(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization
International Bureau

(43) International Publication Date
27 December 2002 (27.12.2002)

PCT

(10) International Publication Number
WO 02/103250 A2

(51) International Patent Classification[7]: F24F

(21) International Application Number: PCT/KR02/01150

(22) International Filing Date: 18 June 2002 (18.06.2002)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
2001/34839 19 June 2001 (19.06.2001) KR
2001/34840 19 June 2001 (19.06.2001) KR

(71) Applicant *(for all designated States except US)*: **LG ELECTRONICS INC.** [KR/KR]; 20, Yoido-dong, Youngdungpo-gu, Seoul 150-721 (KR).

(72) Inventors; and

(75) Inventors/Applicants *(for US only)*: **LEE, Kam-Gyu** [KR/KR]; 210-604 LG Apt., Kaegum 3-dong, Pusan-jin-gu, Busankwangyeok-shi 614-113 (KR). **OCK, Ju-Ho** [KR/KR]; 155-14 Hapsong 2-dong, Hoewon-gu, Masan-shi, Kyongsangnam-do 630-522 (KR). **HWANG, Sung-Jin** [KR/KR]; 63-5 Sapa-dong, Changwon-shi, Kyongsangnam-do 641-550 (KR).

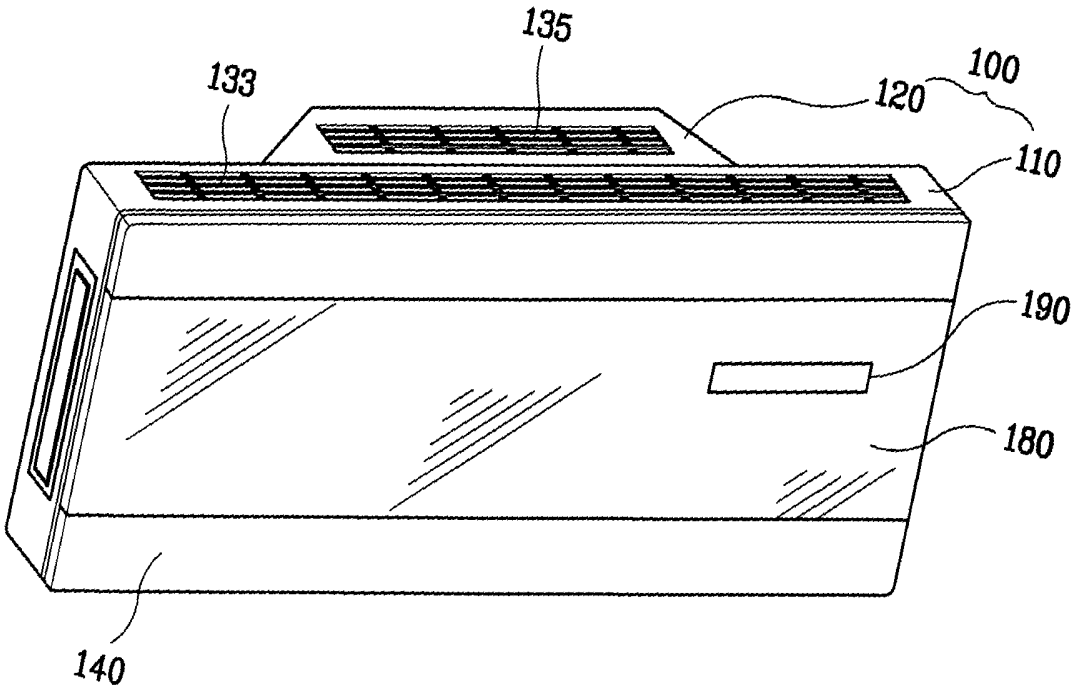
(74) Agents: **BAHNG, Hae-Cheol** et al.; Kims International Patent & Law Office, 15th Floor Yo Sam Building, 648-23 Yeoksam-dong, Kangnam-gu, 135-080 Seoul (KR).

(81) Designated States *(national)*: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZM, ZW.

(84) Designated States *(regional)*: ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

[Continued on next page]

(54) Title: AIR CONDITIONER



(57) Abstract: Air conditioner including a main chassis (100) which forms an outer shape, a heat exchanger (150) in the main chassis (100), for heat exchange of room air with a working fluid, a blower (160) in the main chassis (100) for forced circulation of room air toward the heat exchanger (150); and discharge means in the main chassis (100) movable into/out of the main chassis (100) for discharge of air into a room.

WO 02/103250 A2

Published:
— *without international search report and to be republished upon receipt of that report*

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

AIR CONDITIONER

Technical Field

The present invention relates to an air conditioner, and more particularly, to an indoor unit of an air conditioner.

Background Art

In general, the air conditioner circulates cooled, or heated air in a room for comfortable conditioning of a room air. In the air conditioners, there are an integrated type in which components of a cooling cycle are integrated in one unit, and a separated type in which components of a cooling cycle are assembled into two units. In the separated type air conditioner, there are a wall mounting type in which the indoor unit is mounted on a wall, a floor mounting type in which the indoor unit is installed on a floor, and a ceiling type in which the indoor unit is hung from a ceiling, or install on the ceiling.

Of the separated type air conditioner, the present invention relates to the indoor unit of the wall mounting type air conditioner. FIGS. 1 and 2 illustrate perspective view and section of indoor units of wall mounting type air conditioners, respectively.

Referring to FIG. 1, the related art indoor unit of a wall mounting type air conditioner is provided with a main chassis 1 forming an outer shape, and mounted on a wall of a room, a front panel 3 fitted to a front face of the main chassis 1, a suction grill 5a in the front panel 3, a discharge grill 7 fitted to a bottom of the front panel 3. There is a display part 9 between the suction grill 5a and the discharge grill 7 for displaying the present operation state or inducting user's operation.

In the meantime, there is a separate suction grill 5b in a top face of the main chassis 1 for drawing room air.

Referring to FIG. 2, there is a heat exchanger 11 in rear of the front panel 3 for heat exchange of room air, and there is a blower 13 in rear of the heat exchanger 11 for forced circulation of room air. There are vane 17 and louver 15 in rear of the discharge grill 7 for regulating discharge direction of the heat exchanged air. The vane 17 regulates a discharge direction of the heat exchanged air in up and down directions, and the louver 15 regulates a discharge direction of the heat exchanged air in left and right directions.

