



(12) **EUROPEAN PATENT APPLICATION**

(43) Date of publication:
25.01.2012 Bulletin 2012/04

(51) Int Cl.:
F25D 23/04 ^(2006.01) **F25D 25/04** ^(2006.01)

(21) Application number: **11174372.0**

(22) Date of filing: **18.07.2011**

(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**
Designated Extension States:
BA ME

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(30) Priority: **20.07.2010 KR 20100069801**
20.07.2010 KR 20100069802

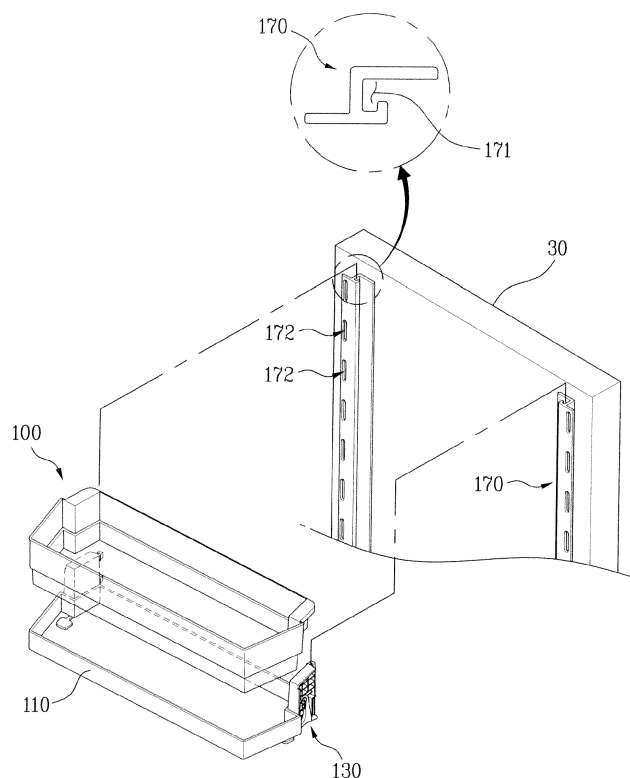
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(54) **Refrigerator**

(57) A refrigerator is disclosed. The present invention includes a body having at least one storage space, a door mounted to the body to selectively open/close the storage space, at least one rail part provided to a backside of the

door, and a basket assembly including a basket and a sliding module guided along the rail part together with the basket, the sliding module to be selectively fixed to the rail part by a lever.

FIG. 2



Description

BACKGROUND OF THE INVENTION

Field of the Invention

[0001] The present invention relates to a refrigerator. Although the present invention is suitable for a wide scope of applications, it is particularly suitable for low temperature storage of food.

Discussion of the Related Art

[0002] Generally, a refrigerator is a device for enabling low temperature storage of the stored stuff to keep food fresh for a long time. In the refrigerator, the stuff is kept in a manner of adjusting a state of a chill in accordance with a state of the stuff to be kept.

[0003] The chill supplied into a refrigerator is generated from the heat exchange reaction of refrigerant. In particular, the chill is continuously supplied to an internal space of the refrigerator by the repeated execution of a cycle consisting of compression, condensation, expansion and evaporation. The supplied chill is evenly distributed to the internal space of the refrigerator by convection to enable food to be stored in the refrigerator at a desired temperature.

[0004] Refrigerators may be classified into a normal type refrigerator, a side-by-side type refrigerator, a bottom freezer type refrigerator and the like in accordance with the configuration of a freezer compartment and a cold refrigerator.

[0005] Regarding the configuration of the normal type refrigerator, a freezer compartment is situated at an upper part of the refrigerator and a cold compartment is situated at a lower part of the refrigerator. Regarding the configuration of the side-by-side type refrigerator, a freezer compartment and a cold compartment are laterally arranged side by side.

[0006] The bottom freezer type refrigerators are widely used in U.S.A, Europe and the like. Regarding the configuration of the bottom freezer type refrigerator, a cold compartment, which is larger than a cold compartment, is situated at an upper part of the refrigerator and a freezer compartment is situated to a lower part of the refrigerator.

[0007] Meanwhile, a refrigerator includes a body having at least one storage space for low temperature storage and a door rotatably attached to the body to selectively open/close the storage space.

[0008] Regarding the configuration of the body, while an inner case is arranged within an outer case, a space between the outer case and the inner case is filled up with a heat insulator for the insulation between a space for cold storage or frozen storage and an external space. And, a plurality of shelves are loaded in the inner case.

[0009] Recently, various functions are applied to a refrigerator for user's convenience in using the refrigerator. In order to implement such functions, the door is provided

with a home bar for facilitating reception and storage of food or food containers to some extent or a plurality of baskets are provided to a backside of the door.

[0010] In particular, a plurality of the baskets may be provided to the backside of the door in a manner of being spaced apart from each other by maintaining a prescribed space in-between. And, each of the baskets is generally fixed to the backside of the door. However, since a height of each of the baskets and a space between two neighboring baskets are fixed, the basket configuration of the related art has difficulty in meeting a height of a storage container or user's convenience in reception.

SUMMARY OF THE INVENTION

[0011] Accordingly, the present invention is directed to a refrigerator that substantially obviates one or more problems due to limitations and disadvantages of the related art.

[0012] An object of the present invention is to provide a refrigerator, by which a position of a basket may be adjusted in accordance with a height of a storage container or user's convenience in reception.

[0013] Another object of the present invention is to provide a refrigerator, by which lateral looseness of a basket may be prevented in the course of adjusting a position of the basket.

[0014] Another object of the present invention is to provide a refrigerator, by which user's convenience may be enhanced using a lever structure in consideration of a user's user interface.

[0015] Another object of the present invention is to provide a refrigerator, by which a basket may be prevented from being separated in the course of receiving food.

[0016] Another object of the present invention is to provide a refrigerator, by which a basket may be easily detached for cleaning.

[0017] A further object of the present invention is to provide a refrigerator, by which rigidity of a basket may be raised with fancy exterior.

[0018] Additional advantages, objects, and features of the invention will be set forth in part in the description which follows and in part will become apparent to those having ordinary skill in the art upon examination of the following or may be learned from practice of the invention. The objectives and other advantages of the invention may be realized and attained by the structure particularly pointed out in the written description and claims hereof as well as the appended drawings.

[0019] To achieve these objects and other advantages and in accordance with the purpose of the invention, as embodied and broadly described herein, a refrigerator according to the present invention includes a body having at least one storage space, a door mounted to the body to selectively open/close the storage space, at least one rail part provided to a backside of the door, and a basket assembly having a basket and a sliding module guided

along the rail part together with the basket, the sliding module to be selectively fixed to the rail part by a lever.

[0020] Preferably, the sliding module includes a slide body, a rolling part provided to one side of the slide body to be received in the rail part, and a lever part rotatably mounted to the slide body.

[0021] More preferably, the lever part includes a lever rotatably mounted to the slide body, the lever having an insertion portion configured to be selectively inserted in the rail part and a handle portion for manipulation of a turning motion and an elastic member configured to apply an elastic force to the lever in a direction of pressurizing the rail part.

[0022] More preferably, if a pressurizing force is applied to the lever, the lever part moves along the rail part. If the pressurizing is removed from the lever, the lever part is inserted in the rail part.

[0023] And, a stopper configured to enable the turning motion of the lever toward the rail part within a prescribed turning angle range is provided to the slide body.

[0024] Moreover, a plurality of insertion holes configured to receive the insertion portion are provided to the rail part in a height direction.

[0025] More preferably, the rolling part includes a projection part configured to be received in the rail part.

[0026] More preferably, the rolling part includes at least one roller.

[0027] More preferably, the rolling part includes a first roller and a second roller spaced apart from the first roller in a width direction of the rail part.

[0028] In this case, a width of the rail part is greater than that of each of the first roller and the second roller.

[0029] And, a plurality of first and second rollers are provided along a length direction of the rail part. Moreover, the second roller is arranged between a pair of the first rollers adjacent to each other.

[0030] More preferably, the rail part includes a pair of rails arranged in a manner of being spaced apart from each other with a prescribed space in-between, each of a pair of the rails has a plurality of insertion holes and a guide portion formed along a length direction, and the sliding module is provided to each of both sides of the basket.

[0031] Preferably, the basket includes a mounting rib configured to have the sliding module loaded thereon and a basket body configured to be detachably received in the mounting rib.

[0032] More preferably, the mounting rib is formed of metal substance.

[0033] More preferably, the basket body includes an insertion part configured to be received in the mounting rib and a deco part configured to be externally exposed and a boundary between the insertion part and the deco part is stepped in a manner that a cross-section area of the deco part is greater than that of the insertion part.

[0034] In this case, an outer circumference of the insertion part adheres closely to an inner circumference of the mounting rib and the stepped boundary is mounted

to an upper surface of the mounting rib.

[0035] More preferably, a hanging part configured to have the mounting rib loaded thereon is provided to each of both lateral sides of the backside of the door and a projection part configured to be fitted into the hanging part is provided to each of both lateral sides of the mounting rib.

[0036] It is to be understood that both the foregoing general description and the following detailed description of the present invention are exemplary and explanatory and are intended to provide further explanation of the invention as claimed.

