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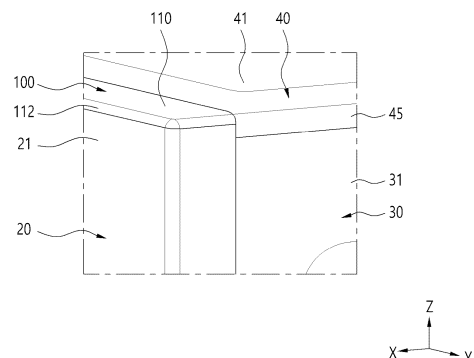
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(54) **LAUNDRY TREATING APPARATUS**

(57) Disclosed is a laundry treating apparatus, and the laundry treating apparatus of an embodiment of the disclosure comprises a cabinet and a drum which is provided in the cabinet and accommodates clothing, wherein the cabinet comprises a front panel forming the front surface of the cabinet and a top panel forming the upper surface of the cabinet. The top panel comprises an upper surface portion defining the upper surface, and the upper surface portion is disposed at a position higher than the upper end of the front panel.

FIG. 8



Description

TECHNICAL FIELD

[0001] The disclosure relates to a laundry treating apparatus, and more particularly, to a laundry treating apparatus including a top panel forming an upper surface of a cabinet.

BACKGROUND ART

[0002] A laundry treating apparatus is an apparatus that receives laundry, such as clothes and bedding, in a drum to perform treatment necessary for the laundry, such as removal of contaminants from the laundry or drying of the laundry.

[0003] When a laundry treating apparatus is designed to remove contaminants from laundry, the laundry treating apparatus may perform processes such as washing, rinsing, dehydration, and drying. The laundry treating apparatus may be classified into a top loading type and a front loading type according to a method of loading laundry in a drum.

[0004] The laundry treating apparatus may include a cabinet defining the external appearance thereof, a tub accommodated in the cabinet, a drum rotatably mounted in the tub and configured to receive laundry, and a detergent supply device configured to supply detergent to the interior of the drum.

[0005] If the drum is rotated by a motor in a state in which wash water is supplied to the laundry received in the drum, dirt on the laundry may be removed by friction with the drum and the wash water.

[0006] The detergent supply device has a detergent supply function in order to improve a washing effect. Here, the detergent refers to a substance for improving a washing effect, such as fabric detergent, fabric softener, and fabric bleach. Detergent in a powder form or detergent in a liquid form may be used as the detergent.

[0007] On the other hand, when a laundry treating apparatus is designed to dry laundry, the laundry treating apparatus may supply dry air to the laundry to remove moisture from the laundry.

[0008] The laundry treating apparatus may include a cabinet, a drum rotatably disposed in the cabinet, and a heating device configured to heat or dry air supplied to the laundry.

[0009] As the dry air is supplied to the laundry received in the drum, moisture in the laundry may be evaporated and removed by the dry air, and thus water may be removed from the laundry.

[0010] Meanwhile, a laundry treating apparatus constituted by multiple treating apparatuses is disclosed in related art document KR 10-2007-0067466 A1. That is, the laundry treating apparatus includes a primary treating apparatus including a cabinet and further includes a supplementary treating apparatus located outside the primary treating apparatus.

[0011] In order to improve the convenience of use of the laundry treating apparatus, the multiple separate treating apparatuses may be disposed together in a stacked structure or the like to be provided to a user.

The user may use each of the multiple treating apparatuses according to use conditions.

[0012] Meanwhile, a laundry treating apparatus including a top panel is disclosed in KR 10-2006-0032326 A1. The top panel may form an upper surface of a cabinet and may be coupled and fixed to a part of the cabinet except the top panel.

[0013] However, the top panel in the related art document may be provided as a two-dimensional plate having no substantial thickness, which may degrade the exterior completeness of the laundry treating apparatus. Further, it is difficult to achieve the perfect exterior finish of the laundry treating apparatus.

[0014] In addition, a fastening member of the top panel may be exposed to the outside. Accordingly, degradation in durability or damage may occur in the fastening member, and the exterior completeness of the product recognized by a user may be lowered.

[0015] In addition, also in the above-described structure in which a cabinet is stacked on a supplementary treating apparatus, it is important to improve the exterior finish of the product through the top panel, and it is important for the top panel to have a stable coupling structure together with a front panel and a side panel.

[0016] Meanwhile, the related art document discloses a coupling structure in which the top panel is bolted and fixed to the side panel. However, when a user wants to access the interior of the cabinet in order to inspect or repair the laundry treating apparatus, separating the top panel having the bolting structure from the cabinet may be inconvenient.

[0017] Further, in order to stably fix the top panel to the cabinet, it is necessary to secure fixing force in the longitudinal direction, the width direction, and the height direction of the cabinet. However, it may be inefficient to have individual structures for coupling and fixing the top panel in respective directions.

[0018] Therefore, it is an important task in the technical field to develop a cabinet structure capable of improving the exterior completeness of a cabinet through a top panel, facilitating coupling and separation of the top panel to and from the cabinet, securing stable coupling and fixing of the top panel, and efficiently providing fixing force in various directions.

DISCLOSURE/ TECHNICAL TASK

[0019] Embodiments of the disclosure provide a laundry treating apparatus capable of effectively improving the completion level of the product through a top panel.

[0020] In addition, embodiments of the disclosure provide a laundry treating apparatus capable of improving the exterior completeness of the product and improving structural stability through a three-dimensional structure

of a top panel.

[0021] In addition, embodiments of the disclosure provide a laundry treating apparatus capable of increasing coupling force and fixing force of a top panel with respect to a cabinet.

[0022] In addition, embodiments of the disclosure provide a laundry treating apparatus capable of facilitating processes of coupling and separating a top panel.

[0023] In addition, an embodiment of the disclosure provides a laundry treating apparatus constituted by multiple treating apparatuses to provide improved use convenience.

TECHNICAL SOLUTIONS

[0024] In a laundry treating apparatus of an embodiment of the disclosure, a cabinet comprises a support surface supporting a top panel upward, and a groove forming part is provided on the support surface. The groove forming part forms an insertion groove that is open in a direction parallel to the support surface.

[0025] The top panel slides on the support surface so that a portion thereof is inserted into the insertion groove, and in this case, separation of the top panel in an upward direction is restricted. Further, when the top panel is inserted into the insertion groove, forward movement and lateral movement of the top panel as well as upward movement thereof may also be restricted.

[0026] The top panel may include a lateral bent portion, an open portion in which the groove forming part is movable may be provided in the lateral bent portion, and one end portion of the open portion may form an insertion portion so as to be inserted into the insertion groove.

[0027] The top panel may slide forward on the support surface to be coupled to the cabinet, and a handle unit for transportation of the cabinet may be coupled to a rear side of the top panel and to the rear panel, whereby separation of the top panel may be completely prevented, and sufficient fixing force may be secured in various directions.

[0028] Further, the top panel may slide forward to move to a coupling position, and the top panel moving to the coupling position may press a cover panel, located in front thereof, forward, thereby implementing coupling relationships with multiple components.

[0029] Meanwhile, a laundry treating apparatus of an embodiment of the disclosure includes a cabinet and a drum provided in the cabinet to receive laundry. The cabinet includes a front panel forming a front surface of the cabinet and a top panel forming an upper surface of the cabinet.

[0030] The top panel includes an upper surface portion defining the upper surface, and the upper surface portion is disposed at a higher position than an upper end of the front panel.

[0031] The cabinet may further include a side panel forming a side surface of the cabinet, and the upper

surface portion may be disposed at a higher position than the side panel.

[0032] The upper end of the front panel may be disposed at a higher position than an upper end of the side panel and may be located in front of the top panel.

[0033] The top panel may include a lateral bent portion extending downward from each of both lateral sides of the upper surface portion, and the lateral bent portion may be supported on the side panel.

[0034] The front panel may include a front surface portion forming a front surface of the cabinet and an upper bent portion extending backward from an upper end of the front surface portion, and the upper surface portion of the top panel may be located above the upper bent portion.

[0035] The cabinet may further include a cover panel disposed on the upper bent portion to cover at least part of the upper bent portion from the outside, and the upper surface portion may be located parallel to the cover panel.

[0036] The top panel may include a front bent portion extending downward from a front end of the upper surface portion, and the upper bent portion and the cover panel may be located in front of the front bent portion.

[0037] The top panel may include a top panel space defined under the upper surface portion, and the upper end of the front panel may be located in front of the top panel space.

[0038] The top panel may include a plurality of bent portions extending downward from the upper surface portion, and the top panel space may be surrounded by the plurality of bent portions and may be open downward.

[0039] The cabinet may further include a cover panel disposed on the front panel, and at least a portion of the cover panel may protrude backward to be inserted into the top panel space.

[0040] The cabinet may further include a support surface located below the top panel to support the top panel, the top panel may include a lateral bent portion extending downward from each of both lateral sides of the upper surface portion, and the lateral bent portion may be disposed on the support surface.

[0041] The lateral bent portion may include a first bent portion extending downward from the upper surface portion and a second bent portion extending toward the interior of the cabinet from the first bent portion, and the second bent portion may be supported by the support surface.

[0042] The cabinet may further include a groove forming part provided on the support surface and configured to form an insertion groove that is open in a direction parallel to the support surface, and the top panel may slide on the support surface in a direction parallel to the support surface so that a portion thereof is inserted into the insertion groove and may be restricted from moving upward.

[0043] The cabinet may further include a side panel

disposed on each of both sides thereof in a lateral direction, the side panel may include a side surface portion forming a side surface of the cabinet, and the support surface may extend toward the interior of the cabinet from an upper end of the side surface portion.

[0044] The groove forming part may include a groove protruding portion protruding upward from the support surface and an enlarged diameter portion located on the groove protruding portion and having a larger diameter than the groove protruding portion. The insertion groove may be formed between the enlarged diameter portion and the support surface.

[0045] The top panel may include an insertion portion formed to be inserted into the insertion groove and may slide on the support surface from a preliminary position to a coupling position. At the preliminary position of the top panel, the insertion portion may be spaced apart from the insertion groove, and at the coupling position of the top panel, the insertion portion may be inserted into the insertion groove.

[0046] The top panel may include an upper surface portion forming the upper surface of the cabinet, a first bent portion extending downward from the upper surface portion, and a second bent portion extending parallel to the support surface toward the interior of the cabinet from the first bent portion, and the second bent portion may include the insertion portion and may be supported by the support surface.

[0047] The second bent portion may include an open portion, which extends in the sliding direction of the top panel and in which the groove forming part is accommodated. At the preliminary position, the width of a part of the open portion at which the groove forming part is located may be equal to or greater than the maximum diameter of the groove forming part, and at the coupling position, the width of a part of the open portion at which the groove forming part is located may be less than the maximum diameter of the groove forming part.

[0048] The cabinet may further include a rear panel, the laundry treating apparatus may further include a top panel fixing member coupled to the rear panel so as to be located behind the top panel in an inserted state of the insertion portion into the insertion groove, and the top panel may be restricted from moving backward by the top panel fixing member.

[0049] The insertion portion may include a receiving recess in which at least part of the groove protruding portion is received, and the top panel may slide in a first direction parallel to the support surface so that at least part of the groove protruding portion is received in the receiving recess and may be restricted from moving in a second direction crossing the first direction.

[0050] Meanwhile, an embodiment of the disclosure may include a cabinet, a drum provided in the cabinet to receive laundry, and a supplementary treating apparatus including a supplementary cabinet disposed under the cabinet to support the cabinet and a supplementary drum provided in the supplementary cabinet to receive laundry.

[0051] The cabinet may include a front panel forming a front surface of the cabinet on the supplementary cabinet and a top panel forming an upper surface of the cabinet, the top panel may include an upper surface portion defining the upper surface, and the upper surface portion may be disposed at a higher position than an upper end of the front panel.

ADVANTAGEOUS EFFECTS

[0052] Embodiments of the disclosure may provide a laundry treating apparatus capable of effectively improving the completion level of the product through a top panel.

[0053] In addition, embodiments of the disclosure may provide a laundry treating apparatus capable of improving the exterior completeness of the product and improving structural stability through a three-dimensional structure of a top panel.

[0054] In addition, embodiments of the disclosure may provide a laundry treating apparatus capable of increasing coupling force and fixing force of a top panel with respect to a cabinet.

[0055] In addition, embodiments of the disclosure may provide a laundry treating apparatus capable of facilitating processes of coupling and separating a top panel.

[0056] In addition, an embodiment of the disclosure may provide a laundry treating apparatus constituted by multiple treating apparatuses to provide improved use convenience.

DESCRIPTION OF DRAWINGS

[0057]

FIG. 1 is a perspective view showing the external appearance of a laundry treating apparatus of an embodiment of the disclosure.

FIG. 2 is a cross-sectional view showing the interior of a laundry treating apparatus of an embodiment of the disclosure in which a laundry washing process may be performed.

FIG. 3 is a cross-sectional view showing the interior of a laundry treating apparatus of an embodiment of the disclosure in which a laundry drying process may be performed.

FIG. 4 is a front perspective view of a laundry treating apparatus including a supplementary treating apparatus of an embodiment of the disclosure.

FIG. 5 is a side view of the laundry treating apparatus including the supplementary treating apparatus in the embodiment of the disclosure.

FIG. 6 is a rear perspective view of the laundry treating apparatus including the supplementary treating apparatus in the embodiment of the disclosure.

FIG. 7 is a view showing a top panel coupling method in the laundry treating apparatus of an embodiment

of the disclosure.

FIG. 8 is a view showing a cover panel disposed on a front panel in the laundry treating apparatus of an embodiment of the disclosure.

FIG. 9 is a top view of the cover panel in the laundry treating apparatus of an embodiment of the disclosure.

FIG. 10 is a bottom view of the cover panel in the laundry treating apparatus of an embodiment of the disclosure.

FIG. 11 is a bottom perspective view of the cover panel in the laundry treating apparatus of an embodiment of the disclosure.

FIG. 12 is a perspective view showing the cross-section of the cover panel coupled to the front panel in the embodiment of the disclosure.

FIG. 13 is a cross-sectional view of the cover panel coupled to the front panel in the embodiment of the disclosure.

FIG. 14 is a bottom perspective view showing the cross-section of the cover panel coupled to the front panel in the embodiment of the disclosure.

FIG. 15 is a view showing a coupling structure between the cover panel and the top panel in the embodiment of the disclosure.

FIG. 16 is a view showing the cabinet with the top panel separated therefrom in the embodiment of the disclosure.

FIG. 17 is a view showing a groove forming part provided on a support surface of the cabinet in the embodiment of the disclosure.

FIG. 18 is a cross-sectional view of the groove forming part provided on the support surface in the embodiment of the disclosure.

FIG. 19 is a view showing a structure in which the support surface is connected to a side panel in the embodiment of the disclosure.

FIG. 20 is a view showing a structure in which a reinforcement frame is provided and the groove forming part is provided on the support surface in the embodiment of the disclosure.

FIG. 21 is a bottom view of the top panel in the embodiment of the disclosure.

FIG. 22 is a view showing an open portion provided in the top panel in the embodiment of the disclosure.

FIG. 23 is a view showing the open portion and the groove forming part at a preliminary position of the top panel in the embodiment of the disclosure.

FIG. 24 is a view showing the open portion and the groove forming part at a coupling position of the top panel in the embodiment of the disclosure.

FIG. 25 is a view showing a state in which an insertion portion of the top panel is inserted into an insertion groove in the groove forming part in the embodiment of the disclosure.

FIG. 26 is a view showing the position of a handle unit coupled to a rear side of the top panel in the embodiment of the disclosure.

FIG. 27 is a rear perspective view of the handle unit of the cabinet in the embodiment of the disclosure.

FIG. 28 is a cross-sectional view of the handle unit coupled to the cabinet in the embodiment of the disclosure.

FIG. 29 is a perspective view showing the handle unit separated from the cabinet in the embodiment of the disclosure.

FIG. 30 is a rear view showing the handle unit in the laundry treating apparatus of an embodiment of the disclosure.

FIG. 31 is a front view showing the handle unit in the laundry treating apparatus of an embodiment of the disclosure.

FIG. 32 is a view showing a state in which an upper portion and a lower portion of the handle unit coupled to the cabinet are separated from each other in the embodiment of the disclosure.

FIG. 33 is an exploded perspective view showing the handle unit in the embodiment of the disclosure.

FIG. 34 is a top view of the lower portion of the handle unit in the embodiment of the disclosure.

BEST MODE FOR DISCLOSURE

[0058] Hereinafter, embodiments of the disclosure will be described in detail with reference to the accompanying drawings so that those skilled in the art to which the disclosure pertains may easily carry out the embodiments.

[0059] However, the disclosure is not limited to aspects disclosed herein and may be implemented in various different forms. In the drawings, in order to clearly describe the disclosure, descriptions of elements which are not related to the disclosure are omitted, and the same or similar elements are denoted by the same reference numerals throughout the specification.

[0060] In the following description of the embodiments, redundant description of the same elements will be omitted.

[0061] When an element is referred to as being "connected to" or "coupled to" another element, it may be directly connected to or coupled to the other element, or intervening elements may be . In contrast, when an element is referred to as being "directly connected to" or "directly coupled to" another element, there may be no intervening elements present.

[0062] Further, the terminology used herein is for the purpose of describing particular embodiments only and is not intended to be limiting.

[0063] As used herein, singular forms may be intended to include plural forms as well, unless the context clearly indicates otherwise.

[0064] Further, in the following description of the embodiments, the terms "comprising," "including," or "having" are inclusive and therefore specify the presence of stated features, numbers, steps, operations, elements, components, or combinations thereof, but do not pre-

clude the presence or addition of one or more other features, numbers, steps, operations, elements, components, or combinations thereof.

[0065] Further, as used herein, the term "and/or" includes any and all combinations of one or more of the associated listed items. In the following description of the embodiments, "A or B" may include "A", "B", or "both A and B".

[0066] Hereinafter, an embodiment of the disclosure will be described with reference to the drawings. For reference, in each drawing, an X-direction, a Y-direction, and a Z-direction are shown, if necessary. Unless stated otherwise, the X-direction corresponds to a longitudinal direction or a forward-backward direction based on a cabinet 10 to be described later, the Y-direction corresponds to a lateral direction or a width direction of the cabinet 10, and the Z-direction corresponds to a height direction or an upward-downward direction of the cabinet 10.

[0067] FIG. 1 is a perspective view showing the external appearance of a laundry treating apparatus 1 of an embodiment of the disclosure. Referring to FIG. 1, the embodiment of the disclosure includes a cabinet 10. The cabinet 10 may define the external appearance of the laundry treating apparatus 1, and may have a space defined therein to accommodate various components.

[0068] The cabinet 10 may include a plurality of panels. For example, the cabinet 10 may include a front panel 20 forming the front surface of the cabinet 10, a rear panel 50 forming the rear surface of the cabinet 10, a side panel 30 forming the side surface of the cabinet 10, a top panel 40 forming the upper surface of the cabinet 10, and a bottom panel or a base portion forming the lower surface of the cabinet 10. The side panel 30 may include a first side panel 38 located on one side in the lateral direction and a second side panel 39 located on the opposite side in the lateral direction.

[0069] The cabinet 10 may include a laundry opening 28 through which laundry is loaded therein. A user may load laundry in the cabinet 10 through the laundry opening 28. The cabinet 10 may be provided with a laundry door 29 to open and close the laundry opening 28. The laundry door 29 is rotatably coupled to the cabinet 10, thereby determining opening and closing of the laundry opening 28 in accordance with the rotational state thereof.

[0070] Meanwhile, FIG. 2 schematically shows the interior of a laundry treating apparatus 1 of an embodiment of the disclosure in which a laundry washing process may be performed. The laundry washing process may be a process of removing contaminants from laundry using water, detergent, etc.

[0071] That is, the laundry treating apparatus 1 of the embodiment of the disclosure may be a washing machine capable of performing the laundry washing process. In detail, in the embodiment of the disclosure, a drum 60 and a tub 65 may be mounted in the cabinet 10.

[0072] The tub 65 may be provided in the cabinet 10 to receive water. The tub 65 may include a tub opening that is open toward the laundry opening 28 of the cabinet 10. The laundry introduced through the laundry opening 28 may be loaded in the tub 65 through the tub opening.

[0073] The drum 60 may be provided in the tub 65 to receive laundry. The drum 60 may include a drum opening that is open toward the laundry opening 28 and the tub opening. The laundry having passed through the laundry opening 28 and the tub opening may be loaded and received in the drum 60 through the drum opening.

[0074] The drum 60 may be rotatably provided in the tub 65. The drum 60 may be connected to a driving unit 70 to receive rotational force. The rotational axis of the drum 60 may be substantially directed toward the laundry opening 28, and the driving unit 70 may be coupled and fixed to the tub 65 or the cabinet 10 and connected to the drum 60 to supply rotational force to the drum 60.

[0075] The drum 60 may have a plurality of holes formed in the outer circumferential surface thereof. Accordingly, water received in the tub 65 may enter the drum 60 through the holes formed in the outer circumferential surface of the drum 60. The drum 60 in which water and laundry are received may be rotated by the driving unit 70, thereby performing the laundry washing process.

[0076] The embodiment of the disclosure may include a detergent supply unit 72. The detergent supply unit 72 may store detergent and may supply the detergent to the interior of the tub 65 as necessary during the laundry washing process.

[0077] The embodiment of the disclosure may include a water supply unit 74. The water supply unit 74 may be connected to an external water source and may include a water supply valve and a water supply hose. The water supply unit 74 may be connected to the detergent supply unit 72 to supply the water to the interior of the tub 65 through the detergent supply unit 72 or may be directly connected to the tub 65 to supply the water to the interior of the tub 65.

[0078] The embodiment of the disclosure may include a drain unit 76. The drain unit 76 may include a drain pump and a drain hose as needed. The drain unit 76 may be connected to the tub 65 to discharge water received in the tub 65 to the outside of the cabinet 10.

[0079] Meanwhile, FIG. 3 shows a laundry treating apparatus 1 of an embodiment of the disclosure in which a laundry drying process may be performed. That is, the laundry treating apparatus 1 of the embodiment of the disclosure may be provided as a drying machine type capable of performing the laundry drying process.

[0080] In detail, the embodiment of the disclosure may include an air supply unit 80 to supply air for the drying process to the interior of the drum 60 in which laundry is received. The air supply unit 80 may be configured to heat air in the drum 60, heat air introduced from the outside of the cabinet 10 and supply the heated air to the interior of the drum 60, or heat air in a circulation passage connected to the drum 60.

[0081] Although the air supply unit 80 including a circulation passage connected to the interior of the drum 60 to allow air to circulate therethrough of the embodiment of the disclosure is illustrated in FIG. 3, the disclosure is not necessarily limited thereto.

[0082] In addition, the air supply unit 80 including the circulation passage may include a heat pump system to dehumidify or heat air discharged from the drum 60. A condenser or an evaporator of the heat pump system may be exposed to the circulation passage to dehumidify or heat the air.