The operation of the indoor unit will be explained, briefly.

The room air is drawn into the main chassis 1 through the suction grill 5a, and 5b as the blower 13 is driven. Then, the room air is involved in heat exchange as the room air passes through the heat exchanger 11, and discharged through the discharge grill 7. The room air is discharged to a user's desired direction by operating the vane 17 and louver 15.

However, the related art indoor unit of the wall mounting type air conditioner has the following problems.

First, the forward round bulge of the main chassis 1 and the front panel 3 have substantially great depth of the related art indoor unit, to occupy much room space and fail to provide a good look on the whole.

Second, positions of the suction grill 5a and the discharge grill 7 cause the air drawn into the indoor unit and the air discharged from the indoor unit to interfere each other. That is, the positions both of the suction grill 5a and the discharge grill 7 in front part of the main chassis 1 cause frequent cases in which the air drawn

for heat exchange and the heat exchanged air are mixed together. In this case, the heat exchanged air is drawn into the heat exchanger 11 through the suction grill 5a directly without being circulated through the room, leading the heat exchange efficiency poor.

Third, since the suction grills 5a and 5b are opened always, foreign matters, such as dusts, enter into inside of the indoor unit through the suction grill.

Fourth, there has been a blind area right under the main chassis 1 caused by a structure of the discharge grill 7, to which no heat exchanged air is supplied properly. Of course, though the discharge direction of the heat exchanged air can be regulated by using the vane 17 or the louver 15, the direct supply of the heat exchanged air right under the main chassis 1 has been impossible.

Disclosure of Invention

An object of the present invention, designed for solving the foregoing problems, lies on providing an air conditioner having a more slim outer shape.

Another object of the present invention is to provide an air conditioner, in which air before and after heat exchange does not interfere.

Further object of the present invention is to provide an indoor unit of an air conditioner, which can prevent entrance of foreign matters.

Still further object of the present invention is to provide an air conditioner, which can distribute heat exchanged air to a room uniformly.

To achieve the objects of the present invention, there is provided an air conditioner including a main chassis which forms an outer shape, a heat exchanger in the main chassis, for heat exchange of room air with a

working fluid, a blower in the main chassis for forced circulation of room air toward the heat exchanger, and discharge means in the main chassis movable into/out of the main chassis for discharge of air into a room.

The discharge means includes a discharge housing fitted to be movable in up and down directions along the discharge part in the main chassis, so that a part thereof can be drawn outside of the main chassis through the discharge part in stages, an inlet in the discharge housing for entrance of the heat exchanged air into the discharge housing, and an outlet in the discharge housing formed in a part to be drawn outside of the main chassis when the discharge housing moves down.

Alternatively, the discharge means may includes a discharge housing fitted rotatable in the vicinity of a discharge part in the main chassis, having a part drawable outside of the main chassis through the discharge part depending on a rotation direction, an inlet in the discharge housing, and an outlet to be drawn to outside of the main chassis when the discharge housing is rotated.

The discharge means further includes a vane fitted to an inside of the discharge housing for regulating a discharge direction of the room air in up and down directions, and a louver fitted to an inside of the discharge housing for regulating the discharge direction of the room air in left and right directions.

The discharge means further includes driving means for automatic moving up and down of the discharge housing. The driving means includes a motor for generating rotating force upon reception of power, a pinion coupled to a driving shaft of the motor, and a rack fitted in up and down directions to a rear wall of the discharge housing. Alternatively, the driving means is a motor having a

driving shaft connected to a rotating shaft of the discharge housing.

In the meantime, the present invention provides a main chassis including a front part having a suction part in a front surface and a discharge part in a bottom surface, and a rear part in communication with the front part to be mounted on a wall of a room. The front part has a width greater than the same of the rear part.

The air conditioner further includes a cover panel fitted to a front surface of the main chassis for selective opening of the suction part. The cover panel rotates around a rotation center between the inlet and the outlet.

According to the present invention, since the main chassis is divided into a front part and the rear part, and the discharge housing is inserted in the main chassis, a depth of the indoor unit can be reduced, substantially. Particularly, in a case the rear part can be placed in a recess of a wall, a space occupied by the indoor unit can be reduced, substantially. Along with this, the rectangular front part provides an elegant look.

According to the present invention, the cover panel provided between the suction part and the discharge part prevents interference between air before and after the heat exchange. Along with this, the selective opening of the suction part by the cover panel permits to minimize entrance of foreign matter.

According to the present invention, the discharge housing made drawable from the main chassis permits more unrestricted regulation of a discharge direction of the heat exchanged air, thereby minimizing the blind zone occurred right under the related art indoor unit.

Brief Description of Drawings

The accompanying drawings, which are included to provide a further understanding of the invention, illustrate embodiments of the invention and together with the description serve to explain the principles of the invention:

In the drawings:

FIG. 1 illustrates a perspective view of a related art indoor unit of an air conditioner;

FIG. 2 illustrates a section of the indoor unit in FIG. 1;

FIG. 3 illustrates a perspective view of an indoor unit of an air conditioner in accordance with a preferred embodiment of the present invention;

FIG. 4 illustrates a section of an indoor unit in accordance with a first preferred embodiment of the present invention;

FIG. 5 illustrates a perspective view of the indoor unit in FIG. 4, with opened discharge part and suction part;

FIG. 6 illustrates a section of an indoor unit in accordance with a second preferred embodiment of the present invention; and

FIG. 7 illustrates a perspective view of the indoor unit in FIG. 6, with opened discharge part and suction part.

Best Mode for Carrying Out the Invention

Reference will now be made in detail to the preferred embodiments of the present invention, examples of which are illustrated in the accompanying drawings. An indoor unit of an air conditioner in accordance with a first preferred embodiment of the present invention will be

explained, with reference to FIGS. 3 and 4. FIG. 3 illustrates a perspective view of an indoor unit of an air conditioner in accordance with a preferred embodiment of the present invention, and FIG. 4 illustrates a section of an indoor unit in accordance with a first preferred embodiment of the present invention.