BRIEF DESCRIPTION OF THE DRAWINGS

[0037] The accompanying drawings, which are included to provide a further understanding of the invention and are incorporated in and constitute a part of this application, illustrate embodiment(s) of the invention and together with the description serve to explain the principle of the invention. The above and other aspects, features, and advantages of the present invention will become more apparent upon consideration of the following description of preferred embodiments, taken in conjunction with the accompanying drawing figures. In the drawings:

[0038] FIG. 1 is a perspective diagram of a refrigerator having a door open in part according to one embodiment of the present invention;

[0039] FIG. 2 is an exploded perspective diagram for details of a refrigerator according to a first embodiment of the present invention;

[0040] FIG. 3 is a perspective diagram of a basket assembly shown in FIG. 2;

[0041] FIG. 4 is a perspective diagram of a sliding module shown in FIG. 3;

[0042] FIG. 5 is a cross-sectional diagram for describing position adjustment of a basket shown in FIG. 2;

[0043] FIG. 6 is an exploded perspective diagram for details of a refrigerator according to a second embodiment of the present invention;

[0044] FIG. 7 is a perspective diagram of a basket assembly shown in FIG. 6;

[0045] FIG. 8 is a perspective diagram of a sliding module shown in FIG. 7;

[0046] FIG. 9 is a cross-sectional diagram for describing position adjustment of a basket shown in FIG. 6;

[0047] FIG. 10 is an exploded perspective diagram of a basket assembly of a refrigerator according to a third embodiment of the present invention;

[0048] FIG. 11 is a perspective diagram of an assembled configuration of components of the basket assembly shown in FIG. 10; and

[0049] FIG. 12 is an exploded perspective diagram of the basket assembly shown in FIG. 11.

DETAILED DESCRIPTION OF THE INVENTION

[0050] In the following detailed description, reference

is made to the accompanying drawing figures which form a part hereof, and which show by way of illustration specific embodiments of the invention. It is to be understood by those of ordinary skill in this technological field that other embodiments may be utilized, and structural, electrical, as well as procedural changes may be made without departing from the scope of the present invention. Wherever possible, the same reference numbers will be used throughout the drawings to refer to the same or similar parts.

[0051] In the following description, a refrigerator according to one embodiment of the present invention is explained in detail with reference to the accompanying drawings. The accompanying drawings show exemplary configurations of the present invention for details of the description only, by which the technical scope of the present invention is non-limited.

[0052] Moreover, the same reference number is given to a same or corresponding component irrespective of drawing numbers and its redundant description shall be omitted. For clarity and convenience of the following description, a size and/or shape of each component shown in the drawings may be exaggerated or reduced.

[0053] Meanwhile, terminologies including such an ordinal number as first, second and the like are usable in describing various components. Yet, the components are non-limited by the terminologies. And, the terminologies are just used to discern one component from other components.

[0054] FIG. 1 is a perspective diagram of a refrigerator having a door open in part according to one embodiment of the present invention.

[0055] First of all, a refrigerator 1 according to one embodiment of the present invention is applicable to all refrigerator types (e.g., a general type, a side-by-side type, a bottom freezer type, etc.), and more particularly, to a refrigerator including at least one body for low temperature storage and a door rotatably attached to the body to selectively open/close a storage space. For clarity and convenience, the following description relates to a side-by-side type refrigerator which is popularly used, and which includes a freezer compartment and a cold compartment laterally arranged in parallel to be selectively opened/closed by a corresponding door.

[0056] A refrigerator according to one embodiment of the present invention includes a body 40 having at least one storage space 40 for low temperature storage, a door 30 rotatably attached to the body 10 to open/close the storage space 40, and a basket assembly 100 including at least one rail part (not shown in the drawing) provided to a backside of the door 30 and a sliding module (not shown in the drawing) provided to one side of the basket to be guided along the rail part and to be selectively fixed to the rail part by a lever.

[0057] Referring to FIG. 1, a refrigerator 1 according to one embodiment of the present invention includes a body 10 providing a space and exterior for storing food and food containers in a state of low temperature. In par-

ticular, the body 10 has an approximately rectangular parallelepiped shape. A front side of the body 10 is configured open for reception of the food and the food containers. And, the body 10 includes an outer case (not reference-numbered) and at least one inner case (not reference-numbered) loaded within the outer case to provide a storage space for refrigeration or cold storage or refrigeration of food and the like.

[0058] A door is rotatably attached to the open front side of the body 10 to open/close selectively. In FIG. 1, a side-by-side type refrigerator is shown. In order to open/close a left storage space or a right storage space 40 selectively, a first door 20 and a second door 30 are attached to the body 10.

[0059] Recently, various functions are applied to a refrigerator for convenience in using the refrigerator. In order to implement the convenient functions, a dispenser 21 may be provided to the first door 20 to directly take out purified water or ice to an external space. And, a home bar 31 for receiving and keeping food and/or food containers conveniently to some extent and the like may be further provided to the second door 30.

[0060] An inner space of the body 10 is partitioned into a left space and a right space. Generally, the left space plays a role as a freezer compartment (not shown in the drawing) for receiving to keep food and food containers at the temperature below 0°C and the right space plays a role as a cold compartment 40 for receiving to keep food and food containers at the temperature above 0°C.

[0061] In particular, the freezer compartment is used to keep food for a long time in a manner of keeping the food in the inner space at the temperature below °C. And, the cold compartment 40 is used to keep food fresh in a manner of keeping the temperature lower than a room temperature above 0°C.

[0062] A plurality of shelves 41 are provided to an inner space of each of the freezer compartment and the cold compartment 40. Hence, the inner space of each of the freezer compartment and the cold compartment 40 may be partitioned into a plurality of layers. And, drawer(s) 42 may be further provided to the inner space of each of the freezer compartment and the cold compartment to receive such food as vegetables, fruits and the like.

[0063] At least one basket assembly 100 is provided to a backside of the first door 20 or the second door 30 along a height direction of the corresponding door 20/30 to receive and keep relatively small foods, drinks and the like. FIG. 1 shows the case that the basket assembly 100 is provided to the backside of the second door 30 only. Yet, it is a matter of course that such a basket assembly as shown in FIG. 1 may be provided to the backside of the first door 20.

[0064] FIG. 2 is an exploded perspective diagram for details of a refrigerator according to a first embodiment of the present invention. FIG. 3 is a perspective diagram of a basket assembly shown in FIG. 2. FIG. 4 is a perspective diagram of a sliding module shown in FIG. 3. And, FIG. 5 is a cross-sectional diagram for describing

position adjustment of a basket shown in FIG. 2.

[0065] As mentioned in the foregoing description, the objects of the present invention are as follows. First of all, a position of a basket may be adjusted in accordance with a height of a storage container or user's convenience in reception. Secondly, lateral looseness of a basket may be prevented in the course of adjusting a position of a basket. Thirdly, user's convenience may be enhanced using a lever structure in consideration of a user's user interface.

[0066] A dike 32 is provided to an edge portion of the backside of the second door 30, whereby a basket configured to provide various reception spaces may be installed at the dike 32. In particular, the dike 32 may be configured to substantially have a shape of a rectangular frame. And, the dike 32 may have a structure to support both lateral sides of the home bar 31 or the basket assembly 100.

[0067] The dike 32 may have a rail structure to guide a sliding movement of the basket assembly 100. In case that a separate rail part 170 for guiding the basket assembly 100 is provided to the backside of the door 30, the dike 32 may be configured to cover the rail part 170 in order to prevent the rail part 170 from being externally exposed.

[0068] In the following description, the case of the rail part 170 separately provided to the backside of the door 30 is explained for example.

[0069] Referring to FIG. 2, the rail part 170 may have a bar structure configured to extend along a height direction of the backside of the door 30. In particular, a pair of rail parts 170 may be provided to the backside of the door 30 in a manner of being spaced apart from each other along a width direction of the door 30.

[0070] The rail part 170 includes a guide portion 171 provided along the height direction and a plurality of insertion holes 172 configured to fix a position of the basket assembly 100 thereto.

[0071] Referring to FIG. 3 and FIG. 4, the sliding module 130 includes a slide body 131, a rolling part 140 provided to one side of the slide body 131 to be received in the rail part 170, and a lever part 150 rotatably mounted to the slide body 131.

[0072] Meanwhile, the basket assembly 100 may include a mounting rib 110 having the sliding module 130 loaded thereon and a basket body 120 mounted to the mounting rib 110 to receive food therein.

[0073] In particular, the basket body 120 may have a shape recessed to receive food or a reception container for storage of food and may be formed of various kinds of resin.

[0074] Optionally, the mounting rib 110 and the basket body 120 may be built in one body or the basket body 120 may be detachably mounted to the mounting rib 110, of which details shall be described later.

[0075] For clarity and convenience of the following description, the basket body 110 and the mounting rib 110 shall be called a basket. And, the mounting rib 112 and

the basket body 112 may have various shapes and assembled structures in consideration of design factors.

[0076] The lever part 150 is rotatably mounted to the slide body 131. And, the lever part 150 may include a lever 151 having an insertion portion 152 to be selectively inserted in the rail part 170 and a handle part 153 for manipulation of a turning motion and an elastic member 154 configured to provide an elastic force to the lever 151 in a direction of pressurizing the rail part 170.

[0077] The elastic member 154 may be loaded in a manner of enclosing a rotational shaft (not reference-numbered) of the lever 151 to be compressed in accordance with a turning of the lever 151. One end portion of the elastic member 154 is fixed to one side of the lever 151 and the other end portion of the elastic member 154 may be fixed to one side of the slide body 131.

[0078] In order to enable a turning motion of the insertion portion 152 toward the rail part 170 within a prescribed turning angle range, a stopper 132 may be provided to the slide body 131.

[0079] In particular, while a pressurizing force is applied to the lever 151 to face the rail part 170 by the elastic member 154, a position of the lever 151 may be maintained by the stopper 132.

[0080] FIG. 5 (a) is a cross-sectional diagram for describing a height adjustable status of the sliding module 130 along the rail part 170. And, FIG. 5 (b) is a cross-sectional diagram for describing a status that the sliding module 130 is fixed to the rail part 170.