[0083] However, the embodiment of the disclosure is not necessarily provided to perform only one of the laundry washing process and the laundry drying process, but may be provided to perform both the washing process and the drying process as needed. For example, the embodiment of the disclosure may include both the detergent supply unit 72 and the air supply unit 80 as needed.

[0084] Meanwhile, FIG. 4 shows a laundry treating apparatus 1 including a supplementary treating apparatus 90 of an embodiment of the disclosure. The embodiment of the disclosure may include, in addition to the above-described cabinet 10 and components provided therein, a supplementary treating apparatus 90, which may include a supplementary cabinet 95 and a supplementary drum 99, as needed.

[0085] In the case of including the supplementary treating apparatus 90, the treating apparatus including the above-described cabinet 10 and components provided therein may be defined as a primary treating apparatus for convenience of description.

[0086] That is, the embodiment of the disclosure may include the primary treating apparatus and the supplementary treating apparatus 90 that may perform laundry treating processes independently of each other. The primary treating apparatus may include the cabinet 10 and the drum 60 described above, and the supplementary treating apparatus 90 may include a supplementary cabinet 95 and a supplementary drum 99, which are distinguished from the primary treating apparatus.

[0087] The primary treating apparatus and the supplementary treating apparatus 90 may be disposed adjacent to each other to improve use convenience. For example, the embodiment of the disclosure may be implemented in a form in which the primary treating apparatus and the supplementary treating apparatus 90 are stacked one above the other in the upward-downward direction, as shown in FIG. 4.

[0088] Referring to FIG. 4, the primary treating apparatus may be seated on the supplementary treating apparatus 90. Alternatively, if necessary, the supplementary treating apparatus 90 may be seated on the primary treating apparatus.

[0089] In the case in which the primary treating apparatus is seated on the supplementary treating apparatus 90, the supplementary cabinet 95 of the supplementary treating apparatus 90 may be located under the cabinet

10 of the primary treating apparatus to support the cabinet 10. In this case, the embodiment of the disclosure may include a control panel 85 to control both the operation of the primary treating apparatus and the operation of the supplementary treating apparatus 90.

[0090] The control panel 85 may be disposed at various positions and formed in various shapes. FIG. 4 illustrates configuration in which the control panel 85 is disposed between the front panel 20 of the cabinet 10 and a supplementary front panel 20 of the supplementary cabinet 95 of an embodiment of the disclosure.

[0091] FIG. 5 illustrates a side view of the laundry treating apparatus 1 including the supplementary treating apparatus 90 of an embodiment of the disclosure. In addition, in FIG. 5, the drum 60 of the primary treating apparatus and the supplementary tub 97 and the supplementary drum 99 of the supplementary treating apparatus 90 are indicated by dotted lines.

[0092] Referring to FIG. 5, in the embodiment of the disclosure, the primary treating apparatus and the supplementary treating apparatus 90 may be provided to perform respective laundry treating processes, thereby providing various laundry treating processes to the user.

[0093] For example, in the embodiment of the disclosure, the primary treating apparatus may include the drum 60 and the air supply unit 80 to perform the laundry drying process, and the supplementary treating apparatus 90 may include the supplementary drum 99 and the supplementary tub 97 to perform the laundry washing process.

[0094] However, the embodiment of the disclosure is not necessarily limited to the above configuration. The primary treating apparatus may be provided to perform one of the laundry drying process and the laundry washing process or may be provided to perform both the laundry drying process and the laundry washing process, and the supplementary treating apparatus 90 may be provided to perform one of the laundry drying process and the laundry washing process or may be provided to perform both the laundry drying process and the laundry washing process.

[0095] Meanwhile, FIG. 6 illustrates a rear perspective view showing the laundry treating apparatus 1 including the supplementary treating apparatus 90 of an embodiment of the disclosure. In the embodiment of the disclosure, the rear surface of the cabinet 10 and the rear surface of the supplementary cabinet 95 may be coupled to each other through a rear bracket.

[0096] In addition, the cabinet 10 of the primary treating apparatus, which is disposed on the supplementary treating apparatus 90, may be provided with a handle unit 300 configured to be held by the user in order to facilitate transportation of the cabinet 10. The handle unit 300 may be disposed on the rear side of the cabinet 10.

[0097] In addition, the handle unit 300 may be coupled both to the top panel 40 and to the rear panel 50, and may be configured to be separated into an upper portion 310 coupled to the top panel 40 and a lower portion 350

coupled to the rear panel 50 in order to facilitate separation of the top panel 40 for maintenance and repair of the primary treating apparatus. The handle unit 300 will be described later in detail.

[0098] Meanwhile, FIG. 7 schematically shows sliding motion of the top panel 40 of the cabinet 10 in the laundry treating apparatus 1 of an embodiment of the disclosure, and FIG. 8 shows a state in which the top panel 40 is completely coupled.

[0099] In addition, FIGs. 7 and 8 show a cover panel 100 provided at the cabinet 10 of an embodiment of the disclosure. The cover panel 100 of the embodiment of the disclosure will now be described with reference to FIGs. 7 and 8.

[0100] First, as described above, the embodiment of the disclosure may include the cabinet 10 and the drum 60. The cabinet 10 may include the front panel 20 and the top panel 40, and the drum 60 may be provided in the cabinet 10 to receive laundry.

[0101] The cover panel 100 may be disposed on the front panel 20. The cover panel 100 may be coupled to the front panel 20 to cover the front panel 20, thereby shielding a portion of the front panel 20 from the outside. For example, a portion of the front panel 20 that is adjacent to another component, e.g., the top panel 40, may undergo a folding process or may have an opening formed therein. Further, a gap or a clearance may be present between the front panel 20 and the top panel 40 or the like due to tolerance or the like, so the interior of the cabinet 10 may be exposed therethrough.

[0102] Exposure of the folded portion of the top panel 40, the opening, the clearance, or the like to the outside may degrade the product quality in terms of external appearance, may create risks in use, and may form a path through which foreign substances enter the cabinet 10.

[0103] Therefore, in the embodiment of the disclosure, the cover panel 100 may cover the upper side of the front panel 20 that is located adjacent to the top panel 40, thereby effectively shielding the folded portion of the top panel 40, the clearance, or the like mentioned above from the outside.

[0104] FIG. 8 shows the cover panel 100 that is disposed on the front panel 20 to shield the upper surface of the front panel 20 and a connection portion between the front panel 20 and the top panel 40 from the outside of an embodiment of the disclosure.

[0105] The front panel 20 may include a front surface portion 21 and an upper bent portion 22. The front surface portion 21 may form the front surface of the cabinet 10, and the upper bent portion 22 may be located behind the upper end of the front surface portion 21 to be connected to the upper end of the front surface portion 21.

[0106] The front surface portion 21 may be provided to be substantially perpendicular to the ground and to face the user. The laundry opening 28 and the laundry door 29 described above may be provided at the front surface portion 21 of the front panel 20 as needed.

[0107] The front panel 20 may be manufactured through multiple bending processes, and the upper bent portion 22 may correspond to a backwardly bent part of the upper end portion of the front panel 20. However, the upper bent portion 22 may be manufactured separately and connected to the front surface portion 21.

[0108] Meanwhile, FIG. 9 shows the upper surface of the cover panel 100 separated from the cabinet 10, FIG. 10 shows the lower surface of the cover panel 100, and FIG. 11 illustrates a bottom perspective view of the cover panel 100.

[0109] The cover panel 100 may be coupled to an upper side of the front panel 20. For example, the cover panel 100 may be coupled to the upper bent portion 22 of the front panel 20. Accordingly, the bent portion, the open area, and the clearance formed at the upper bent portion 22 may be shielded by the cover panel 100. The structure of the cover panel 100 will be described later in detail with reference to FIGs. 9 to 11.

[0110] Meanwhile, FIG. 12 is a perspective view showing the cross-section of the cover panel 100 disposed on the front panel 20 of an embodiment of the disclosure when viewed from the front, and FIG. 13 is a cross-sectional view showing the cross-section shown in FIG. 12 when viewed in the lateral direction.

[0111] Referring to FIGs. 12 and 13, in the embodiment of the disclosure, the panel may include an upper surface portion 41 and a front protruding portion 43. The upper surface portion 41 may form the upper surface of the cabinet 10, and the front protruding portion 43 may protrude forward from the upper surface portion 41.

[0112] The upper surface portion 41 may be provided to be substantially parallel to the ground. The front protruding portion 43 may be provided at the front side of the upper surface portion 41. The cover panel 100 disposed on the front panel 20 may be disposed in front of the top panel 40, and the front protruding portion 43 may protrude toward the cover panel 100 from the upper surface portion 41.

[0113] The cover panel 100 may be disposed on the upper bent portion 22 to cover at least part of the upper bent portion 22 from the outside, and at least part of the front protruding portion 43 may be inserted into the rear side of the cover panel 100.

[0114] In detail, the upper bent portion 22 of the front panel 20 may extend backward from the upper end of the front surface portion 21. The upper bent portion 22 may extend substantially parallel to the ground, and may extend toward the top panel 40 from the front surface portion 21.

[0115] The cover panel 100 may be disposed on the upper bent portion 22. The cover panel 100 may form a coupling relationship with the upper bent portion 22. The cover panel 100 may be provided to cover the upper bent portion 22, thereby shielding at least part of the upper bent portion 22 from the outside.

[0116] The cover panel 100 may extend in the lateral direction of the cabinet 10, and the extension length

thereof in the lateral direction may be varied. For example, the cover panel 100 may extend to have a shorter length than the upper bent portion 22, thereby shielding a part of the upper bent portion 22, or may extend to have a length equal to or longer than the length of the upper bent portion 22, thereby shielding the entirety of the upper bent portion 22.

[0117] Similarly to the upper bent portion 22, the cover panel 100 may extend in the forward-backward direction. The extension length of the cover panel 100 in the forward-backward direction may also be varied. For example, the length of the cover panel 100 in the forward-backward direction may be shorter than that of the upper bent portion 22, so the cover panel 100 may shield a part of the upper bent portion 22, or the length of the cover panel 100 in the forward-backward direction may be equal to or longer than that of the upper bent portion 22, so the cover panel 100 may shield the entirety of the upper bent portion 22.

[0118] FIGs. 12 and 13 show the cover panel 100 that has a length corresponding to the length of the upper bent portion 22 in the forward-backward direction of the cabinet 10 to shield the entirety of the upper bent portion 22 of an embodiment of the disclosure.

[0119] Meanwhile, in the embodiment of the disclosure, at least part of the front protruding portion 43 of the top panel 40 may be inserted into the cover panel 100. That is, the front protruding portion 43 of the top panel 40 may be inserted into the rear side of the cover panel 100, so a coupling relationship may be formed between the cover panel 100 and the top panel 40.

[0120] Because the front protruding portion 43 of the top panel 40 is inserted into the rear side of the cover panel 100, backward movement of the cover panel 100 on the front panel 20 may be effectively restricted. Further, the phenomenon of the rear side of the cover panel 100 being lifted upward may be effectively suppressed due to the insertion relationship with the front protruding portion 43.

[0121] Meanwhile, in the embodiment of the disclosure, the cover panel 100 may slide forward on the upper bent portion 22 to be coupled to the upper bent portion 22. In FIGs. 12 and 13, the sliding direction of the cover panel 100 is conceptually indicated by arrows.

[0122] In the embodiment of the disclosure, the cover panel 100 may be coupled to the upper bent portion 22 of the front panel 20, and may slide during the coupling process. That is, after being placed on the upper bent portion 22, the cover panel 100 may slide forward to be coupled to the upper bent portion 22.

[0123] The method of coupling the cover panel 100 to the upper bent portion 22 through sliding movement may be varied. For example, as will be described later, the cover panel 100 may include a panel coupling portion 130 that is coupled to the upper bent portion 22 through a sliding process. A detailed description of the panel coupling portion 130 will be given later.

[0124] As described above, it may be important to

prevent or suppress backward movement of the cover panel 100, which slides forward on the upper bent portion 22 to be coupled to the upper bent portion 22.

[0125] In the embodiment of the disclosure, backward movement of the cover panel 100 may be effectively restricted by the front protruding portion 43 of the top panel 40 that is inserted into the rear side of the cover panel 100.

[0126] Meanwhile, the top panel 40 may slide forward at a position behind the cover panel 100, and the front protruding portion 43 thereof may be inserted into the cover plate 100. The top panel 40 may be coupled and fixed to the side panel 30 of the cabinet 10.

[0127] The top panel 40 may slide forward so as to be inserted into the cover panel 100 in the state of being supported by the side panel 30 or the like, and may then be coupled to the side panel 30 or the like. Alternatively, the top panel 40 may slide forward as a process for coupling with the side panel 30 or the like.

[0128] In FIGs. 12 and 13, the direction in which the top panel 40 slides as the coupling process of the top panel 40 of an embodiment of the disclosure is conceptually indicated by arrows. That is, in the embodiment of the disclosure, the top panel 40 may slide forward to be coupled to the side panel 30 or the like. In this sliding process, the front protruding portion 43 may be naturally inserted into the rear side of the cover panel 100.

[0129] In this way, in the embodiment of the disclosure, because the coupling direction of the cover panel 100 and the coupling direction of the top panel 40 are identical to each other, coupling of the cover panel 100 may be naturally induced in the coupling process of the top panel 40.

[0130] Further, because the front protruding portion 43 and the cover panel 100 are coupled to each other in the sliding process of the top panel 40, coupling force between the top panel 40 and the cover panel 100 may increase, and the cover panel 100 may be more strongly fixed.

[0131] In addition, at least a portion of the top panel 40 may be located behind the cover panel 100. For example, the upper surface portion 41 of the top panel 40 may be located behind the cover panel 100, and the top panel 40 may slide forward to be fixed.

[0132] The top panel 40 may be located behind the cover panel 100 to restrict backward movement of the cover panel 100. Accordingly, as the front protruding portion 43 of the top panel 40 is inserted into the cover panel 100, lifting of the cover panel 100 may be prevented, a clearance may be effectively removed, and backward movement of the cover panel 100 may also be effectively restricted.

[0133] In detail, in the embodiment of the disclosure, the top panel 40 may include a front bent portion 42. The front bent portion 42 may extend downward from the front end of the upper surface portion 41 and may be located behind the cover panel 100 to support the cover panel 100 forward.

[0134] That is, the front bent portion 42 of the top panel 40 may be located behind the cover panel 100 to face the cover panel 100 forward, and may press and move the cover panel 100 forward, thereby coupling the cover panel 100 to the upper bent portion 22 or restricting backward movement of the cover panel 100 due to the contact relationship therewith.

[0135] In addition, the front protruding portion 43 may protrude forward from the front bent portion 42 to be inserted into the cover panel 100 at a lower position than the upper surface portion 41. For example, the front bent portion 42 may be formed by bending the front end portion of the upper surface portion 41 downward, and the front protruding portion 43 may be formed by bending the lower end portion of the front bent portion 42 forward.

[0136] However, the front bent portion 42 and the front protruding portion 43 are not necessarily formed through the bending process. For example, the front bent portion 42 may be spaced backward from the front end of the upper surface portion 41, and the front protruding portion 43 may be located at a higher position than the lower end of the front bent portion 42.

[0137] Meanwhile, in the case of forming the front protruding portion 43 by bending the front bent portion 42, there is an advantage of increasing ease of formation of the front protruding portion 43. Meanwhile, because the front protruding portion 43 extends forward from the front bent portion 42, the front protruding portion 43 may be inserted into the cover panel 100 at a lower position than the upper surface portion 41, whereby the coupling portion between the front protruding portion 43 and the cover panel 100 may be shielded from the outside by the cover panel 100 and the upper surface portion 41, and the occurrence of a clearance may be effectively suppressed.

[0138] Meanwhile, in the embodiment of the disclosure, the cabinet 10 may further include a rear panel 50. The embodiment of the disclosure may further include a top panel fixing member, which is coupled both to the top panel 40 and to the rear panel 50 at a position behind the top panel 40 to restrict backward movement of the top panel 40.

[0139] That is, in the embodiment of the disclosure, in the state in which the top panel 40 is disposed so as to define the upper surface of the cabinet 10, the top panel fixing member is coupled both to the rear end of the top panel 40 and to the rear panel 50, thereby restricting backward movement of the top panel 40.

[0140] If backward movement of the top panel 40 is restricted by the top panel fixing member, the cover panel 100 located in front of the top panel 40 may also be restricted from moving backward, whereby a stable coupling structure may be implemented.

[0141] The top panel fixing member may correspond to the above-described handle unit 300 or may be provided separately from the handle unit 300. A detailed description of the handle unit 300 will be given later.

[0142] Meanwhile, the cover panel 100 may include a

cover upper surface portion 110. The cover upper surface portion 110 may be located in front of the upper surface portion 41 of the top panel 40 to form the upper surface of the cover panel 100.

[0143] The cover upper surface portion 110 may include an upper surface parallel to the upper bent portion 22. That is, the cover upper surface portion 110 may define the upper surface of the cabinet 10 together with the upper surface portion 41 of the top panel 40. The upper surface of the cover upper surface portion 110 may be exposed to the outside instead of the upper bent portion 22 to form a part of the external appearance of the cabinet 10.

[0144] The front protruding portion 43 may be located at a lower position than the cover upper surface portion 110 to be inserted into the cover panel 100, and thus may be shielded from the outside by the cover upper surface portion 110. That is, the front protruding portion 43 and the portion of the cover panel 100 into which the front protruding portion 43 is inserted may be located at a lower position than the cover upper surface portion 110.

[0145] Accordingly, the front protruding portion 43 may be shielded from the outside by the cover upper surface portion 110, and the external appearance of the product may be improved by the cover upper surface portion 110 even when a coupling relationship is formed between the top panel 40 and the cover panel 100.

[0146] Meanwhile, the cover panel 100 may include a lower extension portion 120. The lower extension portion 120 may extend downward from the cover upper surface portion 110 and may be located behind the upper bent portion 22.

[0147] The lower extension portion 120 may extend downward from the cover upper surface portion 110. The lower extension portion 120 may extend downward from the rear end of the cover upper surface portion 110 or may extend downward from a point in front of the rear end of the cover upper surface portion 110.

[0148] The cover panel 100 may be formed to be longer than the upper bent portion 22 in the forward-backward direction of the cabinet 10. That is, the rear end of the cover panel 100 may be located at a position farther backward than the rear end of the upper bent portion 22.

[0149] The lower extension portion 120 may be located behind the rear end of the upper bent portion 22. Accordingly, the lower extension portion 120 may extend such that the lower end thereof is located at a lower position than the upper bent portion 22. The front protruding portion 43 and/or the front bent portion 42 of the top panel 40 may be located behind the lower extension portion 120.

[0150] That is, the upper bent portion 22 may be located in front of the lower extension portion 120, and the front protruding portion 43 of the top panel 40 may be located behind the lower extension portion 120. Accordingly, the cover panel 100 may be restricted from moving forward due to contact between the lower extension portion 120 and the upper bent portion 22.

[0151] In addition, the cover panel 100 may be restricted from moving backward due to contact between the lower extension portion 120 and the front protruding portion 43. That is, the cover panel 100 may be fixed in position in the forward-backward direction due to the contact relationship between the upper bent portion 22, the lower extension portion 120, and the front protruding portion 43.

[0152] The upper bent portion 22 may include a first upper bent portion 23 extending backward from the upper end of the front surface portion 21 and a second upper bent portion 24 extending downward from the rear end of the first upper bent portion 23.

[0153] The cover panel 100 may be restricted from moving forward due to contact between the lower extension portion 120 and at least one of the first upper bent portion 23 or the second upper bent portion 24.

[0154] In the embodiment of the disclosure, the upper bent portion 22 may include a first upper bent portion 23 extending parallel to the ground and a second upper bent portion 24 extending from the first upper bent portion 23 substantially perpendicularly thereto.

[0155] The lower end of the lower extension portion 120 may be located at the same height or lower than the first upper bent portion 23. That is, the front part of the lower extension portion 120 may have a contact relationship with the first upper bent portion 23 or the second upper bent portion 24.

[0156] For example, when the cover panel 100 is located at the coupling position or is inadvertently moved forward, forward movement thereof may be restricted due to contact of the front part of the lower extension portion 120 with the rear end of the first upper bent portion 23, a part of the second upper bent portion 24, or a connection portion between the first upper bent portion 23 and the second upper bent portion 24.

[0157] Meanwhile, FIG. 14 shows the upper bent portion 22 to which the cover panel 100 is coupled in the embodiment of the disclosure when viewed from below.

[0158] Referring to FIG. 14, the cover panel 100 may include a panel coupling portion 130, which is coupled to the upper bent portion 22 while penetrating the upper bent portion 22, and the upper bent portion 22 may include therein a coupling hole 25 through which the panel coupling portion 130 passes. The panel coupling portion 130 may be located at the front end of the coupling hole 25, so the cover panel 100 may be restricted from moving forward.

[0159] In detail, the cover panel 100 may be fixed by coupling the panel coupling portion 130 to the upper bent portion 22. At least part of the panel coupling portion 130 may protrude downward from the cover panel 100. The panel coupling portion 130 may protrude downward from the cover upper surface portion 110 of the cover panel 100.

[0160] The panel coupling portion 130 may be provided to penetrate the upper bent portion 22. The panel coupling portion 130 may be coupled to the first upper

bent portion 23 while penetrating the first upper bent portion 23. The coupling hole 25 through which the panel coupling portion 130 passes may be formed in the upper bent portion 22.

[0161] The coupling hole 25 may be formed in the first upper bent portion 23. Each of the panel coupling portion 130 and the coupling hole 25 may be provided in plural and may be disposed in the lateral direction of the cabinet 10.

[0162] The panel coupling portion 130 may pass through the coupling hole 25, and accordingly, when the cover panel 100 is to be moved forward, forward movement of the cover panel 100 may be restricted by the panel coupling portion 130 contacting the periphery of the coupling hole 25.

[0163] For example, in the embodiment of the disclosure, the coupling hole 25 may extend in the sliding direction of the cover panel 100, and the cover panel 100 may be coupled to the upper bent portion 22 as the panel coupling portion 130 slides forward in the state of passing through the coupling hole 25.

[0164] When the cover panel 100 moves forward, the panel coupling portion 130 may move forward within the coupling hole 25. When the panel coupling portion 130 reaches the front end of the coupling hole 25, the panel coupling portion 130 may no longer move forward due to the shape of the coupling hole 25. In this way, forward movement of the cover panel 100 may be restricted.

[0165] The panel coupling portion 130 may have various shapes and may be coupled to the upper bent portion 22 in various ways. Detailed characteristics of the panel coupling portion 130 will be described later.

[0166] Meanwhile, FIGs. 10 and 11 show a panel support portion 140 provided on the lower surface of the cover upper surface portion 110, and FIG. 13 shows the panel support portion 140 supporting the cover upper surface portion 110 in the state of being located on the upper bent portion 22 when viewed in the lateral direction.

[0167] In the embodiment of the disclosure, the cover panel 100 may include the above-described cover upper surface portion 110. The cover upper surface portion 110 may form the upper surface of the front panel 20. The cover upper surface portion 110 may be located in front of the upper surface portion 41 of the top panel 40 to form the upper surface of the cover panel 100.