Referring to FIGS. 3 and 4, the indoor unit in accordance with a preferred embodiment of the present invention includes a main chassis 100 forming an outer shape having a suction part 111 and discharge part 115, a heat exchanger 150 in the main chassis 100, for heat exchange of the room air drawn through the suction part 111 with a working fluid, a blower 160 in the main chassis 100 for forced circulation of the room air through the suction part 111 and the discharge part 115, and discharge means movable into/out of the main chassis 100 for making selective opening of the discharge part.

The main chassis 100 has a front part 110 and a rear part 120 to be fitted to a wall of a room. The front part 110 and the rear part 120 are in communication, and the heat exchanger 150 and the blower 160 are provided through a space between the two.

The front part 110, a rectangular shape with a height greater than a depth, has the suction part 111 in a front part, and the discharge part 115 in a bottom part. There is a front panel 140 in an upper part and a lower part of front part of the front part 110 excluding the suction part 111 for closing the inside space. The front panel 140 may be formed to close the front surface of the front part 110, while the suction part 110 is formed in the front panel 140.

The rear part 120 projected from a rear surface of the front part 110 has a height and a width smaller than

the same of the front part 110. Therefore, when the rear part 120 is mounted on a wall of a room, the front part 110 will be seen to the users mostly, such that the user sees the slim outer shape of the indoor unit. Particularly, if the wall has a recess in conformity with the rear part 120, a space occupied by the indoor unit can be reduced substantially because only the front part 110 is projected from the wall.

The front part 110 and the rear part 120 may be members separable from each other, or a unit member.

In the meantime, there may be additional suction parts 113, and 121 in top surfaces of the front part 110 and the rear part 120. In this instance, the heat exchanger 150 may be bent appropriately for the room air drawn through the front suction part 111, the top suction part 113, and the rear suction part 121. For smooth guidance of suction air flow, there may be suction grills 131, 133, and 135 fitted to the suction parts 111, 113, and 121.

There is a cover panel 180 in the front surface of the front part 110 for selective opening/closing of the front suction part 111. The cover panel 180, not only provides an elegant look, but also prevents entrance of foreign matter through the front suction part 111, and serves for preventing interference between the suction and discharge air. For this, the cover panel 180, formed of a flat member which can cover entire front suction part 111, has a lower end rotatably fitted to the main chassis 110, such that the cover panel 180 rotates around the lower end 181, to open and close the front suction part 111. In this instance, the cover panel 180 separates the front suction part 111 from the discharge part 115, and prevents the interference between the suction air and the discharge air.

Of course, the cover panel 180 opens the front suction part 111 only when the air conditioner is in operation. Though, the cover panel 180 may be operative manually, it is preferable that the cover panel 180 is operative automatically by means of a driving source, such as a motor.

There is a display part 190 on the cover panel 180 for displaying an operation state of the air conditioner. In general, considering that the indoor unit is mounted on the wall, the user looks the display part 190 more conveniently if the cover panel 180 is tilted to face down.

In the meantime, the discharge means moves up and down through the bottom surface of the front part 110 for opening/closing the discharge part 115, selectively. To do this, there is a discharge housing 200 in the front part 110 for moving up and down along the discharge part 115. The discharge housing 200 has a part drawn outside of the front part 110 through the discharge part 115 depending on an extent of moving down of the discharge housing 200. The discharge housing 200 has an inlet 201 for entrance of the heat exchanged air, and outlet 203 in communication with the room.

The discharge housing 200, a rectangular shape with a width greater than a depth, has the inlet 201 in a top part, and the outlet 203 in a lower part of a front part. Therefore, if the discharge housing 200 moves up into the main chassis 100 completely, the outlet 115 is closed by the discharge housing 200, and if the discharge housing moves down to some extent, to draw the outlet 203 to an outside of the main chassis 100, the outlet 115 is opened.

It is preferable that a member for regulating an air discharge direction is provided in the discharge housing 200. To do this, there are a vane 207 for regulating the

air discharge direction in up and down directions, and a louver 209 for regulating the air discharge direction in left and right directions in the discharge housing 200. It is preferable that there is a suction grill 205 in the inlet 201 for smooth guidance of the air flow.

In the meantime, though the discharge housing 200 may be designed to move up and down by the user, it is preferable that the discharge housing 200 moves up and down automatically depending on operation of the air conditioner. For this, there is driving means for moving up and down the discharge housing, automatically.

The driving means includes a motor 211 for generating rotating force upon reception of power, a pinion 213 coupled to a driving shaft of the motor 211, and a rack 215 fitted in up and down directions to a rear wall of the discharge housing 200. Though it is shown that the driving means is fitted to rear of the discharge housing 200, it is preferable that the driving means is fitted to a side of the discharge housing 200.

In order to prevent the discharge housing 200 from being separated from the main chassis 100 completely, there is a stopper 220 on a front wall of the discharge housing 200. When the discharge housing 200 moves down to some extent, the stopper 220 is caught at a lower part of the main chassis 100, in which state the discharge housing 200 can move down, no more.

The unexplained reference symbol 170 denotes a flow guide for guiding smooth flow of air in the main chassis 100.

The operation of the indoor unit in accordance with a first preferred embodiment of the present invention will be explained.

Upon putting the air conditioner into operation, the

cover panel 180 rotates around the lower end 181. On the same time with this, as power is provided to the motor 211, the discharge housing 200 moves down by interaction of the pinion 213 and the rack 215 as shown in FIG. 5. Eventually, the front suction part 111 is opened by the rotation of the cover panel 180, and the discharge part 115 is opened by the moving down of the discharge housing 200. That is, an inside space of the main chassis 100 is made to communicate with the room through the inlet 201 and the outlet 203.

Next, when power is provided to the blower 160, the room air is drawn toward the heat exchanger 150 side through the front suction part 111, the top suction part 113, and the rear suction part 121 by the blowing force of the blower 160. Then, the room air passes the heat exchanger 150 and makes heat exchange with a working fluid, and, in continuation, flows to the discharge housing 200 through the inlet 201.

Then, the heat exchanged air is discharged into the room through the outlet 203 guided by the vane 207 and the louver 209. Since the discharge housing 200 is drawn down from the main chassis 100, the heat exchanged air can be discharged more uniformly than in the related art. In this instance, the blind area right under the related art indoor unit can be minimized.

Next, an indoor unit of an air conditioner in accordance with a second preferred embodiment of the present invention will be explained, with reference to FIG. 6. FIG. 6 illustrates a section of an indoor unit in accordance with a second preferred embodiment of the present invention.

