(19) Europäisches Patentamt
European Patent Office
Office européen des brevets

(11) **EP 3 988 857 B1**

(12) **EUROPEAN PATENT SPECIFICATION**

(45) Date of publication and mention of the grant of the patent:
26.03.2025 Bulletin 2025/13

(21) Application number: **19933348.5**

(22) Date of filing: **21.06.2019**

(51) International Patent Classification (IPC):
F24F 13/20 *(2006.01)*

(52) Cooperative Patent Classification (CPC):
F24F 13/20; F24F 1/0057; F24F 2221/17

(86) International application number:
PCT/JP2019/024733

(87) International publication number:
WO 2020/255380 (24.12.2020 Gazette 2020/52)

(54) INDOOR UNIT FOR AIR CONDITIONERS

INNENRAUMEINHEIT FÜR KLIMAANLAGEN

UNITÉ INTÉRIEURE POUR CLIMATISEURS

(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

(43) Date of publication of application:
27.04.2022 Bulletin 2022/17

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Description

Technical Field

[0001] An embodiment of the present invention relate to an indoor unit apparatus for air conditioners.

Background Art

[0002] As disclosed in Patent Literature 1, for example, an indoor unit apparatus for air conditioners is configured such that an indoor unit constituting a main body section of the indoor unit is attached to an installation plate fixed to an indoor wall surface. As disclosed in Patent Literature 1, a lower side of the installation plate includes a linear section projecting on an indoor side and linearly extending in the horizontal direction. Also, it is possible to curb deformation of a lower surface of a cover section and wave-like distortion and to improve an appearance by attaching the indoor unit to the linear section such that a lower surface of the cover section follows the linear section.

Citation List

Patent Literature

[0003]

Patent Literature 1: Japanese Patent Laid-Open No. 5-312349 JP H02 21713 Y2 discloses an indoor unit apparatus for air conditioners including:

an installation plate that is secured to an indoor wall surface; and
an indoor unit that is attached to the installation plate,
wherein the installation plate includes a linear section projecting on an indoor side and linearly extending in a horizontal direction, and
wherein the indoor unit includes a clamping section that clamps the linear section in a vertical direction, a unit main body section that is secured to the installation plate, and a unit cover section that covers a surface of the unit main body section on the indoor side.

JP H05 312349 A discloses an indoor unit apparatus for air conditioners including:

an installation plate that is secured to an indoor wall surface; and
an indoor unit that is attached to the installation plate,
wherein the installation plate includes a linear section projecting on an indoor side and linearly extending in a horizontal direction, and
wherein the indoor unit includes a clamping section that clamps the linear section in a vertical direction, a unit main body section that is secured to the installation plate, and a unit cover section that covers a surface of the unit main body section on the indoor side.

Summary of Invention

Technical Problem

[0004] According to the configuration of Patent Literature 1, a configuration in which the cover section of the indoor unit is in contact with the linear section of the installation plate only from the lower side is employed. Therefore, in a case in which an upward force acts on the cover section of the indoor unit, it is possible to curb the force with the linear section. It is thus possible to sufficiently curb deformation of the lower surface of the cover section and wave-like distortion. However, in a case in which a downward force acts on the cover section of the indoor unit due to influences of piping or the like accommodated in a lower portion of a rear portion of the indoor unit, for example, it is not possible to curb the force with the linear section. Therefore, it is not possible to sufficiently curb deformation of the lower surface of the cover section and wave-like distortion.

[0005] Thus, according to the present embodiment, an indoor unit apparatus for air conditioners capable of curbing deformation and distortion and improving appearance is provided, not only in a case in which an upward force acts on the indoor unit but also in a case in which a downward force acts on the indoor unit.

Solution to Problem

[0006] An indoor unit apparatus for air conditioners according to the present embodiment includes: an installation plate that is fixed to an indoor wall surface; and an indoor unit that is attached to the installation plate, the installation plate includes a linear section projecting on an indoor side and linearly extending in a horizontal direction. The indoor unit includes clamping sections that clamp the linear section in a vertical direction, a unit main body section that is secured to the installation plate, and a unit cover section that covers a surface of the unit main body section on the indoor side. The clamping section includes a first clamping section that is provided at the unit main body section, and a second clamping section that is provided at the unit cover section. The first clamping section and the second clamping section face each other in the vertical direction. The indoor unit comprises a clamped state maintaining section that maintains a state in which the linear section is clamped with the first clamping section and the second clamping section in the vertical direction, by inserting a claw portion provided on the unit cover section into a claw hole portion provided on the unit main body section.

Brief Description of Drawings

[0007]

[Figure 1] Figure 1 is a vertical sectional side view schematically illustrating a configuration example of an indoor unit apparatus for air conditioners according to the present embodiment.

[Figure 2] Figure 2 is a perspective view schematically illustrating a configuration example of an installation plate according to the present embodiment.

[Figure 3] Figure 3 is a front view schematically illustrating a configuration example of the installation plate according to the present embodiment.

[Figure 4] Figure 4 is an enlarged view schematically illustrating a configuration example of a clamping section and a surrounding part thereof according to the present embodiment.

[Figure 5] Figure 5 is an enlarged view schematically illustrating a configuration example of a clamped state maintaining section and a surrounding part thereof according to the present embodiment.

Description of Embodiment

[0008] Hereinafter, an embodiment related to an indoor unit apparatus for air conditioners will be described with reference to the drawings. An indoor unit apparatus 10 for air conditioners illustrated as an example in Figure 1 constitutes an air conditioner along with an outdoor unit, which is provided outdoors and is not illustrated in the drawing, and includes an installation plate 100 and an indoor unit 200. The installation plate 100 is made of metal and is strongly fixed to an indoor wall surface with bolts, for example. The indoor unit 200 is attached to a front surface side, in other words, an indoor side of the installation plate 100 fixed to the indoor wall surface with screws and bolts, for example.

[0009] Next, a configuration example of the indoor unit 200 will be described. The indoor unit 200 includes a unit main body section 201 and a unit cover section 202. The unit main body section 201 constitutes a main body section of the indoor unit 200 and is fixed directly to the front surface side of the installation plate 100 with screws and bolts, for example. The unit cover section 202 is configured as a cover section with substantially a box shape covering surfaces on the indoor side of the unit main body section 201 fixed to the front surface side of the installation plate 100, in this case, a front surface, an upper surface, a lower surface, a left side surface, and a right side surface.