[0168] Meanwhile, the cover panel 100 may include a panel support portion 140. The panel support portion 140 may protrude toward the upper bent portion 22 from the cover upper surface portion 110 to be supported by the upper bent portion 22.

[0169] That is, the panel support portion 140 of the cover panel 100 may be supported upward by the upper bent portion 22, and may support the cover upper surface portion 110. The panel support portion 140 may protrude downward from the lower surface of the cover upper surface portion 110.

[0170] The panel support portion 140 may have a shape of a rib extending in the sliding direction of the

cover panel 100. That is, the panel support portion 140 may extend entirely in the forward-backward direction to support the cover upper surface portion 110 from the upper bent portion 22 in the forward-backward direction. The panel support portion 140 may be provided in plural and may be disposed in the width direction of the cabinet 10.

[0171] In the embodiment of the disclosure, because the panel support portion 140 protruding toward the upper bent portion 22 from the cover upper surface portion 110 is supported by the upper bent portion 22, sliding may be facilitated, and contact with the upper bent portion 22 and support thereby may be uniform and stable.

[0172] Meanwhile, referring to FIG. 13, in the embodiment of the disclosure, the front end portion 112 of the cover upper surface portion 110 may be bent or curved toward the upper bent portion 22, thereby shielding at least part of the panel support portion 140 from the front.

[0173] Because the front end of the cover upper surface portion 110 has a shape bent or curved downward, the front end of the cover upper surface portion 110 may be located in contact with or adjacent to the front end of the upper bent portion 22. Accordingly, the panel support portion 140 protruding downward from the cover upper surface portion 110 may be shielded from the front due to the shape of the front end portion 112 of the cover upper surface portion 110, and the clearance between the cover panel 100 and the front panel 20 may be minimized.

[0174] Further, the front end of the cover upper surface portion 110, which is curved downward, may be supported upward by the upper bent portion 22, and thus an area in which the cover upper surface portion 110 is supported may be effectively increased, and structural stability of the cover upper surface portion 110 may be improved.

[0175] Meanwhile, FIG. 15 shows a rear insertion groove 150 in the cover panel 100, into which the front protruding portion 43 is inserted, and a protruding support portion 165 of the cover panel 100 of an embodiment of the disclosure. For reference, FIG. 9 shows the protruding support portion 165 of the cover panel 100 when viewed from above.

[0176] Referring to FIG. 15, the front protruding portion 43 may be inserted into the rear insertion groove 150 from the rear. The rear insertion groove 150 may include a space into which the front protruding portion 43 is inserted. The rear insertion groove 150 may be open backward to allow the front protruding portion 43 to be inserted thereinto from the rear.

[0177] Meanwhile, the protruding support portion 165 may protrude toward the front protruding portion 43 from the bottom surface of the rear insertion groove 150. For example, based on the upward-downward direction of the cabinet 10, the width of the rear insertion groove 150 may be formed to be greater than the thickness of the front protruding portion 43 in consideration of ease of coupling.

[0178] However, when the width of the rear insertion groove 150 is formed to be greater than the thickness of the front protruding portion 43, the rear end portion of the cover panel 100 may be lifted due to a clearance between the front protruding portion 43 and the inner surface of the rear insertion groove 150.

[0179] That is, because the cover panel 100 is allowed to move in the upward-downward direction by the clearance between the inner surface of the rear insertion groove 150 and the front protruding portion 43, it may be disadvantageous in terms of fixing of the cover panel 100 and removal of the clearance.

[0180] To remedy this defect, in the embodiment of the disclosure, the cover panel 100 may include a protruding support portion 165. The protruding support portion 165 may protrude upward from the bottom surface of the rear insertion groove 150. Here, the bottom surface of the rear insertion groove 150 may be a surface located below the front protruding portion 43 among inner surfaces of the insertion groove 219.

[0181] The protruding support portion 165 may protrude upward from the bottom surface of the rear insertion groove 150 to be in contact with the lower surface of the front protruding portion 43. That is, in the embodiment of the disclosure, the distance by which the rear end portion of the cover panel 100 is allowed to move upward due to the relationship with the front protruding portion 43 may be minimized due to the protruding support portion 165 protruding upward from the bottom surface of the rear insertion groove 150.

[0182] That is, in the embodiment of the disclosure, lifting of the cover panel 100 may be effectively minimized due to close contact between the front protruding portion 43 inserted into the rear insertion groove 150 and the protruding support portion 165. That is, upward movement of the cover panel 100 may be restricted by contact between the protruding support portion 165 and the front protruding portion 43.

[0183] The protruding support portion 165 may extend in the sliding direction of the cover panel 100 and the top panel 40, i.e., the forward-backward direction, and may be provided in plural to be spaced apart from each other in the width direction of the cabinet 10.

[0184] The protruding support portion 165 may be formed such that the rear end thereof has the lowest protruding height in order to facilitate insertion of the front protruding portion 43. That is, the protruding support portion 165 may be formed such that at least part thereof including the rear end gradually decreases in protruding height in the backward direction.

[0185] Meanwhile, referring to FIGs. 9 to 11, in the embodiment of the disclosure, the cover panel 100 may include a cover upper surface portion 110, a rear extension portion 160, and a protruding support portion 165. In detail, the rear extension portion 160 may be spaced downward from the cover upper surface portion 110 so that the front protruding portion 43 is inserted into a gap between the rear extension portion 160 and the cover

upper surface portion 110.

[0186] The rear extension portion 160 may be located at a lower position than the cover upper surface portion 110. That is, the rear extension portion 160 may be located at a lower position than the lower surface of the cover upper surface portion 110. The protruding support portion 165 may protrude toward the front protruding portion 43 from the rear extension portion 160.

[0187] The rear extension portion 160 may extend backward from the lower extension portion 120, and the front protruding portion 43 may be inserted toward the lower extension portion 120 between the cover upper surface portion 110 and the rear extension portion 160.

[0188] The rear extension portion 160 may extend substantially parallel to the lower surface of the cover upper surface portion 110, and the rear end of the rear extension portion 160 may be located at a position farther backward than the rear end of the cover upper surface portion 110. The rear extension portion 160 and the cover upper surface portion 110 may be spaced apart from each other, and the front protruding portion 43 may be inserted therebetween.

[0189] That is, the above-described rear insertion groove 150 may be formed between the rear extension portion 160 and the cover upper surface portion 110. For example, the rear insertion groove 150 in the cover panel 100 may be defined by the lower surface of the cover upper surface portion 110, the rear surface of the lower extension portion 120, and the upper surface of the rear extension portion 160.

[0190] Accordingly, the front protruding portion 43 inserted into the rear insertion groove 150 may face the cover upper surface portion 110 in the upward direction, may face the lower extension portion 120 in the forward direction, and may face the rear extension portion 160 in the downward direction.

[0191] In the embodiment of the disclosure, due to the rear extension portion 160 located under the front protruding portion 43, the contact area between the cover panel 100 and the front protruding portion 43 may be effectively increased, and lifting of the cover panel 100 may be effectively prevented.

[0192] Hereinafter, the panel coupling portion 130 of the cover panel 100 of the embodiment of the disclosure will be described in detail with reference to FIGs. 13 and 14.

[0193] The cover panel 100 may include a panel coupling portion 130, and the panel coupling portion 130 may include a coupling body portion 132 and a coupling extension portion 134. That is, the cover panel 100 may include a coupling body portion 132, which protrudes downward from the cover panel 100 to penetrate the upper bent portion 22, and a coupling extension portion 134, which extends from the coupling body portion 132 in a direction intersecting the longitudinal direction of the coupling body portion 132 and is located below the upper bent portion 22.

[0194] The coupling body portion 132 may extend so

as to protrude downward from the cover panel 100, e.g., the cover upper surface portion 110. The coupling body portion 132 may pass through the above-described coupling hole 25 in the upper bent portion 22. That is, when the cover panel 100 is placed on the upper bent portion 22, the coupling body portion 132 may be located in the coupling hole 25.

[0195] Meanwhile, the coupling extension portion 134 may extend so as to protrude from the coupling body portion 132. The protruding direction or the extension direction of the coupling extension portion 134 may be a direction intersecting the extension direction of the coupling body portion 132.

[0196] For example, the coupling body portion 132 may extend toward the ground from the cover upper surface portion 110, and the coupling extension portion 134 may extend parallel to the ground. For example, the coupling extension portion 134 may extend in the forward-backward direction or the width direction of the cabinet 10.

[0197] The coupling extension portion 134 extending in a direction intersecting the longitudinal direction of the coupling body portion 132, which extends so as to pass through the coupling hole 25 in the upper bent portion 22, may be at least partially located below the upper bent portion 22. That is, at least part of the coupling extension portion 134 may be located below the upper bent portion 22 so as to deviate from the coupling hole 25.

[0198] Accordingly, when the cover panel 100 is to be moved upward, the coupling extension portion 134 located below the upper bent portion 22 may come into contact with the upper bent portion 22, thereby restricting upward movement of the cover panel 100.

[0199] In more detail, the upper bent portion 22 may include therein a coupling hole 25 through which the coupling body portion 132 passes, the coupling hole 25 may extend in the forward-backward direction to allow the coupling body portion 132 to slide therealong, and the coupling extension portion 134 may extend forward from the coupling body portion 132 so as to pass through the coupling hole 25.

[0200] That is, the extension direction of the coupling extension portion 134 and the extension direction of the coupling hole 25 may be identical to each other. Alternatively, at least a portion of the coupling hole 25 may be open with a larger area than the coupling extension portion 134. Accordingly, the coupling extension portion 134 may pass through at least a portion of the coupling hole 25 and may be located below the upper bent portion 22, i.e., the first upper bent portion 23.

[0201] In the embodiment of the disclosure, both the coupling extension portion 134 and the coupling hole 25 may extend in the forward-backward direction. Accordingly, in the process of placing the cover panel 100 on the upper bent portion 22, the coupling extension portion 134 may pass through the coupling hole 25 to be located below the upper bent portion 22.

[0202] Meanwhile, in the process in which the cover

panel 100 slides on the upper bent portion 22, the coupling body portion 132 may come into contact with the periphery of the coupling hole 25. For example, in the process in which the cover panel 100 slides forward, the coupling body portion 132 may come into contact with the front side of the periphery of the coupling hole 25, thereby restricting further forward movement of the cover panel 100.

[0203] In this case, the coupling extension portion 134 extending forward from the coupling body portion 132 may be located below the upper bent portion 22 at a position deviating from the coupling hole 25. Accordingly, when the cover panel 100 is to be moved upward, upward movement of the cover panel 100 may be restricted due to contact between the coupling extension portion 134 and the upper bent portion 22.

[0204] Meanwhile, in the embodiment of the disclosure, because at least a portion of the cover panel 100 is located below a portion of the top panel 40, separation of the cover panel 100 in the upward direction is restricted. The cover panel 100 may include a rear extension portion 160 extending backward to be located below a portion of the top panel 40.

[0205] The top panel 40 may include an upper surface portion 41 forming the upper surface of the cabinet 10, and a top panel space in which the rear end of the rear extension portion 160 is located may be defined under the upper surface portion 41.

[0206] The top panel space may be open downward under the upper surface portion 41 to communicate with an inner space in the cabinet 10. A front bent portion 42 of the top panel 40 may be located at the front side of the top panel space, a lateral bent portion 45 of the top panel 40 may be located at each of both lateral sides of the top panel space, and a rear bent portion 49 of the top panel 40 may be located at the rear side of the top panel space.

[0207] That is, the surfaces of the top panel space except the bottom surface thereof may be defined by the upper surface portion 41 and the bent portions of the top panel 40. A detailed description of the top panel space will be given later. The rear end of the rear extension portion 160 of the cover panel 100 may be located at a position farther backward than the front bent portion 42 to be disposed in the top panel space.

[0208] The rear extension portion 160 may extend backward from the cover panel 100 at a position below the front bent portion 42 or may extend while penetrating the front bent portion 42. For example, as shown in FIG. 14, the lower end of the front bent portion 42 and the front protruding portion 43 may be located above the rear extension portion 160, or as shown in FIG. 13, the lower end of the front bent portion 42 may be located below the rear extension portion 160, and the front bent portion 42 may have formed therein a hole through which the rear extension portion 160 passes.

[0209] The rear extension portion 160 may extend backward from the lower extension portion 120 to be located below a portion of the top panel 40. The rear

extension portion 160 may be spaced downward from the cover upper surface portion 41 to form the rear insertion groove 150 together with the cover upper surface portion 41, into which the front protruding portion 43 is inserted.

[0210] Meanwhile, as shown in FIG. 8, in the embodiment of the disclosure, the cabinet 10 may include a front panel 20 forming the front surface of the cabinet 10 and a top panel 40 forming the upper surface of the cabinet 10.

[0211] The top panel 40 includes an upper surface portion 41 defining the upper surface, and the upper surface portion 41 is disposed at a higher position than the upper end of the front panel 20. FIGs. 5 and 8 show the structure of the cabinet 10 in which the upper surface portion 41 of the top panel 40 is located at a higher position than the upper end of the front panel 20 of an embodiment of the disclosure.

[0212] Exterior finish of the cabinet 10 is an important factor for protecting the interior of the cabinet 10 and improving user satisfaction with the external appearance of the cabinet 10. In the embodiment of the disclosure, the top panel 40 may have a stereoscopic structure so that the exterior completeness of the cabinet 10 is improved and the exterior finish of the cabinet 10 is effectively implemented.

[0213] For example, as shown in FIG. 20, the top panel 40 may have a three-dimensional shape having a height in a direction perpendicular to the ground. Accordingly, the upper surface portion 41 of the top panel 40 that defines the upper surface of the cabinet 10 may be located at a higher position than the front panel 20.

[0214] If the top panel 40 is formed in a two-dimensional plate shape, a coupling element used for coupling between the top panel 40 and the side panel 30 may be exposed to the outside as is, and the strength of the top panel 40 may be lowered, leading to deformation of the top panel 40 or deterioration in protection of the interior of the cabinet 10.

[0215] In the embodiment of the disclosure, the top panel 40 may have a three-dimensional shape with a certain height due to the plurality of bent portions, such as the front bent portion 42, the lateral bent portion 45, and the rear bent portion 49, so the strength of the top panel 40 may be effectively increased, and the exterior completeness of the top panel 40 may be effectively improved.

[0216] The cabinet 10 may further include a side panel 30 forming the side surface of the cabinet 10, and the upper surface portion 41 may be disposed at a higher position than the side panel 30. That is, the upper end of the front panel 20 may be disposed at a higher position than the upper end of the side panel 30 and may be located in front of the top panel 40.

[0217] In order to form the height of the top panel 40, the upper end of the front panel 20 may be located at a higher position than the upper end of the side panel 30. Accordingly, the front portion of the top panel 40 having a certain height may be effectively shielded and supported by the front panel 20.

[0218] The top panel 40 may include a lateral bent portion 45 extending downward from each of both lateral sides of the upper surface portion 41, and the lateral bent portion 45 may be supported on the side panel 30. The coupled portion of the top panel 40 may be conveniently shielded from the outside due to coupling between the lateral bent portion 45 and the side panel 30.

[0219] The front panel 20 may include a front surface portion 21 forming the front surface of the cabinet 10 and an upper bent portion 22 extending backward from the upper end of the front surface portion 21, and the upper surface portion 41 of the top panel 40 may be located at a higher position than the upper bent portion 22.

[0220] Referring to FIG. 13, the upper bent portion 22 of the front panel 20 may be located in front of or at a lower position than the front bent portion 42 of the top panel 40. In addition, the cabinet 10 may further include a cover panel 100 disposed on the upper bent portion 22 to cover at least part of the upper bent portion 22 from the outside, and the upper surface portion 41 may be located parallel to the cover panel 100.

[0221] That is, the upper surface portion 41 and the cover panel 100 may form the upper surface of the cabinet 10. The upper surface portion 41 and the cover panel 100 may define one surface forming the external appearance of the cabinet 10. The cover panel 100 and the upper surface portion 41 may be located together on an imaginary surface parallel to the ground.

[0222] To this end, the upper end of the front panel 20 may be located at a lower position than the upper surface portion 41. The front portion of the top panel 40 may form a support structure together with the front panel 20, and the lower portion of the top panel 40 may form a support structure together with the side panel 30, thereby improving structural stability.

[0223] In addition, the lateral bent portion 45 and the front bent portion 42 of the top panel 40 may form the external appearance of the cabinet 10 while forming a support relationship or a coupling relationship with the front panel 20 or the side panel 30, thereby effectively improving the exterior completeness of the product.

[0224] Further, also in the above-described stacked structure in which the cabinet 10 is disposed on the supplementary treating apparatus 90, the exterior finish of the upper side of the cabinet 10 is important. To this end, in the embodiment of the disclosure, the cover panel 100 may be disposed on the front panel 20, and the top panel 40 may be formed to have a certain thickness.

[0225] Meanwhile, the top panel 40 may include a front bent portion 42 extending downward from the front end of the upper surface portion 41, and the upper bent portion 22 and the cover panel 100 may be located in front of the front bent portion 42.

[0226] Meanwhile, as shown in FIG. 14, the top panel 40 may include a top panel space 44 defined under the upper surface portion 41, and the upper end of the front panel 20 may be located in front of the top panel space 44. The top panel 40 may include a plurality of bent portions

extending downward from the upper surface portion 41, and the top panel space 44 may be surrounded by the plurality of bent portions and may be open downward.

[0227] For example, as shown in FIG. 21, the upper surface portion 41 may define the upper surface of the top panel space 44, the front bent portion 42 may define the front surface of the top panel space 44, the lateral bent portion 45 may define the side surface of the top panel space 44, and the rear bent portion 49 may define the rear surface of the top panel space 44.

[0228] The cabinet 10 may further include a cover panel 100 disposed on the front panel 20, and at least a portion of the cover panel 100 may protrude backward to be inserted into the top panel space 44.

[0229] The lower surface of the top panel space 44 may be open so that the top panel space 44 and the interior of the cabinet 10 communicate with each other to define one space. Meanwhile, as described above, in order to facilitate insertion of the rear extension portion 160 of the cover panel 100, the front bent portion 42 of the top panel 40 may be formed to have a shorter extension length than the lateral bent portion 45 or to have a hole formed therein.

[0230] The cabinet 10 may further include a support surface 200 located below the top panel 40 to support the top panel 40, and the lateral bent portion 45 of the top panel 40 that extends downward from each of both lateral sides of the upper surface portion 41 may be disposed on the support surface 200.

[0231] As shown in FIG. 23, the lateral bent portion 45 may include a first bent portion 46 extending downward from the upper surface portion 41 and a second bent portion 47 extending to the interior of the cabinet from the first bent portion 46, and the second bent portion 47 may be supported by the support surface 200.

[0232] Meanwhile, the embodiment of the disclosure may include a cabinet 10, a drum 60 provided in the cabinet 10 to receive laundry, and a supplementary treating apparatus 90, which includes a supplementary cabinet 95 disposed under the cabinet 10 to support the cabinet 10 and a supplementary drum 99 provided in the supplementary cabinet 95 to receive laundry.

[0233] The cabinet 10 disposed on the supplementary cabinet 95 may include a front panel 20 forming the front surface of the cabinet 10 and a top panel 40 forming the upper surface of the cabinet 10, the top panel 40 may include an upper surface portion 41 defining the upper surface, and the upper surface portion 41 may be disposed at a higher position than the upper end of the front panel 20.

[0234] In the case of including the supplementary treating apparatus 90 as described above, it may be more advantageous for the top panel 40 to be formed in a three-dimensional shape.

[0235] For example, although the height of the top panel 40 increases because the cabinet 10 of the embodiment of the disclosure is disposed on the supplementary cabinet 95, the exterior finish of the product may be

important. Therefore, the cover panel 100 may be disposed on the upper bent portion 22 of the front panel 20. Further, the upper surface portion 41 of the top panel 40 may be located at a higher position than the upper ends of the side panel and the front panel 20 and may form the upper surface of the cabinet 10 together with the cover panel 100.

[0236] Meanwhile, FIG. 16 shows the cabinet 10 with the top panel 40 separated therefrom in the embodiment of the disclosure. In addition, FIG. 17 shows a groove forming part 210 provided on the support surface 200 of the cabinet 10.

[0237] Referring to FIGs. 16 and 17, in the embodiment of the disclosure, the cabinet 10 may include a top panel 40 forming the upper surface of the cabinet 10 and may include a support surface 200 located below the top panel 40 to support the top panel 40.

[0238] The support surface 200 may correspond to a surface located below the top panel 40 to support the top panel 40 and may be substantially parallel to the ground. The support surface 200 may be the entirety or a part of any of various components.

[0239] For example, the support surface 200 may be provided as a part of the side panel 30 or may correspond to a part of a reinforcement frame 250 to be described later. In some cases, the support surface 200 may be manufactured as an independent component and may form a coupling relationship with the side panel 30 or the like.

[0240] The top panel 40 may be disposed on the support surface 200 and may be coupled thereto in a sliding manner as described above. Thus, the support surface 200 may extend in the sliding direction of the top panel 40, e.g., the forward-backward direction.

[0241] Meanwhile, the groove forming part 210 may be provided on the support surface 200 and may form an insertion groove 219 that is open in a direction parallel to the support surface 200. Accordingly, the top panel 40 may slide on the support surface 200 in a direction parallel to the support surface 200 so that a portion thereof is inserted into the insertion groove 219, and thus may be restricted from moving upward.

[0242] In detail, the groove forming part 210 may be formed in a shape protruding upward from the support surface 200. The groove forming part 210 may correspond to a part of the support surface 200 or may be manufactured separately and coupled to the support surface 200.

[0243] The groove forming part 210 may form an insertion groove 219 that is open in a direction parallel to the support surface 200. The insertion groove 219 may have a groove shape that is open in a direction parallel to the ground. The insertion groove 219 may be formed such that at least a portion thereof is open in the sliding direction of the top panel 40.

[0244] The insertion groove 219 may be formed in the groove forming part 210 or may be formed in the relationship between the groove forming part 210 and another

component. For example, in the embodiment of the disclosure, the insertion groove 219 may be defined by the groove forming part 210 and the support surface 200.

[0245] FIG. 18 shows the cross-section of the insertion groove 219 defined by the support surface 200 and the groove forming part 210 of an embodiment of the disclosure. The top panel 40 may be partially inserted into the insertion groove 219 through sliding movement in the state of being supported on the support surface 200. Considering the structure of the groove, the top panel 40 partially inserted into the insertion groove 219 may be restricted from moving upward.

[0246] In addition, considering the structure of the groove, the depth to which a portion of the top panel 40 is inserted into the insertion groove 219 may be structurally determined, and accordingly, the sliding distance of the top panel 40 may also be determined.

[0247] That is, in the embodiment of the disclosure, due to the structure in which the top panel 40 slides on the support surface 200 and is inserted into the insertion groove 219, movement of the top panel 40 in the upward-downward direction as well as the sliding direction may be restricted, and thus the top panel 40 may be fixed at the coupling position.