Referring to FIG. 6, the indoor unit of an air conditioner in accordance with a second preferred

embodiment of the present invention is identical to one in FIG. 4 except discharge means. Therefore, explanation of the parts excluding the discharge means will be omitted.

The discharge means selectively opens/closes the discharge part 115 as the discharge means rotates in a bottom of the front part 110. For this, there is a discharge housing 300 in the bottom of the front part 110 rotatably fitted so as to be drawable to an outside of the main chassis 100 through the discharge part 115 having a rotation center in the vicinity of the discharge part 115. The discharge housing 300 has an inlet 301 for entrance of the heat exchanged air, and an outlet in communication with the room.

The discharge housing 300 has a fan shaped section, and includes the inlet 301 in a top surface, and the outlet 303 in a lower circumference. There is a rotation shaft 310 of the discharge housing 300 close to an apex. When the discharge housing 300 rotates in a clockwise direction around the rotation shaft 310 until the discharge housing 300 is in the main chassis 100 completely, the discharge part 115 is closed by the discharge housing 300. Opposite to this, when the discharge housing 300 rotates in a counter clockwise direction until the discharge housing 300 is drawn outside of the outlet 303, the discharge part 115 is opened. That is, the inside space of the main chassis 100 made to be in communication with the room through the inlet 301 and the outlet 303.

In the discharge housing 300, there are a vane 307 for regulating up and down direction discharge of the heat exchanged air, and a louver 309 for left and right direction discharge of the heat exchanged air. There is an inlet grill 305 in the inlet 301 for smooth air flow.

There is a stopper 320 on an upper circumference of the discharge housing 300 for limiting a rotation angle of the discharge housing 300. Therefore, when the discharge housing 300 is rotated to some extent, the stopper 320 is caught at a bottom surface of the main chassis 100, in which state the discharge housing 300 can rotate no more.

Meanwhile, it is also preferable that the discharge housing 300 is rotated automatically according to operation of the air conditioner. For this, there is driving means for automatic rotation of the discharge housing 300 fitted to the front part.

The driving means is a motor 311 directly coupled to the rotating shaft 310 of the discharge housing 300 for generating a rotating force upon reception of power.

With regard to the foregoing indoor unit, when operation is started, the cover panel 180 rotates around the lower end 181, and, on the same time with this, power is provided to the motor 311, to rotate the discharge housing 300, as shown in FIG. 7. According to this, the front suction part 111 is opened by rotation of the cover panel 180, and the discharge part 115 is opened by the rotation of the discharge housing 300.

Operation after this is identical to the first embodiment of the present invention, and explanation of which will be omitted.

In summary, according to the present invention, since the main chassis 100 is divided into a front part 110 and the rear part 120, and the discharge housing 200 or 300 is inserted in the main chassis 100, a depth of the indoor unit can be reduced, substantially. Particularly, in a case the rear part 120 can be placed in a recess of a wall, a space occupied by the indoor unit can be reduced, substantially. Along with this, the rectangular front part

110 provides an elegant look.

According to the present invention, the cover panel 180 provided between the suction part 111 and the discharge part 115 prevents interference between air before and after the heat exchange. Along with this, the selective opening of the suction part 111 by the cover panel 180 permits to minimize entrance of foreign matter.

According to the present invention, the discharge housing 200, or 300 made drawable from the main chassis 100 permits more unrestricted regulation of a discharge direction of the heat exchanged air, thereby minimizing the blind zone occurred right under the related art indoor unit.

It will be apparent to those skilled in the art that various modifications and variations can be made in the air conditioner of the present invention without departing from the spirit or scope of the invention. Thus, it is intended that the present invention cover the modifications and variations of this invention provided they come within the scope of the appended claims and their equivalents.

Industrial Applicability

The present invention provides an air conditioner which has an elegant look, and does not occupy much room space.

The present invention provides an air conditioner which can prevent interference between air before and after the heat exchange, thereby improving a heat exchange efficiency.

The present invention provides an air conditioner which can minimize entrance of various foreign matters in the room into the air conditioner.

Finally, the present invention provides an air conditioner which permits more unrestricted regulation of a discharge direction of the heat exchanged air, thereby minimizing a blind area.

5

CLAIMS

1. An air conditioner comprising:

a main chassis which forms an outer shape;

a heat exchanger in the main chassis, for heat exchange of room air with a working fluid;

a blower in the main chassis for forced circulation of room air toward the heat exchanger; and

discharge means in the main chassis movable into/out of the main chassis for discharge of air into a room.

2. An air conditioner comprising:

a main chassis which forms an outer shape;

a heat exchanger in the main chassis, for heat exchange of room air with a working fluid;

a blower in the main chassis for forced circulation of the room air toward the heat exchanger; and

discharge means in the main chassis movable into/out of the main chassis in up and down direction along a discharge part in the main chassis for selective opening of the discharge part.

3. An air conditioner as claimed in claim 1 or 2, wherein the discharge means includes a discharge housing fitted to be movable in up and down directions along the discharge part in the main chassis, so that a part thereof can be drawn outside of the main chassis through the discharge part in stages.

4. An air conditioner as claimed in claim 3, wherein the discharge means further includes;

an inlet in the discharge housing for entrance of the heat exchanged air into the discharge housing, and

an outlet in the discharge housing formed in a part

to be drawn outside of the main chassis when the discharge housing moves down.

5. An air conditioner as claimed in claim 4, wherein the discharge housing is rectangular.

6. An air conditioner as claimed in claim 5, wherein the outlet is formed in a front surface of the discharge housing.

7. An air conditioner as claimed in claim 5, wherein the discharge means further includes a stopper fitted to a side wall of the discharge housing for being caught at the main chassis when the discharge housing moves down to prevention the discharge housing from being fallen off the main chassis.

8. An air conditioner as claimed in claim 4, wherein the discharge means further includes an inlet grill fitted to the inlet side.

9. An air conditioner as claimed in claim 3, wherein the discharge means further includes;

a vane fitted to an inside of the discharge housing for regulating a discharge direction of the room air in up and down directions, and

a louver fitted to an inside of the discharge housing for regulating the discharge direction of the room air in left and right directions.

10. An air conditioner as claimed in claim 3, wherein the discharge means further includes driving means for automatic moving up and down of the discharge housing.

