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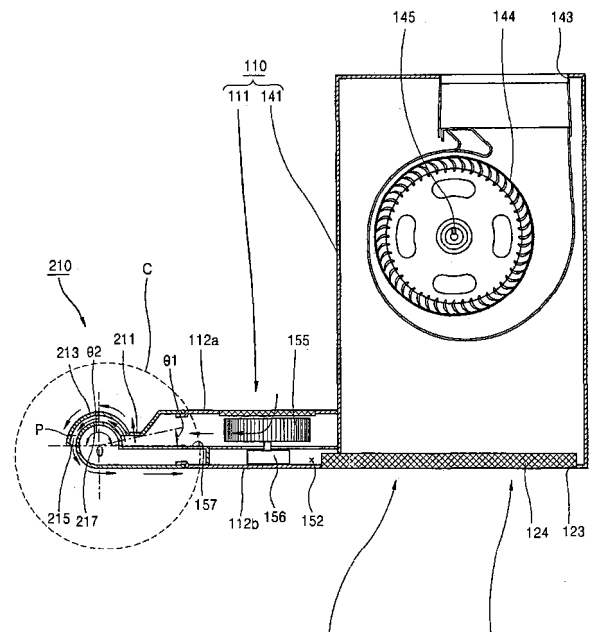
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(54) **Exhaust hood**

(57) An exhaust hood is disclosed. The exhaust hood includes: a hood body (110) including a canopy (111) provided with an inlet (123) and an exhaust part (141) communicating with the canopy (111) and provided with an exhaust path (143); and a nozzle unit (210) installed in front of the hood body (110) and including a first nozzle (211) through which the air is discharged, a first curved shape portion (213) having an arc shaped section which is convex outwardly and formed to allow the air discharged from the first nozzle (211) to flow along its outer circumferential surface, and a second curved shape portion (217) spaced apart from an inner circumferential surface of the first curved shape portion (213) at a constant interval and having a diameter smaller than that of the first curved shape portion (213), and a second nozzle (215) formed between the first curved shape portion (213) and the second curved shape portion (217), through which the air is discharged.

By the exhaust hood, the polluted air flowing to the front of the exhaust hood can be effectively introduced to the inlet and be collected. Accordingly, pleasant kitchen and laboratory environments can be formed.

FIG. 4



Description

[0001] The present invention relates to an exhaust hood, and particularly, to an exhaust hood having improved polluted-air collecting efficiency.

[0002] In general, an exhaust hood is disposed above a cooker such as a gas range or a laboratory table that generate materials causing air pollution like smoke, smells and grease vapor.

[0003] Figure 1 is a side sectional view that illustrates one example of an exhaust hood according to the conventional art. Referring to Figure 1, the conventional exhaust hood includes a canopy 21 installed above a cooker 10 having a plurality of burners 11 a and 11 b spaced at a predetermined distance therebetween, and an exhaust part 31 communicating with the canopy 21 and upwardly protruding from the canopy 21 to a predetermined height.

[0004] An inlet 23 is formed at the bottom of the canopy 21, through which the polluted air including pollutants like smoke, smells and grease vapor generated from the cooker 10 is drawn in. Also, a grease filter 24 that can collect pollutants is mounted at the inlet 23.

[0005] An exhaust path 33 is formed in the exhaust part 31, through which the polluted air having been introduced through the inlet 23 is exhausted to the outside. An exhaust fan 34 for forcibly taking in the air is installed under the exhaust path 33.

[0006] The polluted air including smoke, smells and grease vapor generated as burners 11 a and 11 b of the cooker heat food items is in a buoyancy jet form and increases in width as it ascends.

[0007] Thusly, only a portion of the polluted air is exhausted to the outside via the grease filter 24 installed at the inlet 23 and the exhaust path 33, and most of the polluted air is moved to the outside along a bottom surface of the canopy 21, contaminating the ambient air. Such a phenomenon greatly occurs when a food item is heated on the burner 11 a disposed at the front side of the cooker 10.

[0008] To prevent the phenomenon, a method of increasing a rotation rate of the exhaust fan 34 and thusly increasing an intake force may be used. However, even though the rotation rate of the exhaust fan 34 is increased to increase the intake force, the intake performance is not improved in proportion to the increased rotation force. For this reason, only the intake force of the exhaust fan 34 used in such a method is not enough to guide the polluted air, which is moved to outside along the bottom surface of the canopy 21, to the inlet 23.

[0009] Consequently, the conventional exhaust hood cannot prevent the polluted air from moving out from the canopy 21, polluting an upper region (A) of the front side of the canopy 21 and spreading to a room to thus pollute a surrounding environment.

[0010] In order to solve the aforementioned problems, an exhaust hood illustrated in Figure 2 has been devised.

[0011] Figure 2 is a side sectional view that illustrates another example of a conventional exhaust hood. Refer-

ring to Figure 2, the conventional exhaust hood in accordance with another example includes a hood body 51 disposed above a cooker 10 at a predetermined distance therebetween, and a nozzle part 81 installed at a front region of the hood body 51 and downwardly discharging the air.

[0012] The hood body 51 includes a canopy 61 installed above the cooker 10, which has a plurality of burners 11a and 11 b, at a predetermined distance therebetween, and an exhaust part 71 communicating with the canopy 61 and upwardly protruding from the canopy 61 to a predetermined height.

[0013] The nozzle part 81 is formed at a front region of a bottom surface of the canopy 61 and discharges the air downwardly. An air supply fan 83 for blowing the air to the nozzle part 81 is installed in the canopy 61.

[0014] A curve shape portion 85 having an arc shaped section which is convex downwardly is formed at a lower side of the front surface of the canopy 61, so that a portion of the air discharged through the nozzle part 81 can flow to a region of the inlet 63 by the so-called coanda effect. By the curved shape portion 85, the polluted air cannot be moved outside the canopy 61 but is guided to the inlet 63.

[0015] In the exhaust hood illustrated in Figure 2, the nozzle part 81 is formed at a spot inwardly spaced apart from the front end of the canopy 61 at a predetermined distance. Thusly, the polluted air having ascended inside the canopy 61 can be guided to the inlet 63 by the air discharged through the nozzle part 81. However, the method does not solve the problem that the polluted air ascending to the front end of the canopy 61 is moved out from the front end of the canopy 61 and pollutes an upper region (B).

[0016] Therefore, an object of the present invention is to provide an exhaust hood having improved polluted-air collecting efficiency.

[0017] To achieve these and other advantages and in accordance with the purpose of the present invention, as embodied and broadly described herein, there is provided an exhaust hood including a hood body 110 including a canopy 111 provided with an inlet 123 and an exhaust part 141 communicating with the canopy 111 and provided with an exhaust path 143; and a nozzle unit 210 installed in front of the hood body 110 and including a first nozzle 211 through which the air is discharged, a first curved shape portion 213 having an arc shaped section which is convex outwardly and formed to allow the air discharged from the first nozzle 211 to flow along its outer circumferential surface, and a second curved shape portion 217 spaced apart from an inner circumferential surface of the first curved shape portion 213 at a constant interval and having a diameter smaller than that of the first curved shape portion 213, and a second nozzle 215 formed between the first curved shape portion 213 and the second curved shape portion 217, through which the air is discharged.

[0018] The foregoing and other objects, features, as-

pects and advantages of the present invention will become more apparent from the following detailed description of the present invention when taken in conjunction with the accompanying drawings.

[0019] The accompanying drawings, which are included to provide a further understanding of the invention and are incorporated in and constitute a unit of this specification, illustrate embodiments of the invention and together with the description serve to explain the principles of the invention.

[0020] In the drawings:

Figure 1 is a sectional view that illustrates one example of a conventional exhaust hood;

Figure 2 is a side sectional view that illustrates another example of a conventional exhaust hood;

Figure 3 is a perspective view of an exhaust hood in accordance with a first embodiment of the present invention;

Figure 4 is a sectional view taken along line IV-IV of Figure 3;

Figure 5 is an enlarged view of part C of Figure 4;

Figure 6 is a perspective view of an exhaust hood in accordance with a second embodiment of the present invention;

Figure 7 is a sectional view taken along line VII-VII of Figure 6;

Figure 8 is an enlarged view of part D of Figure 7;

Figure 9 is an enlarged sectional view of a nozzle unit of Figure 7 in accordance with another example;

Figure 10 is an enlarged sectional view of a nozzle unit of Figure 7 in accordance with still another example;

Figure 11 is an exploded perspective view of the nozzle unit of Figure 7;

Figure 12 is a sectional view taken along line XII-XII of Figure 7;

Figure 13 is a side sectional view of an exhaust hood provided with an upper inlet in accordance with a third embodiment of the present invention;

Figure 14 is a side sectional view of an exhaust hood provided with a reflux flow path in accordance with a fourth embodiment of the present invention; and

Figure 15 is a perspective view of an exhaust hood provided with a nozzle unit and an auxiliary nozzle unit in accordance with a fifth embodiment of the present invention.

[0021] Reference will now be made in detail to the preferred embodiments of the present invention, examples of which are illustrated in the accompanying drawings.

[0022] Figure 3 is a perspective view of an exhaust hood in accordance with a first embodiment of the present invention, Figure 4 is a sectional view taken along line IV-IV of Figure 3, and Figure 5 is an enlarged view of part C of Figure 4.