[0081] Referring to FIG. 5 (a), if a pressurizing force in a direction opposite to that of the elastic member 154 is applied to the handle part 153 of the lever 151 by a user, the insertion portion 152 of the lever 151 may be separated from the insertion hole 172 of the rail part 170. In doing so, of course, the rolling part 140 of the slide module 130 is arranged within the guide portion of the rail part 170.

[0082] Therefore, the user is able to adjust a height of the basket assembly 100 while applying the pressurizing force to the handle part 153 of the lever 151.

[0083] Referring to FIG. 5 (b), if the basket assembly 100 arrives at a desired height, the user is able to release the pressurizing force from the handle part 153 of the lever 151. If so, the insertion portion 152 of the lever 151 is turned toward the rail part 170 by the elastic member 154 and is then received in the insertion hole 172 of the rail part 170. Hence, the height may be maintained.

[0084] Referring to FIG. 2, the number and positions of the sliding modules 130 mounted to the basket may correspond to the number and positions of the rail parts 170. In case that a pair of the rail parts 170 are arranged in a manner of being spaced apart from each other in a width direction of the door 30 by leaving a prescribed space in-between, a pair of the sliding modules 130 may be provided to both sides of the basket. Through this structure, when the height of the basket assembly 100 is adjusted, it is able to prevent the lateral looseness or fluctuation.

[0085] Referring to FIG. 2 and FIG. 3, the rolling part 140 may include at least one projection to be received in the guide portion 171 of the rail part 170. Moreover, the guide portion 171 and the projection may be configured to engage with each other. For instance, if the projection 140 of the sliding module 130 has a cross-section of 'I' shape, the guide portion 171 may include a space portion approximately having a cross-section of 'L' shape.

[0086] FIG. 6 is an exploded perspective diagram for details of a refrigerator according to a second embodiment of the present invention. FIG. 7 is a perspective diagram of a basket assembly shown in FIG. 6. FIG. 8 is a perspective diagram of a sliding module shown in FIG. 7. And, FIG. 9 is a cross-sectional diagram for describing position adjustment of a basket shown in FIG. 6.

[0087] First of all, a refrigerator according to a second embodiment of the present invention includes a body having at least one storage space for low temperature storage and a door rotatably attached to the body to selectively open/close the storage space.

[0088] In this case, the body and the door are identical to the former body and the former door described with reference to FIG. 1.

[0089] Yet, the refrigerator according to the second embodiment differs from the former refrigerator according to the first embodiment in the sliding module and the rail part only. In the following description, details of the common components are omitted and the difference from the first embodiment is mainly explained.

[0090] Referring to FIG. 6, the rail part 270 may have a bar structure configured to extend along a height direction of the backside of the door 30. In particular, a pair of rail parts 270 may be provided to the backside of the door 30 in a manner of being spaced apart from each other along a width direction of the door 30.

[0091] The rail part 170 includes a guide portion 271 provided along the height direction and a plurality of insertion holes 272 configured to fix a position of the basket assembly 200 thereto.

[0092] Referring to FIG. 7 and FIG. 8, a sliding module 230, which constitutes a refrigerator according to the second embodiment, includes a slide body 231, a rolling part 240 provided to one side of the slide body 231 to be received in the rail part 270, and a lever part 250 rotatably attached to the slide body 231.

[0093] The lever part 250 is rotatably mounted to the slide body 231. And, the lever part 250 may include a lever 251 having an insertion portion 252 to be selectively inserted in the rail part 270 and a handle part 253 for manipulation of a turning motion and an elastic member 254 configured to provide an elastic force to the lever 251 in a direction of pressurizing the rail part 270.

[0094] The elastic member 254 may be loaded in a manner of enclosing a rotational shaft (not reference-numbered) of the lever 251 to be compressed in accordance with a turning of the lever 251. One end portion of the elastic member 254 is fixed to one side of the lever 251 and the other end portion of the elastic member 254

may be fixed to one side of the slide body 231.

[0095] In order to enable a turning motion of the insertion portion 252 toward the rail part 270 within a prescribed turning angle range, a stopper 232 may be provided to the slide body 231.

[0096] In particular, while a pressurizing force is applied to the lever 251 to face the rail part 270 by the elastic member 254, a position of the lever 251 may be maintained by the stopper 232.

[0097] FIG. 9 (a) is a cross-sectional diagram for describing a height adjustable status of the sliding module 230 along the rail part 270. And, FIG. 9 (b) is a cross-sectional diagram for describing a status that the sliding module 230 is fixed to the rail part 270.

[0098] Referring to FIG. 6 and FIG. 9 (a), if a pressurizing force in a direction opposite to that of the elastic member 254 is applied to the handle part 253 of the lever 251 by a user, the insertion portion 252 of the lever 251 may be separated from the insertion hole 272 of the rail part 270. In doing so, of course, the rolling part 240 of the slide module 230 is arranged within the guide portion 271 of the rail part 270.

[0099] Therefore, the user is able to adjust a height of the basket assembly 200 while applying the pressurizing force to the handle part 253 of the lever 251.

[0100] Referring to FIG. 6 and FIG. 9 (b), if the basket assembly 200 arrives at a desired height, the user is able to release the pressurizing force from the handle part 253 of the lever 251. If so, the insertion portion 252 of the lever 251 is turned toward the rail part 270 by the elastic member 254 and is then received in the insertion hole 272 of the rail part 270. Hence, the height may be maintained.

[0101] Referring to FIG. 6, the number and positions of the sliding modules 230 mounted to the basket 210 may correspond to the number and loading positions of the rail parts 270. In case that a pair of the rail parts 270 are arranged in a manner of being spaced apart from each other in a width direction of the door 30 by leaving a prescribed space in-between, a pair of the sliding modules 230 may be provided to both sides of the basket 210. Through this structure, when the height of the basket assembly 200 is adjusted, it is able to prevent the lateral looseness or fluctuation.

[0102] Referring to FIGs. 6 to 8, the rolling part 240 may include at least one roller 240 rotatably attached to the slide body 231. And, the roller 240 rolls along an inner circumference of the guide portion 271 while received in the guide portion 271 of the rail part 270.

[0103] In particular, the rolling part 240 of the second embodiment includes the at least one roller 240, whereas the former rolling part of the first embodiment includes the projection 140.

[0104] Meanwhile, the guide portion 271 has a shape, which encloses a circumferential surface of the roller 240, to provide a contact surface for rotations of the roller 240. And, the guide portion 271 also has a curved portion 273 corresponding to a shape of the circumferential surface

of the roller 240 to increase a contact size with the roller 240. In order to prevent interference between the roller 240 and the backside of the door 30 or interference between the door 30 and the rail part 270, the curved portion 273 may be provided to a position spaced apart from the backside of the door 30 with a prescribed space in-between.

[0105] The rolling part 240 may include a first roller 241 and a second roller 242 spaced apart from each other with a prescribed space d in a width direction of the rail part 270. And, a plurality of the first and second rollers 241 and 242 may be provided in a length direction (i.e., height direction) of the rail part 270.

[0106] Regarding the rollers 241 and 242, the second roller may be provided between a pair of the first rollers adjacent to each other. And, a width of the guide portion 271 of the rail part 270 may be greater than that of each of the first and second rollers 241 and 242.

[0107] Referring to FIG. 6 and FIG. 8, when either the first roller 241 or the second roller 242 is mounted to the slide body 231, if the width of the guide portion 271 is equal to that of the corresponding roller, a normal rotation or a reverse rotation may occur in the corresponding roller in accordance with a movement of the slide body 231. Such a change of rotation direction causes a movement of the slide body 231 attributed to a sliding of the roller instead of the rotation of the roller. Thus, the sliding of the corresponding roller may interrupt a smooth movement of the slide body 231.

[0108] Therefore, in order to lead a smooth rotation of each of the rollers, a plurality of the rollers may be arranged in a manner that a first center line connecting rotational shafts of a plurality of the first rollers together is spaced apart from a second center line connecting rotational shafts of a plurality of the second rollers together.

[0109] Meanwhile, the basket 210 may have a recessed shape to receive food or receptacles for storage of food therein and may be formed of various resin substance.

[0110] Unlike the former basket 110 described with reference to FIGs. 2 to 5, the basket 210 of the second embodiment is built in one body. Yet, as mentioned in the foregoing description, the basket assembly 200 of the second embodiment differs from the former in the sliding module 230 and the rail part 270 only. And, it is a matter of course that the basket 210 may be a built-in type or a detachable type.

[0111] FIG. 10 is an exploded perspective diagram of a basket assembly of a refrigerator according to a third embodiment of the present invention. FIG. 11 is a perspective diagram of an assembled configuration of components of the basket assembly shown in FIG. 10. And, FIG. 12 is an exploded perspective diagram of the basket assembly shown in FIG. 11.

[0112] The present embodiment provides a refrigerator, by which separation of a basket may be prevented in the course of receiving food and by which detachment

of the basket is facilitated in the course of cleaning.

[0113] In particular, a basket assembly 100 should have difficulty in being detached from a backside of a door 30 in the course of food receiving process while attached to the backside of the door 30. The basket assembly 100 should have sufficient rigidity. And, the basket assembly 100 should have a configuration that facilitates detachment from the backside of the door 30 for a cleaning process.

[0114] Referring to FIGs. 10 to 12, the basket assembly 100 includes a mounting rib 110 provided to a backside of the door 30 and a basket body 120 detachably mounted to the mounting rib 110. In particular, the basket assembly 100 configuring the refrigerator 1 according to one embodiment of the present invention separately includes a fixed part (i.e., the mounting rib) and a detachable part (i.e., the basket body).