[0010] An air inlet port 203 is provided at an upper portion of the indoor unit 200, and an air outlet port 204 is provided at a lower portion of the indoor unit 200. Also, a blowing passage 205 is provided from the air inlet port 203 to the air outlet port 204 inside the indoor unit 200. An air filter 206, a heat exchanger 207, a cross flow fan 208, a louver 209, and the like are provided from an upstream side, which corresponds to the side of the air inlet port 203, toward a downstream side, which corresponds to the side of the air outlet port 204, inside the blowing passage 205.

[0011] The air filter 206 captures foreign matters included in air suctioned from the air inlet port 203. The heat exchanger 207 performs heat exchange with the air suctioned from the air inlet port 203 and heats or cools the air. The cross flow fan 208 suctions indoor air from the air inlet port 203 and forms a flow of the air blown out from the air outlet port 204 to the indoor space through the blowing passage 205. The louver 209 adjusts a direction of the air blown out from the air outlet port 204.

[0012] Next, a configuration example of the installation plate 100 will be described. As illustrated as an example in Figures 2 and 3, the installation plate 100 has an elongated substantially rectangular plate shape. In this case, the installation plate 100 has a shape with a longer dimension in the left-right direction than the dimension in the vertical direction in a state in which the installation plate 100 is fixed to the indoor wall surface. Notch portions 101 into which piping and the like can be inserted are provided at lower portions of both left and right end portions of the installation plate 100. Also, a linear section 102 is provided at a lower portion of the installation plate 100 at a position between the notch portions 101 on both the left and right ends. The linear section 102 includes a plurality of, in this case, two sub-linear sections 102A and 102B.

[0013] Both the sub-linear sections 102A and 102B have shapes projecting on the indoor side and linear extending in the horizontal direction, that is, the left-right direction. Also, the sub-linear sections 102A and 102B have shapes folded to be gradually inclined downward from the lower side of the installation plate 100 toward the indoor side. Moreover, distal end portions of the sub-linear sections 102A and 102B have shapes folded back from the upper side toward the rear side.

[0014] A length LA of the sub-linear section 102A and a length LB of the sub-linear section 102B are different lengths, and in this case, the length LA of the sub-linear section 102A is shorter than the length LB of the sub-linear section 102B. Note that the length LA of the sub-linear section 102A and the length LB of the sub-linear section 102B may be the same length. Also, a total length of the length LA of the sub-linear section 102A and the length LB of the sub-linear section 102B is preferably configured to secure at least a length that is at least 30% or more of the entire length of the installation plate 100 in the left-right direction or the entire length of the indoor unit apparatus 10 in the left-right direction.

[0015] Also, in this case, the entire sub-linear section 102A is located on the left side beyond a center line CL of the installation plate 100 when seen from the front side, which is the indoor side. On the other hand, the sub-linear section 102B is located with the left end side thereof located on the left side beyond the center line CL of the installation plate 100 and with the center portion

and the right end side thereof except for the left end side located on the right side beyond the center line CL of the installation plate 100 when seen from the front side, which is the indoor side. Therefore, the installation plate 100 is configured to include at least a part of the linear section 102 at the center portion thereof in the left-right direction, in this case, the left end part of the sub-linear section 102B. Moreover, the installation plate 100 is configured to include the entire sub-linear section 102A and a part of the sub-linear section 102B on the left side beyond the center portion in the left-right direction and include the other portions of the sub-linear section 102B on the right side beyond the center portion in the left-right direction.

[0016] Also, the installation plate 100 includes a plurality of, in this case, two through-hole portions 103A and 103B. Both the through-hole portions 103A and 103B have elongated substantially oval shapes extending in a longitudinal direction of the installation plate 100. Also, the length of the through-hole portion 103A in the left-right direction is shorter than the length of the through-hole portion 103B in the left-right direction. Note that the length of the through-hole portion 103A in the left-right direction and the length of the through-hole portion 103B in the left-right direction may be the same length. Moreover, the length of the through-hole portion 103A in the vertical direction and the length of the through-hole portion 103B in the vertical direction are the same length. Note that the length of the through-hole portion 103A in the vertical direction and the length of the through-hole portion 103B in the vertical direction may be different lengths.

[0017] Also, in this case, an opening area of the through-hole portion 103A is smaller than an opening area of the through-hole portion 103B. Note that the opening area of the through-hole portion 103A and the opening area of the through-hole portion 103B may be the same. In addition, the through-hole portion 103A is located above the sub-linear section 102A. In this case, the center portion of the through-hole portion 103A in the left-right direction substantially or completely conforms to the center portion of the sub-linear section 102A in the left-right direction. Also, the through-hole portion 103B is located above the sub-linear section 102B. In this case, the center portion of the through-hole portion 103B deviates from the center portion of the sub-linear section 102B on the left side by a predetermined amount, and the left end portion of the through-hole portion 103A is located on the left side beyond the left end portion of the sub-linear section 102B. Note that this can be implemented with the amount of deviation between the center portion of the through-hole portion 103B and the center portion of the sub-linear section 102B appropriately changed.

[0018] Also, the installation plate 100 includes a plurality of, in this case, three screw-fastening sections 104A, 104B, and 104C. The screw-fastening sections 104A, 104B, and 104C are configured such that distal end portions thereof are folded downward and the folded distal end portions include screw holes. The unit main body section 201 constituting the main body section of the indoor unit 200 is strongly fixed with screws, which are not illustrated, via the screw-fastening sections 104A, 104B, and 104C.

[0019] Also, the screw-fastening sections 104A, 104B, and 104C are disposed as follows, for example, at lower portions of the installation plate 100. In other words, the screw-fastening sections 104A and 104B are separately included at both end portions of the sub-linear section 102A in the left-right direction. Also, the screw-fastening sections 104B and 104C are separately included at both end portions of the sub-linear section 102B in the left-right direction. Also, the screw-fastening sections 104A and 104C are separately included at both end portions of the linear section 102 in the left-right direction when the entire linear section 102 is seen. Moreover, the screw-fastening section 104B is included to be located at an intermediate portion of the linear section 102 in the left-right direction, in this case, between the sub-linear section 102A and the sub-linear section 102B. Note that the screw-fastening section 104B may be included at the center portion of the linear section 102 in the left-right direction, or may be included on the left side or the right side beyond the center portion of the linear section 102 in the left-right direction, for example, as long as the screw-fastening section 104B is included at an intermediate portion of the linear section 102 in the left-right direction.