[0023] Referring to Figures 3 and 4, the exhaust hood in accordance with the first embodiment of the present

invention includes a hood body 110 and a nozzle unit 210 installed at a front side of the hood body 110 and discharging the air. The arrows in the drawing represent the flow of the air.

[0024] The hood body 110 includes a canopy 111 installed above a cooker 10 (refer to Figure 1), which includes a plurality of burners 11a and 11b, at a predetermined distance, and an exhaust part 141 communicating with the canopy 111 and protruding from an upper surface 111a of the canopy 111 to a predetermined height.

[0025] The canopy 111 is formed as a quadrangular plate. An inlet 123 for taking the air in is provided at the bottom 112b of the canopy 111, and a grease filter 124 for collecting a pollutant is mounted at the inlet 123.

[0026] Inside the canopy 111 an air supply fan 155 blowing the air to the nozzle unit 210 and an air supply motor 156 driving the air supply fan 155 are installed. An intake flow path 152 is formed under the air supply fan 155 so that a portion of the air having passed through the grease filter 124 can be introduced to the air supply fan 155. An air supply flow path 157 for allowing the air to flow to the nozzle unit 210 is formed at the left side of the air supply fan 155.

[0027] An exhaust flow path 143 is formed at the exhaust part 141 and allows the air whose pollutant has been removed by the grease filter 124 to be discharged to the outside. An exhaust fan 144 that can forcibly take the air in and an exhaust motor 145 that drives the fan 144 are mounted under the exhaust flow path 143.

[0028] Referring to Figures 4 and 5, the nozzle unit 210 includes a first nozzle 211 penetratingly formed at a front side of an upper surface 112a of the canopy 111 and extending long along a width direction so that the air can be discharged upwardly, a first curved shape portion 213 having an arc shaped section which is convex outwardly and formed to allow the air having discharged from the first nozzle 211 to flow along its outer circumferential surface, a second curved shape portion 217 spaced apart from an inner circumferential surface of the first curved shape portion 213 and having a smaller diameter than that of the first curved shape portion 213, and a second nozzle 215 formed between the first curved shape portion 213 and the second curved shape portion 217, through which the air is discharged.

[0029] An entrance of the first nozzle 211 has a width (d1) of 1.5~4mm. The first nozzle 211 is formed at an upper surface 112a of the canopy 111 such that the air discharged through the first nozzle 211 is at a predetermined first angle (θ 1) to a horizontal center line (L_H) horizontally passing through the center (O) of the second curved shape portion 217. The first angle (θ 1) is preferably within a range of 0 to 120 degrees to maximize the coanda effect. A wind speed of the air discharged through the first nozzle 211 is preferably within a range of 3 to 5 m/sec to maximize the coanda effect.

[0030] The inlet of the second nozzle 215 has a width (d2) of 1.5 to 4mm. The second nozzle 215 is formed at an end of a path (P) between the first curved shape por-

tion 213 and the second curved shape portion 217 such that the air discharged through the second nozzle 215 is at a predetermined second angle ($\theta 2$) to the horizontal center line (L_H) horizontally passing through the center (O) of the second curved shape portion 217. Here, the second angle ($\theta 2$) is preferably within a range of 180~270 degrees to maximize the coanda effect. Also, the wind speed of the air discharged through the second nozzle 215 is preferably within a range of 3 to 5m/sec to maximize the coanda effect.

[0031] The operation and effect of the exhaust hood in accordance with the first embodiment will now be described.

[0032] Referring to Figures 4 and 5, as the exhaust fan 144 rotates, the air is introduced into the inlet 123. Here, pollutants contained in the air are removed by the grease filter 124, and the air whose pollutants are removed is discharged to the outside along the exhaust flow path 143.

[0033] As the air supply fan 155 rotates, a portion of the air whose pollutants have been removed is introduced to the intake flow path 152. The air introduced in such a manner is discharged through the first nozzle 211 via the air supply path 157. Also, the introduced air is discharged through the second nozzle 215 via the air supply flow path 157 and the path (P) formed between the first curved shape portion 213 and the second curved shape portion 217.

[0034] The air discharged through the first nozzle 211 in the direction of the first angle ($\theta 1$) moves along an outer circumferential surface of the first curved shape portion 213 by the so-called coanda effect. Here, the air moving along the outer circumferential surface forms a negative pressure region (S1) having negative (-) gauge pressure at the upper and front surfaces of the first curved shape portion 213. By the negative pressure region (S1) the polluted air having a tendency to escape from the exhaust hood is bent to the negative pressure region (S1) and then is introduced to the inlet 123 again. Accordingly, the polluted-air collecting efficiency of the exhaust hood is improved.

[0035] The air discharged through the second nozzle 215 in the direction of the second angle ($\theta 2$) increases the momentum of the air flowing along the outer circumferential surface of the first curved shape portion 213, and thusly prevent separation of the air at a lower surface of the first curved shape portion 213. Therefore, the negative pressure region (S1) expands to the lower surface of the first curved shape portion 213, thereby improving the polluted-air collecting efficiency of the exhaust hood. Also, the diffusion of the polluted air is prevented by introducing directly to the inlet 123, the polluted air ascending from a cooker. Accordingly, the polluted-air collecting efficiency of the exhaust hood is improved.

[0036] An exhaust hood in accordance with the second embodiment of the present invention will now be described. The same parts as those of the aforementioned structure are designated with the same reference numer-

als, and the detailed description thereon will be omitted.

[0037] Figure 6 is a perspective view of an exhaust hood in accordance with a second embodiment of the present invention, Figure 7 is a sectional view taken along line VII-VII of Figure 6, and Figure 8 is an enlarged view of part D of Figure 7.

[0038] Referring to Figures 6 to 8, a nozzle unit 340 of the exhaust hood in accordance with the second embodiment is manufactured through single drawing instead of bending and welding using a board material.

[0039] The nozzle unit 340 includes a first curved shape portion 341 having an arc shaped section and disposed at the rear on the basis of a central region, a second curved shape portion 343 having an arc shaped section and disposed at the front on the basis of the central region such that one end of the second curved shape portion 343 is disposed inside one end of the first curved shape portion 341 at a predetermined interval therebetween so as to form a first nozzle 347, and its other end is disposed outside the other end of the first curved shape portion 341 at a predetermined interval so as to form a second nozzle 348, a partition wall 345 whose one end is connected to the first curved shape portion 341 and whose other end is connected to the second curved shape portion 343, and a pair of side plates 351 blocking both ends of the first curved shape portion 341 and the second curved shape portion 343.

[0040] Referring to Figure 8, the first nozzle 347 and the second nozzle 348 are disposed at positions illustrated in Figure 8 so that the air discharged from the first nozzle 347 and the second nozzle 348 is horizontally discharged to the front and the rear of the canopy 111, respectively.

[0041] As for another example, referring to Figure 9, the first nozzle 347 and the second nozzle 348 may be disposed at positions illustrated in Figure 9 so that the air discharged from the first nozzle 347 and the second nozzle 348 can be slantly discharged to the front and rear of the canopy 111.

[0042] As for still another example, referring to Figure 10, the first nozzle 347 and the second nozzle 348 are disposed at positions illustrated in Figure 10 so that the air discharged from the first nozzle 347 and the second nozzle 348 can be discharged upwardly and downwardly of the canopy 111. As described above, various dispositions thereof are possible.

[0043] Referring to Figures 7 and 8, a first guide portion 342 is formed at an end of the first curved shape portion 341. More specifically, the first guide portion 342 is formed at a lower end of the first curved shape portion 341 disposed inside the second curved shape portion 343, and is curved to have an arc shaped section for the purpose of smoothly guiding the air moving toward the second nozzle 348.

[0044] An upper plate 357 is coupled to an upper end of the first curved shape portion 341 and is disposed parallel to an upper surface 112a of the canopy 111. Also, a lower plate 358 is coupled to a lower end of the first

curved shape portion 341 and disposed parallel to a lower surface 112b of the canopy 111.

[0045] A second guide portion 344 is formed at an end of the second curved shape portion 343. More specifically, the second guide portion 344 is formed at an upper end of the second curved shape portion 343 disposed inside the first curved shape portion 341, and is curved to have an arc shaped section for the purpose of smoothly guiding the air moving toward the first nozzle 347.

[0046] The partition wall 345 is a plate installed inside the first curved shape portion 341 and the second curved shaped portion 343 to control relative positions of the first curved shape portion 341 and the second curved shape portion 343 so that the first nozzle 347 and the second nozzle 348 are formed by the first curved shape portion 341 and the second curved shape portion 343.

[0047] Referring to Figure 11, at the inside of the side plate 351 an insertion groove 353 having a curved shape which is the same as the shapes of the first curved shape portion 341 and the second curved shape portion 343 is formed. As the first curved shape portion 341 and the second curved shape 343 are inserted in the insertion groove 353, the side plate 351 is fixed to side surfaces of the first curved shape portion 341 and the second curved shape portion 343.

[0048] An inflow hole 352 is formed at the center of the side plate 351. The inflow hole 352 is connected to an air supply pipe 355. Through such an air supply pipe 355 and an inflow hole 352, the air blowing by the air supply fan 155 (see Figure 7) can be introduced into the nozzle unit 340.