[0115] Assembly of the mounting rib 110 and the door 30 is described in detail with reference to the accompany drawings as follows.

[0116] First of all, a dike 32 is provided to an edge portion of the backside of the door 30, whereby a basket configured to provide various reception spaces may be mounted to the dike 32. In particular, the dike 32 may be configured to substantially have a shape of a rectangular frame. And, a plurality of hanging parts 33 may be provided to both lateral side portions of the dike 32 in a height direction.

[0117] The mounting rib 110 may include a base part having a ring shape and a connecting part 113 fixed to both lateral side portions of the base station. And, a projection portion 114 to be fitted into the hanging part 33 of the dike 32 may be provided to the connecting part 113.

[0118] The base part may include a contact portion configured to come into contact with the backside of the door and a non-contact portion 111 configured not to come into contact with the backside of the door. And, it is a matter of course that the base part may have one of various shapes in consideration of design factors.

[0119] For instance, in order to represent a fancy metallic exterior, the base part may be formed of metal substance. If the base part is formed of metal substance, rigidity of the basket assembly 100 may be further enhanced.

[0120] The projection portion 114 and the hanging part 33 may have corresponding shapes for the fit-in connection. And, the projection portion 114 and the hanging part 33 are manufactured to have a prescribed tolerance, thereby being forced to be fitted into each other.

[0121] Namely, the mounting rib 110 may be substantially fixed to the backside of the door 30.

[0122] Meanwhile, the basket body 120 may have a recessed shape to receive food or receptacles for storage of food therein and may be formed of various kinds of resin substance.

[0123] The basket body 120 may be divided into an insertion part 121 to be received in the mounting rib 110 and a deco part 122 to be externally exposed. A boundary

portion between the insertion part 121 and the deco part 122 may be stepped in a manner that a cross-sectional area of the deco part 122 is greater than that of the insertion part 121.

[0124] In this case, an outer circumference of the insertion part 121 of the basket body 120 adheres closely to an inner circumference of the mounting rib 100 and the stepped boundary portion 123 of the basket body 120 may be mounted to an upper surface of the mounting rib 110.

[0125] In particular, the outer circumference of the insertion part 121 of the basket body 120 closely adheres to an inner circumference of the ring-shape base part of the mounting rib 110, while the stepped boundary portion 123 of the basket body 120 is mounted to an upper surface of the ring-shape base part of the mounting rib 110.

[0126] When the basket body 120 is loaded, the outer surface of the mounting rib 110 and the outer circumference of the deco part of the basket body 120 may be situated in the same plane. Namely, the outer circumference of the ring-shape base part of the mounting rib 110 and the outer circumference of the deco part of the basket body 120 forms the same plane in a loaded state, thereby representing a fancy design.

[0127] A first stepped portion 115, in which a width of the contact portion 112 is smaller than that of the non-contact portion 111, may be provided to a boundary between the contact portion 112 and the non-contact portion 111 of the mounting rib 110.

[0128] A second stepped portion 124 may be provided to the basket body 120 to engage with the first stepped portion 115. Therefore, the refrigerator 1 according to one embodiment of the present invention increases a contact area between the basket body 120 and the mounting rib 110, thereby providing a structure having sufficient rigidity.

[0129] Installation and use of the above-configured basket assembly 100 are described in detail as follows.

[0130] As mentioned in the foregoing description, the mounting rib 110 of the basket assembly 100 is fitted into the dike 32 provided to the backside of the door 30.

[0131] In doing so, the hanging part 33 of the dike 32 and the projection portion 114 of the mounting rib 110 received in the hanging part 33 are prepared to have a prescribed relative tolerance not to be separated from each other in the course of food receiving process. And, the hanging part 33 and the projection portion 114 are configured to be forced to be inserted in the fitting process by the tolerance. Therefore, sufficient rigidity may be provided not to facilitate separation relatively.

[0132] Thereafter, the basket body 120 may be mounted to the mounting rib 110. Alternatively, while the basket body 120 is mounted to the mounting rib 110, the mounting rib 110 may be mounted to the backside of the door 30. For convenience of installation, after the mounting rib 110 has been mounted to the backside of the door 300, the basket body 120 is preferably mounted to the mounting rib 110.

[0133] In this case, in order to represent a fancy exterior, the outer circumference of the basket body 120 and the outer circumference of the mounting rib 110 may form the same plane. For metallic effect of exterior and rigidity reinforcement, the mounting rib 110 may be formed of metal substance.

[0134] In order to increase a contact area in-between, the basket body 120 and the mounting rib 110 may have a multi-stepped structure for mutual engagement. Therefore, if the basket body 120 is loaded, it is a matter of course that sufficient rigidity may be obtained as well as a fancy exterior.

[0135] In the course of using the refrigerator, if the basket body 120 needs to be cleaned, the basket body 120 may be detached while the mounting rib 110 is fixed to the backside of the door.

[0136] Accordingly, the present invention provides the following effects and/or advantages.

[0137] First of all, according to at least one of embodiments of the present invention, a position of a basket may be adjusted in accordance with a height of a storage container or user's convenience in reception.

[0138] Secondly, according to at least one of embodiments of the present invention, lateral looseness or fluctuation of a basket may be prevented in the course of adjusting a position of the basket.

[0139] Thirdly, according to at least one of embodiments of the present invention, user's convenience may be enhanced using a lever structure in consideration of a user's user interface.

[0140] Fourthly, according to at least one of embodiments of the present invention, a basket may be prevented from being separated in the course of receiving food.

[0141] Fifthly, according to at least one of embodiments of the present invention, a basket may be easily detached for cleaning.

[0142] Sixthly, according to at least one of embodiments of the present invention, rigidity of a basket may be raised with fancy exterior.

[0143] Finally, according to at least one of embodiments of the present invention, the present invention is able to represent a fancy exterior.

[0144] Although embodiments have been described with reference to a number of illustrative embodiments thereof, it should be understood that numerous other modifications and embodiments may be devised by those skilled in the art that will fall within the spirit and scope of the principles of this disclosure. More particularly, various variations and modifications are possible in the component parts and/or arrangements of the subject combination arrangement within the scope of the disclosure, the drawings and appended claims. In addition to variations and modifications in the component parts and/or arrangements, alternative uses will also be apparent to those skilled in the art.

Claims**1.** A refrigerator comprising:

a body having at least one storage space;
 a door mounted to the body to selectively open/
 close the storage space;
 at least one rail part provided to a backside of
 the door; and
 a basket assembly including a basket and a slid-
 ing module guided along the rail part together
 with the basket, the sliding module to be selec-
 tively fixed to the rail part by a lever.

2. The refrigerator of claim 1, the sliding module comprising:

a slide body;
 a rolling part provided to the slide body to be
 received in the rail part; and
 a lever part rotatably mounted to the slide body.

3. The refrigerator of claim 2, the lever part comprising:

a lever rotatably mounted to the slide body, the
 lever including an insertion portion to be selec-
 tively inserted in the rail part and a handle portion
 for manipulation of a turning motion; and
 an elastic member to apply an elastic force to
 the lever in a direction of pressurizing the rail
 part.

4. The refrigerator of claim 2, wherein if a pressurizing force is applied to the lever, the lever part moves along the rail part and wherein if the pressurizing is removed from the lever, the lever part is inserted in the rail part.**5.** The refrigerator of claim 3, wherein a stopper to enable the turning motion of the lever toward the rail part within a prescribed turning angle range is provided to the slide body.**6.** The refrigerator of claim 3, wherein a plurality of insertion holes to receive the insertion portion are provided to the rail part in a height direction.**7.** The refrigerator of claim 2, wherein the rolling part comprises a projection part to be received in the rail part.**8.** The refrigerator of claim 2, wherein the rolling part comprises at least one roller.**9.** The refrigerator of claim 2, wherein the rolling part comprises a first roller and a second roller spaced apart from the first roller in a width direction of the rail part.**10.** The refrigerator of claim 9, wherein a width of the rail part is greater than that of each of the first roller and the second roller.**11.** The refrigerator of claim 9, wherein a plurality of first and second rollers are provided along a length direction of the rail part.**12.** The refrigerator of claim 11, wherein the second roller is arranged between a pair of the first rollers adjacent to each other.**13.** The refrigerator of claim 2, wherein the rail part comprises a pair of rails arranged in a manner of being spaced apart from each other with a prescribed space in-between, wherein each of a pair of the rails has a plurality of insertion holes and a guide portion formed along a length direction, and wherein the sliding module is provided to each of both sides of the basket.**14.** The refrigerator of claim 1, the basket comprises:

a mounting rib configured to have the sliding
 module loaded thereon; and
 a basket body configured to be detachably re-
 ceived in the mounting rib.

15. The refrigerator of claim 14, wherein a hanging part configured to have the mounting rib loaded thereon is provided to each of both lateral sides of the backside of the door and a projection part configured to be fitted into the hanging part is provided to each of both lateral sides of the mounting rib.