[0020] Also, the installation plate 100 includes a plurality of, in this case, four narrowed portions 105A, 105B, 105C, and 105D. The narrowed portions 105A, 105B, 105C, and 105D are disposed as follows, for example, at lower portions of the installation plate 100. In other words, the narrowed portions 105A and 105B are separately included at both end portions of the sub-linear section 102A in the left-right direction. Also, the narrowed portions 105C and 105D are separately included at both end portions of the sub-linear section 102B in the left-right direction. Moreover, the screw-fastening section 104A is included on the left side, which is an outer side beyond the narrowed portion 105A. In addition, the screw-fastening section 104B is included to be located between the narrowed portion 105B and the narrowed portion 105C. Also, the screw-fastening section 104C is included on the right side, which is an outer side beyond the narrowed portion 105D.

[0021] The indoor unit 200 configured as described above further includes clamping sections 300 as illustrated as an example in Figure 1. Next, a configuration example of the clamping sections 300 will be described. As illustrated as an example in Figure 4, each clamping section 300 forms a structure for clamping the linear section 102 of the installation plate 100 in the vertical direction, and in this case, each clamping section 300 includes an upper clamping section 301 and a lower clamping section 302. The plurality of clamping sections 300 are included at lower portions of the rear portion of the indoor unit 200 along the indoor unit 200 in the left-

right direction. Note that this can be implemented with the number of clamping sections 300 appropriately changed. Also, this can be implemented with intervals of the plurality of clamping sections 300 appropriately changed.

[0022] The upper clamping section 301 is an example of the first clamping section, and in this case, the upper clamping section 301 is provided to project downward at a lower portion of a rear portion of the unit main body section 201. In this case, the upper clamping section 301 is provided integrally with a rear portion of a member of the unit main body section 201 of the indoor unit 200 constituting a rear wall surface of the air outlet port 204. Also, an inclined portion 301a that is linearly inclined to be gradually elevated from the front side toward the rear side is provided at a lower portion of the rear portion of the upper clamping section 301. Note that the inclined portion 301a is not limited to the linear shape and may be inclined in a curved shape, for example.

[0023] The lower clamping section 302 is an example of the second clamping section, and in this case, a rear end portion of a lower surface of the unit cover section 202 functions as the lower clamping section 302. Both the upper surface and the lower surface of the lower clamping section 302 are substantially horizontal planes.

[0024] In a state in which the unit cover section 202 is attached to the unit main body section 201, the upper clamping section 301 and the lower clamping section 302 face each other in the vertical direction. Also, a clearance is formed by the inclined portion 301a provided between the upper clamping section 301 and the lower clamping section 302. Also, in a state in which the indoor unit 200 is attached to the installation plate 100 on the front side, the linear section 102 of the installation plate 100 is pinched between the upper clamping section 301 and the lower clamping section 302. In other words, the linear section 102 of the installation plate 100 is brought into a state in which it is pinched by the clamping section 300 of the indoor unit 200 in the vertical direction.

[0025] Also, as illustrated as an example in Figure 1, the indoor unit 200 further includes clamped state maintaining sections 400. As illustrated as an example in Figure 5, each clamped state maintaining section 400 is included on the front side beyond the clamping section 300 in this case. Also, the plurality of clamped state maintaining sections 400 are included at lower portions of the rear portion of the indoor unit 200 along the indoor unit 200 in the left-right direction. Note that this can be implemented with the number of clamped state maintaining sections 400 appropriately changed in accordance with the number of clamping sections 300, for example. Also, this can be implemented with intervals of the plurality of clamped state maintaining sections 400 appropriately changed in accordance with the intervals of the plurality of clamping sections 300, for example. The clamped state maintaining sections 400 are preferably provided in the vicinity of the clamping sections 300. Also, the number and the intervals of the clamped state maintaining sections 400 may be the same as or different from the number and the intervals of the clamping sections 300.

[0026] Each clamped state maintaining section 400 includes a claw hole portion 401 provided on the side of the unit main body section 201 and a claw portion 402 provided on the side of the unit cover section 202. In this case, the claw hole portion 401 is provided integrally with the rear portion of the member of the unit main body section 201 of the indoor unit 200 constituting the rear wall surface of the air outlet port 204. Also, the claw hole portion 401 is a rectangular hole portion opened on the front side in the front-back direction. The claw portion 402 is provided integrally with an upper surface of the rear end portion of the lower surface of the unit cover section 202. In addition, the claw portion 402 is a claw portion linear extending on the rear side in the front-back direction.

[0027] In a state in which the unit cover section 202 is attached to the unit main body section 201, the claw portion 402 is inserted into the claw hole portion 401 from the front side toward the rear side. In this manner, the rear end portion of the lower surface of the unit cover section 202, that is, a part where the lower clamping section 302 is provided is strongly fixed to the lower portion of the rear portion of the unit main body section 201, that is, a part where the upper clamping section 301 is provided. It is thus possible to stably maintain the state in which the upper clamping section 301 and the lower clamping section 302 face each other in the vertical direction and thus to stably maintain the state in which the linear section 102 of the installation plate 100 is clamped with the upper clamping section 301 and the lower clamping section 302 in the vertical direction.

[0028] According to the indoor unit apparatus 10 for air conditioners according to the present embodiment, the indoor unit 200 is configured to clamp the linear section 102 of the installation plate 100 with the upper clamping section 301 and the lower clamping section 302 of the clamping section 300 in the vertical direction. With this configuration, it is possible to suppress an upward force with the linear section 102 by the lower clamping section 302 abutting on the lower surface of the linear section 102 in a case in which the upward force acts on the indoor unit 200. On the other hand, in a case in which a downward force acts on the indoor unit 200, it is possible to suppress the downward force with the linear section 102 by the upper clamping section 301 abutting on the upper surface of the linear section 102. Therefore, it is possible to sufficiently curb deformation and distortion of the lower surface of the unit cover section 202 and to improve an appearance not only in a case in which the upward force acts on the indoor unit 200 but also in a case in which the downward force acts on the indoor unit 200.

[0029] Also, according to the indoor unit apparatus 10, the linear section 102 is included at least at the center portion of the installation plate 100 in the left-right direction. With this configuration, it is possible to sufficiently curb occurrence of deformation and distortion at the center portion of the indoor unit 200 in the left-right

direction where deformation and distortion of the lower surface of the unit cover section 202 are likely to occur.