[0049] The aforementioned first curved shape portion 341, second curved shape portion 343 and partition wall 345 are formed as one body by a method of drawing a metal member such as aluminum. Thusly, the first curved shape portion 341 and the second curved shape portion 343 can have an accurate curved shape, and the first nozzle 347 and the second nozzle 348 can sustain a certain interval therebetween, thereby preventing deformation from occurring.

[0050] The operation and effect of the exhaust hood in accordance with the exhaust hood in accordance with the second embodiment will now be described.

[0051] Referring to Figures 7, 8 and 12, when the exhaust fan 144 rotates, the air is introduced to the inlet 123. Here, a pollutant contained in the air is removed by the grease filter 124 and the air whose pollutants are removed is discharged to the outside along the exhaust flow path 143.

[0052] When the air supply fan 155 rotates, a portion of the air whose pollutants are removed is introduced to the intake flow path 152. The air introduced in such a manner passes through the air supply pipe 355 and is discharged through the first nozzle 347 and the second nozzle 348.

[0053] The air discharged through the first nozzle 347 moves along an outer circumferential surface of the second curved shape portion 343 by the so called coanda

effect. Here, the air moving along the outer circumferential surface forms a negative pressure region (S1) having negative gauge pressure at upper and front surfaces of the second curved shape portion 343. The polluted air having a tendency to escape from the exhaust hood is bent to the negative pressure region (S1) by the negative pressure region (S1) and then is introduced again to the inlet 123. Accordingly, the polluted-air collecting efficiency of the exhaust hood is improved.

[0054] The air discharged through the second nozzle 348 increases the momentum of the air flowing along the outer circumferential surface 343, thereby preventing separation of the air at a lower surface of the second curved shape portion 343. Thusly, the negative pressure region (S1) expands to the lower surface of the second curved shape portion 343, to thereby improve the polluted-air collecting efficiency of the exhaust hood. Also, the polluted air ascending from a cooker is directly guided to the inlet 123 to prevent the diffusion of the polluted air. Accordingly, the polluted-air collecting efficiency of the exhaust hood is improved.

[0055] An exhaust hood in accordance with a third embodiment of the present invention will now be described. The same parts as those of the aforementioned structure are designated with the same reference numerals, and the detailed description thereon will be omitted.

[0056] Figure 13 is a side sectional view of an exhaust hood provided with an upper inlet in accordance with the third embodiment of the present invention. Referring to Figure 13, unlike the first embodiment, in the third embodiment, the air introduced through the inlet 123 is not provided to the nozzle unit 210 but the air introduced through a grease filter 174 installed at an upper inlet 173 formed on an upper surface 112a of the canopy 111 is provided to be discharged through the nozzle unit 210.

[0057] By the aforementioned structure, when the air supply fan 155 rotates, the air of an upper side of the canopy 111 is introduced through the grease filter 174 installed at the upper inlet 173, and the introduced air is discharged through the first nozzle 211 and the second nozzle 215 via the air supply flow path 157. The operation and effect of the discharged air will be not be described because description thereon has already been made in the first embodiment.

[0058] An exhaust hood in accordance with a fourth embodiment of the present invention will now be described. The same parts as those of the aforementioned structure are designated with the same reference numerals, and the detailed description thereon will be omitted.

[0059] Figure 14 is a side sectional view of an exhaust hood provided with a reflux flow path in accordance with the fourth embodiment of the present invention.

[0060] Referring to Figure 14, unlike the first embodiment in which the air introduced through the inlet 123 is provided to the nozzle unit 210, in the fourth embodiment, a portion of the air discharged through the exhaust flow path 143 is provided to be discharged through the nozzle unit 210.

[0061] To this end, a reflux flow path 177 is formed inside the canopy 111 and the exhaust part 141. Herein, one end of the reflux flow path 177 is connected to an exhaust flow path 143 and its other end is connected to an air supply flow path 157. Accordingly, the air supply fan 155 (see Figure 4) and the air supply motor 156 (see Figure 4) are no more required, and the cost therefor can be saved.

[0062] By the aforementioned structure, when an exhaust fan 144 rotates, a portion of the air being discharged through the exhaust path 143 flows to the reflux flow path 177 and the air supply path 157 and then is discharged through the first nozzle 211 and the second nozzle 215 respectively. The operation and effect of the discharged air will be not be described because description thereon has already been made in the first embodiment.

[0063] An exhaust hood in accordance with a fifth embodiment of the present invention will now be described. The same parts as those of the aforementioned structure are designated with the same reference numerals, and the detailed description thereon will be omitted.

[0064] Figure 15 is a perspective view of an exhaust hood provided with a nozzle unit and an auxiliary nozzle unit in accordance with the fifth embodiment of the present invention.

[0065] Referring to Figure 15, the exhaust hood in accordance with the fifth embodiment includes a nozzle unit 210 that prevents the polluted air from flowing to the front of the canopy 111 as described in the first embodiment, and a pair of auxiliary nozzle units 240 that prevent the polluted air from flowing to both sides of the canopy 111.

[0066] Because the construction and operation of the nozzle unit 210 is the same as those described in the first embodiment, the description thereon will be omitted.

[0067] The auxiliary nozzle unit 240 includes a first auxiliary nozzle 241 penetratingly formed at a front side of an upper surface 112a of the canopy 111 and extending along a longitudinal direction so as to allow the air to be discharged upwardly, a first auxiliary curved shape portion 243 having an arc shaped section which is convex outwardly and allowing the air discharged from the first auxiliary nozzle to flow along its outer circumferential surface, a second auxiliary curved shape portion 247 spaced apart from an inner circumferential surface of the first auxiliary curved shape portion 243 and having a diameter smaller than that of the first auxiliary curved shape portion 243, and a second auxiliary nozzle 245 formed between the first auxiliary curved shape portion 243 and the second auxiliary curved shape portion 247, through which the air is discharged.

[0068] The construction and operation of the first auxiliary nozzle 241, the second auxiliary nozzle 245, the first auxiliary curved shape portion 243 and the second auxiliary curved shape portion 247 of the auxiliary nozzle unit 240 will be omitted because they are the same as those of the first nozzle 211, the second nozzle 215, the first curved shape portion 213 and the second curved

shape portion 217. By the auxiliary nozzle unit 240, the polluted air escaping to both sides of the canopy 111 can be collected. Accordingly, entire collecting efficiency of the exhaust hood is increased.

[0069] The effect of the exhaust hood in accordance with the aforementioned embodiments of the present invention will now be described.

[0070] Firstly, the polluted air escaping to the front of the exhaust hood can be effectively introduced to an inlet and be collected. Accordingly, pleasant cooking and laboratory environments can be formed.

[0071] Secondly, if a first curved shape portion, a second curved shape portion and a partition wall are formed as one body by a method of drawing a metallic member such as aluminum, the first curved shape portion and the second curved shape portion can have an accurate curved surface, and a first nozzle and a second nozzle can sustain a constant interval, thereby preventing deformation.

[0072] Thirdly, if an auxiliary nozzle unit is further provided, the polluted air escaping to both sides of the exhaust hood can also be guided to an inlet and then collected. Accordingly, more pleasant cooking and laboratory environments can be formed.

[0073] As the present invention may be embodied in several forms without departing from the spirit or essential characteristics thereof, it should also be understood that the above-described embodiments are not limited by any of the details of the foregoing description, unless otherwise specified, but rather should be construed broadly within its spirit and scope as defined in the appended claims, and therefore all changes and modifications that fall within the metes and bounds of the claims, or equivalence of such metes and bounds are therefore intended to be embraced by the appended claims.

Claims

1. An exhaust hood, comprising:

a hood body (110) including a canopy (111) provided with an inlet (123) and an exhaust part (141) communicating with the canopy (111) and provided with an exhaust path (143); and a nozzle unit (210) installed at a front side of the hood body (110) and including a first nozzle (211) through which the air is discharged, a first curved shape portion (213) having an arc shaped section which is convex outwardly and formed to allow the air discharged from the first nozzle (211) to flow along its outer circumferential surface, and a second curved shape portion (217) spaced apart from an inner circumferential surface of the first curved shape portion (213) at a constant interval and having a diameter smaller than that of the first curved shape portion (213), and a second nozzle (215) formed be-

tween the first curved shape portion (213) and the second curved shape portion (217), through which the air is discharged.

2. The exhaust hood of claim 1, further comprising:

an air supply path (157) guiding the air to the nozzle unit (210);
an air supply fan (155) blowing the air to the air supply path (157);
an air supply motor (156) driving the air supply fan (155); and
an intake flow path (152) communicating with the air supply path (157) and guiding to the air supply fan (155), the air received through the inlet (123).

3. The exhaust hood of claim 1, further comprising:

an air supply flow path (157) guiding the air to the nozzle unit (210);
an air supply fan (155) blowing the air to the air supply path (157);
an air supply motor (156) driving the air supply fan (155); and
an upper inlet (173) communicating with the air supply flow path (157), guiding the air to the air supply fan (155) and formed at an upper surface (112a) of the canopy (111).

4. The exhaust hood of claim 1, further comprising:

an air supply flow path (157) guiding the air to the nozzle unit (210); and
a reflux flow path (177) communicating with the air supply flow path (157) to provide the nozzle unit (210) with the air being discharged through the exhaust flow path (143).