FIG. 1

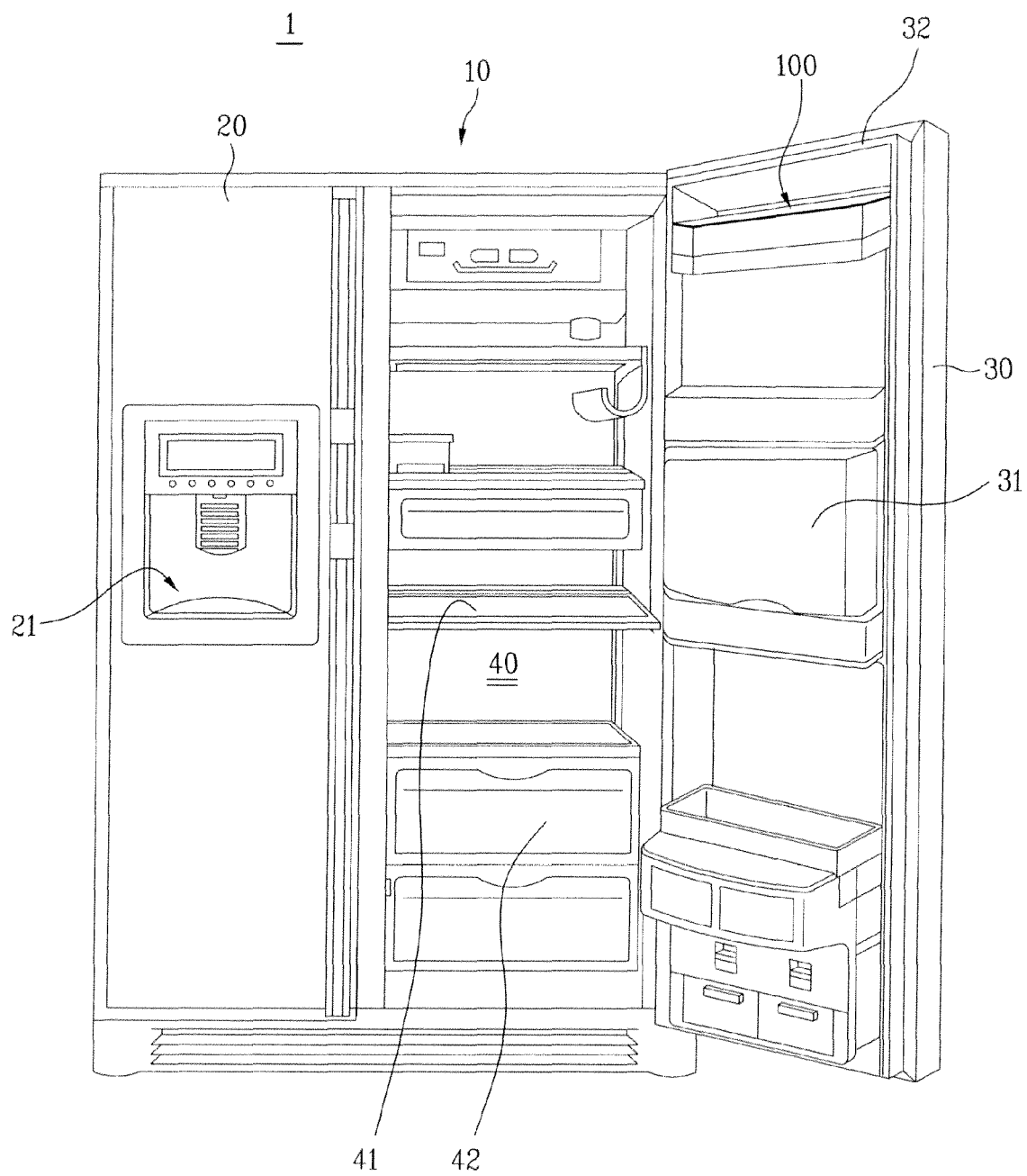


FIG. 2

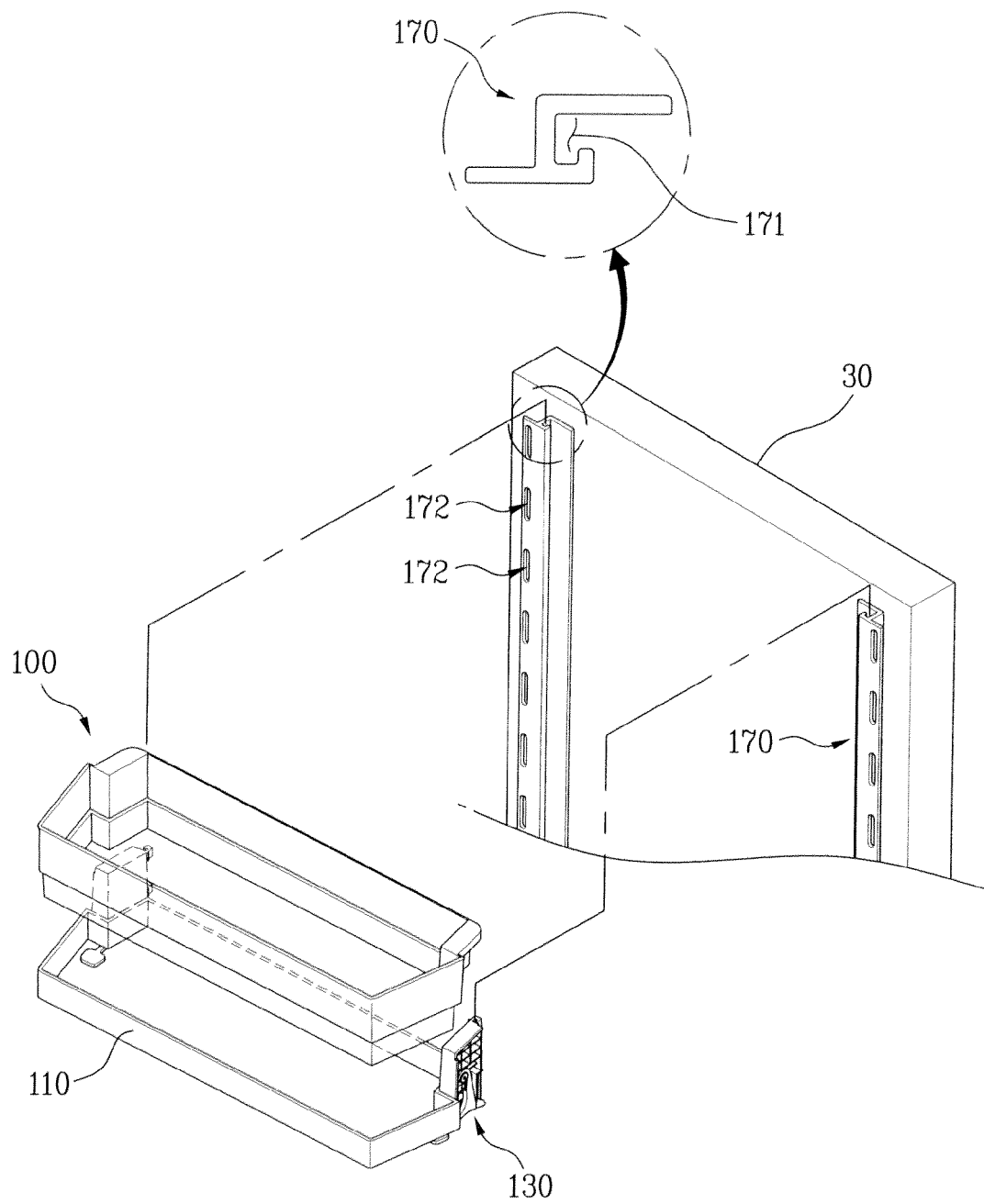


FIG. 3

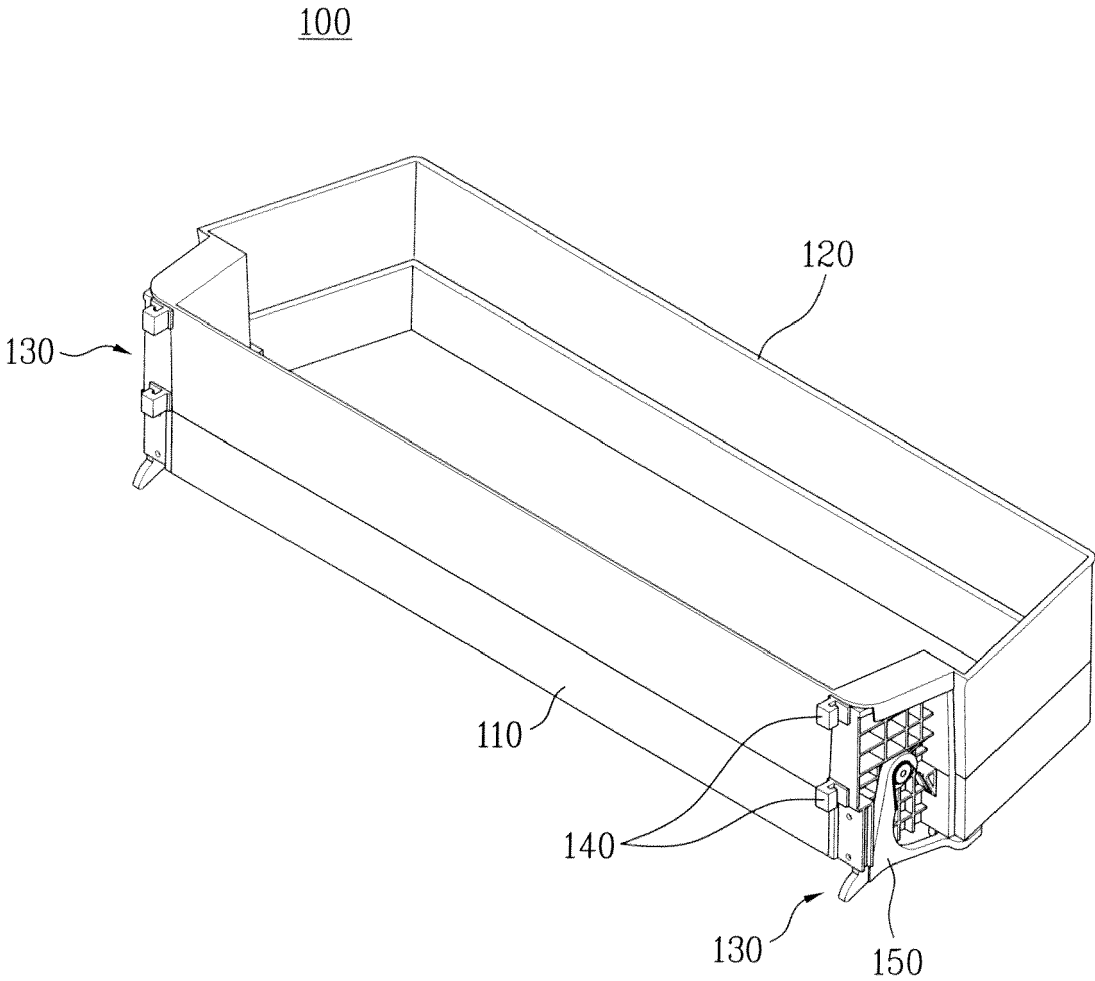