11. An air conditioner as claimed in claim 10, wherein the driving means includes;

a motor for generating rotating force upon reception of power,

a pinion coupled to a driving shaft of the motor, and

a rack fitted in up and down directions to a rear wall of the discharge housing.

12. An air conditioner comprising:

a main chassis which forms an outer shape;

a heat exchanger in the main chassis, for heat exchange of room air with a working fluid;

a blower in the main chassis for forced circulation of the room air toward the heat exchanger; and

discharge means in the main chassis rotatably fitted in the vicinity of a discharge part formed in the main chassis for selective opening of the discharge part.

13. An air conditioner as claimed in claim 1, or 12, wherein the discharge means includes a discharge housing rotatable around a rotating shaft in the vicinity of the discharge part in the main chassis having a part drawable to an outside of the main chassis through the discharge part depending on a direction of the rotation.

14. An air conditioner as claimed in claim 13, wherein the discharge means includes;

an inlet in the discharge housing for entrance of the heat exchanged air into the discharge housing, and

an outlet in the discharge housing formed in a part of the discharge housing drawn to outside of the main chassis when the discharge housing is rotated.

15. An air conditioner as claimed in claim 14, wherein the discharge housing has a fan shaped section.

16. An air conditioner as claimed in claim 15, wherein the outlet is formed in a circumference of the discharge housing.

17. An air conditioner as claimed in claim 15, wherein the discharge means further includes a stopper fitted to a circumference of the discharge housing for being caught at the main chassis to limit a rotation angle of the discharge housing when the discharge housing is rotated.

18. An air conditioner as claimed in claim 14, wherein the discharge means further includes an inlet grill fitted to the inlet.

19. An air conditioner as claimed in claim 13, wherein the discharge means further includes;

a vane fitted to an inside of the discharge housing for regulating a discharge direction of the room air in up and down directions, and

a louver fitted to an inside of the discharge housing for regulating a discharge direction of the room air in left and right directions.

20. An air conditioner as claimed in claim 13, wherein the discharge means further includes driving means for automatic rotation of the discharge housing.

21. An air conditioner as claimed in claim 20, wherein the driving means is a motor connected to the rotation shaft

of the discharge housing.

22. An air conditioner comprising:

a main chassis having a front part, and a rear part in communication with the front part to be mounted on a wall;

a heat exchanger in the main chassis, for heat exchange of room air with a working fluid;

a blower in the main chassis for forced circulation of the room air toward the heat exchanger; and

discharge means in the main chassis movable into/out of the main chassis for discharging air into a room.

23. An air conditioner as claimed in claim 22, wherein the front part is rectangular having a width greater than the same of the rear part.

24. An air conditioner as claimed in claim 22, wherein the front part and the rear part are formed as one unit.

25. An air conditioner as claimed in claim 22, wherein the front part includes;

a suction part formed in a front surface thereof, and

a discharge part formed in a bottom surface thereof.

26. An air conditioner as claimed in claim 22, wherein the suction part is also formed in a top surface of the front part, and a top surface of the rear part.

27. An air conditioner as claimed in claim 25, further comprising a cover panel fitted to a front surface of the main chassis for selective opening of the suction part.

28. An air conditioner as claimed in claim 27, wherein the cover panel rotates around one end.

29. An air conditioner as claimed in claim 27, wherein the cover panel rotates around a lower end for preventing interference of air flows between the suction part and the discharge part.

30. An air conditioner as claimed in claim 27, further comprising a display part fitted to the cover panel for displaying operation state of the air conditioner.