[0030] Also, according to the indoor unit apparatus 10, the linear sections 102 are further included both on the left side and on the right side of the center portion of the installation plate 100 in the left-right direction. With this configuration, it is possible to sufficiently curb occurrence of deformation and distortion not only at the center portion of the lower surface of the unit cover section 202 in the left-right direction but also in a wide range including the left side and the right side thereof.

[0031] Also, according to the indoor unit apparatus 10, the installation plate 100 includes, in a dispersed manner, the screw-fastening sections 104A, 104B, and 104C at the intermediate portion of the linear section 102 and the end portions of the linear section 102 in the left-right direction. With this configuration, it is possible to attach the indoor unit 200 to the installation plate 100 at an accurate position by performing screwing at the plurality of screw-fastening sections 104A, 104B, and 104C. Therefore, it is possible to position the unit cover section 202 at a further accurate position relative to the installation plate 100 and thus to further curb occurrence of deformation and distortion of the appearance of the indoor unit apparatus 10.

[0032] Also, according to the indoor unit apparatus 10, the installation plate 100 includes, in a dispersed manner, the narrowed portions 105A, 105B, 105C, and 105D at the end portions of the linear section 102 in the left-right direction. With this configuration, it is possible to improve strength of the linear section 102 and a part in the vicinity thereof and to sufficiently curb occurrence of deformation and distortion of the linear section 102 and thus occurrence of deformation and distortion of the appearance of the indoor unit apparatus 10.

[0033] Also, according to the indoor unit apparatus 10, the clamped state maintaining section 400 that maintains the state in which the linear section 102 is clamped with the upper clamping section 301 and the lower clamping section 302 in the vertical direction is included. With this configuration, it is possible to stably maintain the state in which the linear section 102 of the installation plate 100 is clamped with the clamping section 300 in the vertical direction and to further effectively curb occurrence of deformation and distortion of the appearance of the indoor unit 200.

[0034] Also, it is possible to stably maintain, with the clamped state maintaining section 400, the state in which the upper clamping section 301 and the lower clamping section 302 face each other in the vertical direction and thus the state in which the linear section 102 of the installation plate 100 is clamped with the upper clamping section 301 and the lower clamping section 302 even with the configuration in which the upper clamping section 301 is provided on the side of the unit main body section 201 and the lower clamping section 302 is provided on the side of the unit cover section 202, that is, with the configuration in which the upper clamping section 301 and the lower clamping section 302 are provided in mutually different members. Therefore, it is possible to further effectively curb occurrence of deformation and distortion of the appearance of the indoor unit 200.

[0035] Note that the present embodiment is not limited to the aforementioned embodiment, and various modifications and expansions can be made without departing from the scope of the appended claims.

[0036] For example, the number of sub-linear sections constituting the linear section 102 is not limited to two and may be one or another plural number like three or more. Also, this can be implemented with the projection length and the inclination angle of the linear section 102 from the lower side of the installation plate 100 appropriately changed. Moreover, the plurality of sub-linear sections may have mutually the same projection length and the same inclination angle or may have different projection lengths and different inclination angles.

[0037] In addition, although the linear section 102 is preferably included at least at the center portion of the installation plate 100 in the left-right direction, the indoor unit 200 may be configured not to include the linear section 102 at the center portion of the installation plate 100 in the left-right direction. Also, the linear section 102 may be configured to be included on any one side of the left part and the right part of the center portion of the installation plate 100 in the left-right direction.

[0038] In addition, the number of screw-fastening sections is not limited to three and may be one, two, or another plural number like four or more. Also, the numbers of screw-fastening sections may be the same or different on the left side and the right side of the installation plate 100. Moreover, the plurality of screw-fastening sections may have mutually the same shape and the same size or may have different shapes and different sizes.

[0039] Also, the number of narrowed portions is not limited to four and may be one, two, three, or another plural number like five or more. In addition, the numbers of narrowed portions may be the same or different at the left part and the right part of the center portion of the installation plate 100 in the left-right direction. Also, the plurality of narrowed portions may have mutually the same shape and the same size or may have different shapes and different sizes. In addition, the narrowed portions may be provided at both end portions of the linear section 102 in the left-right direction or may be provided only on one end side.

[0040] In addition, the clamped state maintaining section 400 may be configured such that the claw hole portion 401 is provided on the side of the unit cover section 202 and the claw portion 402 is provided on the side of the unit main body section 201. Also, the clamped state maintaining section is not limited to the configuration including the claw hole portion 401 and the claw portion 402, and it is possible to apply various configurations as long as the configurations enable the state in which the linear section 102 is clamped with the

upper clamping section 301 and the lower clamping section 302 in the vertical direction to be maintained, such as pins and pin holes, for example.

[0041] Although the embodiment of the present invention has been described above, the present embodiment has been presented as an example and is not intended to limit the scope of the present invention. The novel embodiment can be implemented in various other forms, and various omissions, replacements, amendments can be made without departing from the scope of the appended claims.

Claims

1. An indoor unit apparatus (10) for air conditioners including:

   an installation plate (100) that is secured to an indoor wall surface; and
   an indoor unit (200) that is attached to the installation plate (100),
   wherein the installation plate (100) includes a linear section (102) projecting on an indoor side and linearly extending in a horizontal direction, and
   wherein the indoor unit (200) includes a clamping section (300) that clamps the linear section (102) in a vertical direction, a unit main body section (201) that is secured to the installation plate (100), and a unit cover section (202) that covers a surface of the unit main body section (201) on the indoor side,
   characterized in that the clamping section (300) includes
   a first clamping section (301) that is provided at the unit main body section (201), and
   a second clamping section (302) that is provided at the unit cover section (202), and
   the first clamping section (301) and the second clamping section (302) face each other in the vertical direction,
   the indoor unit (200) comprises a clamped state maintaining section (400) that maintains a state in which the linear section (102) is clamped with the first clamping section (301) and the second clamping section (302) in the vertical direction, by inserting a claw portion (402) provided on the unit cover section (202) into a claw hole portion (401) provided on the unit main body section (201).

2. The indoor unit apparatus (10) for air conditioners according to claim 1, **characterized in that** the linear section (102) is included at least at a center portion of the installation plate (100) in a left-right direction.