FIG. 4

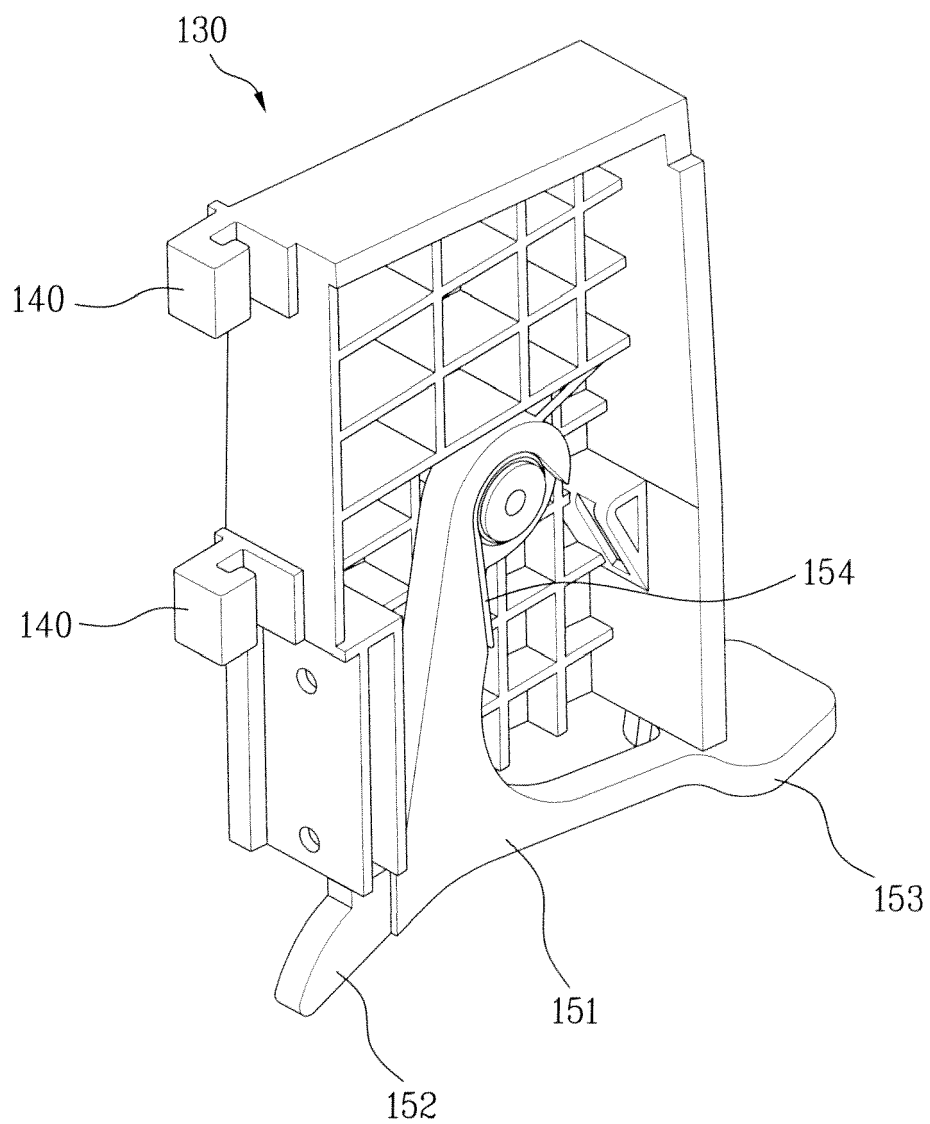


FIG. 5

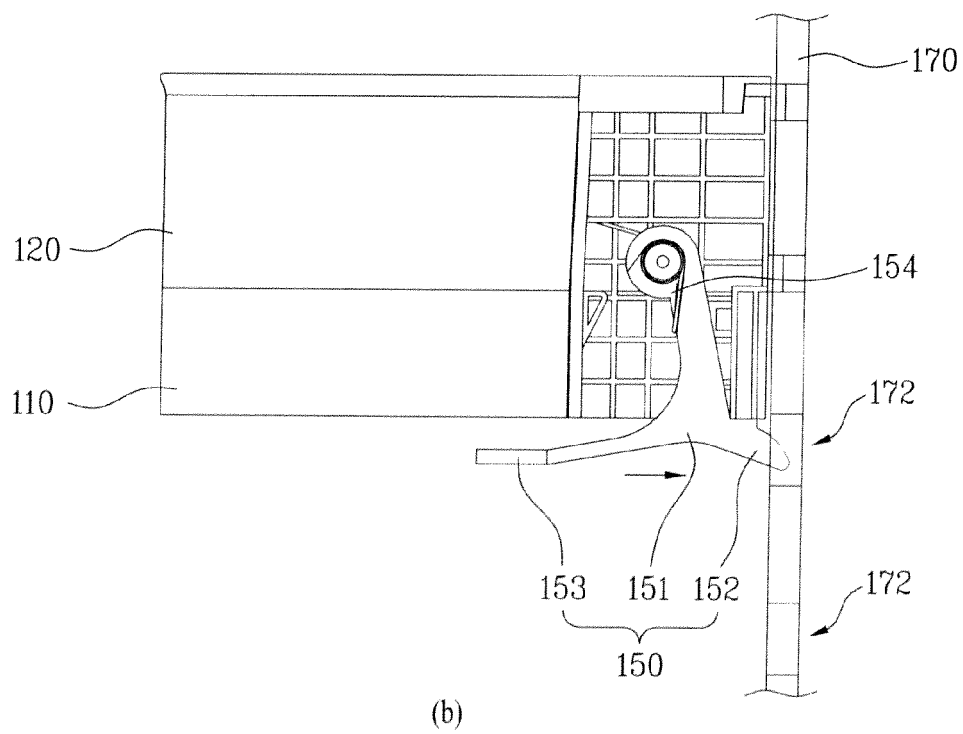
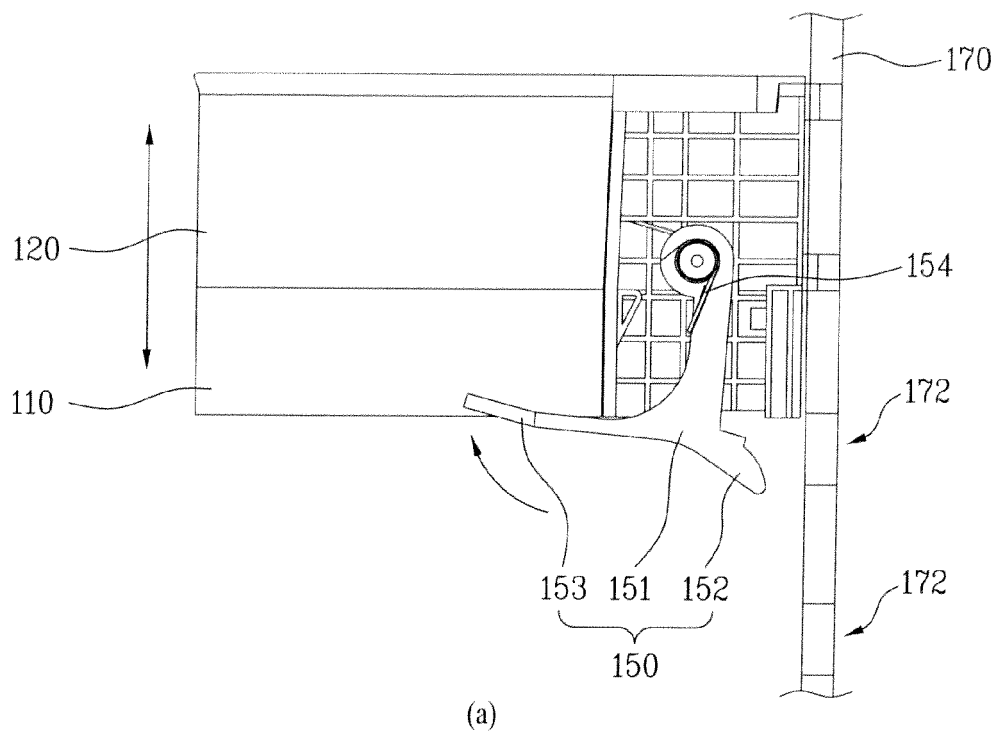