FIG.1

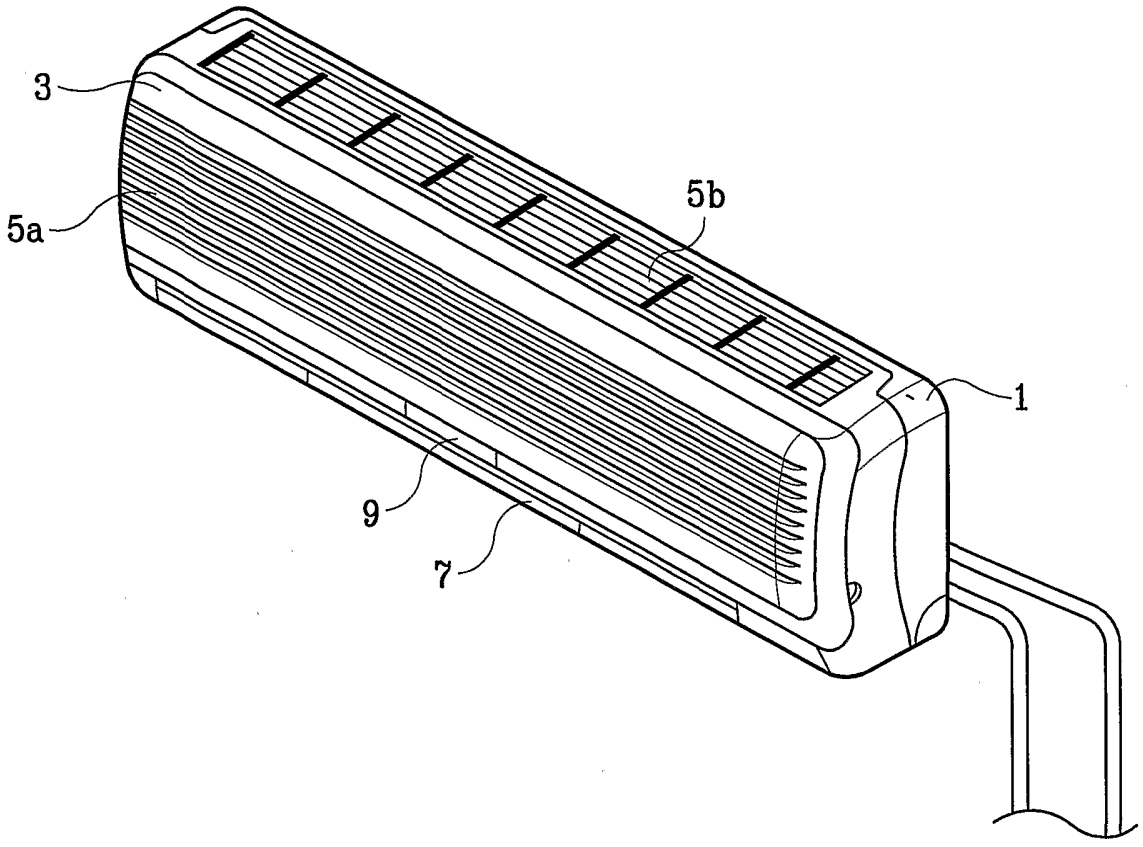


FIG.2

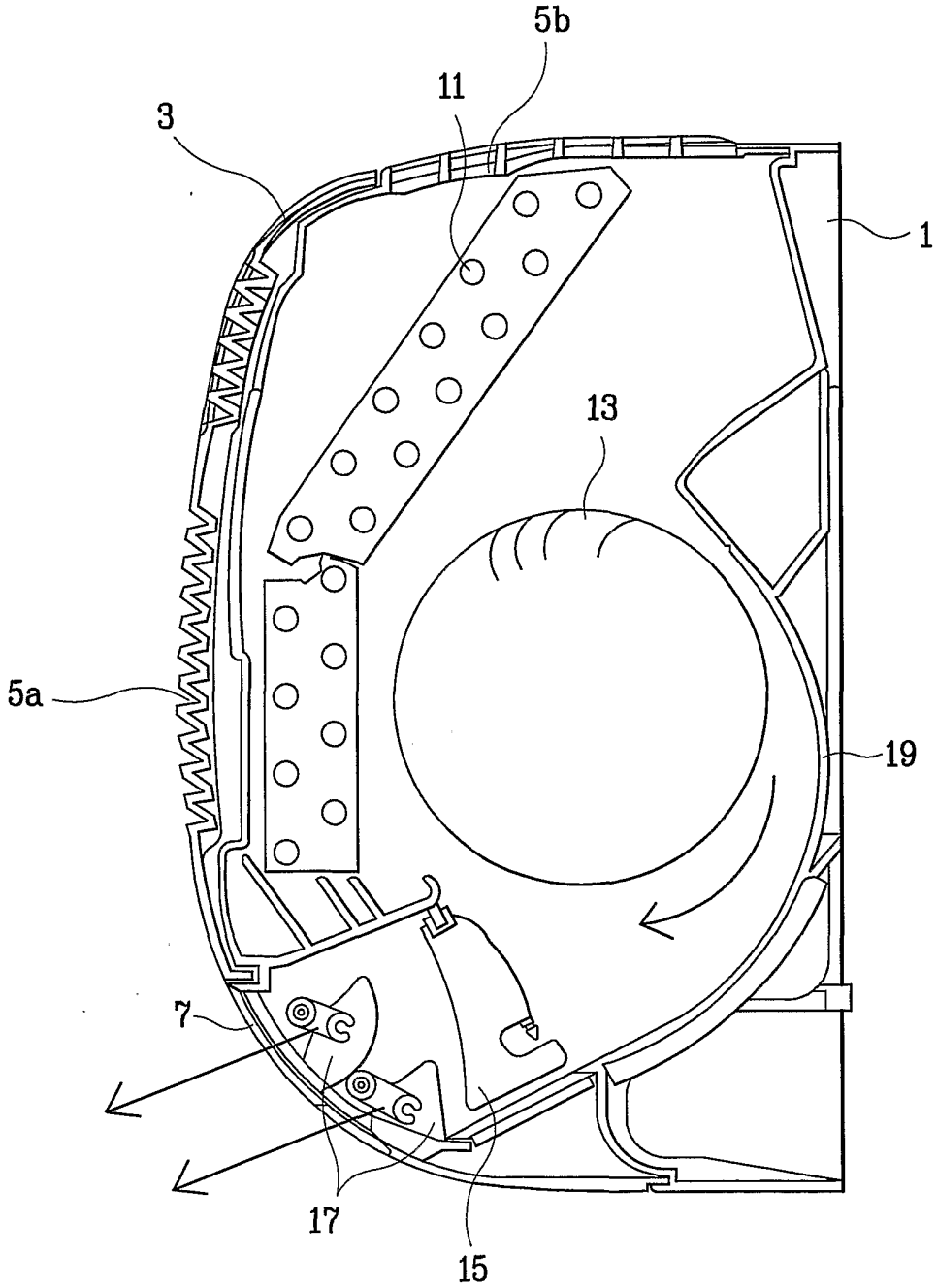


FIG.3

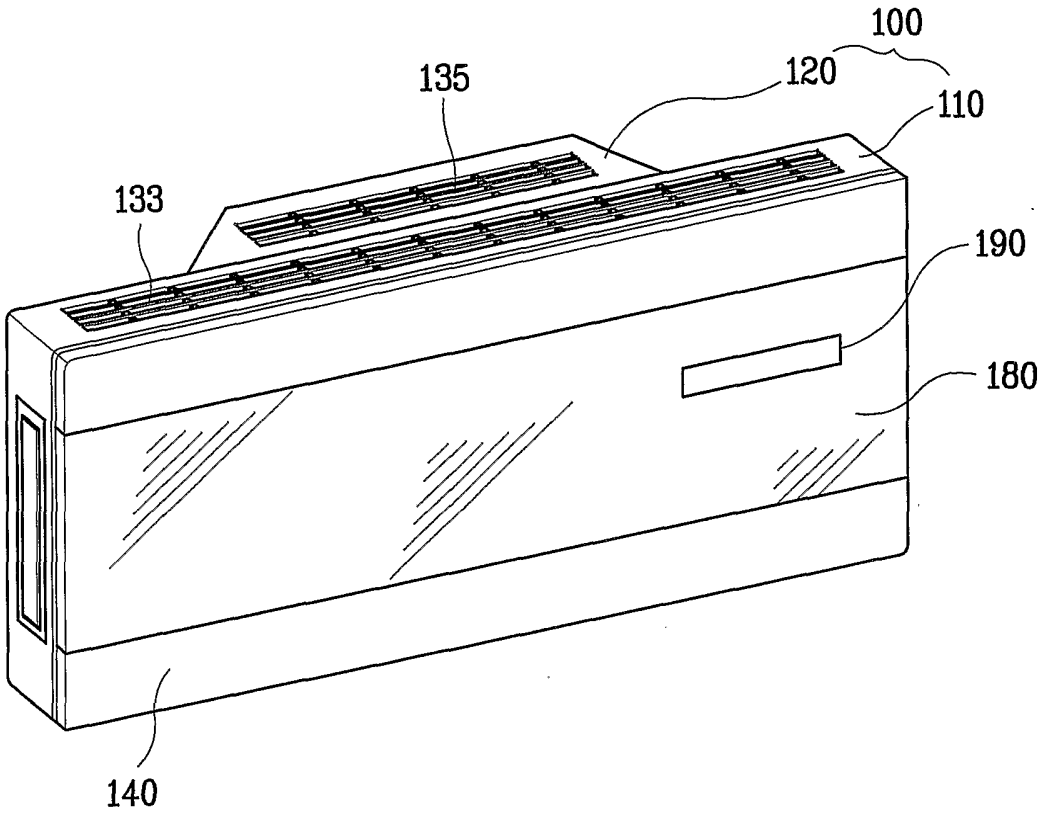


