ersten verdünnten Segments (18) zu einer Dicke des ersten Hauptkörpersegments (17) im Bereich von 0,5 bis 0,9 liegt;
die zweite Eckplatte (13) ein zweites Hauptkörpersegment (19) und ein an das zweite Hauptkörpersegment (19) gekoppeltes zweites verdünntes Segment (20) aufweist und ein Verhältnis einer Dicke des zweiten verdünnten Segments (20) zu einer Dicke des zweiten Hauptkörpersegments (19) im Bereich von 0,5 bis 0,9 liegt;
das erste verdünnte Segment (18) und das zweite verdünnte Segment (20) gekoppelt sind und eine Winkelstruktur bilden und das erste Hauptkörpersegment (17) und das zweite Hauptkörpersegment (19) einander gegenüberliegen und voneinander beabstandet sind.

8. Gehäuseanordnung (100) nach Anspruch 7, ferner umfassend eine Luftleitplatte (14), die an den Frontrahmen (1) gekoppelt ist, wobei die Luftleitplatte (14) zwischen einer ersten Stellung (15) und einer zweiten Stellung (16) drehbar ist, wobei:

die Luftleitplatte (14) die Öffnung (21) verschließt, wenn sich die Luftleitplatte (14) in der ersten Stellung (15) befindet; und sich die Luftleitplatte (14) in dem Frontrahmen (1) befindet, die erste Eckplatte (12) überlagert und die Öffnung (21) öffnet, wenn sich die Luftleitplatte (14) in der zweiten Stellung (16) befindet.

9. Klimaanlage, umfassend die Gehäuseanordnung (100) nach einem der Ansprüche 1 bis 8.

Revendications

1. Ensemble formant boîtier (100) pour un climatiseur, comportant :

un cadre frontal (1) ayant une première partie d'étanchéité (4) ;

un panneau (2) accouplé au cadre frontal (1) et agencé sur un côté du cadre frontal (1), le panneau (2) ayant une deuxième partie d'étanchéité (5) ; et

un châssis (3) ayant une ouverture (21) et accouplé au cadre frontal (1), **caractérisé par** le châssis (3) ayant une troisième partie d'étanchéité (6) et une quatrième partie d'étanchéité (7) espacées l'une de l'autre, la quatrième partie d'étanchéité (7) étant agencée au niveau d'un bord de l'ouverture (21), la troisième partie d'étanchéité (6) étant équipée de la première partie d'étanchéité (4), et la quatrième partie d'étanchéité (7) étant équipée de la deuxième partie d'étanchéité (5) ;

dans lequel l'une parmi la deuxième partie d'étanchéité (5) et la quatrième partie d'étanchéité (7) comporte une deuxième rainure (10), et l'autre parmi la deuxième partie d'étanchéité (5) et la quatrième partie d'étanchéité (7) comporte une deuxième partie saillante (11).

2. Ensemble formant boîtier (100) selon la revendication 1, dans lequel l'une parmi la première partie d'étanchéité (4) et la troisième partie d'étanchéité (6) comporte une première rainure (8), et l'autre parmi la première partie d'étanchéité (4) et la troisième partie d'étanchéité (6) comporte une première partie saillante (9).

3. Ensemble formant boîtier (100) selon la revendication 2, dans lequel la première rainure (8) s'étend le long du bord de l'ouverture (21).

4. Ensemble formant boîtier (100) selon l'une quelconque des revendications 1 à 3, dans lequel la deuxième partie d'étanchéité (5) comporte la deuxième rainure (10), et la deuxième rainure (10) est

formée en pliant un bord partiel du panneau (2).

5. Ensemble formant boîtier (100) selon l'une quelconque des revendications 1 à 3, dans lequel la deuxième rainure (10) s'étend le long du bord de l'ouverture (21).