FIG. 6

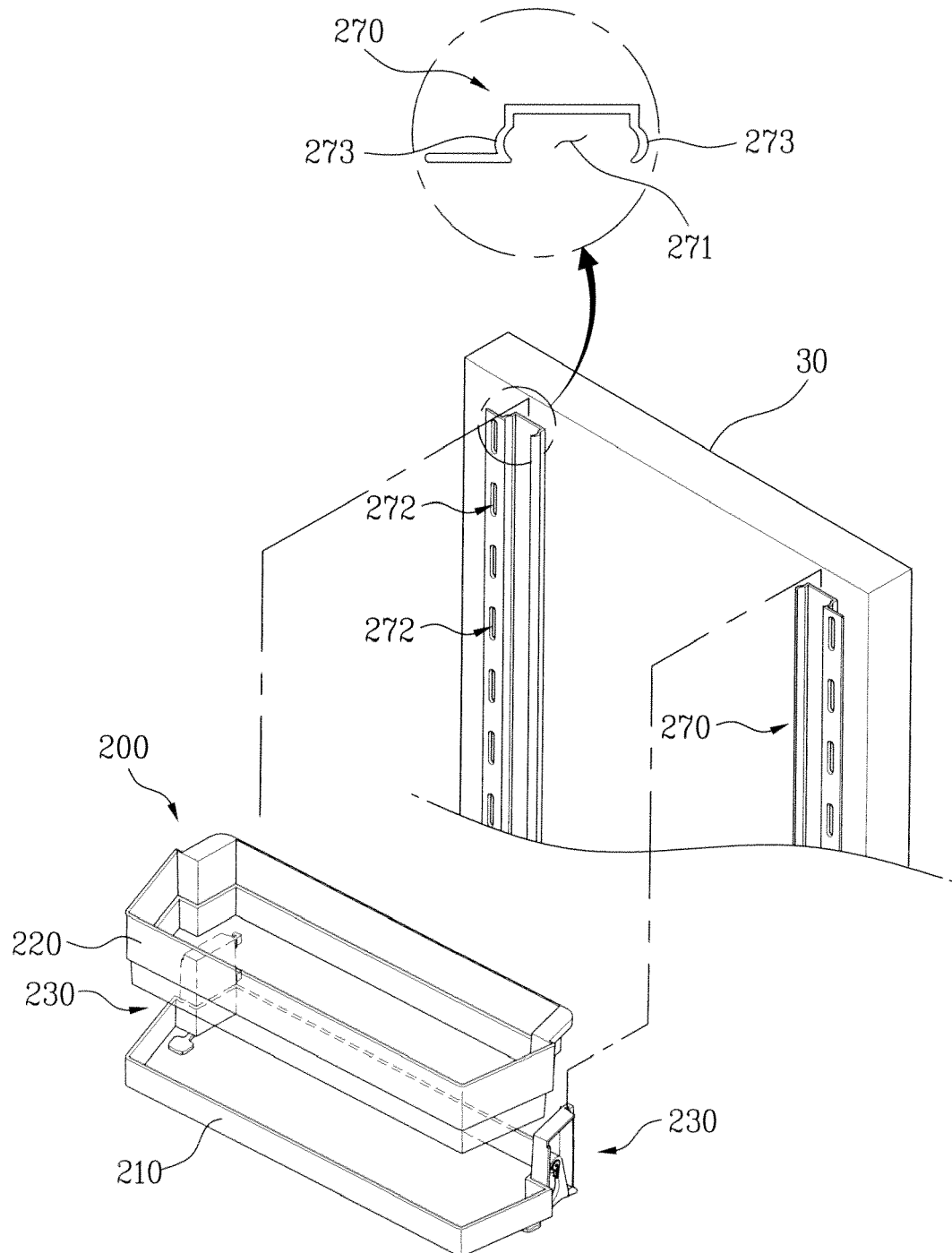


FIG. 7

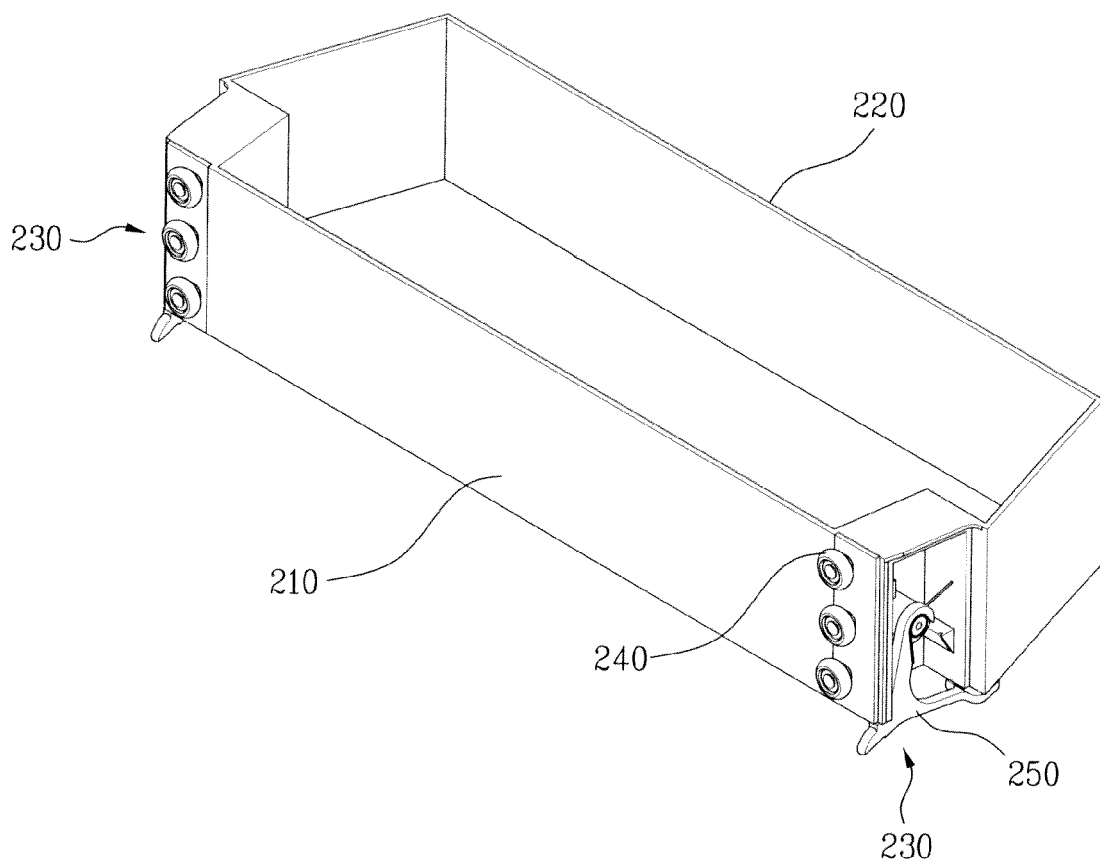


FIG. 8

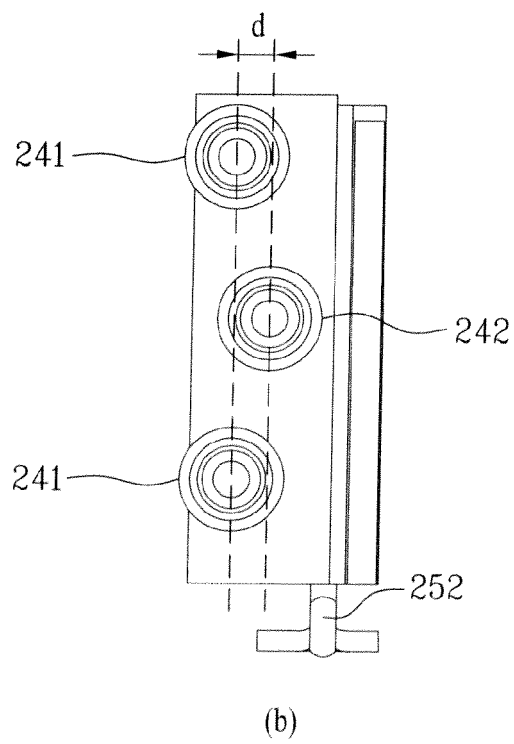
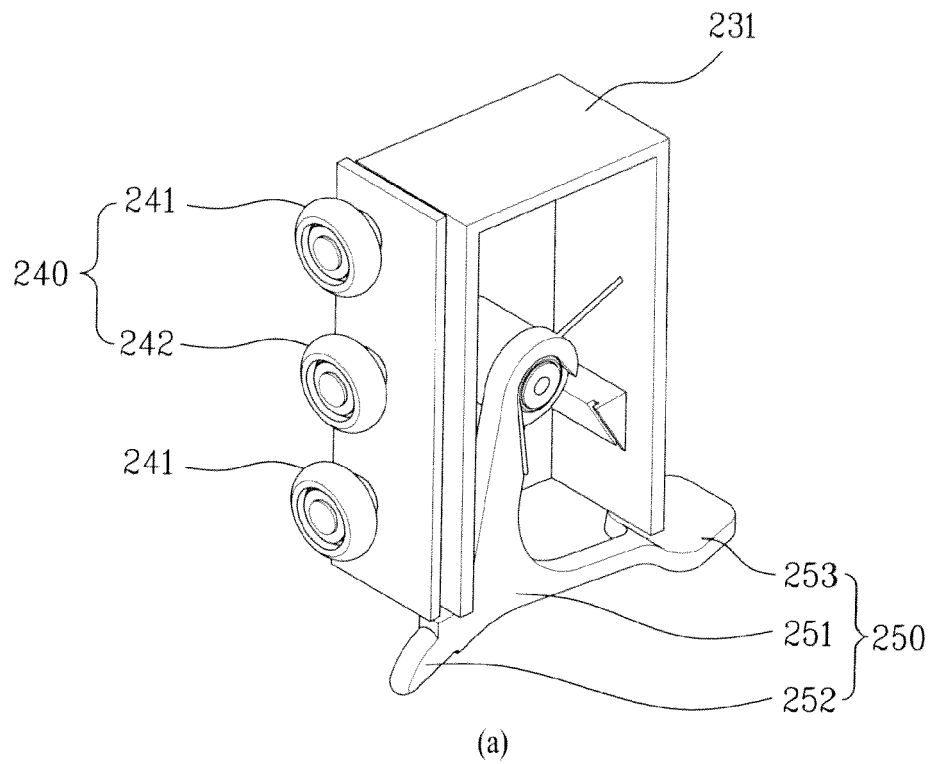