[0248] Accordingly, the process of coupling the top panel 40 in the forward-backward direction and the process of coupling the top panel 40 in the upward-downward direction may not be performed separately, and the top panel 40 may be conveniently coupled and fixed in at least two directions only through sliding movement.

[0249] Meanwhile, the support surface 200 may be disposed on each of both sides of the cabinet 10 in the lateral direction and may extend in the forward-backward direction of the cabinet 10, and the top panel 40 may slide in the forward-backward direction.

[0250] Meanwhile, FIG. 19 shows a structure in which the support surface 200 is connected to the upper end of a side panel 30 of an embodiment of the disclosure. In the embodiment of the disclosure, the cabinet 10 may further include a side panel 30 disposed on each of both sides thereof in the lateral direction, the side panel 30 may include a side surface portion 31 forming the side surface of the cabinet 10, and the support surface 200 may extend toward the interior of the cabinet 10 from the upper end of the side surface portion 31.

[0251] That is, in the embodiment of the disclosure, the support surface 200 may be formed by bending the upper end of the side panel 30. That is, the side panel 30 may include the side surface portion 31 and the support surface 200. In the embodiment of the disclosure, because the support surface 200 is formed by bending the upper end portion of the side panel 30, the support surface 200 may stably support the top panel 40 and may have a shape extending in the sliding direction of the top panel 40.

[0252] Meanwhile, FIG. 20 shows a reinforcement frame 250 provided adjacent to the side panel 30 of an embodiment of the disclosure. Referring to FIG. 20, the

embodiment of the disclosure may include a reinforcement frame 250, which is located below the top panel 40, is provided on each of both sides of the cabinet 10 in the lateral direction, and extends in the forward-backward direction.

[0253] In addition, the support surface 200 may correspond to the upper surface of the reinforcement frame 250. That is, the groove forming part 210 may be coupled to the upper surface of the reinforcement frame 250. In this case, the upper end portion of the side panel 30 may be bent to cover the upper surface of the reinforcement frame 250 as needed.

[0254] That is, in the embodiment of the disclosure, the support surface 200 may correspond to the bent upper end portion of the side panel 30 or the upper surface of the reinforcement frame 250. The groove forming part 210 may be coupled to the upper end portion of the side panel 30, may be coupled to the reinforcement frame 250, or may penetrate the upper end portion of the side panel 30 to be coupled to the reinforcement frame 250.

[0255] FIG. 20 shows, as an example of the disclosure, a structure in which the upper end portion of the side panel 30 is bent to form the support surface 200, the reinforcement frame 250 is located below the support surface 200, and the groove forming part 210 penetrates the support surface 200 to be coupled to the reinforcement frame 250.

[0256] However, for convenience of description, the support surface 200 will be described below as being a part of the side panel 30 that is connected to the upper end of the side surface portion 31 of the side panel 30 and is parallel to the ground, unless stated otherwise.

[0257] In the embodiment of the disclosure, the reinforcement frame 250 may extend in the forward-backward direction to form a coupling relationship with the front panel 20 and the rear panel 50, thereby increasing the rigidity of the cabinet 10. In the case in which the upper end portion of the side panel 30 is bent to form the support surface 200, the reinforcement frame 250 may correspond to a reinforcement body supporting the support surface 200 from below.

[0258] Meanwhile, referring again to FIG. 18, in the embodiment of the disclosure, the support surface 200 may define the bottom surface of the insertion groove 219, and the remaining portion of the insertion groove 219 except the bottom surface may be defined by the groove forming part 210.

[0259] That is, in the embodiment of the disclosure, the lower end of the insertion groove 219 may have the same height as the support surface 200, and accordingly, a portion of the top panel 40 sliding on the support surface 200 may be easily inserted into the insertion groove 219 without interference with a stepped portion.

[0260] In detail, the groove forming part 210 may include a groove protruding portion 212 and an enlarged diameter portion 214. The groove protruding portion 212 may protrude upward from the support surface 200, and the enlarged diameter portion 214 may be located on the

groove protruding portion 212 and may have a larger diameter D1 than the groove protruding portion 212.

[0261] The groove protruding portion 212 may have various diameters D2. However, it is preferable that the diameter D2 of the groove protruding portion 212 be equal to or less than the width of the support surface 200 in the width direction of the cabinet 10. In addition, the groove forming part 210 may have the insertion groove 219 formed around the groove protruding portion 212 by the enlarged diameter portion 214 located on the groove protruding portion 212.

[0262] That is, the insertion groove 219 may be formed between the enlarged diameter portion 214 and the support surface 200. A portion of the top panel 40 may move toward the groove protruding portion 212 to be inserted into the insertion groove 219.

[0263] Meanwhile, the height of a lower surface 215 of the enlarged diameter portion 214 that faces the support surface 200 from the support surface 200 may gradually increase in a direction away from the groove protruding portion 212. For example, the lower surface 215 of the enlarged diameter portion 214 may be a surface inclined so as to gradually approach the support surface 200 in a direction approaching the center of the groove forming part 210.

[0264] Accordingly, the height of the entrance of the insertion groove 219 into which the top panel 40 is inserted may increase, so a portion of the top panel 40 sliding along the support surface 200 may be easily inserted.

[0265] The top panel 40 may include an insertion portion 230 formed to be inserted into the insertion groove 219, and may slide from a preliminary position P1 to the coupling position P2 on the support surface 200. The insertion portion 230 may be spaced apart from the insertion groove 219 at the preliminary position P1 of the top panel 40, and may be inserted into the insertion groove 219 at the coupling position P2 of the top panel 40.

[0266] For reference, the preliminary position P1 and the coupling position P2 of the top panel 40 are conceptually shown in FIG. 7 described above. Here, the preliminary position P1 of the top panel 40 is a position at which the top panel 40 is disposed on the support surface 200 and is ready to slide before a portion thereof is inserted into the insertion groove 219.

[0267] The coupling position P2 of the top panel 40 is a position at which a portion of the top panel 40 is completely inserted into the insertion groove 219 after sliding from the preliminary position P1. That is, in the embodiment of the disclosure, the top panel 40 may slide from the preliminary position P1 disposed on the support surface 200 and then may reach the coupling position P2 at which a portion thereof is inserted into the insertion groove 219.

[0268] Meanwhile, FIG. 21 is a bottom view of the top panel 40. Referring to FIG. 21, in the embodiment of the disclosure, the top panel 40 may include an upper surface portion 41, a first bent portion 46, and a second bent

portion 47.

[0269] The upper surface portion 41 may form the upper surface of the cabinet 10, the first bent portion 46 may extend downward from the upper surface portion 41, and the second bent portion 47 may extend parallel to the support surface 200 toward the interior of the cabinet 10 from the first bent portion 46.

[0270] The first bent portion 46 and the second bent portion 47 may form the lateral bent portion 45 of the top panel 40. That is, the lateral bent portion 45 may be provided on each of both lateral sides of the top panel 40 and may include the first bent portion 46 and the second bent portion 47. The second bent portion 47 may include the insertion portion 230 and may be supported by the support surface 200.

[0271] The first bent portion 46 may extend downward from the periphery of the upper surface portion 41. The first bent portion 46 may extend downward from each of both sides of the upper surface portion 41. The first bent portion 46 may be formed by bending each of both side portions of the upper surface portion 41 downward.

[0272] The second bent portion 47 may extend from the first bent portion 46. The second bent portion 47 may extend toward the interior of the cabinet 10 from the first bent portion 46. The second bent portion 47 may extend from the lower end of the first bent portion 46. The second bent portion 47 may be formed by bending the lower end portion of the first bent portion 46.

[0273] The second bent portion 47 may be substantially parallel to the ground. The second bent portion 47 may be provided parallel to the support surface 200 to be supported on the support surface 200. That is, the top panel 40 may be supported such that the second bent portion 47 is located on the support surface 200.

[0274] The top panel 40 may include an insertion portion 230 formed to be inserted into the insertion groove 219 formed by the groove forming part 210. That is, the top panel 40 may include the insertion portion 230 formed as a part thereof, and the insertion portion 230 may be inserted into the insertion groove 219, whereby the top panel 40 may be restricted from moving in the upward direction as well as the sliding direction.

[0275] The insertion portion 230 may correspond to a part of the second bent portion 47. That is, the second bent portion 47 may slide on the support surface 200 so that the insertion portion 230 is inserted into the above-described insertion groove 219. For example, the coupling position P2 of the top panel 40 may be defined as being located in front of the preliminary position P1, the first bent portion 46 may extend from each of both sides of the upper surface portion 41 in the lateral direction, and the second bent portion 47 may extend in the forward-backward direction.

[0276] Meanwhile, the groove forming part 210 may be provided in plural to be spaced apart from each other in the sliding direction of the top panel 40, and the second bent portion 47 may include open portions 240 to provide spaces in which the groove forming parts 210 move.

[0277] The open portions 240 may be provided in the same number as the groove forming part 210 to be spaced apart from each other in the sliding direction. Accordingly, upward movement and forward movement of the top panel 40 may be restricted at a plurality of points spaced apart from each other in the forward-backward direction, and thus the top panel 40 may have a stable fixing structure.

[0278] Meanwhile, FIG. 22 shows an open portion 240 and an insertion portion 230 formed at the top panel 40 of an embodiment of the disclosure.

[0279] Referring to FIG. 22, in the embodiment of the disclosure, the second bent portion 47 may include an open portion 240 extending in the sliding direction of the top panel 40 and accommodating the groove forming part 210. The position of the groove forming part 210 relative to the open portion 240 may be changed within the open portion 240 by sliding of the top panel 40.

[0280] In detail, the open portion 240 may be formed by removing a part of the second bent portion 47. The open portion 240 may include a hole that is open upward and downward in the second bent portion 47. When the top panel 40 is supported on the support surface 200, the groove forming part 210 may be located in the open portion 240.

[0281] The open portion 240 may have a shape of a hole extending in the sliding direction of the top panel 40. Accordingly, when the top panel 40 slides, the groove forming part 210 may change in position within the open portion 240.

[0282] For example, when the top panel 40 slides forward, the groove forming part 210 may be moved toward the rear end of the open portion 240 within the open portion 240, and when the top panel 40 slides backward, the groove forming part 210 may be moved toward the front end of the open portion 240 within the open portion 240.

[0283] In other words, when the top panel 40 slides forward, the rear end portion of the open portion 240 may be moved toward the insertion groove 219 in the groove forming part 210, and when the top panel 40 slides backward, the front end portion of the open portion 240 may be moved toward the insertion groove 219 in the groove forming part 210.

[0284] Meanwhile, FIG. 22 shows the insertion portion 230 formed at one end portion of the open portion 240, FIG. 23 shows the positional relationship between the groove forming part 210 and the insertion portion 230 at the preliminary position P1, and FIG. 24 shows the positional relationship between the groove forming part 210 and the insertion portion 230 at the coupling position P2.

[0285] In the embodiment of the disclosure, the insertion portion 230 may be located at one end portion of the open portion 240. At the coupling position P2, the groove forming part 210 may be located at the end portion of the open portion 240, and thus the insertion portion 230 may be inserted thereinto.

[0286] Referring first to FIG. 23, when the top panel 40

is seated on the support surface 200, the groove forming part 210 may be located in the open portion 240. The groove protruding portion 212 of the groove forming part 210 may be located parallel to the second bent portion 47.

[0287] At the preliminary position P1, the insertion portion 230 defined by one end portion of the open portion 240 may be spaced apart from the groove forming part 210. When the coupling position P2 is defined as being located in front of the preliminary position P1, the insertion portion 230 may correspond to the rear end portion of the open portion 240.

[0288] Referring to FIG. 24, as the top panel 40 is moved from the preliminary position P1 to the coupling position P2, the distance between the groove forming part 210 and the insertion portion 230 may gradually decrease, and finally, the insertion portion 230 may be inserted into the insertion groove 219 in the groove forming part 210.

[0289] The top panel 40 may be restricted from moving forward due to contact of the insertion portion 230 with the groove protruding portion 212 forming the insertion groove 219. Upward movement of the top panel 40 may be restricted due to the contact relationship between the insertion portion 230 and the enlarged diameter portion 214. The open portion 240 may be open toward the interior of the cabinet 10 in order to facilitate insertion of the groove forming part 210.

[0290] Meanwhile, FIG. 25 is a bottom cross-sectional view showing the state in which the insertion portion 230 is inserted into the insertion groove 219. Referring to FIG. 25, in the embodiment of the disclosure, the maximum width D3 of the open portion 240 in the lateral direction of the cabinet 10 may be equal to or greater than the maximum diameter D1 of the groove forming part 210.

[0291] As described above, in the process in which the top panel 40 is seated on the support surface 200, a portion of the groove forming part 210 may pass through the open portion 240, and the groove forming part 210 may be located in the open portion 240. In order to facilitate insertion of the groove forming part 210 into the open portion 240, the maximum width D3 of the open portion 240 may be equal to or greater than the maximum diameter D1 of the groove forming part 210.

[0292] For example, at least part of the open portion 240 may form the maximum width D3 in a region in front of the insertion portion 230, or the open portion 240 may consistently form the maximum width D3 in a region in front of the insertion portion 230.

[0293] At the preliminary position P1 of the top panel 40, the maximum width D3 of the open portion 240 may be formed at a position corresponding to the groove forming part 210, and the maximum diameter D1 of the groove forming part 210 may correspond to the maximum diameter of the enlarged diameter portion 214.

[0294] Meanwhile, in the embodiment of the disclosure, at the preliminary position P1, the width D3 of a part of the open portion 240 at which the groove forming part 210 is located may be equal to or greater than the

maximum diameter D1 of the groove forming part 210, and at the coupling position P2, the width D4 of a part of the open portion 240 at which the groove forming part 210 is located may be less than the maximum diameter D1 of the groove forming part 210.

[0295] At the preliminary position P1, the part at which the groove forming part 210 is located may be a position spaced apart from the insertion portion 230. At the preliminary position P1, the groove forming part 210 may be located in front of the insertion portion 230. At the preliminary position P1 of the top panel 40, the open portion 240 may have a width D3 that is equal to or greater than the maximum diameter D1 of the groove forming part 210 in order to allow the groove forming part 210 to easily pass therethrough.

[0296] Meanwhile, at the coupling position P2, in order to allow one end portion of the open portion 240, i.e., the insertion portion 230 provided at the open portion 240, to be inserted into the insertion groove 219, the groove forming part 210 may be located in close contact with the insertion portion 230, as shown in FIG. 25.

[0297] The open portion 240 may decrease in width at the insertion portion 230. That is, when the insertion portion 230 is inserted into the insertion groove 219, the width D4 of the open portion 240 may be less than the maximum diameter D1 of the groove forming part 210 in order to prevent the groove forming part 210 from passing through the open portion 240.

[0298] Accordingly, at the preliminary position P1 of the top panel 40, the groove forming part 210 may penetrate the open portion 240. When the top panel 40 slides to the coupling position P2, the insertion portion 230 may be inserted into the insertion groove 219, and the width of the open portion 240 may be equal to or less than the maximum diameter D1 of the groove forming part 210, whereby separation of the top panel 40 may be restricted. At the coupling position P2, the width D4 of the open portion 240 may correspond to the maximum width of the insertion groove 219 of the insertion portion 230 to be described later.

[0299] Meanwhile, in the embodiment of the disclosure, as described above, the insertion portion 230 may be inserted into the insertion groove 219 through the sliding process of the top panel 40, and may be restricted from moving further in the sliding direction of the top panel 40 due to the contact relationship with the groove forming part 210.

[0300] That is, the top panel 40 may slide forward to the coupling position P2 from the preliminary position P1, and the insertion portion 230 may be moved forward to be inserted into the insertion groove 219 in accordance with sliding movement of the top panel 40. The insertion portion 230 inserted into the insertion groove 219 may be restricted from moving forward after contact with the groove forming part 210 due to the positional relationship with the groove forming part 210.

[0301] That is, in the embodiment of the disclosure, because the insertion portion 230 is inserted into the

insertion groove 219 formed by the groove forming part 210, upward movement and forward movement thereof may be restricted.

[0302] Meanwhile, in the embodiment of the disclosure, the cabinet 10 may include the above-described rear panel 50, and backward movement of the top panel 40 may be restricted by a top panel fixing member. That is, the top panel fixing member may be coupled to the rear panel 50 so that the insertion portion 230 is located behind the top panel 40 in the state of being inserted into the insertion groove 219, and backward movement of the top panel 40 may be restricted by the top panel fixing member.

[0303] The top panel fixing member may correspond to a handle unit 300 to be described later. The coupling structure of the top panel 40 including the handle unit 300 will be described below.

[0304] First, the top panel 40 may be disposed on the support surface 200 provided on the upper end of the side panel 40. In this case, the top panel 40 may be spaced backward from the front panel 20 and the cover panel 100.

[0305] In this case, the groove forming part 210 may be located in the open portion 240 while passing through the open portion 240. The insertion portion 230 of the top panel 40 may be located behind the groove forming part 210. The rear end of the top panel 40 may be located behind the rear panel 50.

[0306] Thereafter, the top panel 40 located on the support surface 200 may slide forward. The top panel 40 may be moved from the preliminary position P1 to the coupling position P2 due to forward movement of the top panel 40.

[0307] The front end of the top panel 40 having slid to the coupling position P2, e.g., the above-described front bent portion 42 or front protruding portion 43 of the top panel 40 may be in contact with the cover panel 100, and the rear end of the top panel 40 may be located parallel to the rear panel 50 in the upward-downward direction.

[0308] During the sliding process of the top panel 40, the insertion portion 230 provided at the second bent portion 47 of the top panel 40 may be moved forward to be inserted into the insertion groove 219 formed by the groove forming part 210. At least part of the insertion portion 230 inserted into the insertion groove 219 may be restricted from moving upward by the enlarged diameter portion 214 disposed thereon.

[0309] In addition, downward movement of the insertion portion 230 may also be restricted due to the support relationship with the support surface 200. Further, forward movement of the insertion portion 230 may also be restricted due to the positional relationship between the groove protruding portion 212 and the insertion portion 230. That is, forward movement and upward movement of the top panel 40 located at the coupling position P2 may be restricted due to the relationship between the insertion portion 230 and the groove forming part 210.

[0310] Meanwhile, the top panel fixing member may be

coupled to the top panel 40 located at the coupling position P2 and to the rear panel 50. At least a portion of the top panel fixing member coupled to the rear panel 50 may be located adjacent to the rear side of the top panel 40, thereby restricting backward movement of the top panel 40.

[0311] As a result, in the embodiment of the disclosure, forward movement and upward movement of the top panel 40 may be effectively prevented merely through sliding movement of the top panel 40 on the support surface 200, and lateral movement thereof may also be restricted as will be described later.

[0312] Further, the top panel 40 may be fixed merely by coupling the top panel fixing member to the rear panel 50, and accordingly, a convenient and efficient coupling relationship may be implemented. However, it is also possible to provide an additional fixing element capable of more securely fixing the top panel 40 together with the support surface 200.

[0313] Meanwhile, referring to FIG. 25, in the embodiment of the disclosure, the insertion groove 219 may extend along the periphery of the groove forming part 210, and the insertion portion 230 may be inserted into the insertion groove 219 so as to surround a portion of the periphery of the groove forming part 210, including a rear side of the periphery, thereby restricting lateral movement of the top panel 40.

[0314] In detail, the insertion groove 219 formed by the groove forming part 210 may be formed in a shape extending along at least a portion of the periphery of the groove forming part 210. For example, the insertion groove 219 may be formed along the entire periphery of the groove forming part 210.

[0315] However, the insertion groove 219 does not necessarily need to be formed along the entire periphery of the groove forming part 210, and it is sufficient if the insertion groove 219 is formed to include at least a portion of the periphery of the groove forming part 210 that faces the insertion portion 230. That is, in the case in which the insertion portion 230 is inserted into the insertion groove 219 by forward sliding of the top panel 40, the insertion groove 219 may be formed to include the rear side of the periphery of the groove forming part 210.

[0316] The insertion portion 230 may be inserted into the insertion groove 219 extending along the periphery of the groove forming part 210 and may be formed to surround at least a portion of the periphery of the groove forming part 210, thereby restricting not only forward movement of the top panel 40 but also lateral movement of the top panel 40.

[0317] In detail, the length by which the insertion portion 230 protrudes forward may gradually increase in a direction away from the center thereof based on the lateral direction of the cabinet 10, so the insertion portion 230 may be formed to surround a portion of the periphery of the groove forming part 210.

[0318] An end of the insertion portion 230 that faces the insertion groove 219 may have a shape corresponding to

a portion of the periphery of the groove forming part 210. For example, the insertion portion 230 may be provided to be moved toward the groove protruding portion 212 of the groove forming part 210 and to surround a portion of the periphery of the groove protruding portion 212.

[0319] In FIG. 25, the groove forming part 210 may have a substantially circular cross-section, and the insertion portion 230 may have a receiving recess 232 in which at least a portion of the groove forming part 210 is received. The receiving recess 232 may be concavely formed such that the center thereof is far away from the groove protruding portion 212 based on the lateral direction of the cabinet 10.

[0320] That is, at least part of the end of the insertion portion 230 may have an arc shape corresponding to the shape of the periphery of the groove forming part 210 or the groove protruding portion 212. The receiving recess 232 may be defined in the end of the insertion portion 230 and may constitute a part of the open area of the open portion 240.

[0321] In other words, the insertion portion 230 may have a shape in which both ends thereof in the lateral direction protrude farther forward than the center thereof. Accordingly, when the insertion portion 230 is inserted into the insertion groove 219, a part of the groove protruding portion 212 may be received in the receiving recess 232 and may be surrounded by the insertion portion 230.

[0322] That is, at least part of the insertion portion 230 may be located adjacent to at least part of the groove protruding portion 212 in the lateral direction, thereby restricting relative movement between the insertion portion 230 and the groove protruding portion 212 in the lateral direction. Accordingly, lateral movement of the top panel 40 may be restricted, and thus the top panel 40 may be effectively fixed.

[0323] A part of the groove protruding portion 212 may have a contact relationship with the insertion portion 230 in the substantially lateral direction due to the above-described shape of the insertion portion 230 in which the center thereof is depressed backward with respect to both lateral ends thereof. Accordingly, when the insertion portion 230 is completely inserted into the insertion groove 219, lateral movement of the top panel 40 may be restricted due to the structural interference between the insertion portion 230 and the groove forming part 210.

[0324] In other words, the insertion portion 230 and the groove forming part 210 may have the following relationship. The groove protruding portion 212 protruding upward may be provided on the support surface 200. The top panel 40 may include the insertion portion 230 located on the support surface 200 so as to face the groove protruding portion 212. The insertion portion 230 may include the receiving recess 232 in which at least part of the groove protruding portion 212 is received. The top panel 40 may slide in a first direction parallel to the support surface 200 so that at least part of the groove protruding portion 212 is received in the receiving recess

232, and thus may be restricted from moving in a second direction crossing the first direction.

[0325] As described above, in the embodiment of the disclosure, upward movement and forward movement of the top panel 40 may be restricted by the groove forming part 210 provided on the support surface 200. Further, lateral movement of the top panel 40 may also be restricted.