6. Ensemble formant boîtier (100) selon l'une quelconque des revendications 1 à 3, dans lequel la deuxième partie d'étanchéité (5) comporte la deuxième rainure (10), et un bord partiel du panneau (2) est plié pour former un coude, et la courbure et un bord du cadre frontal (1) sont adaptés pour définir la deuxième rainure (10).

7. Ensemble formant boîtier (100) selon l'une quelconque des revendications 1 à 6, dans lequel :

le châssis (3) comporte une première plaque d'angle (12) et une deuxième plaque d'angle (13) ;

la première plaque d'angle (12) a un premier segment de corps principal (17) et un premier segment aminci (18) accouplé au premier segment de corps principal (17), et un rapport entre une épaisseur du premier segment aminci (18) et une épaisseur du premier segment de corps principal (17) se trouve dans la plage de 0,5 à 0,9 ;

la deuxième plaque d'angle (13) a un deuxième segment de corps principal (19) et un deuxième segment aminci (20) accouplé au deuxième segment de corps principal (19), et un rapport entre une épaisseur du deuxième segment aminci (20) et une épaisseur du deuxième segment de corps principal (19) se trouve dans la plage de 0,5 à 0,9 ;

le premier segment aminci (18) et le deuxième segment aminci (20) sont accouplés et forment une structure angulaire, et le premier segment de corps principal (17) et le deuxième segment de corps principal (19) sont opposés l'un par rapport à l'autre et espacés l'un de l'autre.

8. Ensemble formant boîtier (100) selon la revendication 7, comportant par ailleurs une plaque de guidage d'air (14) accouplée au cadre frontal (1), la plaque de guidage d'air (14) pouvant tourner entre une première position (15) et une deuxième position (16), dans lequel :

la plaque de guidage d'air (14) ferme l'ouverture (21) quand la plaque de guidage d'air (14) est dans la première position (15) ; et

la plaque de guidage d'air (14) est située à l'intérieur du cadre frontal (1), chevauche la première plaque d'angle (12) et ouvre l'ouver-

ture (21) quand la plaque de guidage d'air (14) est dans la deuxième position (16).

9. Climatiseur, comportant l'ensemble formant boîtier (100) selon l'une quelconque des revendications 1 à 8. 5

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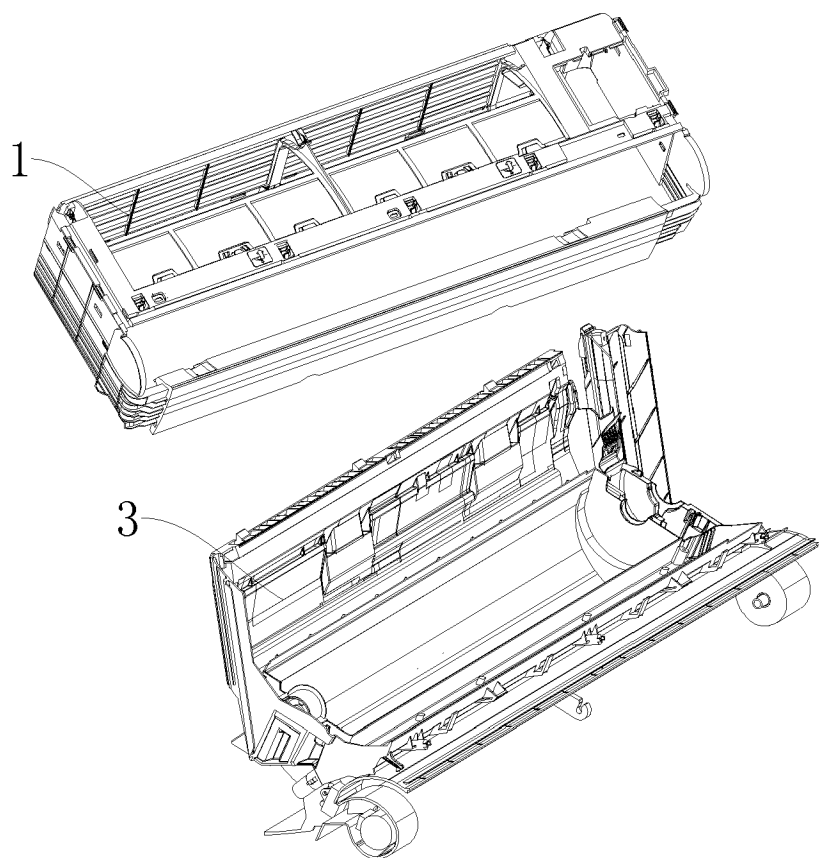