FIG. 9

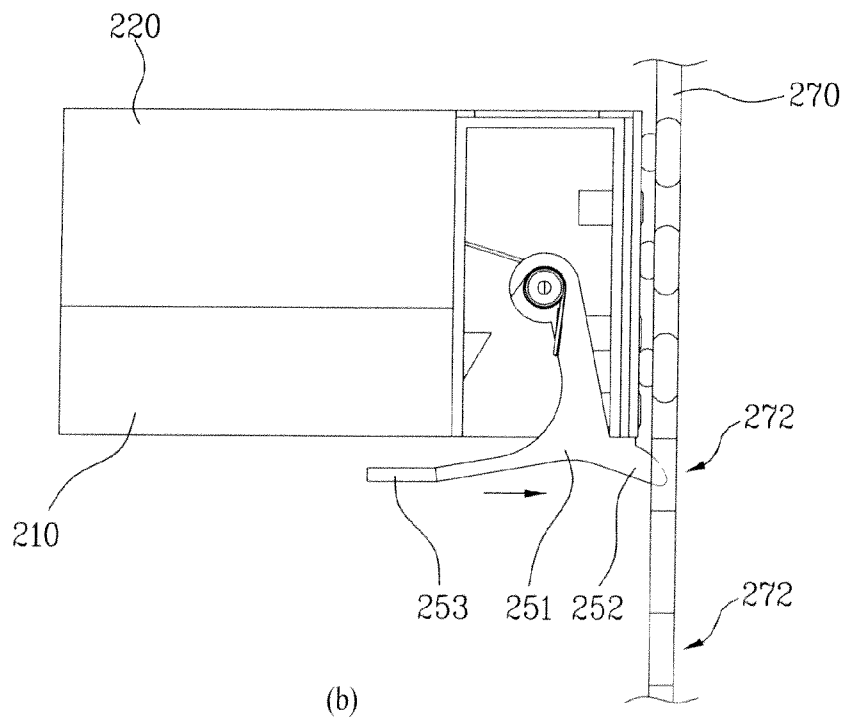
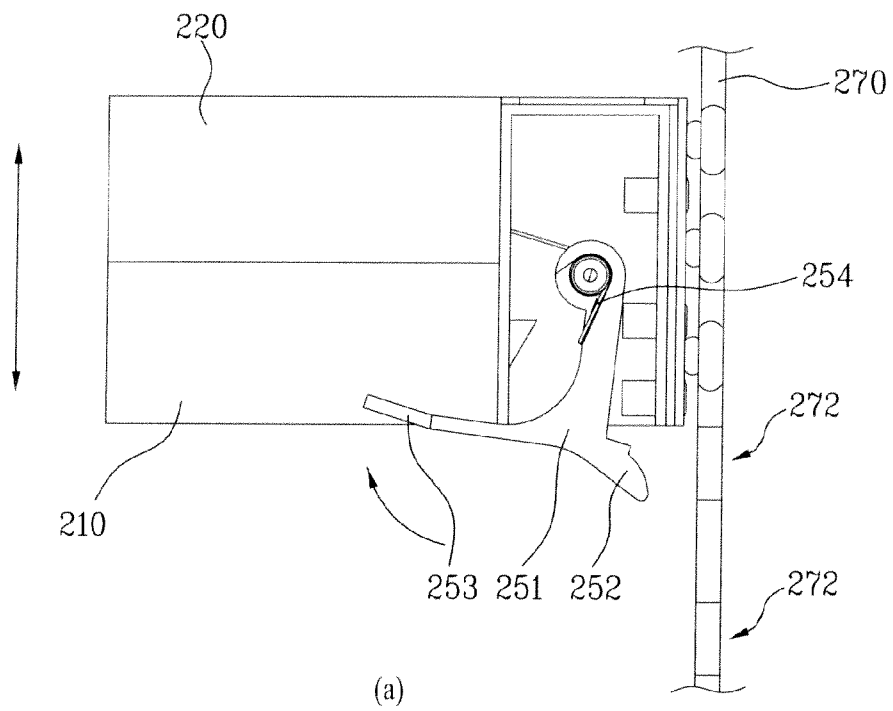


FIG. 10

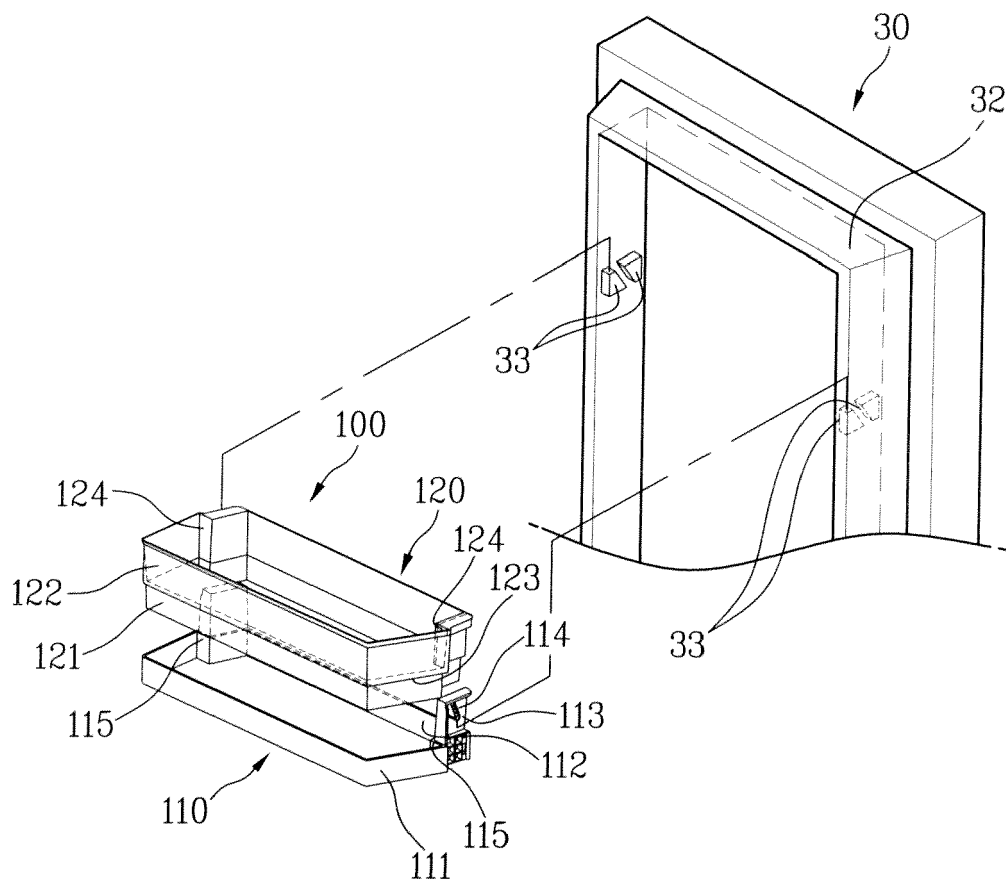


FIG. 11

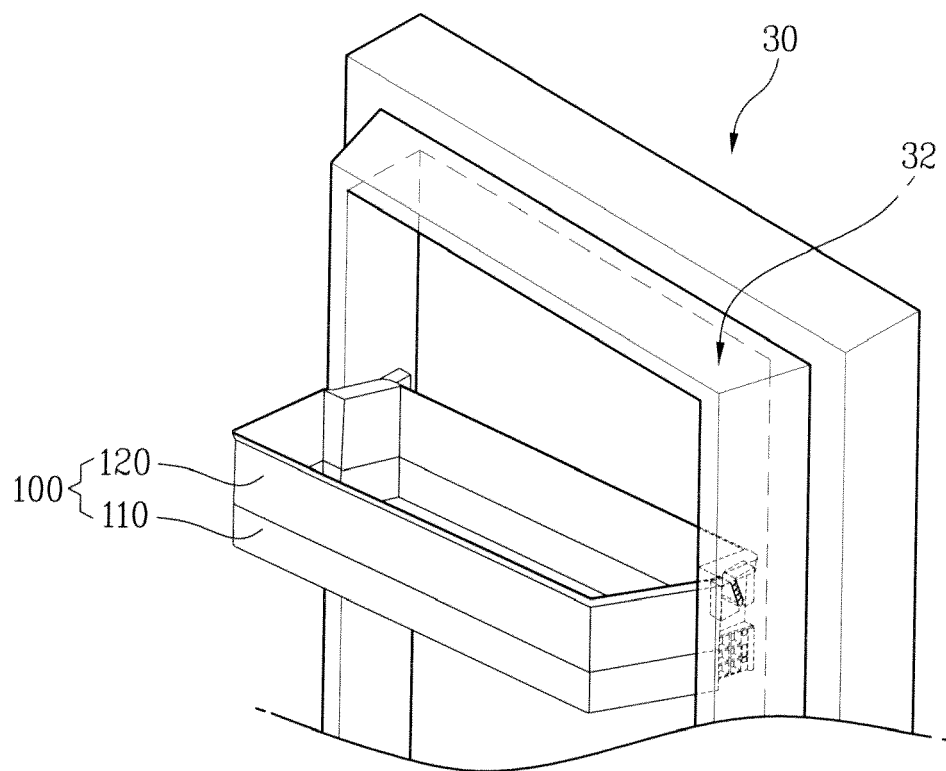


FIG. 12