[0326] In addition, because backward movement of the top panel 40 is also restricted by the above-described top panel fixing member, the top panel 40 may be stably fixed at the above-described coupling position P2.

[0327] In the embodiment of the disclosure, although separate elements for fixing the top panel 40 in respective directions are not provided, movement of the top panel 40 in multiple directions may be effectively restricted due to the insertion relationship between the insertion portion 230 and the insertion groove 219 resulting from sliding of the top panel 40 on the support surface 200.

[0328] Meanwhile, FIG. 26 shows a handle unit 300 that protrudes backward from the rear panel 50 and the top panel 40 and is coupled to the rear panel 50 and the top panel 40.

[0329] The handle unit 300 may be provided in a form protruding from the cabinet 10. The handle unit 300 may be coupled to the cabinet 10. For example, the handle unit 300 may be coupled to the rear panel 50 or the side panel 30 of the cabinet 10.

[0330] The handle unit 300 may have a shape protruding from the cabinet 10 and may perform various functions. For example, the handle unit 300 may correspond to an object that the user may hold during the process of transporting the laundry treating apparatus 1 of the embodiment of the disclosure.

[0331] Meanwhile, FIG. 27 illustrates a rear perspective view of the handle unit 300 shown in FIG. 26.

[0332] In the embodiment of the disclosure, the handle unit 300 may be located on the rear side of the cabinet 10. That is, the handle unit 300 may be coupled to the rear panel 50. However, the disclosure is not necessarily limited thereto. The handle unit 300 may be coupled to the side panel 30 as needed.

[0333] The handle unit 300 may be located parallel to the top panel 40. That is, at least a portion of the handle unit 300 may have a height corresponding to the top panel 40 and may face the top panel 40 in a direction parallel to the ground.

[0334] In the embodiment of the disclosure, the handle unit 300 may be coupled to the rear panel 50, and a portion thereof may be located on the rear side of the top panel 40. Accordingly, the handle unit 300 may face the top panel 40 in the forward direction and may restrict backward movement of the top panel 40.

[0335] In this case, the handle unit 300 may correspond to the above-described top panel fixing member and may restrict backward movement of the top panel 40 at the rear of the top panel 40. The handle unit 300 may be coupled both to the rear panel 50 and to the top panel 40.

[0336] Meanwhile, FIG. 28 shows the cross-section of the handle unit 300 coupled to the cabinet 10. Referring to FIG. 28, the handle unit 300 may be coupled both to the rear panel 50 and to the top panel 40, and may be provided so as to be divided into two parts.

[0337] In detail, in the embodiment of the disclosure, the handle unit 300 may include a first part and a second part. The first part and the second part may be coupled so as to be separated from each other. In the embodiment of the disclosure, the first part may be defined as an upper portion 310 coupled to the top panel 40, and the second part may be defined as a lower portion 350 coupled to the rear panel 50 or the side panel 30.

[0338] When the handle unit 300 is coupled to the cabinet 10 at the rear of the cabinet 10, the upper portion 310 may be coupled to the rear bent portion 49 of the top panel 40, and the lower portion 350 may be coupled to the rear panel 50.

[0339] The rear bent portion 49 of the top panel 40 may extend downward from the rear side of the upper surface portion 41 of the top panel 40. The rear bent portion 49 may be formed by bending a portion of the top panel 40 or may be manufactured separately and connected to the upper surface portion 41.

[0340] The handle unit 300 and the cabinet 10 may be coupled to each other through various coupling methods. For example, the handle unit 300 may be coupled to the cabinet 10 through various coupling methods such as a hook-coupling method, a fitting method, or a method using a fastening member such as a bolt.

[0341] FIG. 28 shows a structure in which the handle unit 300 is coupled to the cabinet 10 using a fastening member. For example, the embodiment of the disclosure may include an upper portion fastening member 392 for coupling the upper portion 310 to the top panel 40, a lower portion fastening member 393 for coupling the lower portion 350 to the rear panel 50, and a handle fastening member 391 for separately coupling the upper portion 310 and the lower portion 350 to each other.

[0342] Each fastening member may be an element that is fastened to an object while penetrating the same, for example, a bolt or a rivet. In the embodiment of the disclosure, the upper portion 310 may be coupled to the rear bent portion 49 of the top panel 40, the lower portion 350 may be coupled to the rear panel 50, and the upper portion 310 and the lower portion 350 may be coupled to each other.

[0343] Meanwhile, FIG. 29 illustrates a perspective view of the handle unit 300 separated from the cabinet 10. FIG. 29 corresponds to a perspective view of the handle unit 300 when viewed from the rear of the cabinet 10.

[0344] Referring to FIG. 29, the upper portion 310 and the lower portion 350 of the handle unit 300 may be coupled to each other to constitute a single handle. Each of the upper portion 310 and the lower portion 350 may have formed therein a hole through which the above-described fastening member passes.

[0345] The upper portion 310 may be placed and supported on the lower portion 350. A portion of the upper portion 310 may be inserted into the lower portion 350 in order to implement coupling therebetween or guide a coupling position.

[0346] In addition, the handle unit 300 may include various recessed spaces for fastening of various fastening members or grip by the user. In addition, each of the upper portion 310 and the lower portion 350 of the handle unit 300 may include a plurality of ribs in order to increase the strength thereof.

[0347] Meanwhile, FIG. 30 illustrates a rear view of the handle unit 300. In FIG. 30, the handle fastening member 391 for coupling the upper portion 310 and the lower portion 350 to each other is conceptually indicated by dotted lines.

[0348] The handle fastening member 391 may be inserted into the lower portion 350 while penetrating the upper portion 310. That is, the handle fastening member 391 may be fastened to the lower portion 350 while penetrating the upper portion 310. If the handle fastening member 391 is released from the handle unit 300, the upper portion 310 and the lower portion 350 may be separated from each other.

[0349] Meanwhile, FIG. 31 illustrates a front view of the handle unit 300. The front surface of the handle unit 300 may face the rear surface of the cabinet 10. That is, the front surface of the handle unit 300 may face the rear bent portion 49 of the top panel 40 and/or the rear panel 50.

[0350] The front surface of the handle unit 300 may form a substantially flat surface in order to be coupled to the top panel 40 and the rear panel 50. However, the front surface of the handle unit 300 may include a partially curved area as needed, as shown in FIG. 31.

[0351] Meanwhile, FIG. 31 shows a hole formed in each of the upper portion 310 and the lower portion 350, through which the upper portion fastening member 392 or the lower portion fastening member 393 passes. The upper portion fastening member 392 and the lower portion fastening member 393 may be fastened to the cabinet 10 while penetrating the upper portion 310 and the lower portion 350, respectively.

[0352] FIG. 31 shows a guide portion and an additional protruding portion 383, which guide a coupling position of each of the upper portion 310 and the lower portion 350 or are supported backward from the cabinet 10. A detailed description of the guide portion and the additional protruding portion 383 will be given later.

[0353] Meanwhile, FIG. 32 shows a state in which the upper portion 310 and the lower portion 350 of the handle unit 300 coupled to the rear side of the cabinet 10 are separated from each other and the top panel 40 is separated from the rear panel 50 in the embodiment of the disclosure.

[0354] Separation of the handle unit 300 and separation of the top panel 40 in the embodiment of the disclosure will be described below with reference to FIG. 32.

[0355] First, as described above, the laundry treating

apparatus 1 of the embodiment of the disclosure may include the handle unit 300 coupled to the cabinet 10 and formed to be held by the user. The handle unit 300 may include an upper portion 310 and a lower portion 350.

[0356] The upper portion 310 may be coupled to the top panel 40 so as to protrude therefrom, and the lower portion 350 may be located under the lower portion 350 and may be coupled to a part of the cabinet 10 except the top panel 40 so as to protrude therefrom.

[0357] The handle unit 300 may be coupled to the cabinet 10 at the rear, side, or front of the cabinet 10. When the handle unit 300 is provided at the front of the cabinet 10, the lower portion 350 may be coupled to the front panel 20 so as to protrude forward therefrom. When the handle unit 300 is provided at the side of the cabinet 10, the lower portion 350 may be coupled to the first side panel 38 or the second side panel 39 so as to protrude laterally therefrom. When the handle unit 300 is provided at the rear of the cabinet 10, the lower portion 350 may be coupled to the rear panel 50 so as to protrude backward therefrom.

[0358] That is, the lower portion 350 may be coupled to a part of the cabinet 10 except the top panel 40, and the upper portion 310 may be located on the lower portion 350 and coupled to the top panel 40 and to the lower portion 350.

[0359] The handle unit 300, the upper portion 310 of which is coupled to the top panel 40, may be located at the upper portion of the cabinet 10. Accordingly, when the user wants to transport the cabinet 10, the user may hold the handle unit 300 to lift the cabinet 10.

[0360] Meanwhile, in the embodiment of the disclosure, the above-described various components may be mounted in the cabinet 10. The components may include a vibrating body such as the drum 60, a rotary body such as the driving unit 70, and an electronic component such as a controller.

[0361] During the use of the laundry treating apparatus 1 of the embodiment of the disclosure, defects or damages may occur in various components due to degradation in durability or unintended reasons. Further, in some cases, the user may need to access the interior of the cabinet 10 in order to perform maintenance of the components before occurrence of defects or damages.

[0362] When the user wants to access the interior of the cabinet 10 as described above, the user needs to separate the top panel 40 or the side panel 30 of the cabinet 10 or separate two or more panels to expose the interior of the cabinet 10.

[0363] Meanwhile, the above-described handle unit 300 is an object that the user holds in order to receive the load of the cabinet 10. The coupling force between the handle unit 300 and the cabinet 10 is important. Therefore, the handle unit 300 may be coupled to two or more panels such as the top panel 40 and the rear panel 50.

[0364] In addition, the handle unit 300 may be located at the upper portion of the cabinet 10 so that the user may easily hold the handle unit 300. For example, the handle

unit 300 may be located at the upper portion of the cabinet 10 to form a coupling relationship with the top panel 40, and may also be coupled to the rear panel 50 or the side panel 30 in order to increase the coupling force.

[0365] When it is intended to separate the top panel 40 from the cabinet 10 in order to perform maintenance of the laundry treating apparatus 1, the coupling relationship with the handle unit 300 may be problematic. For example, in order to separate the top panel 40 from the cabinet 10, the handle unit 300 having the coupling relationship with the top panel 40 and other panels needs to be separated therefrom.

[0366] However, completely separating the handle unit 300 from the cabinet 10 in order to separate the top panel 40 may be inconvenient. For example, the handle unit 300 may be disposed at the rear or side of the cabinet 10 in consideration of the aesthetics of the external appearance, user satisfaction with the external appearance, and efficient space utilization, and it may be inconvenient for the user located in front of the cabinet 10 to separate the handle unit 300 having the coupling relationship with the side panel 30 or the rear panel 50 at the upper portion of the cabinet 10.

[0367] Further, in the above-described structure of the laundry treating apparatus 1 of the embodiment of the disclosure in which the supplementary treating apparatus 90 is included and the cabinet 10 is stacked on the supplementary treating apparatus 90, the height of the handle unit 300 from the ground is considerably large, and thus convenience in separation of the handle unit 300 may be more important.

[0368] Considering this, in the embodiment of the disclosure, the handle unit 300 may include two parts. The upper portion 310 may be coupled to the top panel 40, and the lower portion 350 may be coupled to a part of the cabinet 10 except the top panel 40. The upper portion 310 may be coupled to an upper side of the lower portion 350 so as to be separable from the lower portion 350.

[0369] Accordingly, in the embodiment of the disclosure, when the upper portion 310 located on the lower portion 350 of the handle unit 300 is separated from the lower portion 350, the upper portion 310 and the top panel 40 may be conveniently separated together from the remaining parts of the cabinet 10.

[0370] For example, the user may access the handle unit 300 using a space present above the cabinet 10, and may separate the upper portion 310 of the handle unit 300 upward from the lower portion 350, thereby separating both the upper portion 310 and the top panel 40 from the cabinet 10 with improved task efficiency.

[0371] In addition, in the embodiment of the disclosure, because the handle unit 300 has a coupling relationship not only with the top panel 40 but also with other parts of the cabinet 10, it is possible to sufficiently secure fixing force for transportation of the cabinet 10, and the upper portion 310 separated from the lower portion 350 may also advantageously function as a handle of the top panel 40 for removal of the top panel 40.

[0372] Meanwhile, in the embodiment of the disclosure, the lower portion 350 may include a lower coupling portion 372 formed to be coupled to the upper portion 310, and the upper portion 310 may include an upper coupling portion 332 located on the lower coupling portion 372 and formed to be coupled to the lower coupling portion 372 from above.

[0373] The upper coupling portion 332 of the upper portion 310 and the lower coupling portion 372 of the lower portion 350 may be located so as to face each other and coupled to each other. The upper coupling portion 332 may be located on the lower coupling portion 372. The upper portion may be separated from the lower portion 350 by separating the upper coupling portion 332 located on the lower coupling portion 372 from the lower coupling portion 372.

[0374] FIG. 28 shows the cross-sections of the upper coupling portion 332 and the lower coupling portion 372 coupled to each other, FIG. 29 shows the upper coupling portion 332, and FIG. 32 shows the lower coupling portion 372.

[0375] The upper portion 310 and the lower portion 350 may form the handle unit 300 through coupling between the upper coupling portion 332 and the lower coupling portion 372, and the user may separate the upper portion 310 upward from the lower portion 350 by separating the upper coupling portion 332 and the lower coupling portion 372 from each other.

[0376] Meanwhile, the upper coupling portion 332 and the lower coupling portion 372 may be coupled to each other through various coupling methods such as a hook-coupling method, a fitting method, or a method using a fastening member. For example, the embodiment of the disclosure may include a handle fastening member 391 that penetrates the upper portion 310 downward and is removably inserted into the lower portion 350.

[0377] The upper coupling portion 332 and the lower coupling portion 372 may be coupled to each other by means of the handle fastening member 391. The handle coupling member 391 may penetrate the upper coupling portion 332 and may be inserted into and fixed to the lower coupling portion 372.

[0378] The user may remove the handle fastening member 391 from the handle unit 300 to release coupling between the upper portion 310 and the lower portion 350. The handle fastening member 391, which penetrates the upper coupling portion 332 located on the lower coupling portion 372 and is inserted into or penetrates the lower coupling portion 372, may be removed upward from the handle unit 300.

[0379] That is, the user may access the handle unit 300 through the space above the top panel 40 of the cabinet 10 and may remove the handle fastening member 391 upward from the handle unit 300. Thus, the user may conveniently remove the handle fastening member 391, thereby efficiently releasing coupling between the upper portion 310 and the lower portion 350.

[0380] Referring to FIGs. 28 and 30, the handle fasten-

ing member 391 may be exposed upward from the upper portion 310. That is, the upper end of the handle fastening member 391, which penetrates the upper coupling portion 332 of the upper portion 310 and is coupled to the lower coupling portion 372 of the lower portion 350, may be exposed to the outside from the upper portion 310.

[0381] As described above, the handle fastening member 391 may be a member that penetrates the upper portion 310, such as a bolt, and may include a head portion exposed upward from the upper portion 310. The user may fasten or release the handle fastening member 391 to or from the handle unit 300 through the head portion.

[0382] In addition, considering the fastening direction of the handle fastening member 391, the upper end of the handle fastening member 391 may be exposed upward from the upper portion 310. For example, the head portion of the handle fastening member 391 may be exposed upward from the upper portion 310. The upper portion 310 may include an exposed surface that supports the head portion upward and is exposed upward.

[0383] Accordingly, the user approaching the handle unit 300 from above the cabinet 10 may conveniently approach the handle fastening member 391 exposed upward, and the handle fastening member 391 may be easily removed by the user approaching from above the handle unit 300.

[0384] Meanwhile, in the embodiment of the disclosure, the lower portion 350 may be coupled to a part of the cabinet 10 except the top panel 40, thereby increasing the coupling force between the handle unit 300 and the cabinet 10. As described above, the lower portion 350 may be coupled to the rear panel 50 of the cabinet 10.

[0385] That is, the lower portion 350 may be coupled to the rear panel 50 at the rear of the rear panel 50, and the upper portion 310 may be coupled to the top panel 40 at the rear of the top panel 40.

[0386] Accordingly, the handle unit 300 may be located on the upper end portion of the rear surface of the cabinet 10, thereby improving user accessibility, and the processes of coupling and separating the handle unit 300 may be conveniently performed by the user approaching the upper side of the cabinet 10.

[0387] Meanwhile, the top panel 40 may include the upper surface portion 41 and the rear bent portion 49 described above. The upper portion 310 may be coupled to the rear bent portion 49 at the rear of the top panel 40. The handle unit 300 may be provided in plural as needed.

[0388] For example, there may be provided two or more handle units 300, one of which may be located adjacent to the first side panel 38 and the other of which may be located adjacent to the second side panel 39.

[0389] Meanwhile, the structures of the upper portion 310 and the lower portion 350 will be described below with reference to FIG. 29. The upper portion 310 may include an upper coupling surface 330 and a top panel coupling surface 320. The upper coupling surface 330 may face the lower portion 350 and may be coupled to the

lower portion 350 from above the lower portion 350.

[0390] The upper coupling surface 330 may form a surface that is substantially parallel to the ground and may be supported on the lower portion 350. The upper coupling surface 330 may include the above-described upper coupling portion 332. That is, at least a portion of the upper coupling surface 330 may be located on the lower coupling portion 372, and the handle fastening member 391 may be fastened thereto.

[0391] In addition, the exposed surface supporting the head portion of the handle fastening member 391 may form at least a portion of the upper coupling surface 330. That is, at least a portion of the upper coupling surface 330 may be exposed upward.

[0392] The top panel coupling surface 320 may face the top panel 40 and may be coupled to the top panel 40. The top panel coupling surface 320 may face the rear bent portion 49 of the top panel 40 and may be coupled to the rear bent portion 49.

[0393] The top panel coupling surface 320 may be formed parallel to the rear bent portion 49 and may be in surface contact with and coupled to the rear bent portion 49. The top panel coupling surface 320 may be substantially perpendicular to the ground.

[0394] The top panel coupling surface 320 and the upper coupling surface 330 may be connected to each other. An end of the top panel coupling surface 320 and an end of the upper coupling surface 330, which face each other, may be connected to each other. The top panel coupling surface 320 and the upper coupling surface 330 may be surfaces formed to be bent or curved relative to each other.

[0395] Accordingly, a space may be defined between the top panel coupling surface 320 and the upper coupling surface 330. Through this space, the top panel coupling surface 320 may be exposed backward, and the upper coupling surface 330 may be exposed upward. The upper end of the handle fastening member 391, e.g., the head portion of the handle fastening member 391, may be located in the aforementioned space.

[0396] The upper portion 310 may include a connection rib interconnecting the top panel coupling surface 320 and the upper coupling surface 330. The connection rib may be provided in plural to be spaced apart from each other in the lateral direction of the cabinet 10.

[0397] The connection ribs may be located in the space between the top panel coupling surface 320 and the upper coupling surface 330. Some of the plurality of connection ribs may form the side surface of the upper portion 310. The above-described exposed surface, on which the upper coupling portion 332 and the head portion may be located, may be located between any pair of connection ribs.

[0398] Meanwhile, the lower portion 350 may include a holding surface 360 and a lower coupling portion 372. The holding surface 360 may be disposed at the lower end of the lower portion 350 and may be held by the user. The lower coupling portion 372 may protrude upward

from the holding surface 360 to be coupled to the upper portion 310.

[0399] In detail, the holding surface 360 may be spaced downward from the upper coupling surface 330 of the upper portion 310. The holding surface 360 may be formed to be substantially parallel to the upper coupling surface 330. The holding surface 360 may be provided as a portion that the user may hold with his/her fingers in order to transport the cabinet 10.

[0400] The lower coupling portion 372 may protrude toward the upper portion 310 from the holding surface 360. The lower coupling portion 372 may extend upward from the holding surface 360 to support the upper coupling surface 330 of the upper portion 310.

[0401] The lower coupling portion 372 may be provided in plural. The lower coupling portions 372 may be spaced apart from each other in the lateral direction of the cabinet 10. The lower portion 350 may further include sidewalls disposed at the outermost sides thereof in the lateral direction.

[0402] The lower coupling portions 372 may correspond to the sidewalls or may be spaced apart from the sidewalls in the inward direction of the lower portion 350. That is, a space may be defined between the lower coupling portion 372 and the sidewall, and a space may also be defined between the plurality of lower coupling portions 372.

[0403] In addition, the lower portion 350 may include a rear panel coupling surface formed to be coupled to the rear panel 50. The rear panel coupling surface may be located substantially below the top panel coupling surface 320 of the upper portion 310. The rear panel coupling surface and the top panel coupling surface 320 may be located parallel to each other.

[0404] The rear panel coupling surface and the holding surface 360 may have shapes bent relative to each other. For example, the rear panel coupling surface and the holding surface 360 may correspond to surfaces formed to be bent relative to each other.

[0405] The sidewalls and the lower coupling portions 372 described above may be connected to the holding surface 360 and the rear panel coupling surface to interconnect the two surfaces. That is, the lower coupling portions 372 and the sidewalls of the lower portion 350 may interconnect the rear panel coupling surface and the holding surface 360, thereby increasing the structural rigidity of the lower portion 350.

[0406] Meanwhile, referring again to FIG. 30, a convex portion 361 protruding downward and a concave portion 362 depressed upward may be alternately arranged on the holding surface 360. Each of the convex portion 361 and the concave portion 362 may be provided in plural, and the plurality of convex portions and the plurality of concave portions may be alternately disposed in the lateral direction of the cabinet 10.

[0407] The convex portion 361 may have a shape protruding downward from the holding surface 360, and the concave portion 362 may have a shape de-

pressed upward in the holding surface 360. The convex portion 361 and the concave portion 362 may form a wave shape.

[0408] In the embodiment of the disclosure, the holding surface 360 may provide an area that may be held by the user, and accordingly, the convex portions 361 and the concave portions 362 may be formed on the holding surface 360 so that the user conveniently places his/her fingers thereon.

[0409] Meanwhile, the upper portion 310 may have a larger width D5 than the lower portion 350, and may be seated on the upper portion 310. That is, the width D5 of the upper portion 310 may be larger than the width D6 of the lower portion 350 based on the lateral direction of the cabinet 10.

[0410] As described above, when the upper portion 310 and the lower portion 350 are separated from each other, the user may lift the upper portion 310 from the lower portion 350 in order to lift the top panel 40. In this case, the upper portion 310 may function as a handle by itself.

[0411] Meanwhile, in the relationship with the lower portion 350, the width D5 of the upper portion 310 may be larger than the width D6 of the lower portion 350 so that the user easily holds the upper portion 310 excluding the lower portion 350.

[0412] That is, at least one of both end portions of the upper portion 310 may protrude outward from the lower portion 350 in the lateral direction of the cabinet 10, and this protruding portion may allow the user to conveniently hold the upper portion 310 separately from the lower portion 350.