5. The exhaust hood of any of claims 1 to 4, further comprising:

auxiliary nozzle units (240) installed at both sides of the hood body (110), each including a first auxiliary nozzle (241) through which the air is discharged, a first auxiliary curved shape portion (243) having an arc shaped section which is convex outwardly and formed to allow the air discharged from the first auxiliary nozzle (241) to flow along its outer circumferential surface, a second auxiliary curved shape portion (247) spaced apart from an inner circumferential surface of the first auxiliary curved portion (243) and having a diameter smaller than that of the first auxiliary curved portion (243), and a second auxiliary nozzle (245) formed between the first auxiliary curved shape portion (243) and the second auxiliary curved shape portion (247),

through which the air is discharged.

6. The exhaust hood of any of claims 1 to 5, wherein the first nozzle (211) and the second nozzle (215) has widths (d1 and d2) of 1.5~4mm, and the wind speed of the air being discharged through the first nozzle (211) and the second nozzle (215) is 3-5m/sec.

7. The exhaust hood of any of claims 1 to 6, wherein the air discharged through the first nozzle (211) is at a first angle ($\theta 1$) within a range of 0-120 degrees to a horizontal center line (L_H) horizontally passing through the center (O) of the second curved shape portion (217).

8. The exhaust hood of any of claims 1 to 7, wherein the air discharged through the second nozzle (215) is at a second angle ($\theta 2$) within a range of 180-270 degrees to a horizontal center line (L_H) horizontally passing through the center (O) of the second curved shape portion (217).

9. An exhaust hood comprising:

a hood body (110) including a canopy (111) provided with an inlet (123) and an exhaust part (141) communicating with the canopy (111) and provided with an exhaust path (143); and
a nozzle unit (340) installed at a front side of the hood body (110) and including a first curved shape portion (341) having an arc shaped section and disposed at the rear from a central region, a second curved portion (343) having an arc shaped section and disposed at the front from the central region such that one end of the second curved shape portion (343) is disposed inside one end of the first curved shape portion (341) at a predetermined interval therebetween so as to form a first nozzle (347) and its other end is disposed outside the other end of the first curved shape portion (341) at a predetermined interval so as to form a second nozzle (348), a partition wall (345) whose one end is connected to the first curved shape portion (341) and whose other end is connected to the second curved shape portion (343), and a side plate blocking both ends of the first curved shape portion (341) and the second curved shape portion (343).

10. The exhaust hood of claim 9, further comprising:

an air supply pipe (355) guiding the air to the nozzle unit (340);
an air supply fan (155) blowing the air to the air supply pipe (355);
an air supply motor (156) driving the air supply fan (155); and

an intake flow path (152) communicating with the air supply pipe (355) and guiding to the air supply fan (155), the air introduced through the inlet (123).

11. The exhaust hood of claim 9, further comprising:

an air supply pipe (355) guiding the air to the nozzle unit (340);
 an air supply fan (155) blowing the air to the air supply pipe (355);
 an air supply motor driving the air supply fan (155); and
 an upper inlet (173) communicating with the air supply pipe (355), guiding the air to the air supply fan (155) and formed at an upper surface (112a) of the canopy (111).

12. The exhaust hood of claim 9, further comprising:

an air supply pipe (355) guiding the air to the nozzle unit (340); and
 a reflux flow path (177) communicating with the air supply pipe (355) to provide the nozzle unit (210) with the air being discharged through the exhaust path (143).

13. The exhaust hood of any of claims 9 to 12, further comprising:

auxiliary nozzle units (240) installed at both sides of the hood body (110), each including a first auxiliary nozzle (241) through which the air is discharged, a first auxiliary curved shape portion (243) having an arc shaped section which is convex outwardly and formed to allow the air discharged from the first auxiliary nozzle (241) to flow along its outer circumferential surface, a second auxiliary curved shape portion (247) spaced apart from an inner circumferential surface of the first auxiliary curved portion (243) and having a diameter smaller than that of the first auxiliary curved portion (243), and a second auxiliary nozzle (245) formed between the first auxiliary curved shape portion (243) and the second auxiliary curved shape portion (248), through which the air is discharged.

14. The exhaust hood of any of claims 9 to 13, wherein a first guide portion (342) is formed at a lower end of the first curved shape portion (341) disposed inside the second curved shape portion (343).

15. The exhaust hood of any of claims 9 to 14, wherein a second guide portion (344) is formed at an upper end of the second curved shape portion (343) disposed inside the first curved shape portion (341).

16. The exhaust hood of any of claims 9 to 15, wherein an insertion groove (353) having the same shape as shapes of the first curved shape portion (341) and the second curved shape portion (343) is formed at an inner surface of the side plate (351).

17. The exhaust hood of any of claims 9 to 16, wherein an inflow hole (352) is formed at the center of the side plate (351).

18. The exhaust hood of any of claims 9 to 17, wherein the first curved shape portion (341), the second curved shape portion (343) and the partition wall are formed as one body by a method of drawing a metallic member.