3. The indoor unit apparatus (10) for air conditioners according to claim 2, **characterized in that** the linear section (102) is further included on a left side and a right side of the center portion of the installation plate (100) in the left-right direction.

4. The indoor unit apparatus (10) for air conditioners according to any one of claims 1 to 3,

   characterized in that the installation plate (100) includes screw-fastening sections (104A, 104B, 104C) that screw-fasten the indoor unit (200), and
   the screw-fastening sections (104A, 104B, 104C) are included at an intermediate portion of the linear section (102) and end portions of the linear section (102) in the left-right direction.

5. The indoor unit apparatus (10) for air conditioners according to any one of claims 1 to 4, **characterized in that** the installation plate (100) includes narrowed portions (105A, 105B, 105C, 105D) at the end portions of the linear section (102) in the left-right direction.

Patentansprüche

1. Innenraumeinheit-Vorrichtung (10) für Klimaanlagen, umfassend:

   eine Installationsplatte (100), die an einer Innenwandfläche befestigt ist; und

   eine Innenraumeinheit (200), die mit der Installationsplatte (100) verbunden ist,
   wobei die Installationsplatte (100) einen linearen Abschnitt (102) umfasst, der auf einer Innenseite vorsteht und sich linear in einer horizontalen Richtung erstreckt, und
   wobei die Innenraumeinheit (200) einen Klemmabschnitt (300), der den linearen Abschnitt (102) in einer vertikalen Richtung festklemmt, einen Einheitenshauptkörperabschnitt (201), der an der Installationsplatte (100) befestigt ist, und einen Einheitenabdeckabschnitt (202) umfasst, der eine Oberfläche des Einheitenhauptkörperabschnitts (201) auf der Innenraumseite abdeckt,
   dadurch gekennzeichnet, dass der Klemmabschnitt (300) einen ersten Klemmabschnitt (301), der an dem Einheitenhauptkörperabschnitt (201) vorgesehen ist, und

   einen zweiten Klemmabschnitt (302), der an dem Einheitenabdeckabschnitt (202) vorgese-

hen ist, umfasst, und

der erste Klemmabschnitt (301) und der zweite Klemmabschnitt (302) einander in vertikaler Richtung gegenüberliegen,
die Inneneinheit (200) einen Klemmzustands-Aufrechterhaltungsabschnitt (400) umfasst, der einen Zustand aufrechterhält, in dem der lineare Abschnitt (102) mit dem ersten Klemmabschnitt (301) und dem zweiten Klemmabschnitt (302) in vertikaler Richtung durch Einführen eines Klauenabschnitts (402), der an dem Einheitsabdeckabschnitt (202) vorgesehen ist, in einen Klauenlochabschnitt (401), der an dem Einheitshauptkörperabschnitt (201) vorgesehen ist.

2. Innenraumeinheit-Vorrichtung (10) für Klimaanlagen gemäß Anspruch 1, **dadurch gekennzeichnet, dass** der lineare Abschnitt (102) zumindest in einem Mittelabschnitt der Installationsplatte (100) in einer Links-Rechts-Richtung vorgesehen ist.

3. Innenraumeinheit-Vorrichtung (10) für Klimaanlagen gemäß Anspruch 2, **dadurch gekennzeichnet, dass** der lineare Abschnitt (102) außerdem auf einer linken Seite und einer rechten Seite des Mittelabschnitts der Installationsplatte (100) in der Links-Rechts-Richtung vorgesehen ist.

4. Innenraumeinheit-Vorrichtung (10) für Klimaanlagen gemäß einem der Ansprüche 1 bis 3,
dadurch gekennzeichnet, dass die Installationsplatte (100) Schraubbefestigungsabschnitte (104A, 104B, 104C) zum Festschrauben Innenraumeinheit (200) umfasst, und
die Schraubbefestigungsabschnitte (104A, 104B, 104C) an einem Zwischenabschnitt des linearen Abschnitts (102) und Endabschnitten des linearen Abschnitts (102) in der Links-Rechts-Richtung vorgesehen sind.

5. Innenraumeinheit-Vorrichtung (10) für Klimaanlagen gemäß einem der Ansprüche 1 bis 4, **dadurch gekennzeichnet, dass** die Installationsplatte (100) verengte Abschnitte (105A, 105B, 105C, 105D) an den Endabschnitten des linearen Abschnitts (102) in der Links-Rechts-Richtung aufweist.

Revendications

1. Appareil d'unité interne (10) pour appareils de conditionnement d'air incluant :

une plaque d'installation (100) qui est fixée sur une surface de paroi interne ; et
une unité interne (200) qui est attachée à la plaque d'installation (100),
dans lequel la plaque d'installation (100) inclut une section linéaire (102) en projection sur un côté interne et s'étendant linéairement dans une direction horizontale, et
dans lequel l'unité interne (200) inclut une section de serrage (300) qui serre la section linéaire (102) dans une direction verticale, une section de corps principal d'unité (201) qui est fixée sur la plaque d'installation (100), et une section de couverture d'unité (202) qui couvre une surface section de corps principal d'unité (201) sur le côté interne,
caractérisé en ce que la section de serrage (300) inclut
une première section de serrage (301) qui est prévue au niveau de la section de corps principal d'unité (201), et
une seconde section de serrage (302) qui est prévue au niveau de la section de couverture d'unité (202), et
la première section de serrage (301) et la seconde section de serrage (302) se font face dans la direction verticale,
l'unité interne (200) comprend une section de maintien d'état serré (400) qui maintient un état dans lequel la section linéaire (102) est serrée avec la première section de serrage (301) et la seconde section de serrage (302) dans la direction verticale, en insérant une portion formant pince (402) prévue sur la section de couverture d'unité (202) dans une portion de trou de pince (401) prévue sur la section de corps principal d'unité (201).

2. Appareil d'unité interne (10) pour appareils de conditionnement d'air selon la revendication 1, **caractérisé en ce que** la section linéaire (102) est incluse au moins au niveau d'une portion centrale de la plaque d'installation (100) dans une direction gauche/droite.

3. Appareil d'unité interne (10) pour appareils de conditionnement d'air selon la revendication 2, **caractérisé en ce que** la section linéaire (102) est en outre incluse sur un côté de gauche et un côté de droite de la plaque d'installation (100) dans la direction gauche/droite.