[0413] Meanwhile, FIG. 33 shows a state in which the handle unit 300 is separated from the cabinet 10 and the upper portion 310 and the lower portion 350 are separated from each other. Referring to FIGs. 32 and 33, in the embodiment of the disclosure, the upper portion 310 may include an upper guide portion 321 protruding toward the top panel 40, and the top panel 40 may include an upper guide insertion portion 322 and 230 into which the upper guide portion 321 is inserted.

[0414] In detail, the upper guide portion 321 may protrude forward from the top panel coupling surface 320 or the upper coupling surface 330 of the upper portion 310. The upper guide portion 321 may be formed in a pillar or protrusion shape having various cross-sectional shapes.

[0415] For example, the upper guide portion 321 may protrude forward from the top panel coupling surface 320 facing the rear bent portion 49 of the top panel 40. The rear bent portion 49 of the top panel 40 may include an upper guide insertion portion 322 and 230 into which the upper guide portion 321 is inserted.

[0416] Coupling of the upper portion 310 to the top panel 40 may be completed by inserting the upper guide portion 321 into the upper guide insertion portion 322 and 230 or may be completed using the above-described upper portion fastening member 392 in the state in which the upper guide portion 321 is inserted into the upper

guide insertion portion 322 and 230.

[0417] That is, in the embodiment of the disclosure, the handle unit 300 may include the upper portion fastening member 392 that penetrates the upper portion 310 and is inserted into the top panel 40, and the upper portion 310 may be fixed to the top panel 40 by the upper portion fastening member 392.

[0418] When the upper portion fastening member 392 is used, the upper guide portion 321 may serve to guide a coupling position for coupling of the upper portion 310 to the top panel 40. For example, the upper portion 310 may be temporarily secured at the coupling position as the upper guide portion 321 is inserted into the upper guide insertion portion 322 and 230. In this state, the upper portion fastening member 392 may penetrate the upper portion 310 and may be fastened to the rear bent portion 49, whereby the upper portion 310 may be coupled to the rear bent portion 49.

[0419] Meanwhile, the upper guide portion 321 may be provided in plural. The number of upper guide portions 321 may be varied, and the arrangement thereof may also be varied. FIG. 33 shows a structure in which a pair of upper guide portions 321 is spaced apart from each other in the lateral direction of the cabinet 10 of an embodiment of the disclosure.

[0420] The upper portion fastening member 392 may penetrate the upper portion 310 between the plurality of upper guide portions 321 and may be inserted into the top panel 40. For example, based on the lateral direction of the cabinet 10, the upper portion fastening member 392 may penetrate the substantially central portion of the top panel coupling surface 320 and may be coupled to the rear bent portion 49 of the top panel 40, and the upper guide portions 321 may be located on both sides of the upper portion fastening member 392.

[0421] In the embodiment of the disclosure, when the upper portion fastening member 392 is used, the coupling position of the upper portion 310 may be effectively guided by the upper guide portions 321 inserted into the upper guide insertion portion 322 and 230 of the rear bent portion 49. Further, although one upper portion fastening member 392 is used, unintended rotation of the upper portion 310 may be effectively prevented.

[0422] Meanwhile, the lower portion 350 may include a lower guide portion 381 protruding toward a part of the cabinet 10 except the top panel 40, and the part of the cabinet 10 except the top panel 40 may include a lower guide insertion portion 382 and 230 into which the lower guide portion 381 is inserted.

[0423] The lower guide portion 381 may protrude forward from the lower portion 350. The features of the lower guide portion 381, e.g., the shape thereof, may be identical to the features of the above-described upper guide portion 321 unless otherwise specified.

[0424] The lower guide portion 381 may protrude forward from the holding surface 360 or the rear panel coupling surface of the lower portion 350. FIG. 33 shows the lower guide portion 381 protruding forward from the

rear panel coupling surface of an embodiment of the disclosure.

[0425] The lower guide insertion portion 382 and 230 may be provided in the rear panel 50. The lower guide portion 381 may be inserted into the lower guide insertion portion 382 and 230. For example, the lower guide portion 381 may be inserted into the lower guide insertion portion 382 and 230 so as to penetrate the same.

[0426] Coupling of the lower portion 350 to the rear panel 50 may be completed by inserting the lower guide portion 381 into the lower guide insertion portion 382 and 230 or may be completed using the above-described lower portion fastening member 393 in the state in which the lower guide portion 381 is inserted into the lower guide insertion portion 382 and 230.

[0427] That is, in the embodiment of the disclosure, the handle unit 300 may include the lower portion fastening member 393 that penetrates the lower portion 350 and is inserted into the rear panel 50, and the lower portion 350 may be fixed to the rear panel 50 by the lower portion fastening member 393.

[0428] When the lower portion fastening member 393 is used, the lower guide portion 381 may serve to guide a coupling position for coupling of the lower portion 350 to the rear panel 50. For example, the lower portion 350 may be temporarily secured at the coupling position as the lower guide portion 381 is inserted into the lower guide insertion portion 382 and 230. In this state, the lower portion fastening member 393 may penetrate the lower portion 350 and may be fastened to the rear panel 50, whereby the lower portion 350 may be coupled to the rear panel 50.

[0429] Meanwhile, FIG. 34 illustrates a top view of the lower portion 350, which is provided with an additional protruding portion 383.

[0430] Referring to FIG. 34, the lower portion 350 may include an additional protruding portion 383 protruding parallel to the lower guide portion 381. The additional protruding portion 383 may not be inserted into the part of the cabinet 10 except the top panel 40.

[0431] That is, the additional protruding portion 383 may not penetrate or form a coupling relationship with the above-described rear panel 50. The protruding end portion of the additional protruding portion 383 may merely support the rear panel 50 forward.

[0432] For example, the additional protruding portion 383 may protrude from the lower portion 350 so as to be parallel to the lower guide portion 381, and the protruding length thereof may be shorter than the lower guide portion 381. Accordingly, in the state in which the lower portion 350 is disposed adjacent to the rear side of the rear panel 50, the lower guide portion 381 may penetrate the rear panel 50 through the lower guide insertion portion 382 and 230, but the additional protruding portion 383 may not penetrate the rear panel 50 and may be located behind the rear panel 50.

[0433] The additional protruding portion 383 may serve to increase the support force of the rear panel 50 for the

rear panel coupling surface. The additional protruding portion 383 may be formed in various ways. For example, the additional protruding portion 383 may be manufactured separately from the lower portion 350 and coupled to the lower portion 350, or may be formed simultaneously when the lower portion 350 is manufactured.

[0434] For example, the lower portion 350 may be manufactured by injecting an injection fluid into an injection mold having a space corresponding to the external appearance of the lower portion 350 and then curing the injection fluid, and the additional protruding portion 383 may be formed at a position corresponding to a gate of the injection mold, through which the injection fluid is injected, due to the presence of the gate.

[0435] Because the additional protruding portion 383 is formed at a position corresponding to the gate through which the injection fluid is injected, the injection quality of the lower portion 350 may be effectively improved by effectively increasing the number of gates.

[0436] Meanwhile, the handle unit 300 may include a lower portion fastening member 393 that penetrates the lower portion 350 between the lower guide portion 381 and the additional protruding portion 383 and is inserted into a part of the cabinet 10 except the top panel 40.

[0437] The arrangement of the lower guide portion 381 and the additional protruding portion 383 may be varied. FIG. 34 shows a structure in which the lower guide portion 381 and the additional protruding portion 383 are spaced apart from each other in the lateral direction of the cabinet 10 of an embodiment of the disclosure.

[0438] The lower portion fastening member 393 may penetrate the lower portion 350 between the lower guide portion 381 and the additional protruding portion 383 and may be inserted into the rear panel 50. For example, based on the lateral direction of the cabinet 10, the lower portion fastening member 393 may penetrate the substantially central portion of the rear panel coupling surface and may be coupled to the rear panel 50, and the lower guide portion 381 or the additional protruding portion 383 may be located on each of both sides of the lower portion fastening member 393.

[0439] In the embodiment of the disclosure, when the lower portion fastening member 393 is used, the coupling position of the lower portion 350 may be effectively guided by the lower guide portion 381 inserted into the lower guide insertion portion 382 and 230 of the rear panel 50. Further, although one lower portion fastening member 393 is used, unintended rotation of the lower portion 350 may be effectively prevented.

[0440] Meanwhile, referring again to FIGs. 27 to 29, in the embodiment of the disclosure, the handle unit 300 may include a holding space 302 depressed toward cabinet 10 on a surface thereof located opposite the cabinet 10.

[0441] In detail, the handle unit 300 may have a holding space 302 defined therein. The holding space 302 may be open backward. The holding space 302 may be defined between the sidewall and the rear protruding por-

tion of the above-described lower portion 350 and between the plurality of rear protruding portions.

[0442] In the state in which the upper portion 310 and the lower portion 350 of the handle unit 300 are coupled to each other, the user may hold the holding surface 360 of the handle unit 300, i.e., the bottom surface of the handle unit 300, with his/her fingers to lift at least a portion of the cabinet 10.

[0443] However, as described above, when the user wants to separate the upper portion 310 and the lower portion 350 from each other and lift the top panel 40, the user may lift only the upper portion 310 separately from the lower portion 350. In this case, the user may insert his/her fingers into the holding space 302 to lift the upper portion 310.

[0444] That is, the handle unit 300 may include the holding space 302 in which the user's fingers are received in order to allow the user to easily hold the upper portion 310 when separating the upper portion 210 from the lower portion 350. In addition, the holding space 302 may correspond to a space in which the above-described lower portion fastening member 393 approaches and penetrates the rear panel coupling surface of the lower portion 350.

[0445] The holding space 302 may be formed in the lower portion 350 so as to be open upward, and the upper portion 310 may be coupled to the lower portion 350 to shield the holding space 302 from above.

[0446] In detail, the holding space 302 may be formed in the lower portion 350. The lower coupling portions 372 and/or the sidewalls of the lower portion 350 may be located on both sides of the holding space 302, the holding surface 360 may be located below the holding space 302, and the upper coupling surface 330 of the upper portion 310 may be located above the holding space 302. The holding space 302 may be open backward.

[0447] That is, in the embodiment of the disclosure, the holding space 302 in the handle unit 300 may be defined by the upper coupling surface 330 of the upper portion 310, the sidewall and/or the lower guide portion 381 of the lower portion 350, the holding surface 360, and the rear panel coupling surface. The holding space 302 may be open backward to allow the user's fingers or the lower portion fastening member 393 to be inserted thereinto from the rear.

[0448] Based on the lower portion 350, the holding space 302 may be defined between the plurality of lower coupling portions 372 or between the sidewall and the lower coupling portion 372. The rear panel coupling surface may be located in front of the holding space 302, and the holding surface 360 may be located below the holding space 302. The holding space 302 may be open backward and upward. The open upper surface of the holding space 302 may be shielded by the upper coupling surface 330 of the upper portion 310 located on the lower portion 350.

[0449] Meanwhile, the holding space 302 may be pro-

vided in plural, and the lower coupling portion 372 may be disposed between the plurality of holding spaces 302. That is, the lower coupling portion 372 may protrude upward from the holding surface 360 to isolate the plurality of holding spaces 302 from each other.

[0450] Meanwhile, FIGs. 29 and 30 show a fastening guide portion 340 accommodated in the lower portion 350, and FIG. 33 shows the fastening guide portion 340 of the upper portion 310 separated from the lower portion 350.

[0451] The fastening guide portion 340 may protrude downward from the upper portion 310 to be accommodated in the lower portion 350. During the process in which the upper portion 310 is coupled to the lower portion 350, the fastening guide portion 340 may guide the positions of the upper portion 310 and the lower portion 350.

[0452] The fastening guide portion 340 may be provided in plural, and the number thereof may be varied. The upper coupling portion 332 of the upper portion 310 may be disposed between the plurality of fastening guide portions 340.

[0453] Accordingly, the upper portion 310 may be guided to the coupling position by the fastening guide portions 340 in the process of being seated on the lower portion 350, and the upper coupling portion 332 defined between the plurality of fastening guide portions 340 may be effectively guided to the coupling position on the lower coupling portion 372.

[0454] The fastening guide portion 340 may be accommodated in the holding space 302. That is, as described above, the holding space 302 may be defined in the lower portion 350 so as to be open upward, and the open upper surface of the holding space 302 may be shielded by the upper coupling surface 330 of the upper portion 310.

[0455] The fastening guide portion 340 may extend downward from the upper coupling surface 330. That is, the fastening guide portion 340 may protrude downward from a portion of the upper coupling surface 330 that is located above the holding space 302 and may be inserted into the holding space 302.

[0456] Meanwhile, FIG. 30 illustrates a rear view of the fastening guide portion 340 inserted into the holding space 302. Referring to FIG. 30, the width D7 of the holding space 302 may be larger than the width D8 of the fastening guide portion 340.

[0457] The holding space 302 may correspond to a space into which the fastening guide portion 340 is inserted. Further, as described above, the holding space 302 may be a space in which to receive the user's fingers. Accordingly, the holding space 302 may have a width large enough to receive the fingers based on the lateral direction of the cabinet 10.

[0458] Furthermore, the handle unit 300 may be an element having an overall structure capable of being held by the user. Therefore, it is necessary to secure a sufficient width in order to allow the user to hold the handle unit 300. Accordingly, the width D7 of the holding space

302 may be determined in consideration of the overall width of the handle unit 300.

[0459] Therefore, the width D7 of the holding space 302 may be determined to be larger than the width D8 of the fastening guide portion 340 inserted into the holding space 302.

[0460] Meanwhile, the lower portion 350 may include a holding inner surface 304 that has a larger width than the fastening guide portion 340 and defines one surface of the holding space 302. The holding inner surface 304 may be located in front of the holding space 302 to constitute a part of the inner surface defining the holding space 302. The holding inner surface 304 may correspond to a part of the above-described rear panel coupling surface.

[0461] The holding inner surface 304 may be provided thereon with an inner protruding portion 306, which extends parallel to the fastening guide portion 340 and is located adjacent to the fastening guide portion 340 to guide the position of the fastening guide portion 340.

[0462] The inner protruding portion 306 may protrude backward from the holding inner surface 304, and may have a rib shape extending in the upward-downward direction so as to be parallel to the fastening guide portion 340. The inner protruding portion 306 may be located in contact with or adjacent to one sidewall of the fastening guide portion 340 located adjacent to the fastening guide portion 340.

[0463] For example, the inner protruding portion 306 may extend in the upward-downward direction and may be located adjacent to one of both sides of the fastening guide portion 340 based on the lateral direction of the cabinet 10. That is, the inner protruding portion 306 may restrict lateral movement of the fastening guide portion 340, thereby guiding the coupling position of the upper portion 310.

[0464] As described above, the holding space 302 may have a larger width D7 than the fastening guide portion 340 for various reasons. However, the inner protruding portion 306 may be disposed adjacent to the fastening guide portion 340 in the lateral direction so that the position of the fastening guide portion 340 in the lateral direction is sufficiently restricted in the holding space 302.

[0465] Meanwhile, in the embodiment of the disclosure, the lower portion 350 may include a plurality of holding spaces 302, and the plurality of holding spaces 302 may have different widths. For example, the holding space 302 into which the fastening guide portion 340 is inserted may have a larger width than the fastening guide portion 340, and the holding space 302 into which the fastening guide portion 340 is not inserted may have a width that is equal to or smaller than the width of the fastening guide portion 340.

[0466] In FIG. 30, a plurality of holding spaces 302 having different widths is shown. In the embodiment of the disclosure, the sidewall and the lower coupling portion 372 of the above-described lower portion 350 may be defined together as a partition wall, and the plurality of

holding spaces 302 separated from each other by the partition wall may have different widths.

[0467] FIG. 30 shows a structure in which the lower portion fastening member 393 is inserted into the holding space 302 defined between a pair of lower coupling portions 372 from the rear, the fastening guide portion 340 is inserted into the holding space 302 defined between the lower coupling portion 372 and the sidewall from above, and the holding space 302 into which the fastening guide portion 340 is inserted has a larger width than the holding space 302 into which the lower portion fastening member 393 is inserted.

[0468] The inner protruding portion 306 may be provided only in the holding space 302 into which the fastening guide portion 340 is inserted. However, in the embodiment of the disclosure, the width D7 of the holding space 302 may be varied, and an object that is inserted into the holding space 302 may also be varied.

[0469] Meanwhile, as described above, the embodiment of the disclosure may include the supplementary treating apparatus 90. The supplementary treating apparatus 90 may include a supplementary cabinet 95 disposed under the cabinet 10 to support the cabinet 10 and a supplementary drum 99 provided in the supplementary cabinet 95 to receive laundry.

[0470] As described above, it is inconvenient for the user to access the handle unit 300 and the top panel 40 of the cabinet 10 disposed on the supplementary treating apparatus 90 due to the heights thereof from the ground. Therefore, as in the embodiment of the disclosure, it is important to conveniently separate the top panel 40 through effective separation of the upper portion 310 and the lower portion 350 from each other.

[0471] That is, in the embodiment of the disclosure, the handle fastening member 391 may penetrate the upper portion 310 downward and may be removably inserted into the lower portion 350, whereby the coupling and separation relationships between the upper portion 310 and the lower portion 350 in the upward-downward direction may be effectively implemented.

[0472] The above description is merely illustrative of specific embodiments of the disclosure, and it will be apparent to those skilled in the art that various modifications and variations can be made in the disclosure without departing from the spirit or scope of the disclosure as defined by the appended claims.

Claims

1. A laundry treating apparatus comprising:

a cabinet; and
a drum provided in the cabinet to receive laundry,
wherein the cabinet comprises:

a front panel forming a front surface of the

- cabinet; and
 a top panel forming an upper surface of the cabinet,
 wherein the top panel comprises an upper surface portion defining the upper surface, and
 wherein the upper surface portion of the top panel is disposed at a higher position than an upper end of the front panel.
2. The laundry treating apparatus of claim 1, wherein the cabinet further comprises a side panel forming a side surface of the cabinet, and wherein the upper surface portion is disposed at a higher position than the side panel.
3. The laundry treating apparatus of claim 2, wherein the upper end of the front panel is disposed at a higher position than an upper end of the side panel and is located in front of the top panel.
4. The laundry treating apparatus of claim 2, wherein the top panel comprises a lateral bent portion extending downward from each of both lateral sides of the upper surface portion, and wherein the lateral bent portion is configured to be supported on the side panel.
5. The laundry treating apparatus of claim 1, wherein the front panel comprises:
 a front surface portion forming a front surface of the cabinet; and
 an upper bent portion extending backward from an upper end of the front surface portion, and wherein the upper surface portion of the top panel is positioned above the upper bent portion.
6. The laundry treating apparatus of claim 5, wherein the cabinet further comprises a cover panel disposed on the upper bent portion to cover at least part of the upper bent portion, and wherein the upper surface portion is located parallel to the cover panel.
7. The laundry treating apparatus of claim 6, wherein the top panel comprises a front bent portion extending downward from a front end of the upper surface portion, and wherein the upper bent portion and the cover panel are located in front of the front bent portion.
8. The laundry treating apparatus of claim 1, wherein the top panel comprises a top panel space defined under the upper surface portion, and wherein the upper end of the front panel is located in front of the top panel space.
9. The laundry treating apparatus of claim 8, wherein the top panel comprises a plurality of bent portions extending downward from the upper surface portion, and wherein the top panel space is surrounded by the plurality of bent portions and is open downward.
10. The laundry treating apparatus of claim 8, wherein the cabinet further comprises a cover panel disposed on the front panel, and wherein a portion of the cover panel protrudes backward to be inserted into the top panel space.
11. The laundry treating apparatus of claim 1, wherein the cabinet further comprises a support surface located below the top panel to support the top panel,
 wherein the top panel comprises a lateral bent portion extending downward from each of both lateral sides of the upper surface portion, and wherein the lateral bent portion is disposed on the support surface.
12. The laundry treating apparatus of claim 11, wherein the lateral bent portion comprises:
 a first bent portion extending downward from the upper surface portion; and
 a second bent portion extending toward an interior of the cabinet from the first bent portion, and wherein the second bent portion is supported by the support surface.
13. The laundry treating apparatus of claim 11, wherein the cabinet further comprises a groove forming part provided on the support surface, the groove forming part being configured to form an insertion groove, the insertion groove being open in a direction parallel to the support surface, and wherein a portion of the top panel slides along the support surface in a direction parallel to the support surface to be inserted into the insertion groove and is restricted from moving upward.
14. The laundry treating apparatus of claim 13, wherein the cabinet further comprises a side panel disposed on each of both sides thereof in a lateral direction,
 wherein the side panel comprises a side surface portion forming a side surface of the cabinet, and wherein the support surface extends toward an interior of the cabinet from an upper end of the side surface portion.
15. The laundry treating apparatus of claim 13, wherein the groove forming part comprises:
 a groove protruding portion protruding upward

- from the support surface; and
 an enlarged diameter portion located on the groove protruding portion, the enlarged diameter portion having a larger diameter than the groove protruding portion, and
 wherein the insertion groove is positioned between the enlarged diameter portion and the support surface.
16. The laundry treating apparatus of claim 13, wherein the top panel comprises an insertion portion formed to be inserted into the insertion groove and slides on the support surface from a preliminary position to a coupling position, and
 wherein, as the top panel slides from the preliminary position to the coupling position, the insertion portion is inserted into the insertion groove.
17. The laundry treating apparatus of claim 16, wherein the top panel comprises:
 an upper surface portion forming the upper surface of the cabinet;
 a first bent portion extending downward from the upper surface portion; and
 a second bent portion extending parallel to the support surface toward an interior of the cabinet from the first bent portion, and
 wherein the second bent portion comprises the insertion portion and is supported by the support surface.
18. The laundry treating apparatus of claim 16, wherein the second bent portion comprises an open portion extending in a sliding direction of the top panel, the groove forming part being located in the open portion,
 wherein, at the preliminary position, a width of a part of the open portion at which the groove forming part is located is equal to or greater than a maximum diameter of the groove forming part, and
 wherein, at the coupling position, a width of a part of the open portion at which the groove forming part is located is less than the maximum diameter of the groove forming part.
19. The laundry treating apparatus of claim 16, wherein the cabinet comprises a rear panel provided at a rear surface thereof,
 wherein the laundry treating apparatus further comprises a top panel fixing member coupled to the rear panel, the top panel fixing member being located behind the top panel in an inserted state of the insertion portion into the insertion groove, and
- wherein the top panel is restricted from moving backward by the top panel fixing member.
20. The laundry treating apparatus of claim 18, wherein the insertion portion comprises a receiving recess formed to allow at least part of the groove protruding portion to be received therein,
 wherein the top panel slides in a first direction parallel to the support surface so that at least part of the groove protruding portion is received in the receiving recess, and
 wherein the groove protruding portion is restricted from moving in a second direction crossing the first direction when received in the receiving recess.
21. A laundry treating apparatus comprising:
 a cabinet;
 a drum provided in the cabinet to receive laundry; and
 a supplementary treating apparatus comprising a supplementary cabinet disposed under the cabinet to support the cabinet and a supplementary drum provided in the supplementary cabinet to receive laundry,
 wherein the cabinet comprises:
 a front panel forming a front surface of the cabinet on the supplementary cabinet; and
 a top panel forming an upper surface of the cabinet,
 wherein the top panel comprises an upper surface portion defining the upper surface, and
 wherein the upper surface portion is disposed at a higher position than an upper end of the front panel.