19. A method of operating an exhaust hood according to any of claims 1 to 18.

FIG. 1

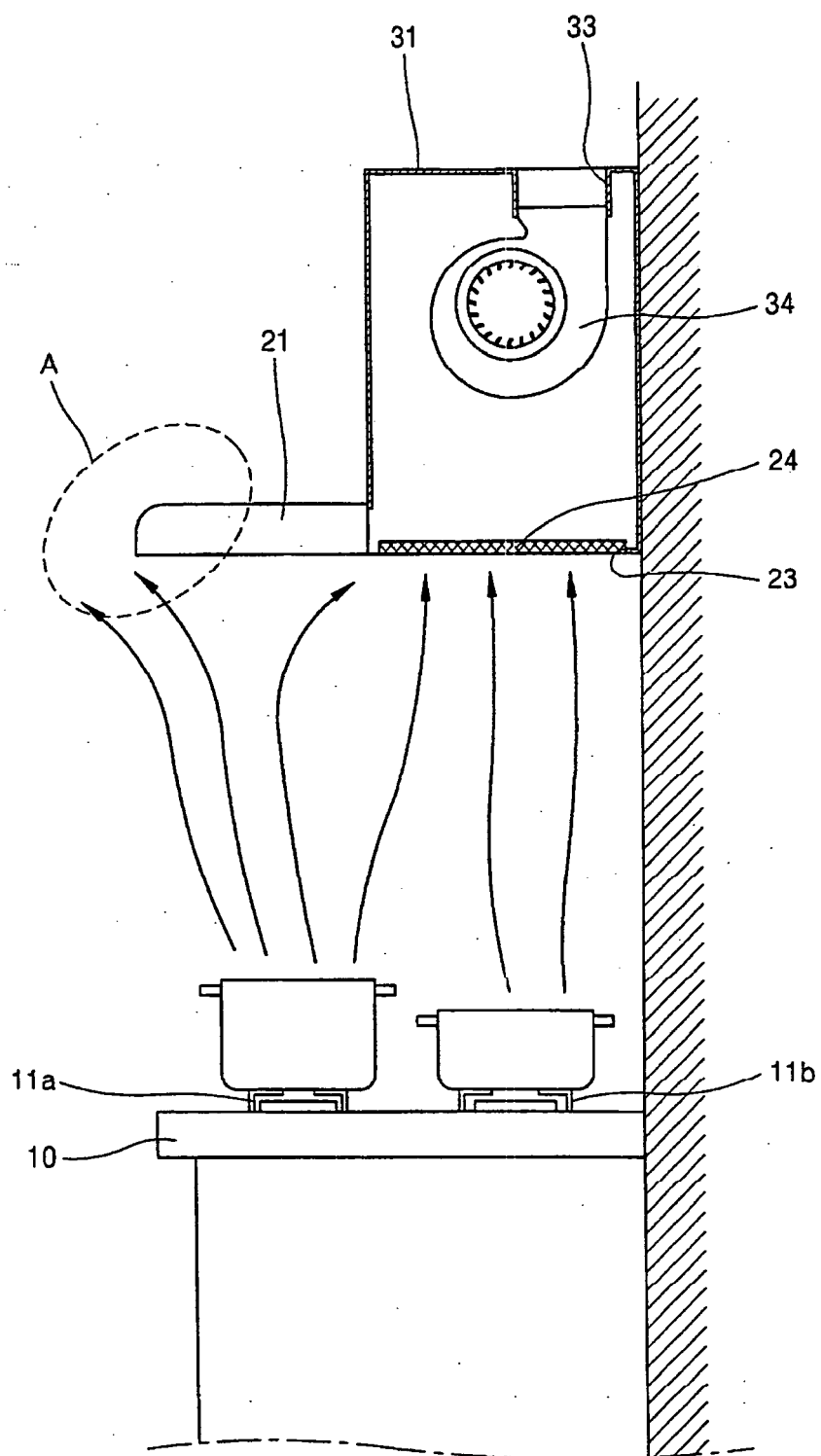


FIG. 2

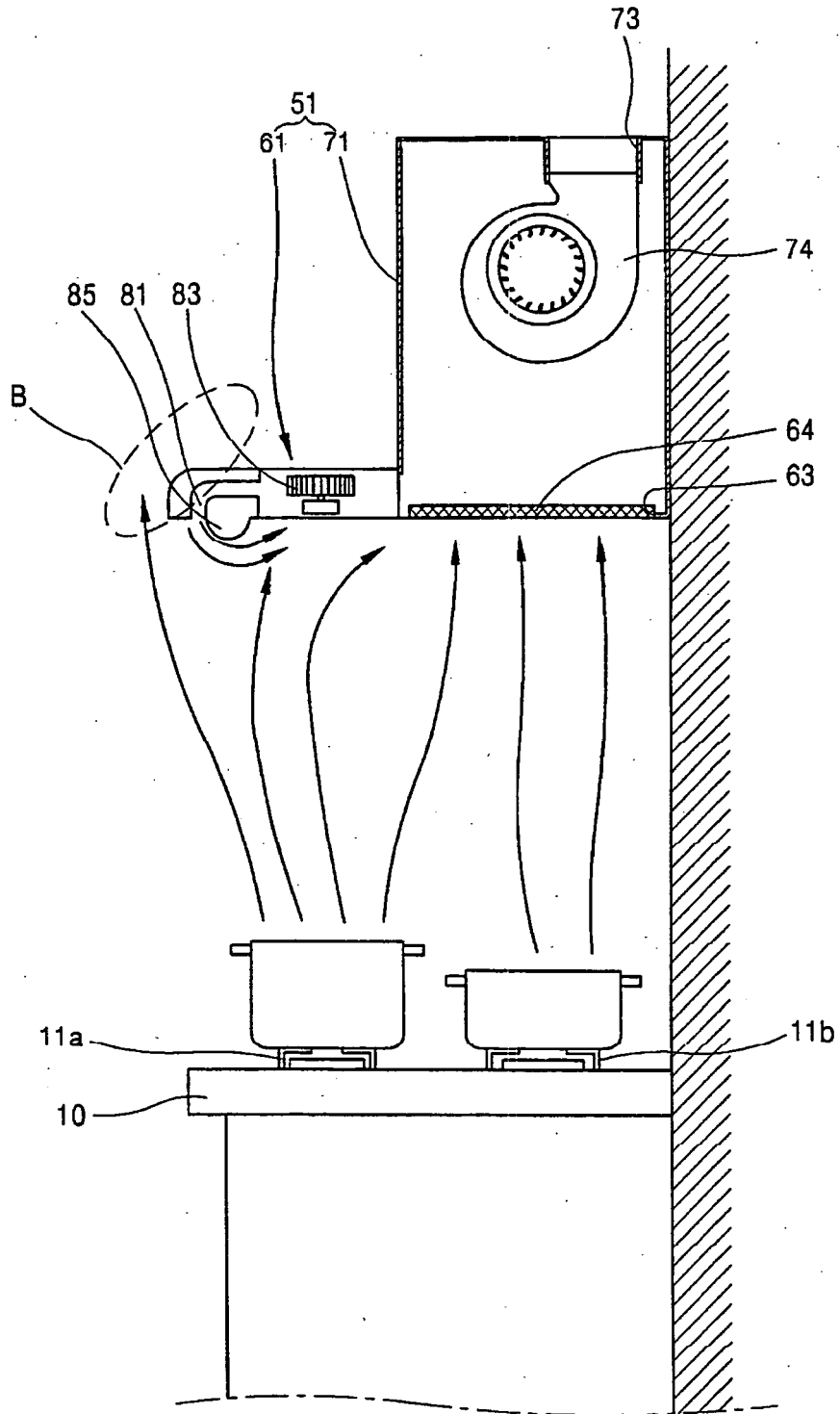


FIG. 3