4. Appareil d'unité interne (10) pour appareils de conditionnement d'air selon l'une quelconque des revendications 1 à 3,

caractérisé en ce que la plaque d'installation (100) inclut des sections de fixation par vissage (104A, 104B, 104C) qui fixent par vissage l'unité interne (200), et
les sections de fixation par vissage (104A, 104B,

104C) sont incluses au niveau d'une portion intermédiaire de la section linéaire (102) et de portions d'extrémité de la section linéaire (102) dans la direction gauche/droite.

5. Appareil d'unité interne (10) pour appareils de conditionnement d'air selon l'une quelconque des revendications 1 à 4, **caractérisé en ce que** la plaque d'installation (100) inclut des portions rétrécies (105A 105B, 105C, 105D) au niveau des portions d'extrémité de la section linéaire (102) dans la direction gauche/droite.

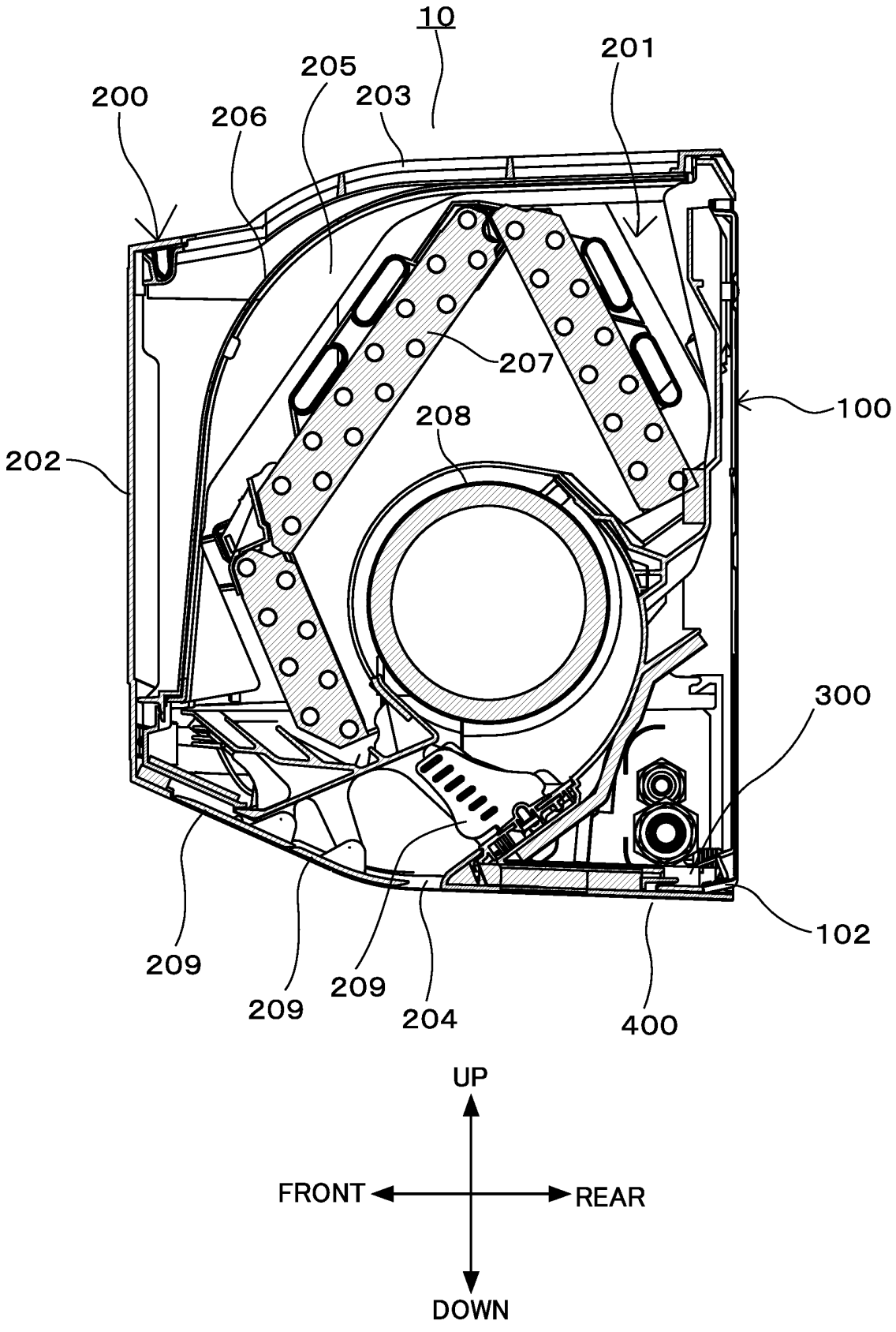
10
200
206
205
203
201
207
208
100
202
300
102
209
209
209
204
400
UP
FRONT
REAR
DOWN