FIG. 4

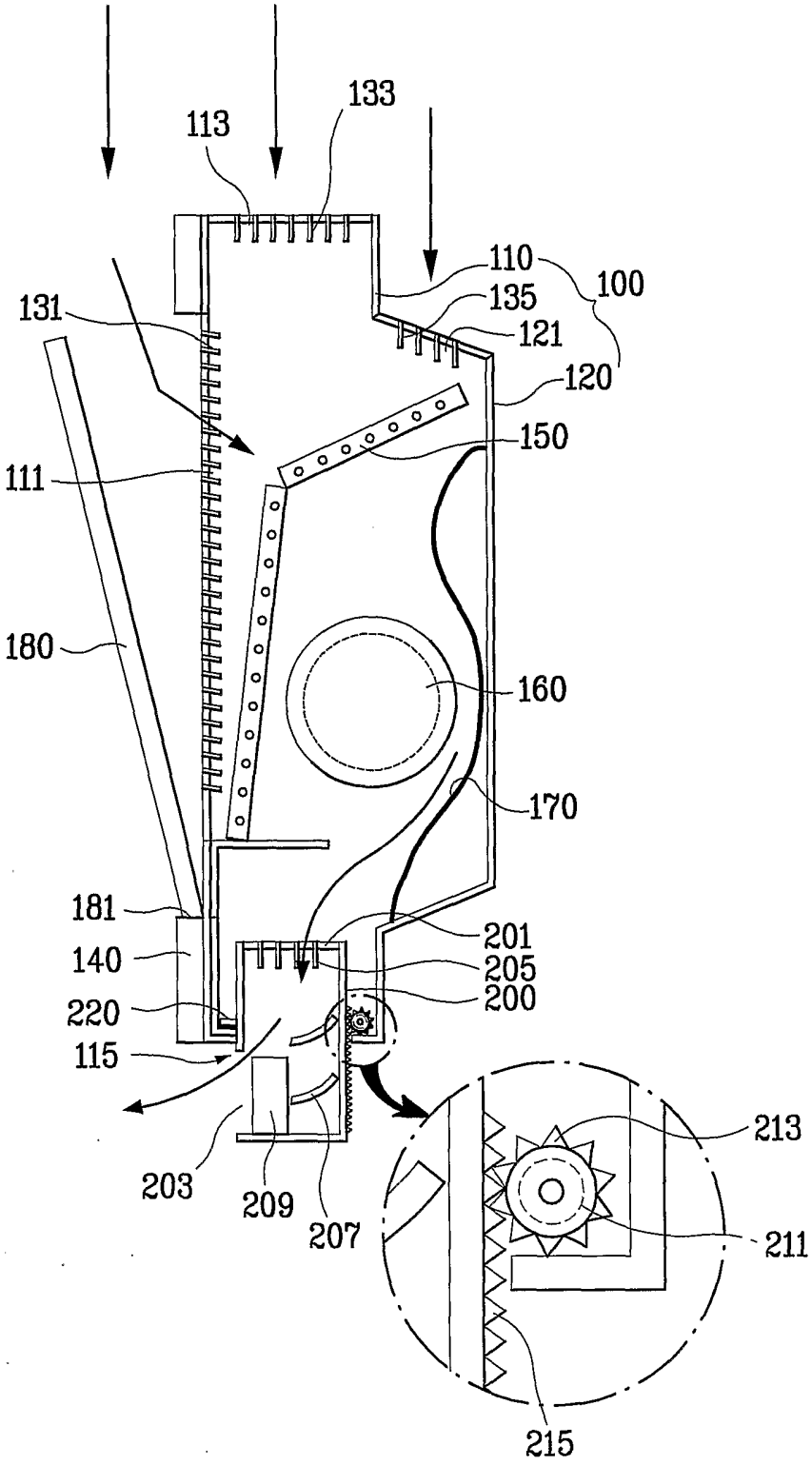

113
133
110
100
135
131
121
120
150
111
180
160
170
181
201
140
205
200
220
115
213
203
209
207
211
215