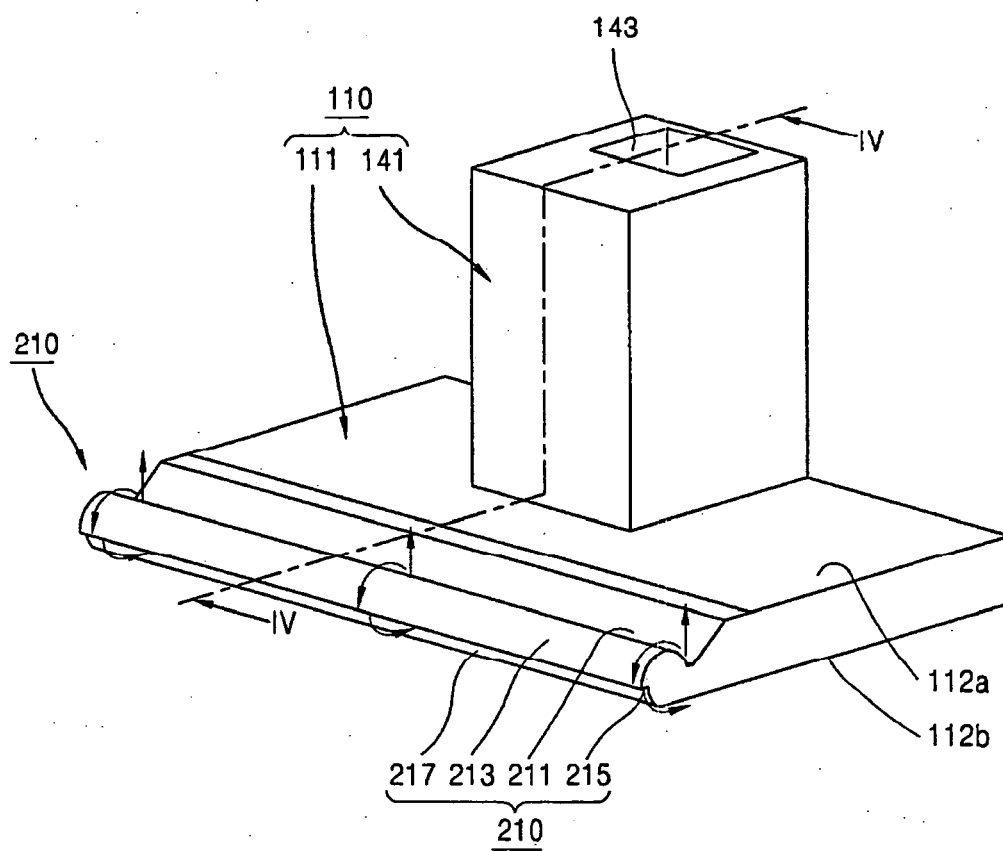


FIG. 4

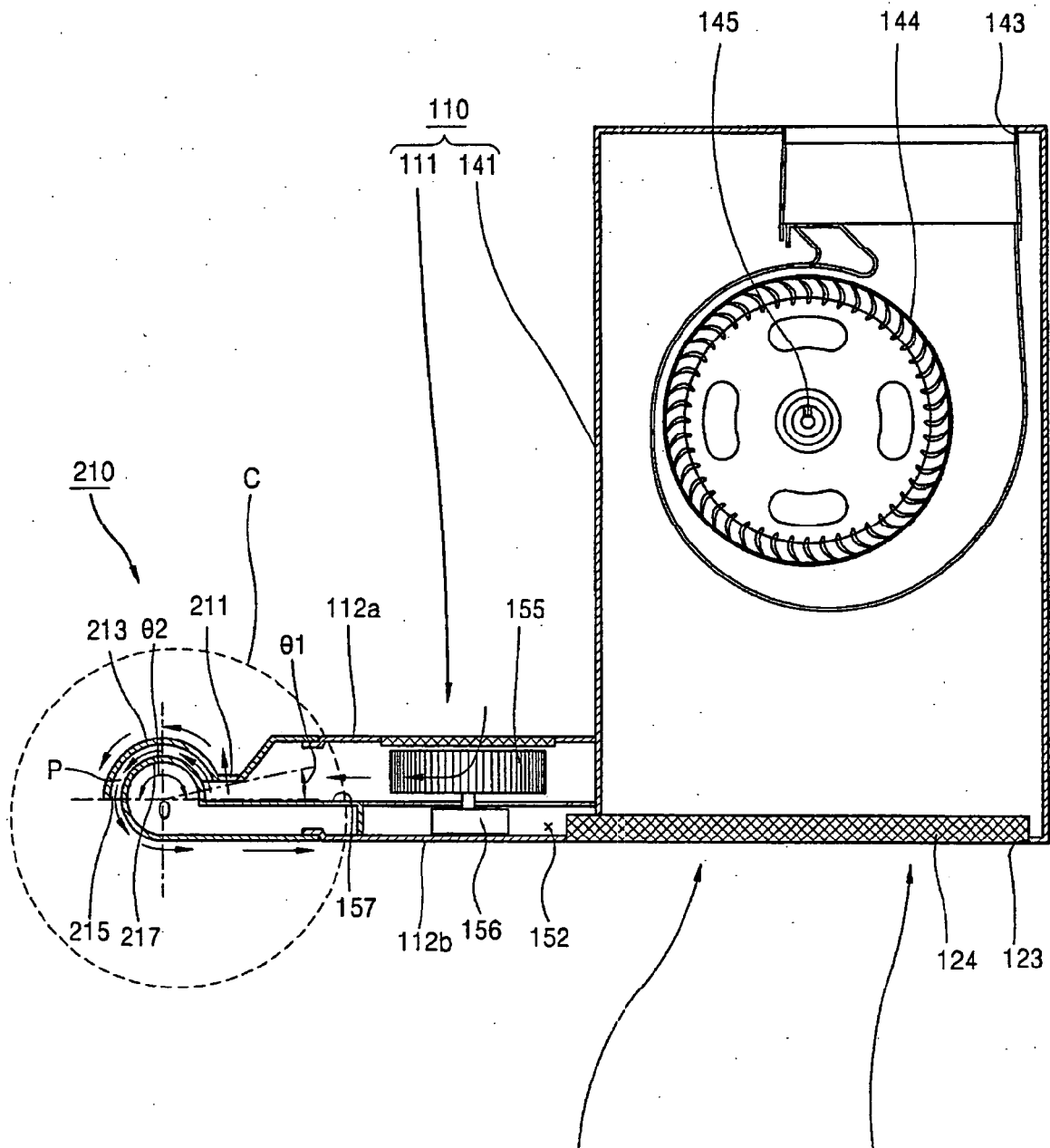


FIG. 5

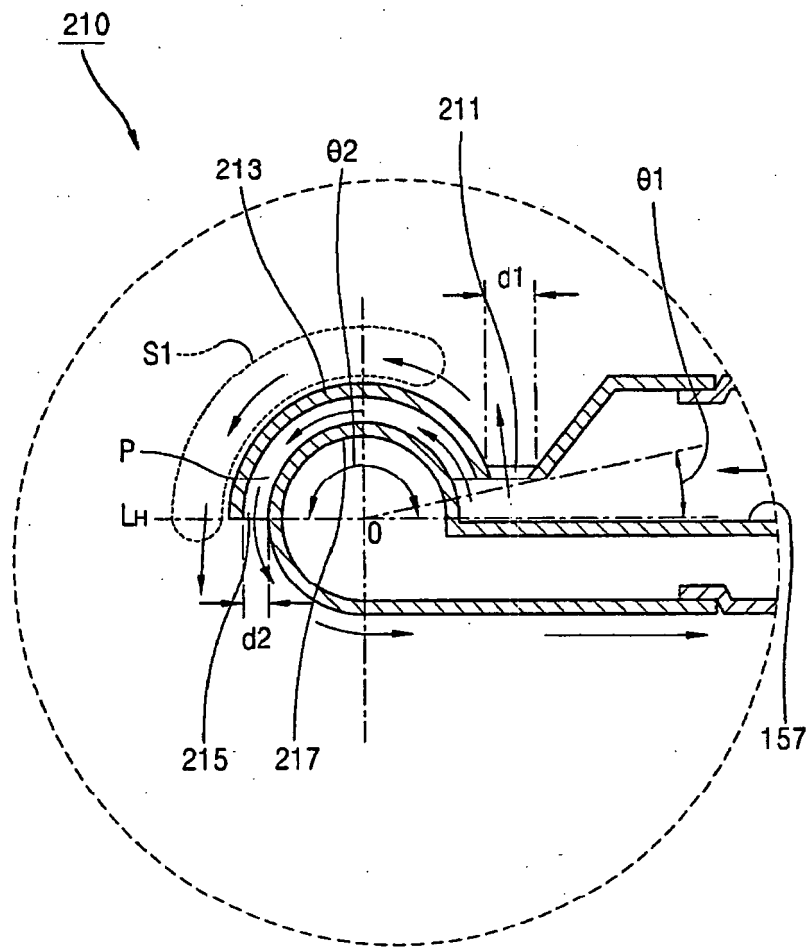


FIG. 6

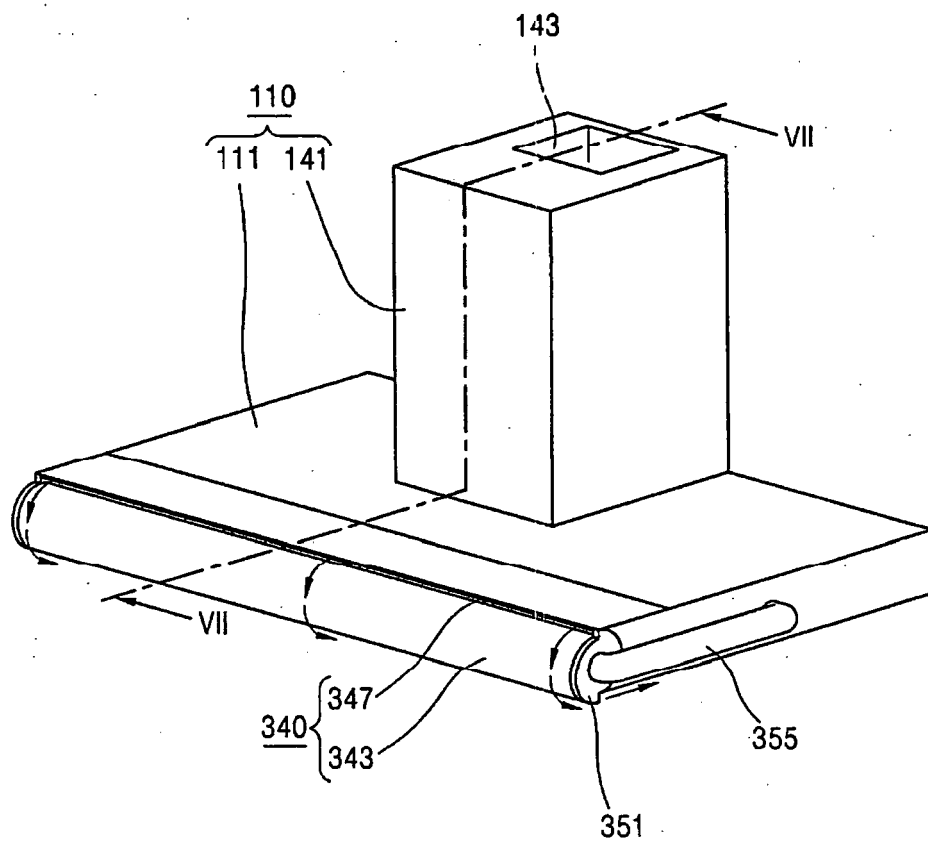


FIG. 7