FIG. 1

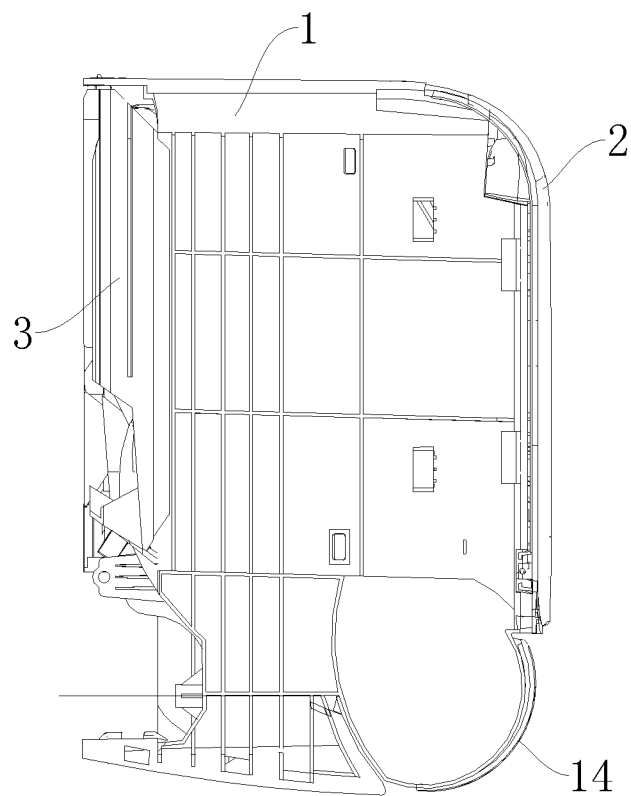


FIG. 2

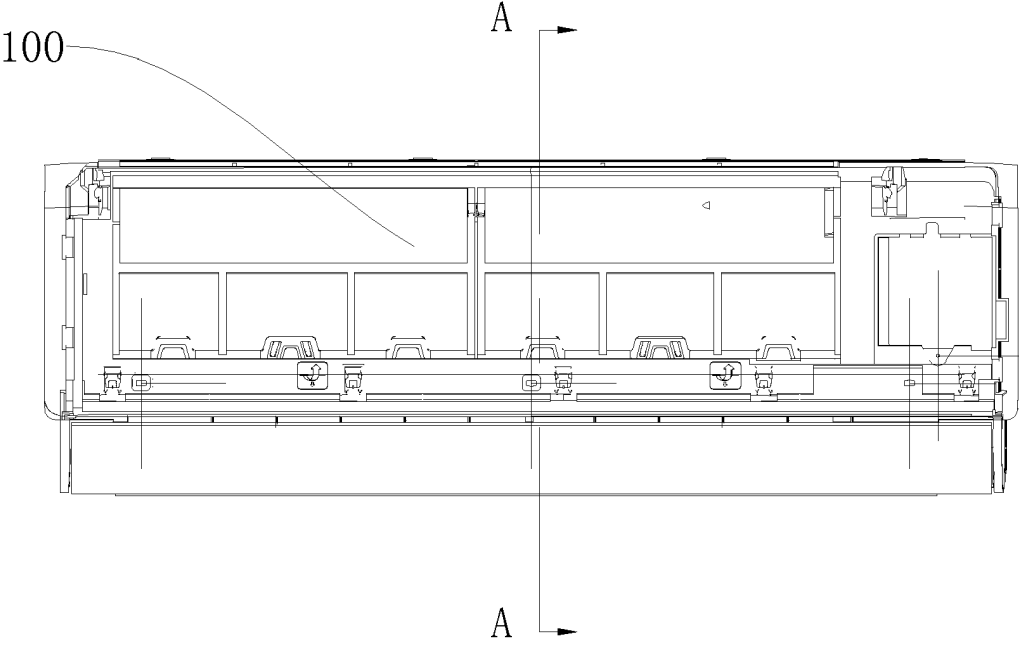


FIG. 3

A-A

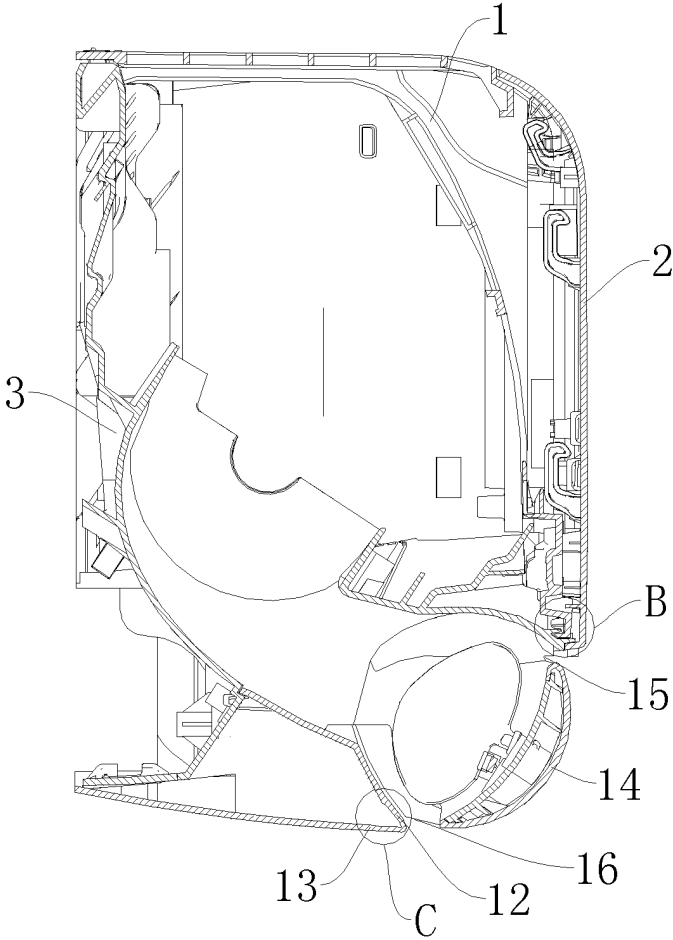