Fig.1

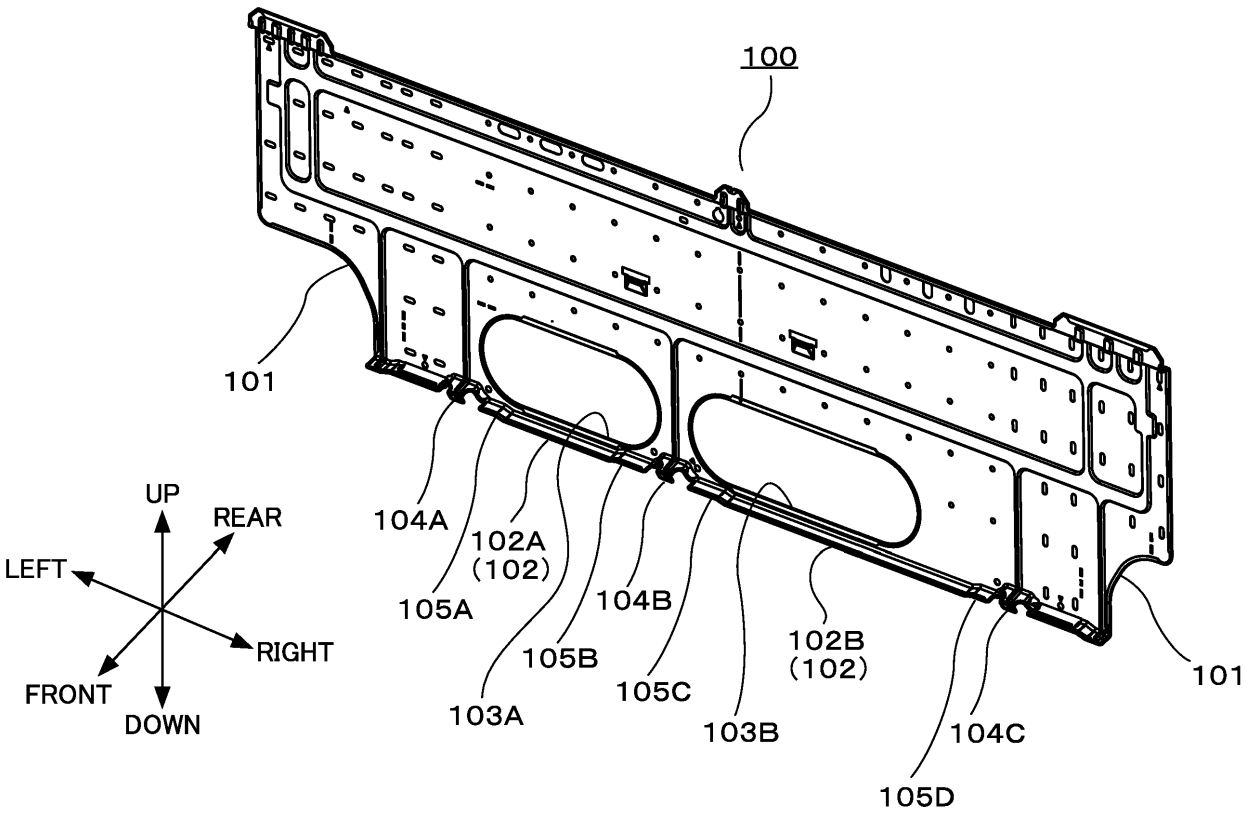
100
101
UP
REAR
LEFT
RIGHT
FRONT
DOWN
104A
102A
(102)
105A
104B
105B
105C
103A
103B
102B
(102)
104C
105D
101

Fig.2

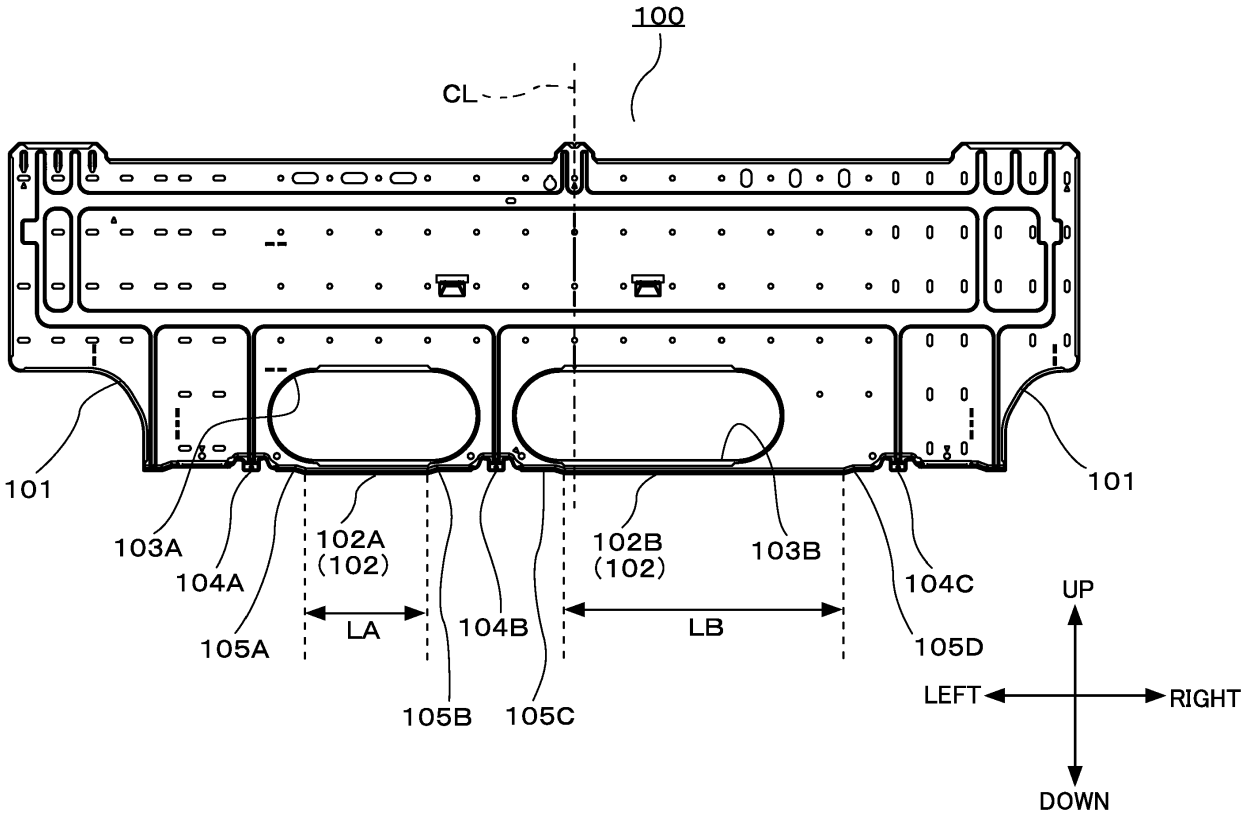
100
CL
101
101
103A
104A
105A
102A
(102)
LA
104B
105B
105C
102B
(102)
LB
103B
104C
105D
UP
LEFT
RIGHT
DOWN