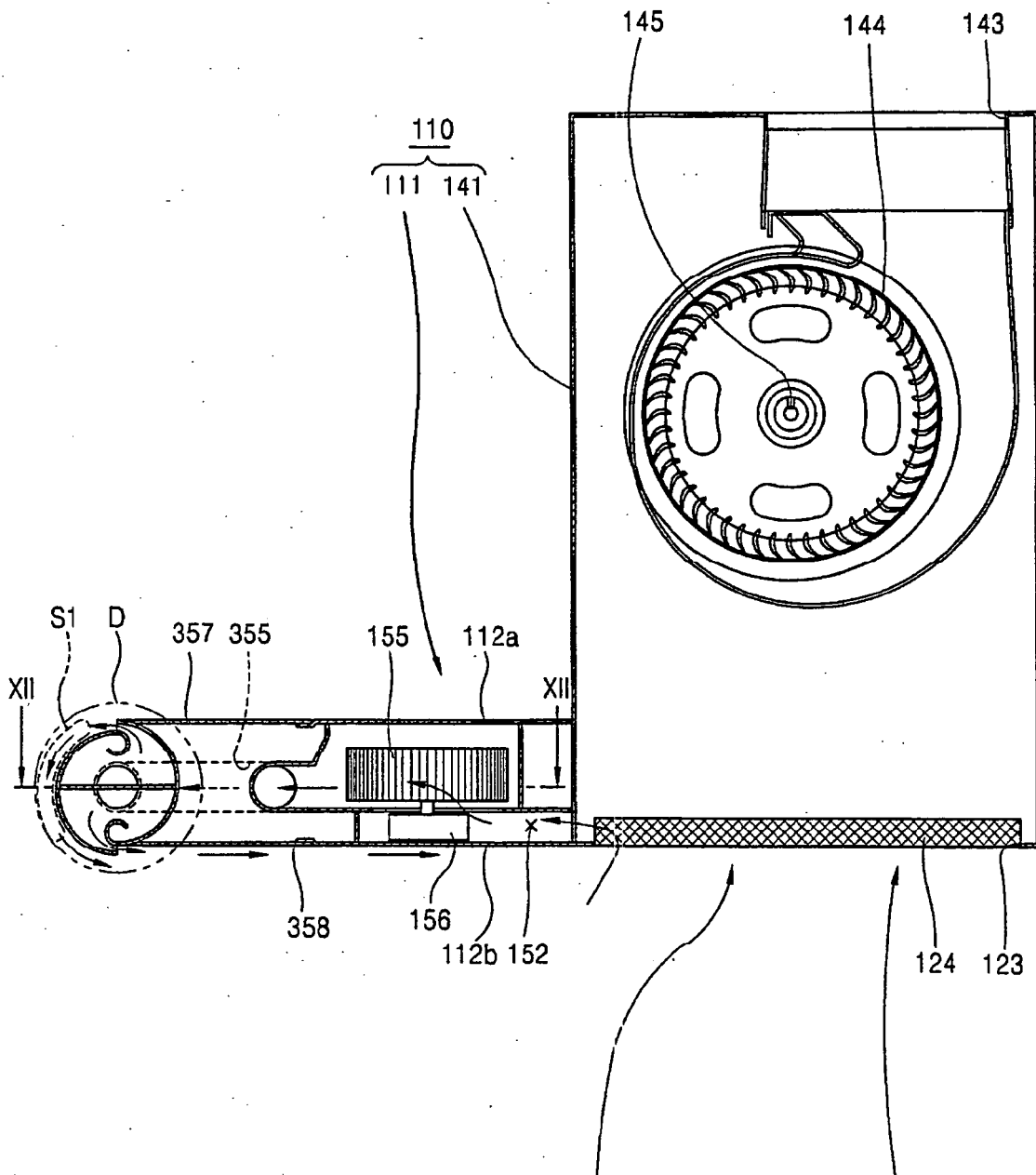


FIG. 8

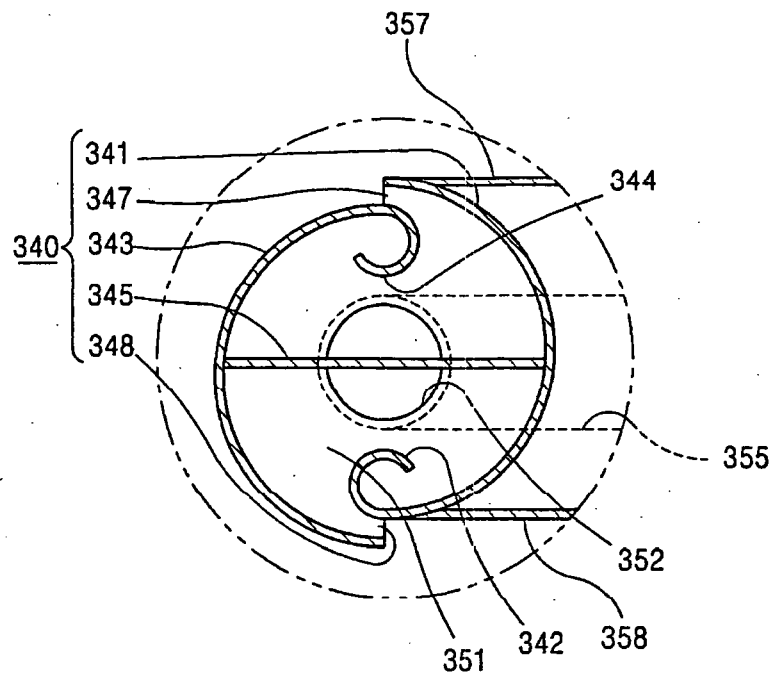


FIG. 9

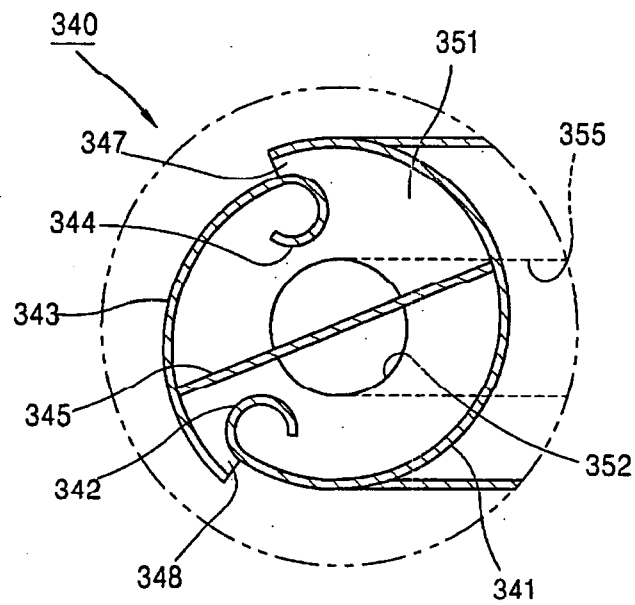


FIG. 10

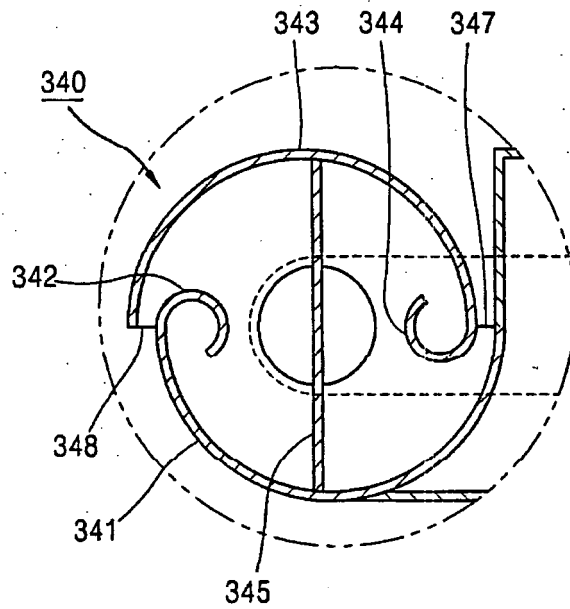


FIG. 11