FIG.5

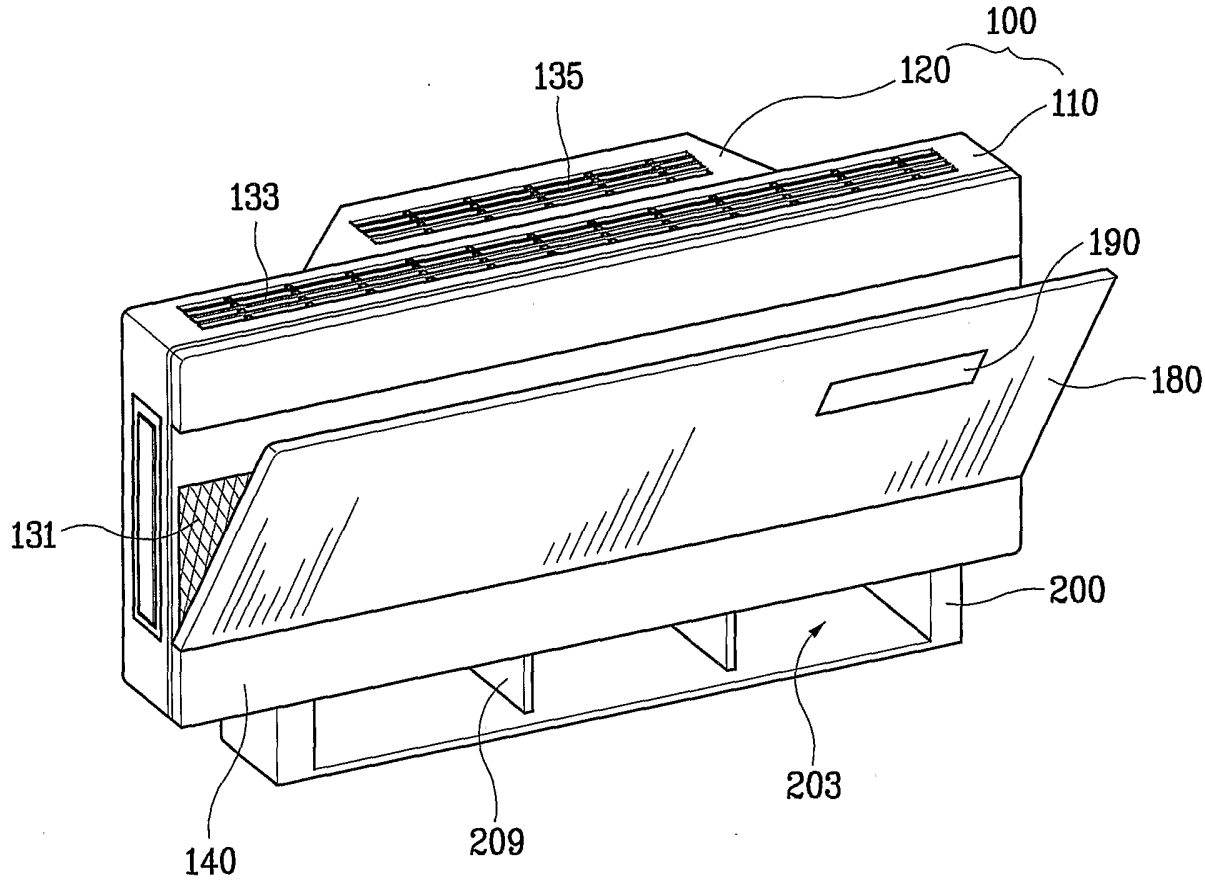


FIG.6

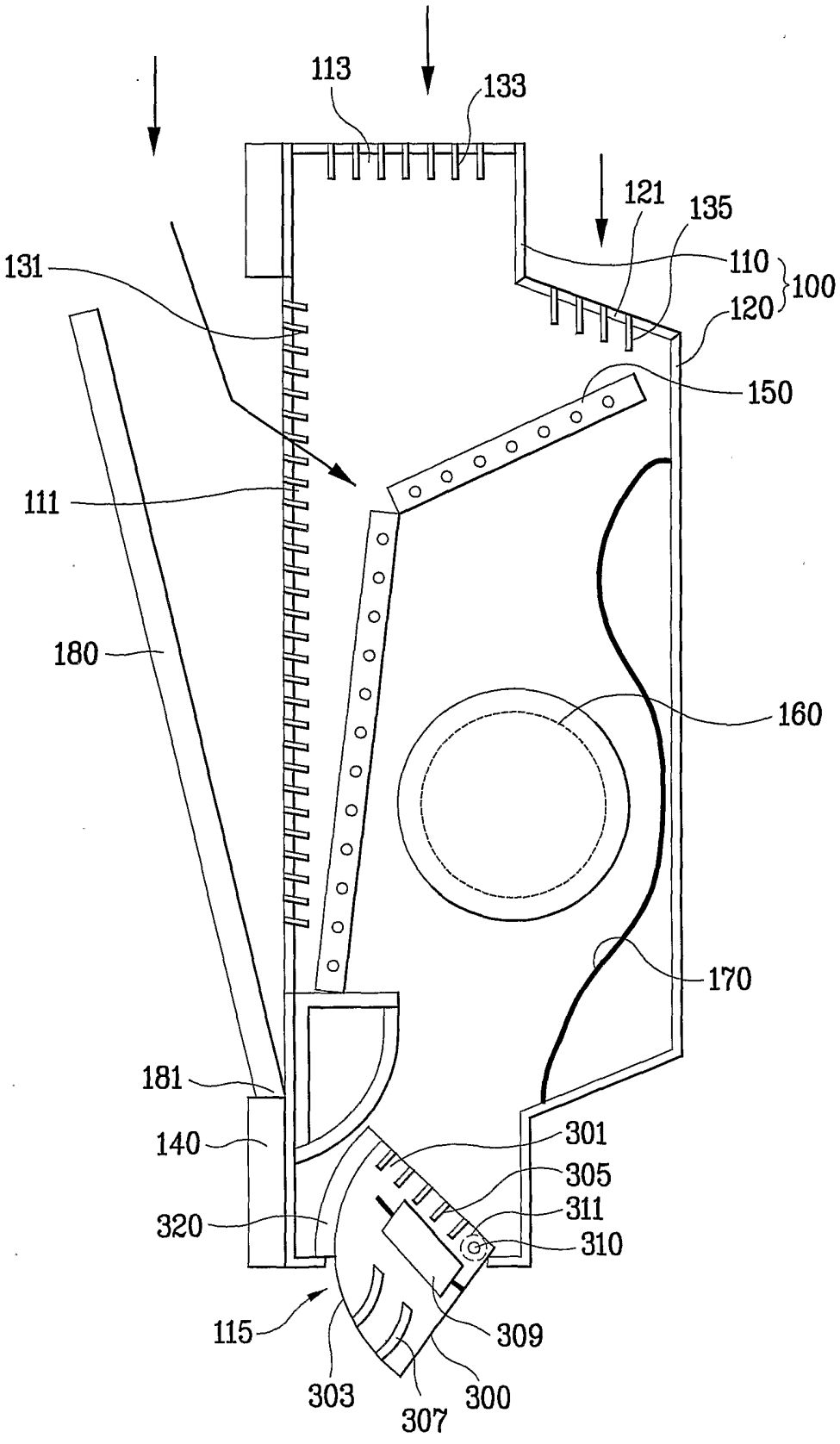

113
133
121
135
131
110
100
120
150
111
180
160
170
181
140
301
305
320
311
310
115
309
303
307
300

FIG. 7