FIG. 1

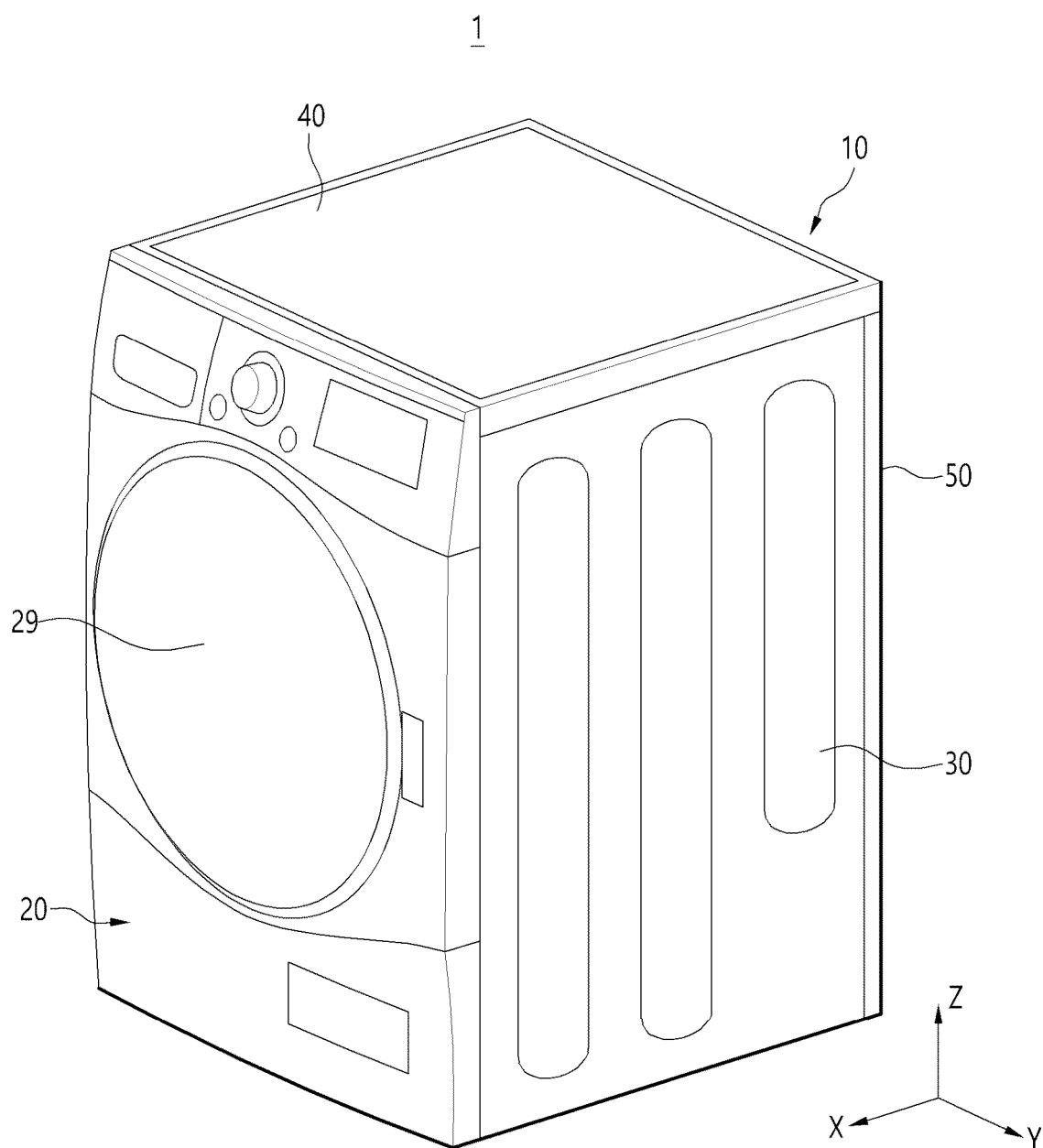


FIG. 2

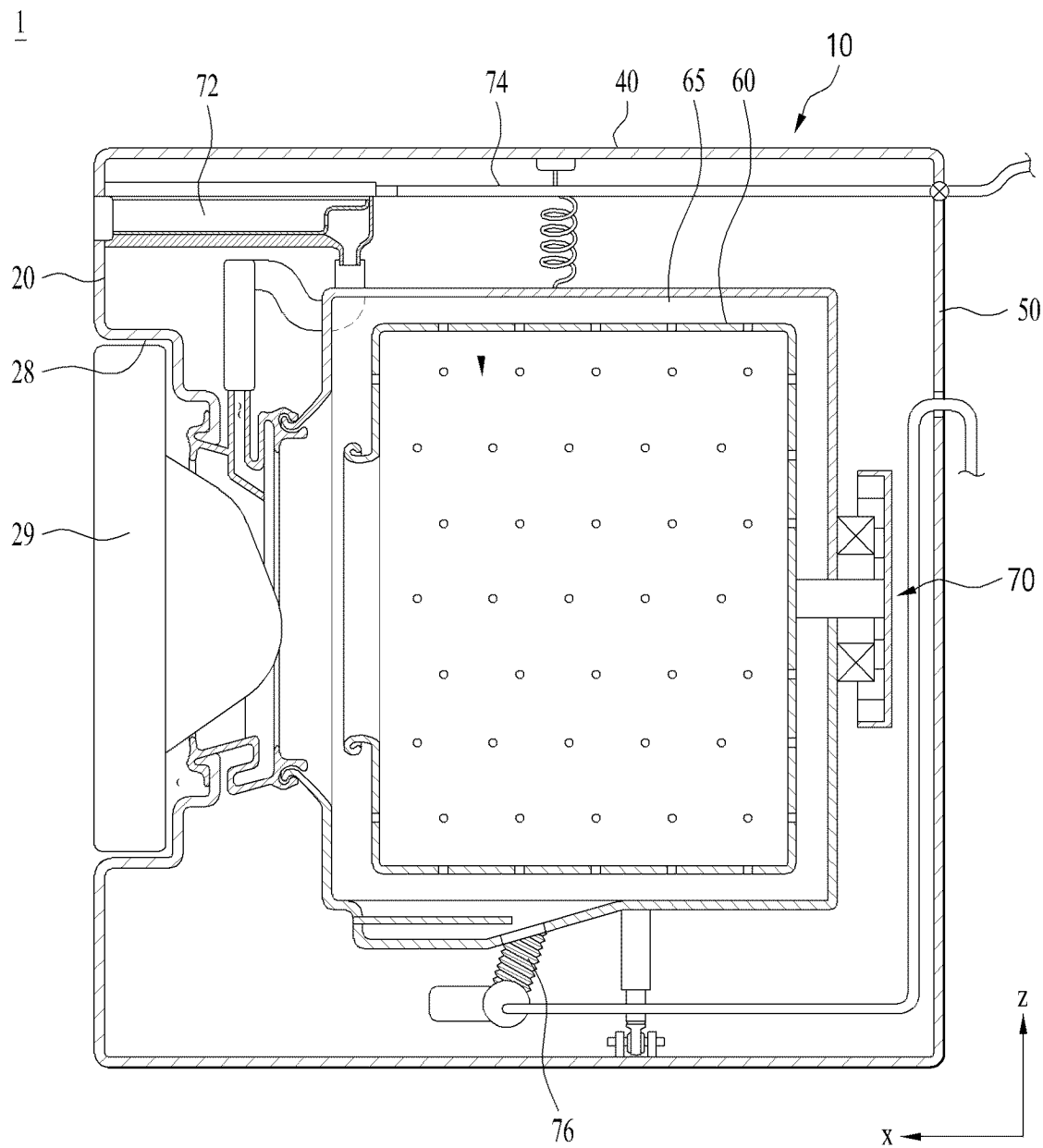


FIG. 3

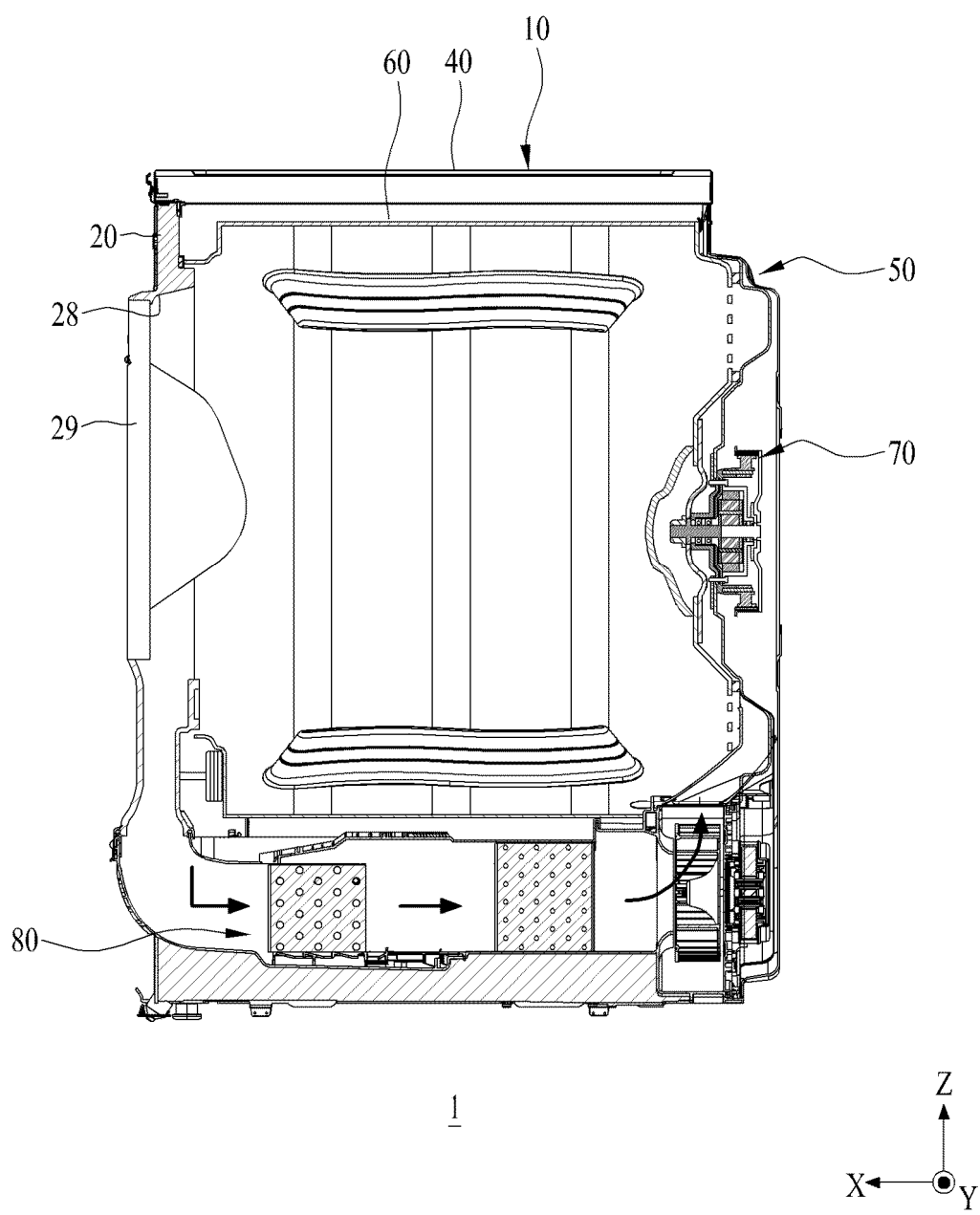


FIG. 4

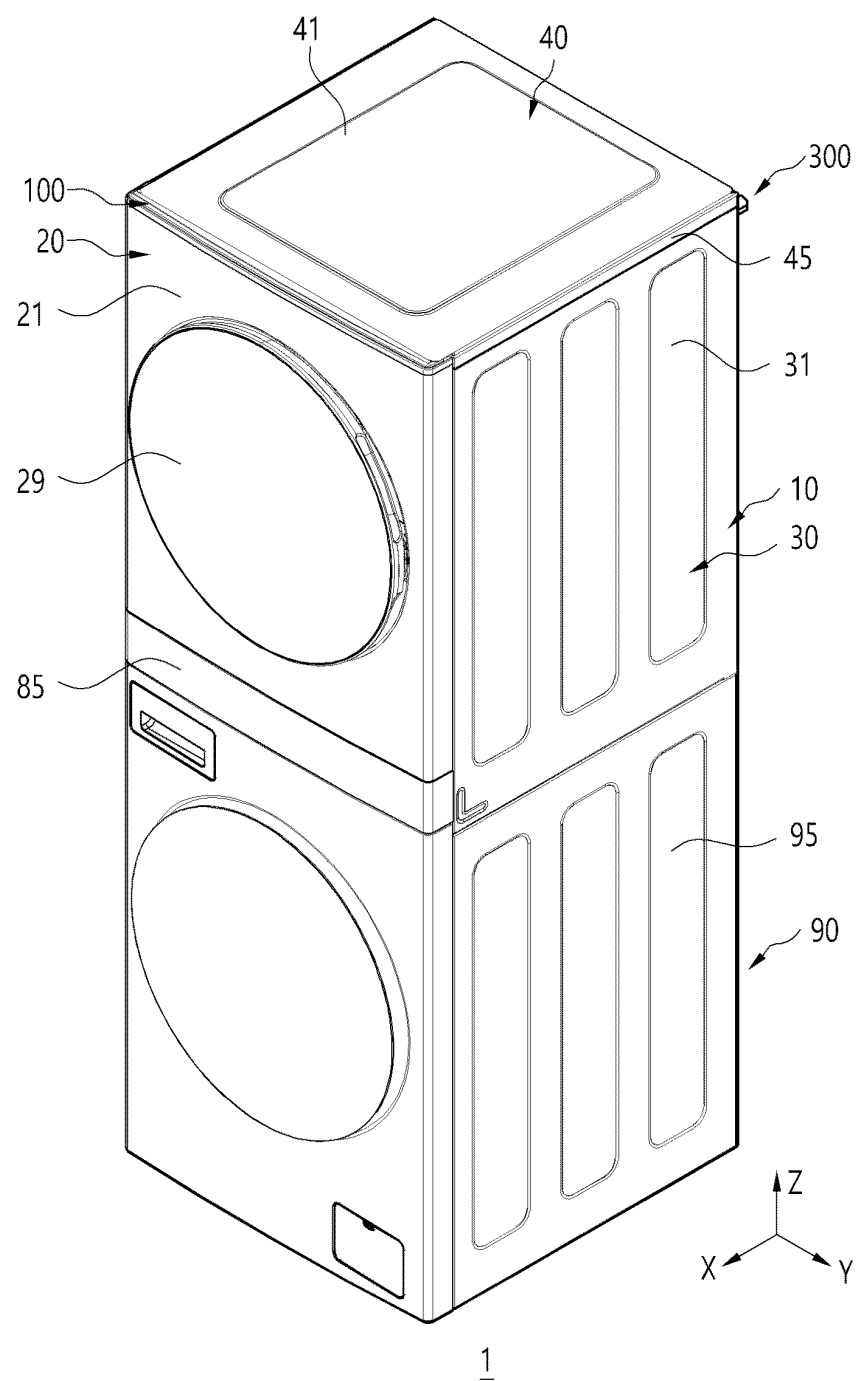


FIG. 5

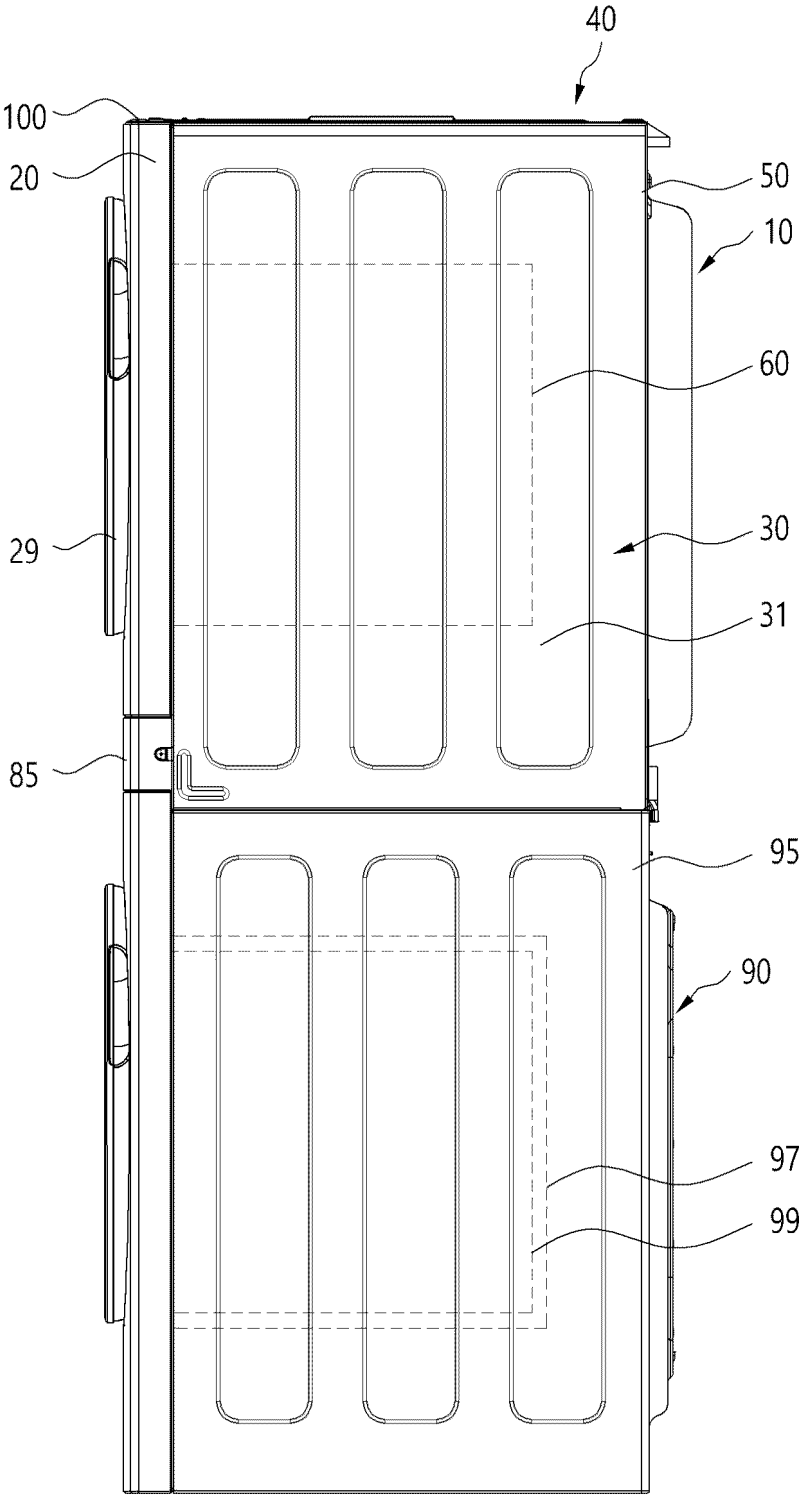


FIG. 6

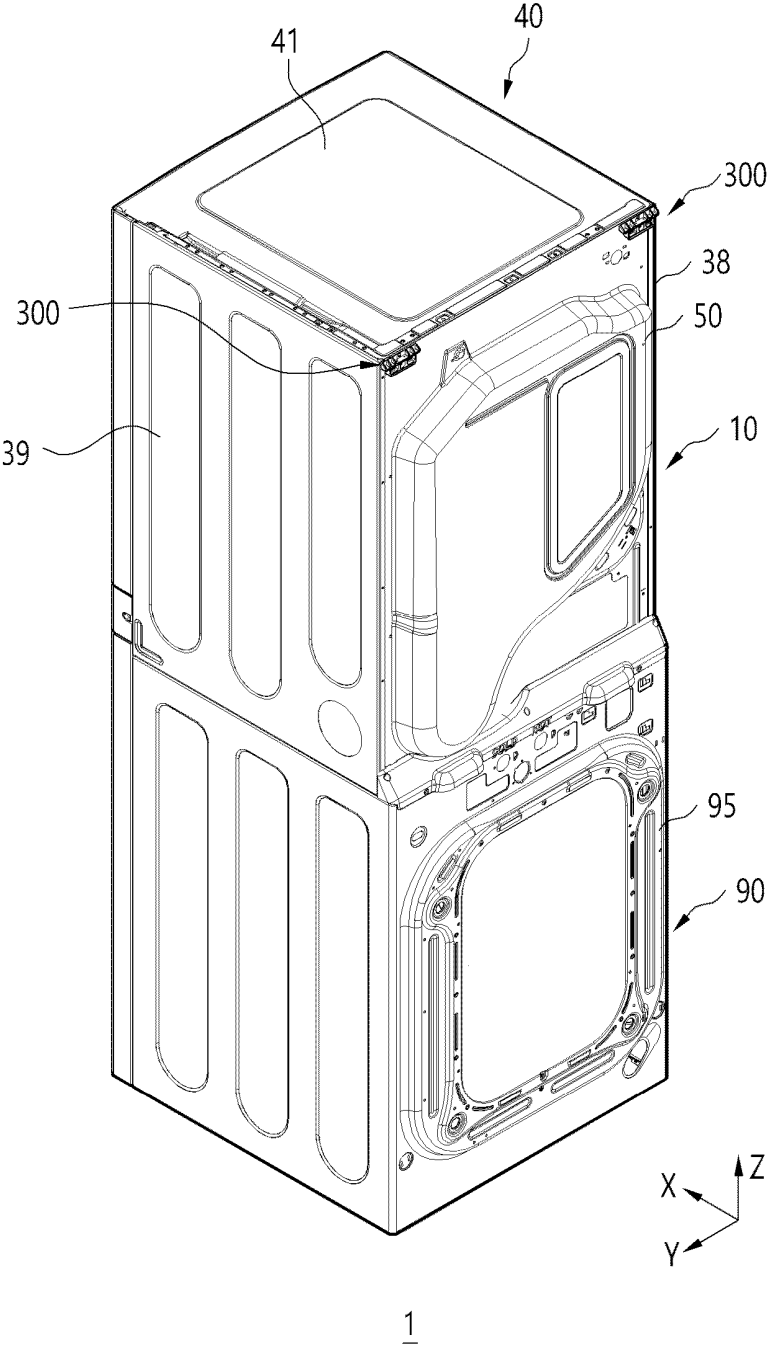


FIG. 7

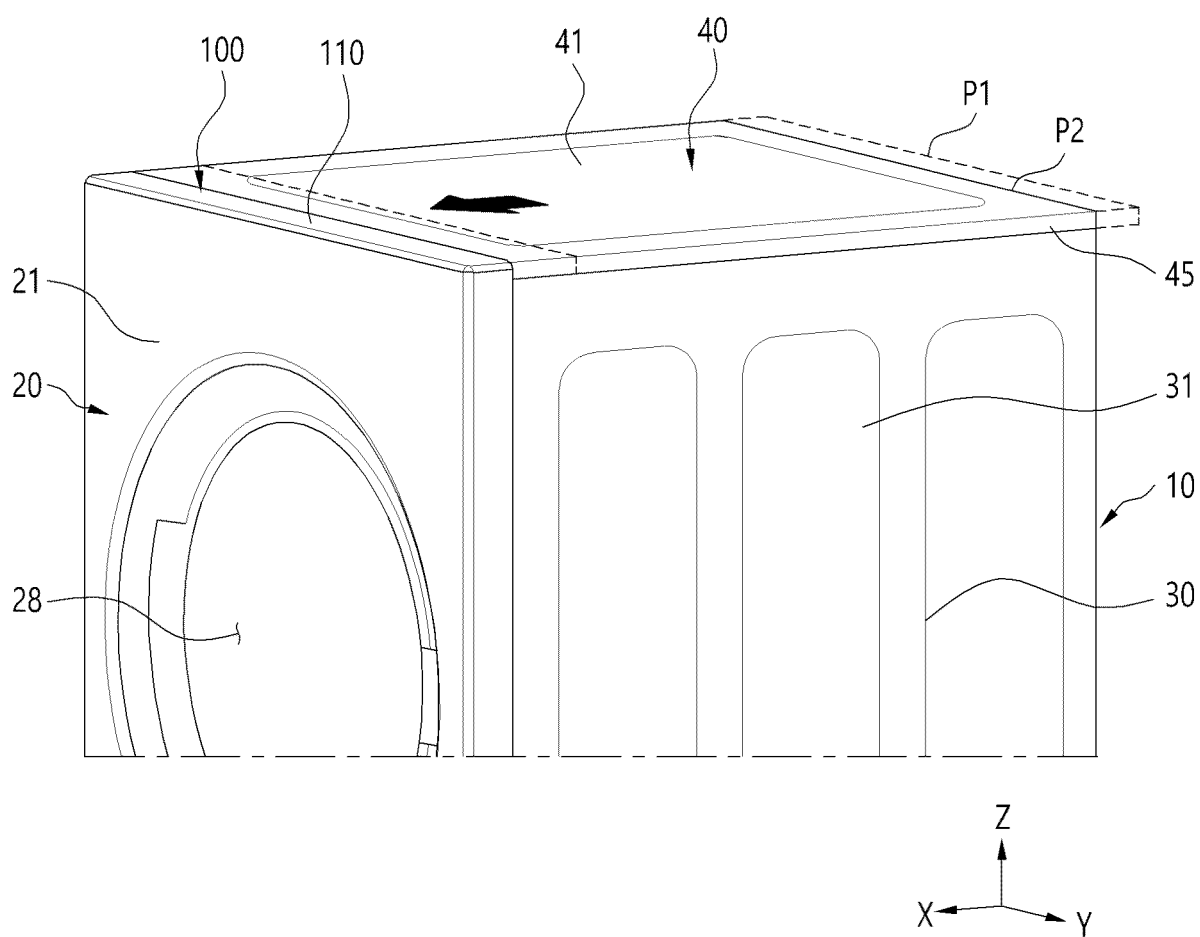


FIG. 8

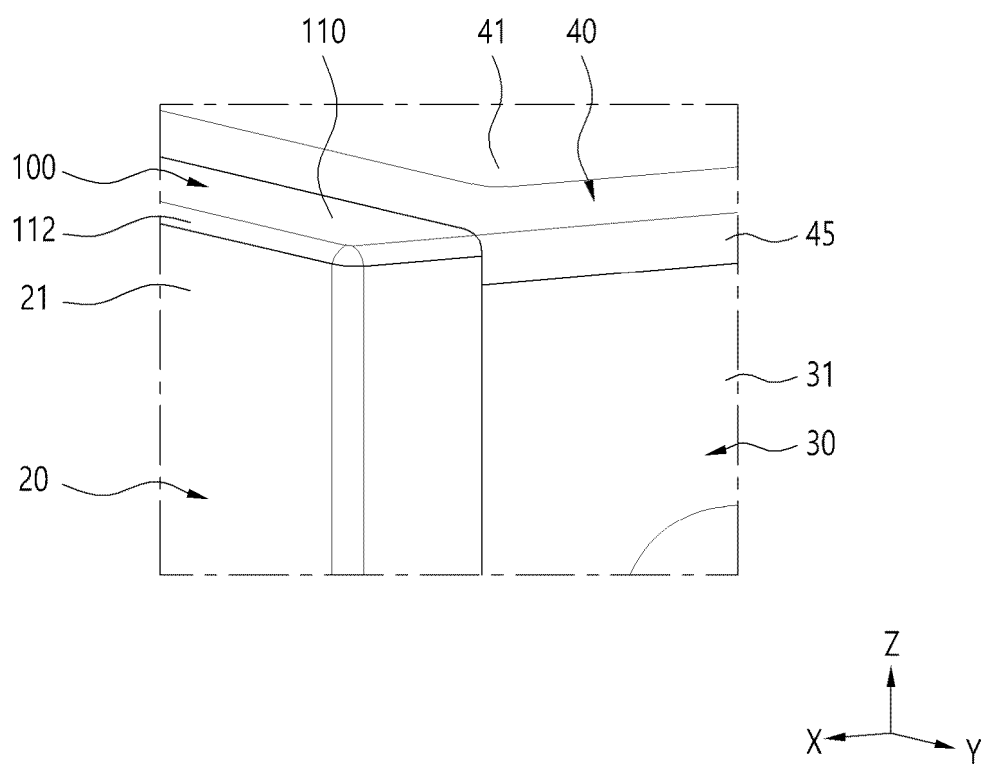