FIG. 4

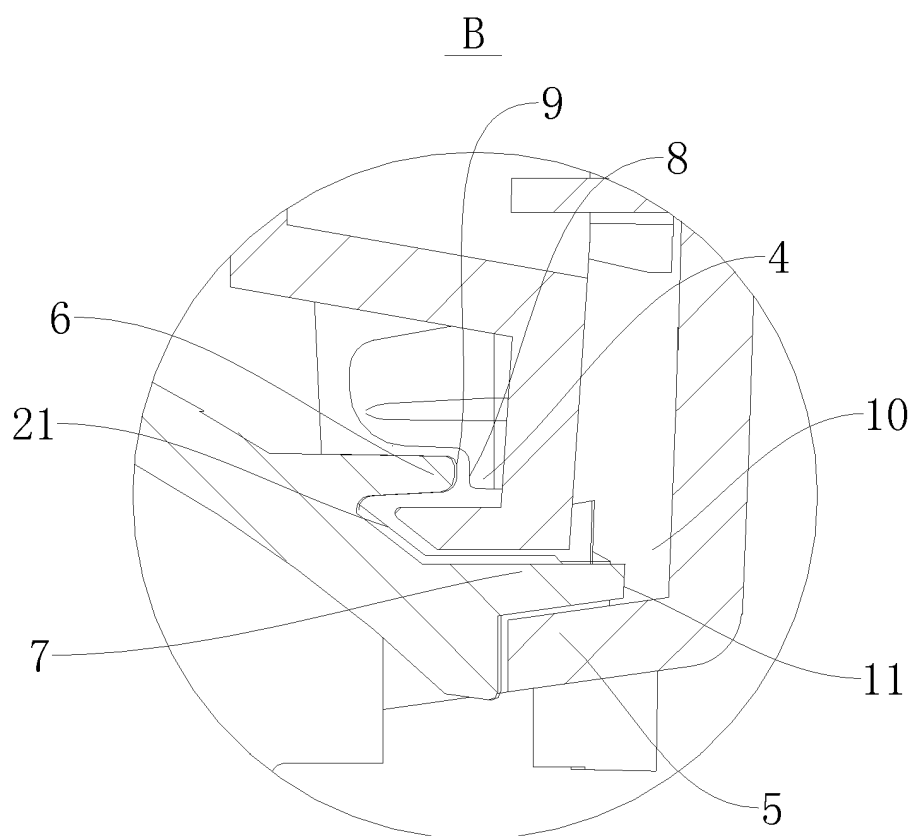


FIG. 5

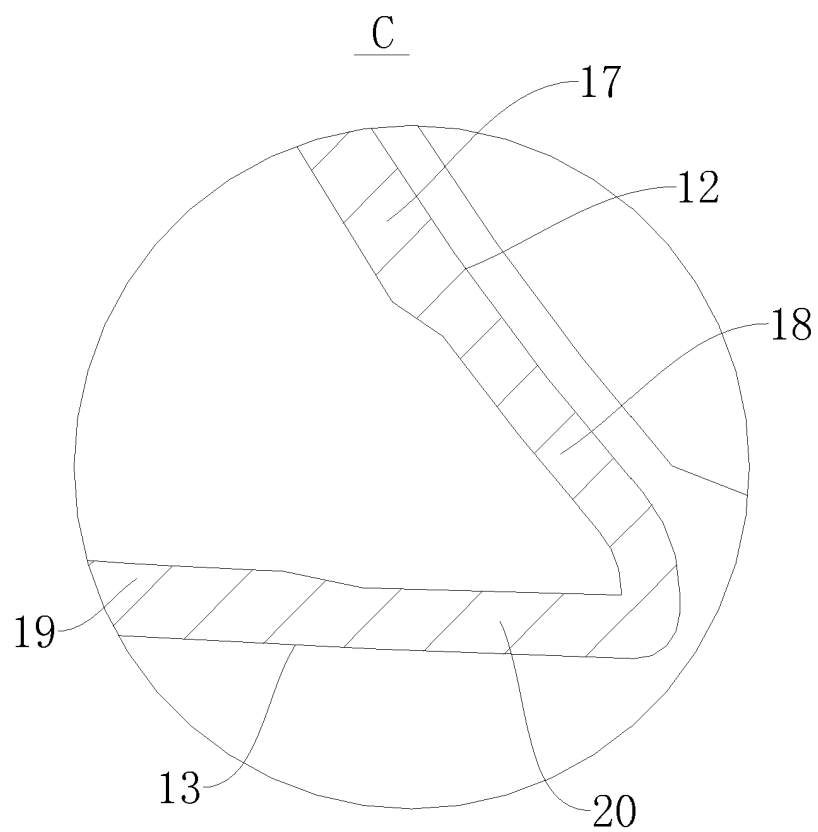


FIG. 6

REFERENCES CITED IN THE DESCRIPTION

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Patent documents cited in the description

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