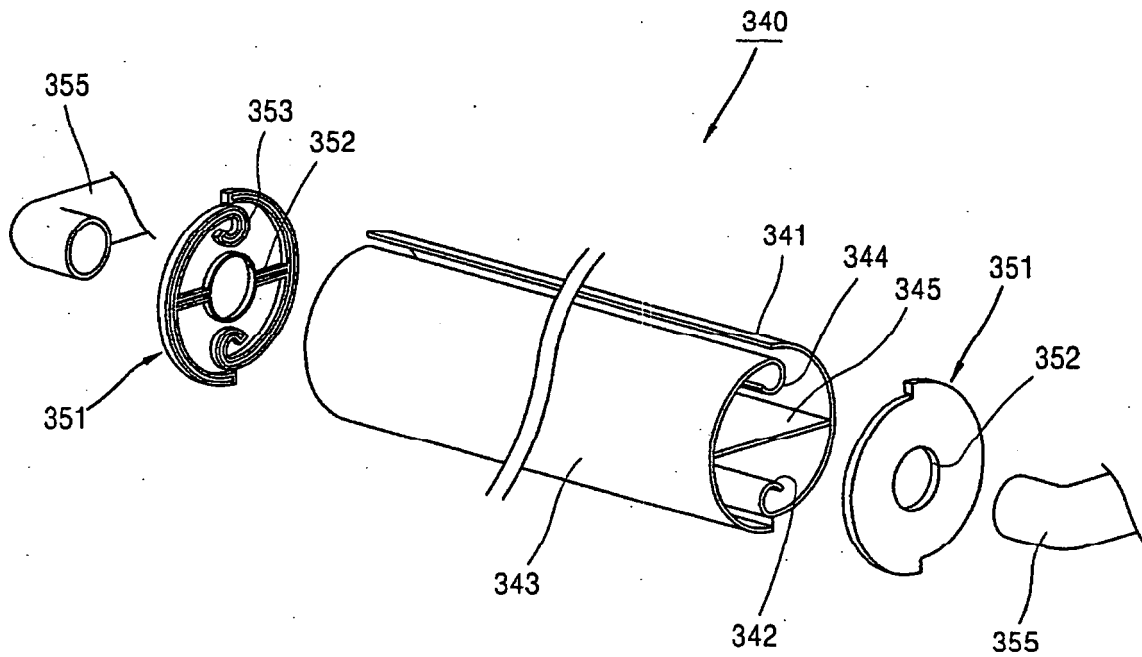


FIG. 12

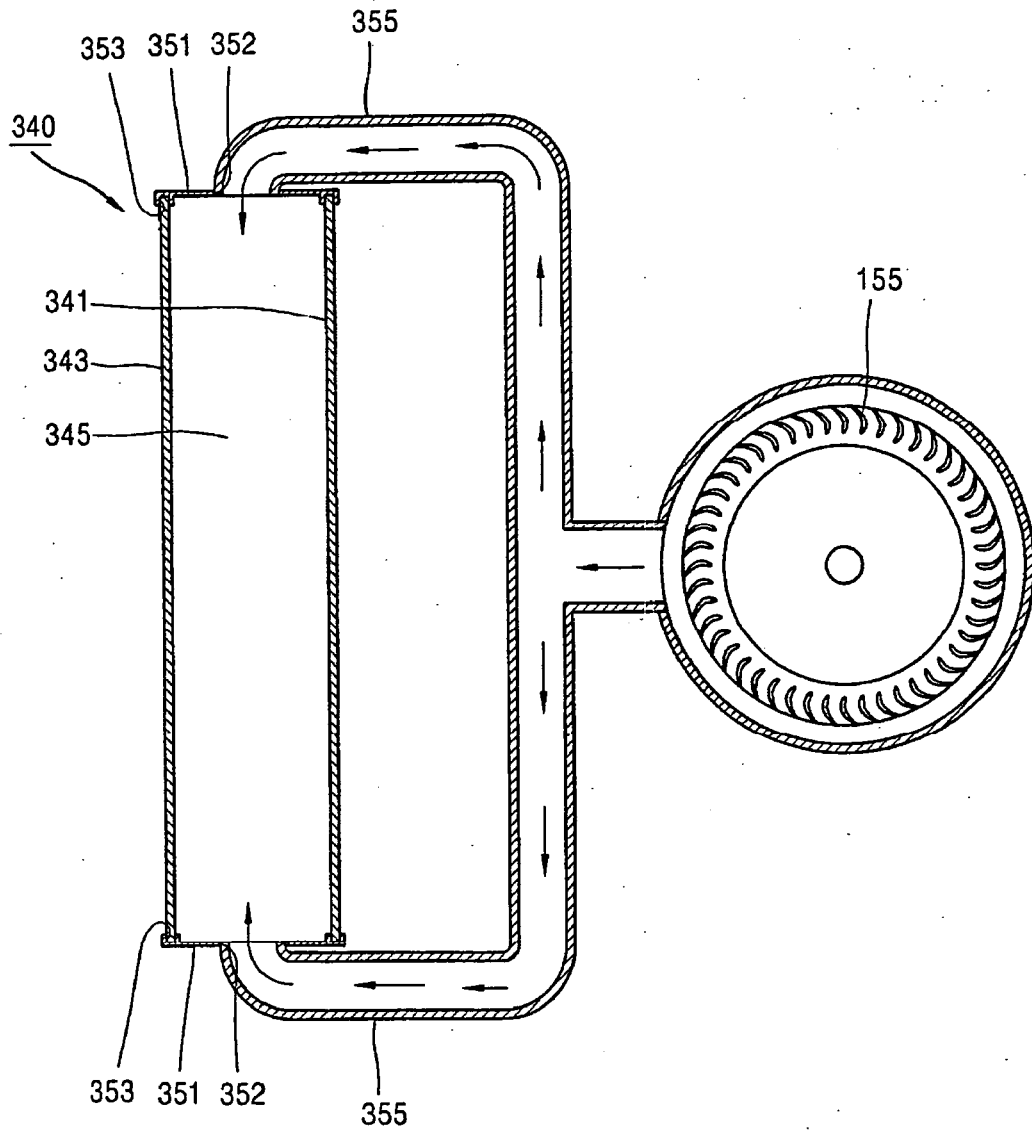


FIG. 13

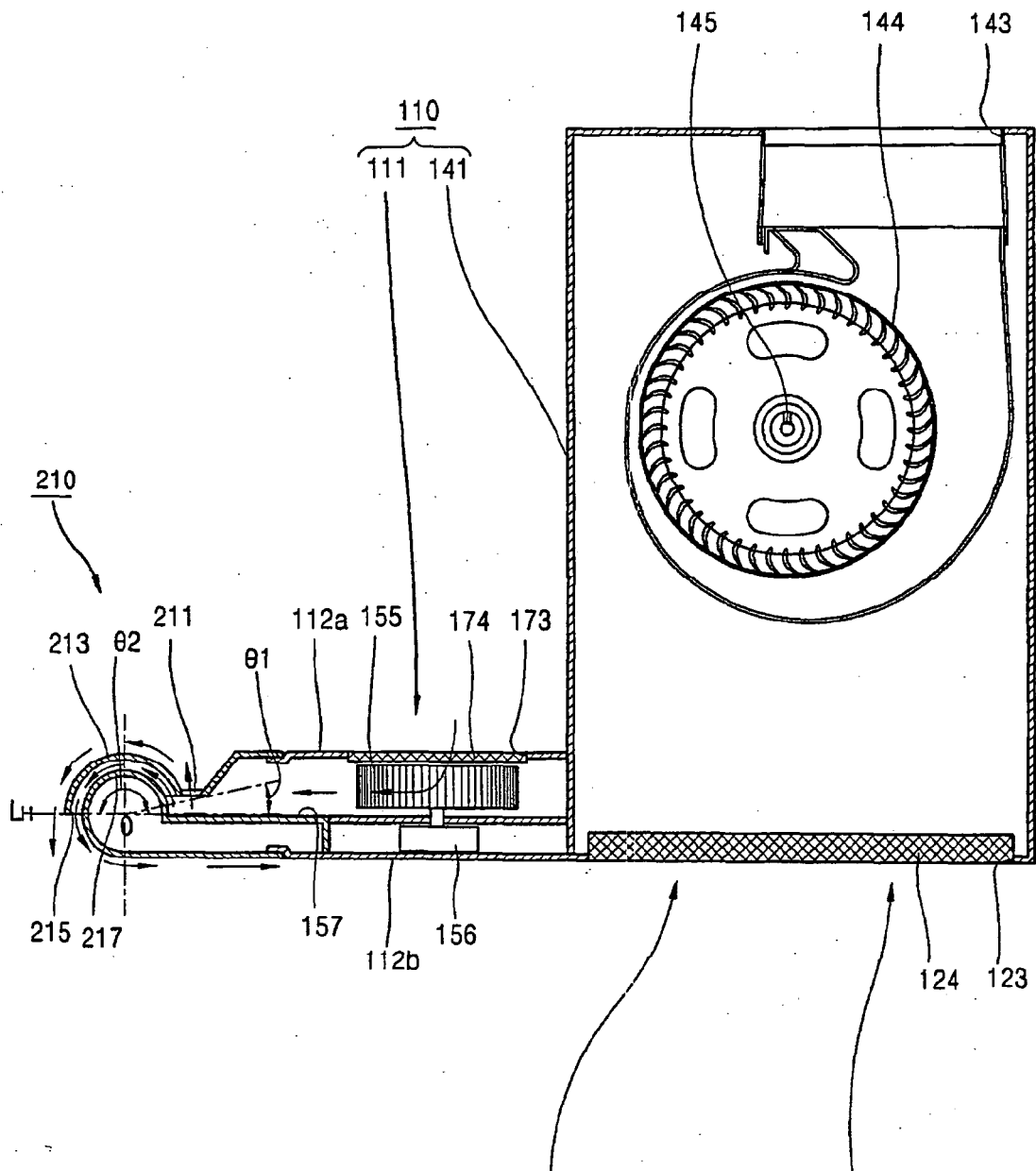


FIG. 14

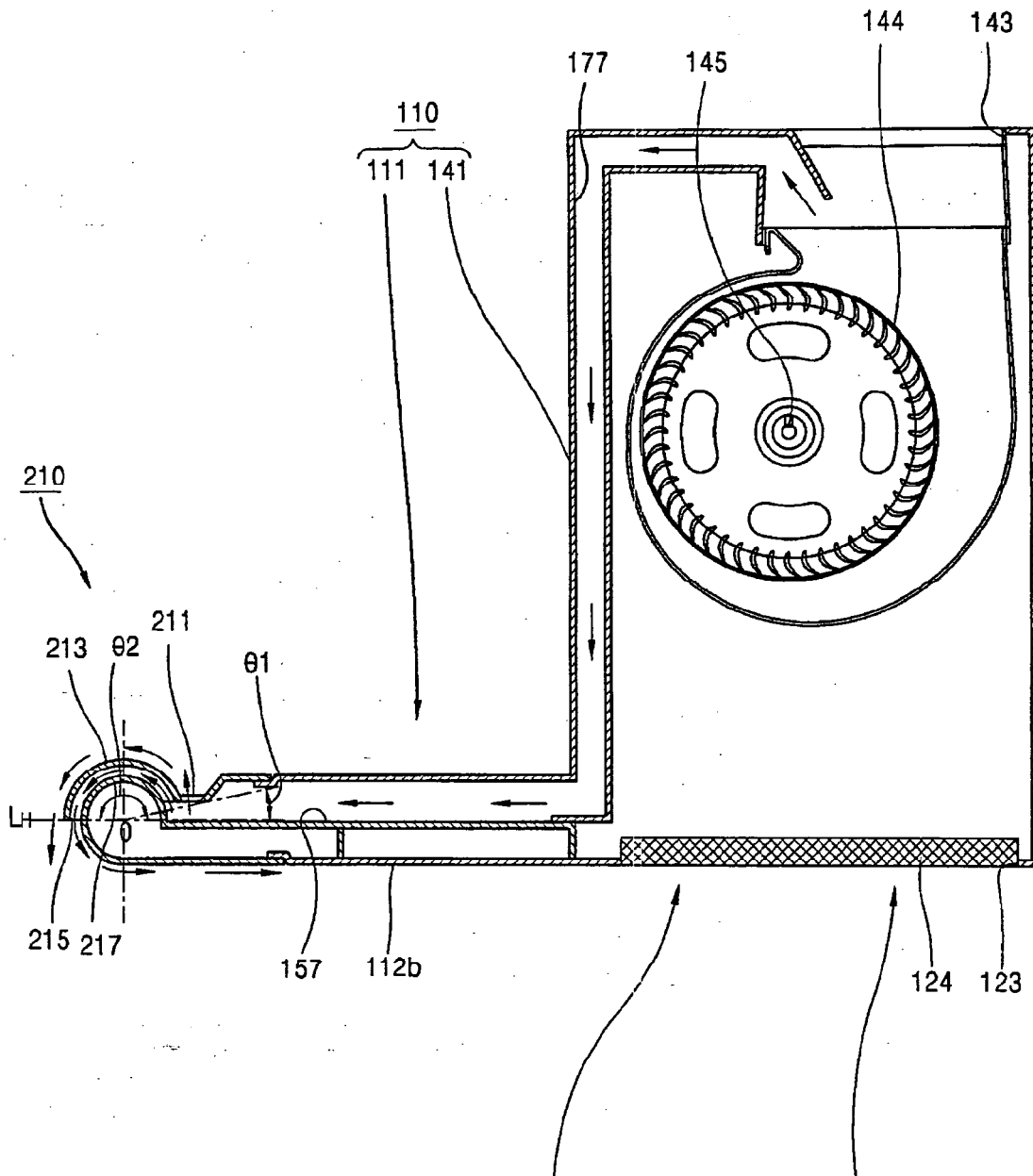


FIG. 15