Fig.3

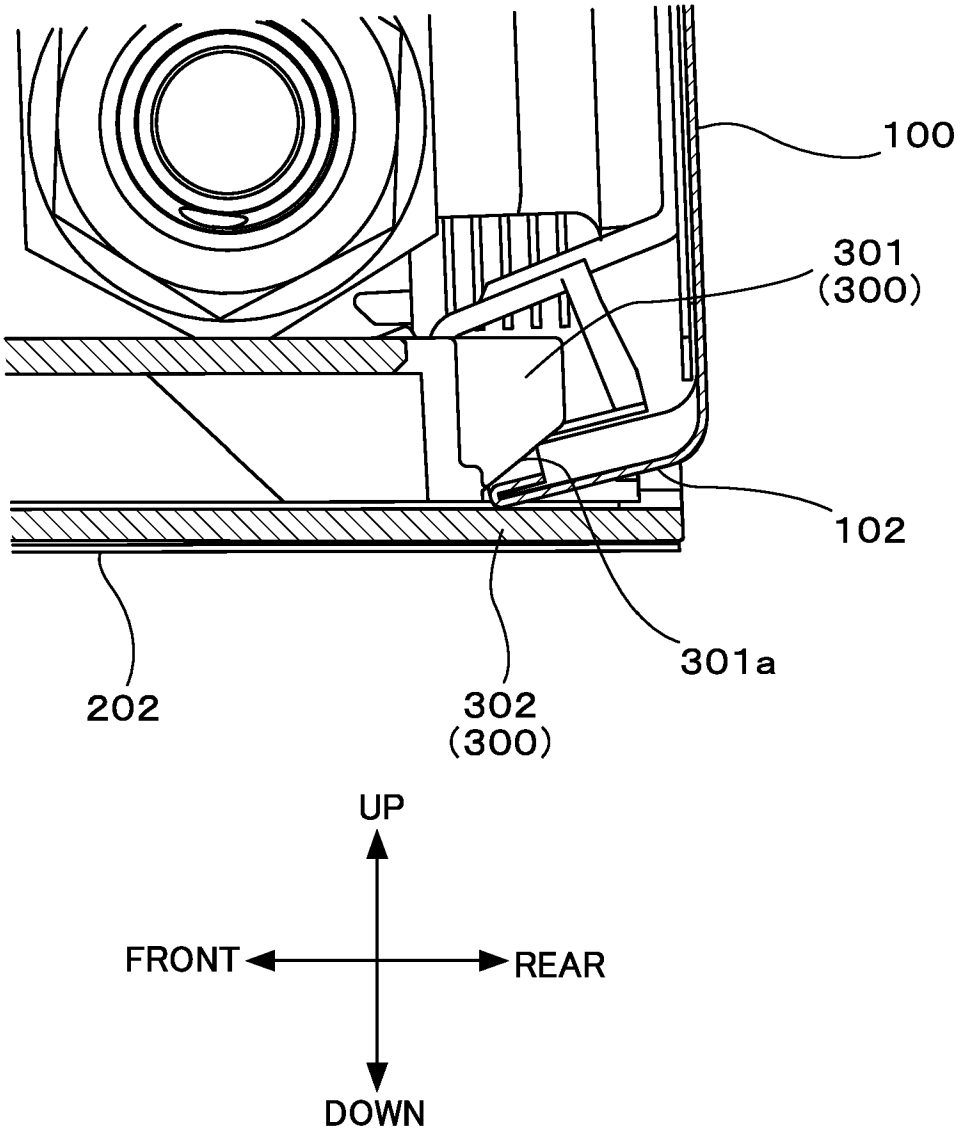

Fig.4

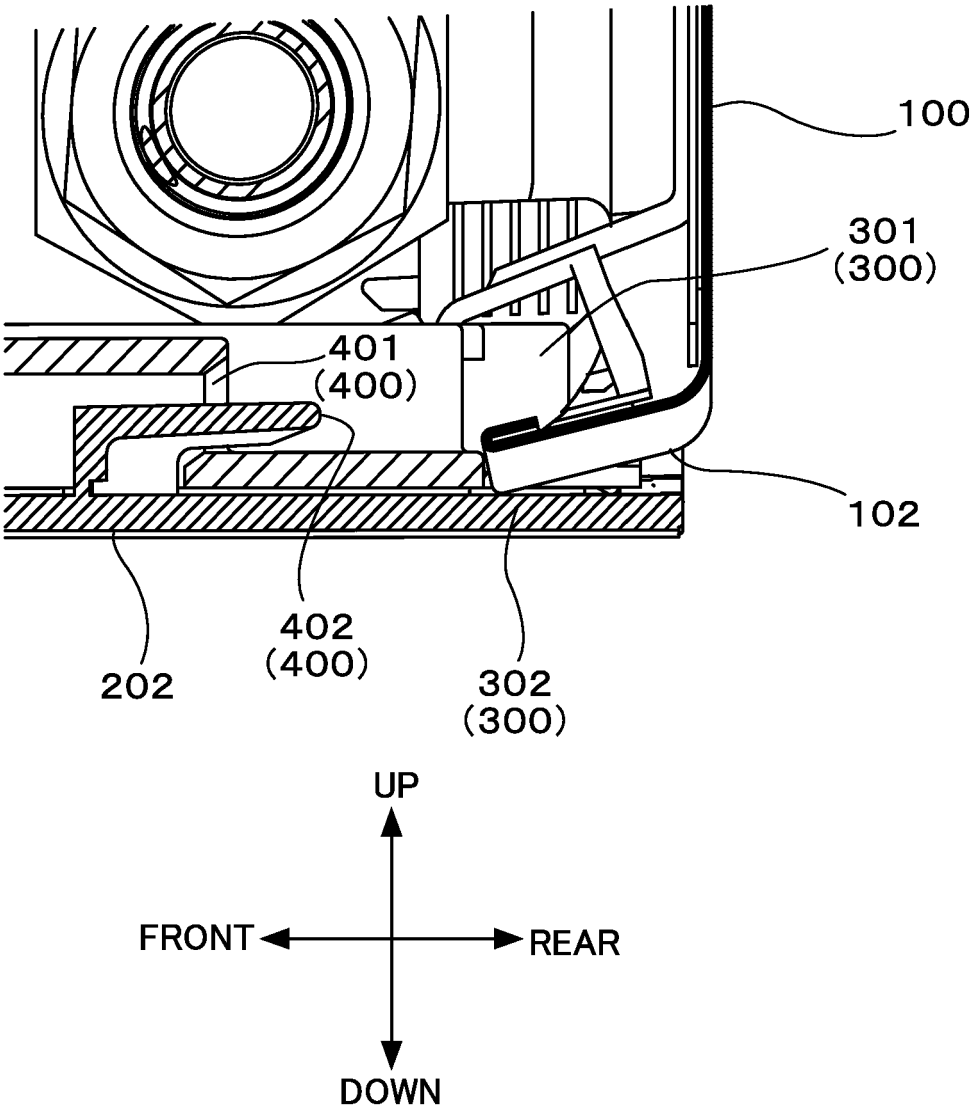

Fig.5

REFERENCES CITED IN THE DESCRIPTION

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Patent documents cited in the description

- JP 5312349 A **[0003]**
- JP H0221713 Y **[0003]**
- JP H05312349 A **[0003]**