FIG. 9

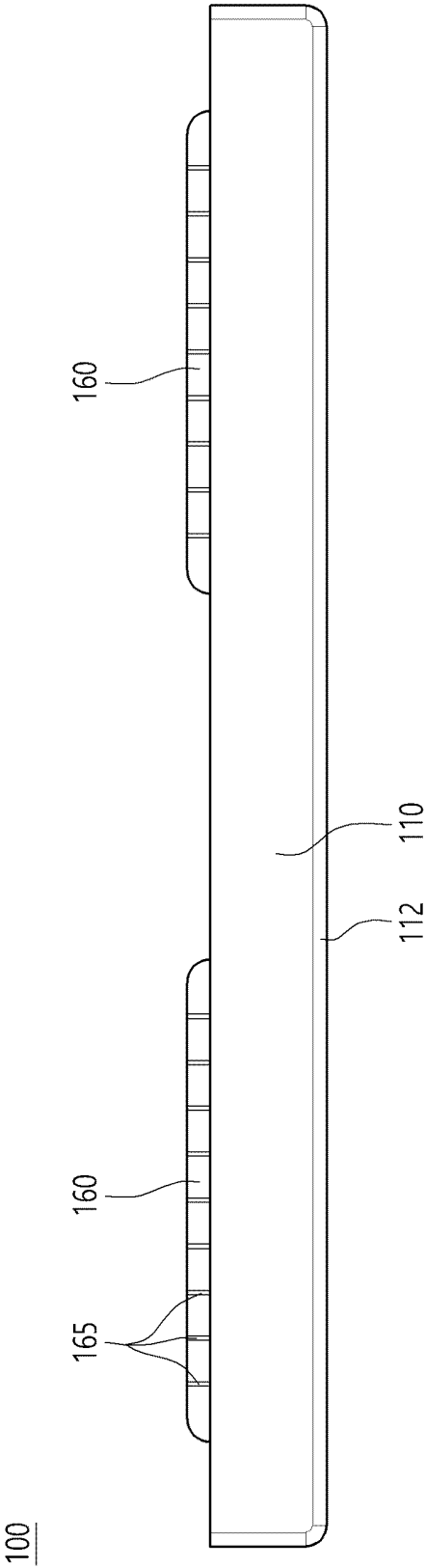


FIG. 10

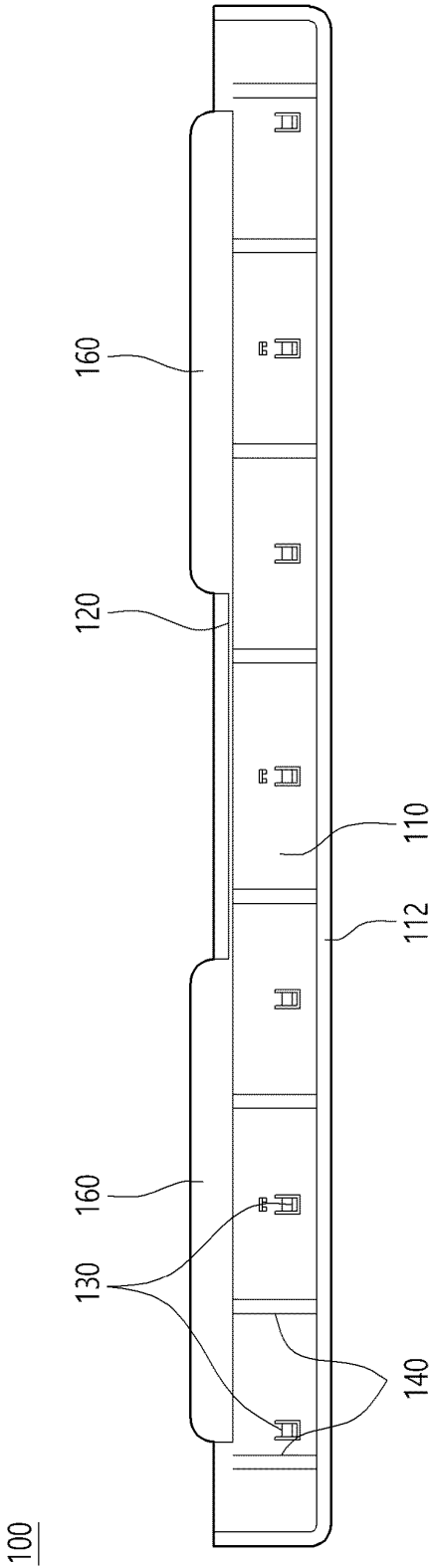


FIG. 11

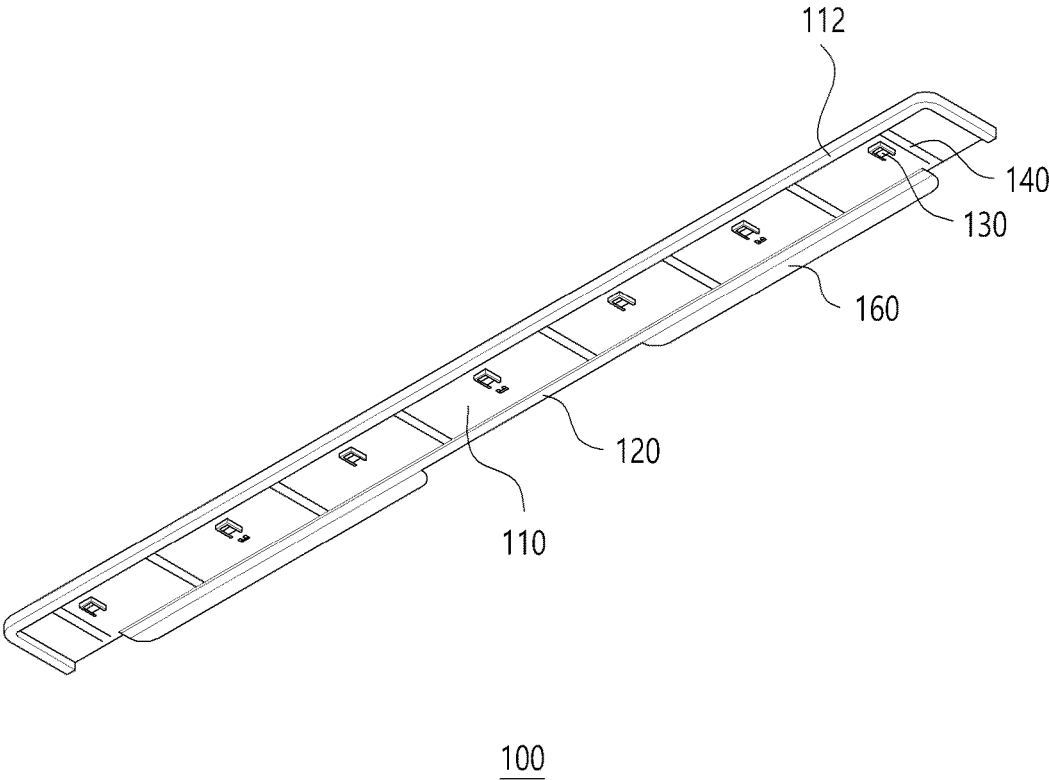


FIG. 12

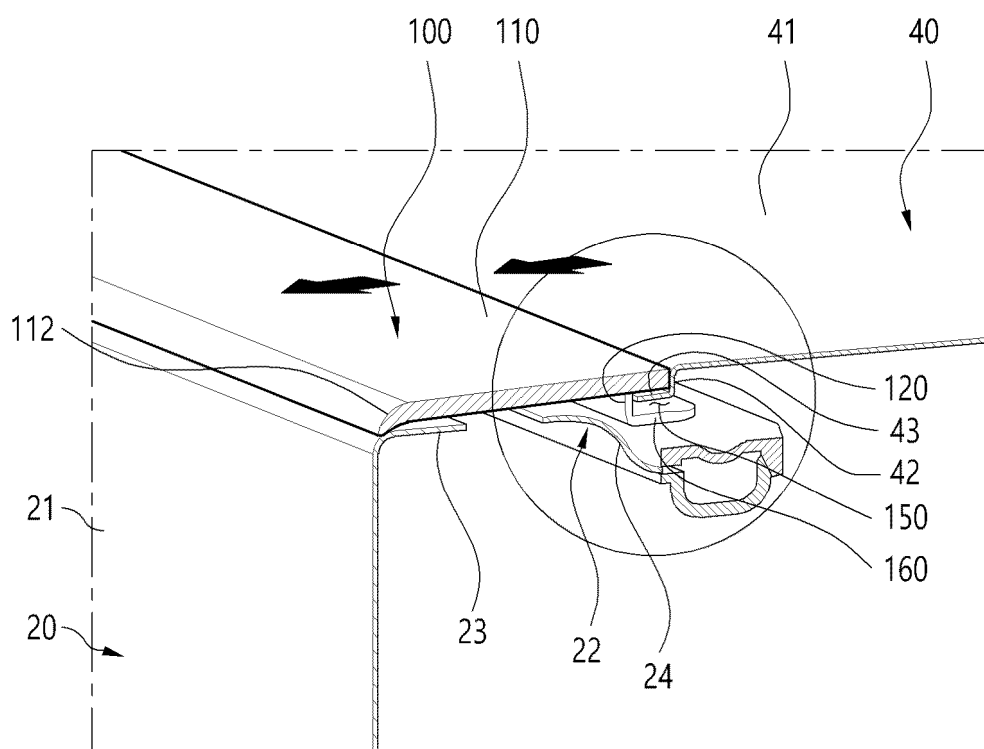


FIG. 13

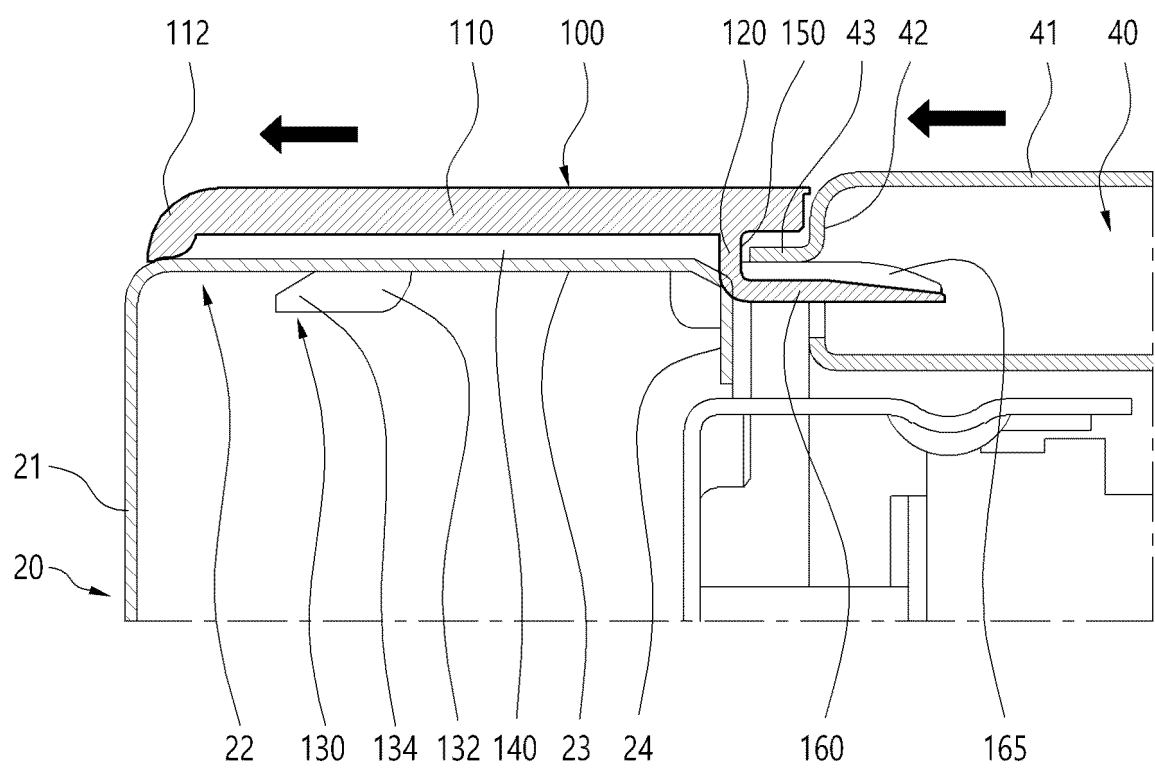


FIG. 14

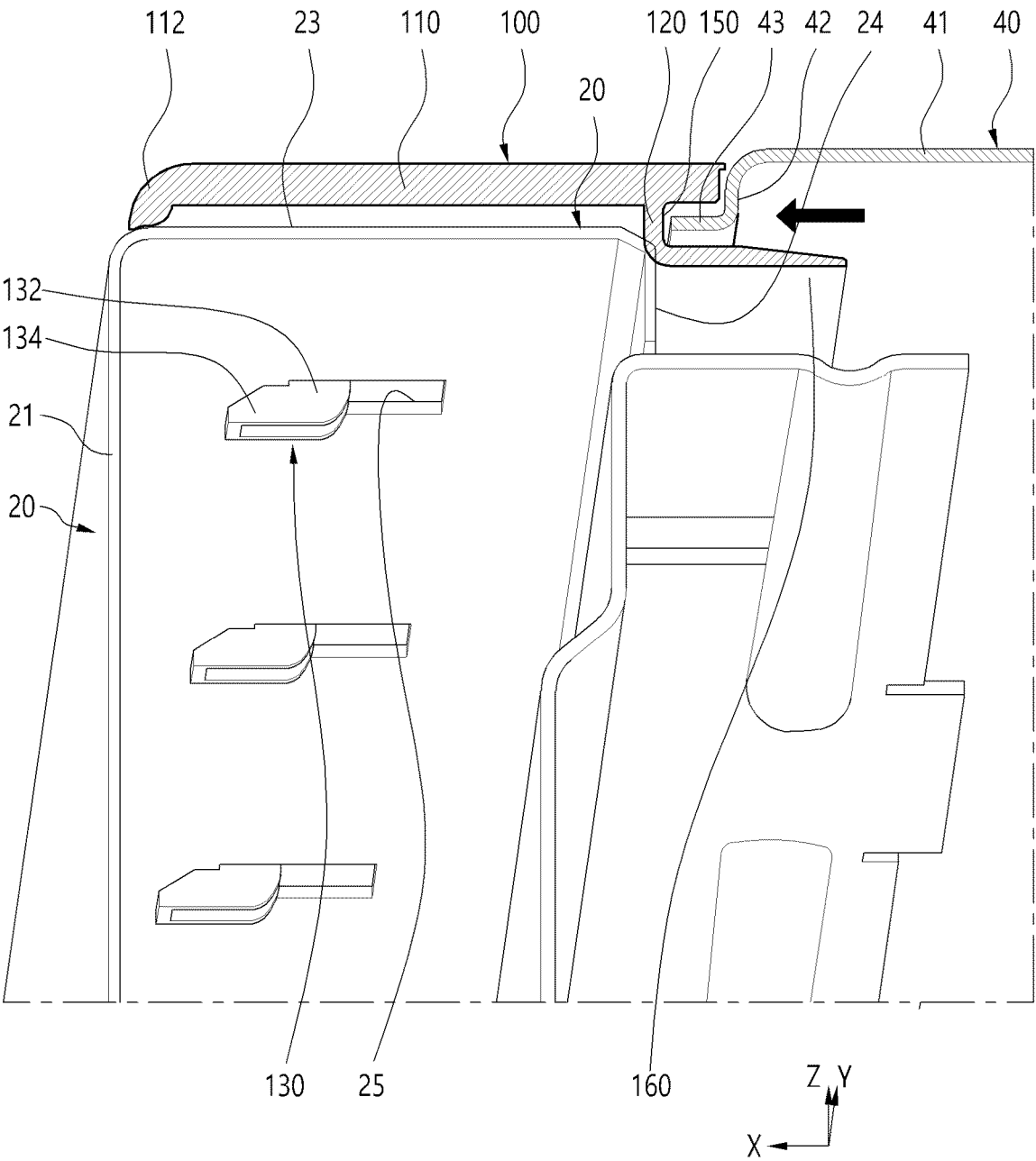


FIG. 15

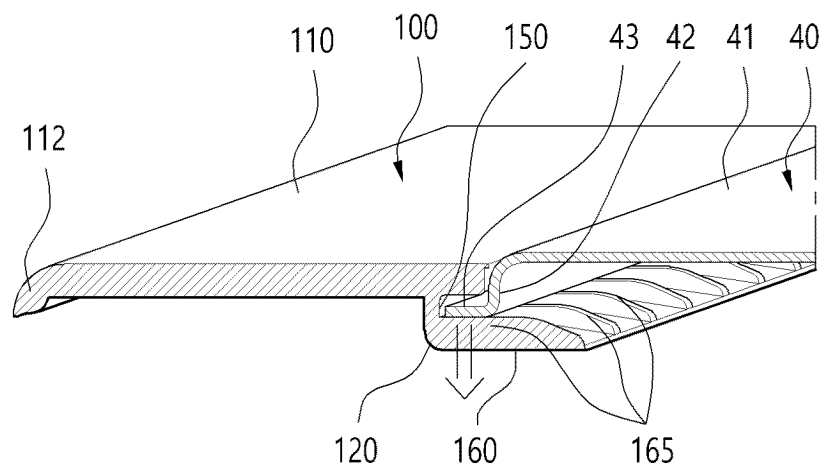


FIG. 16

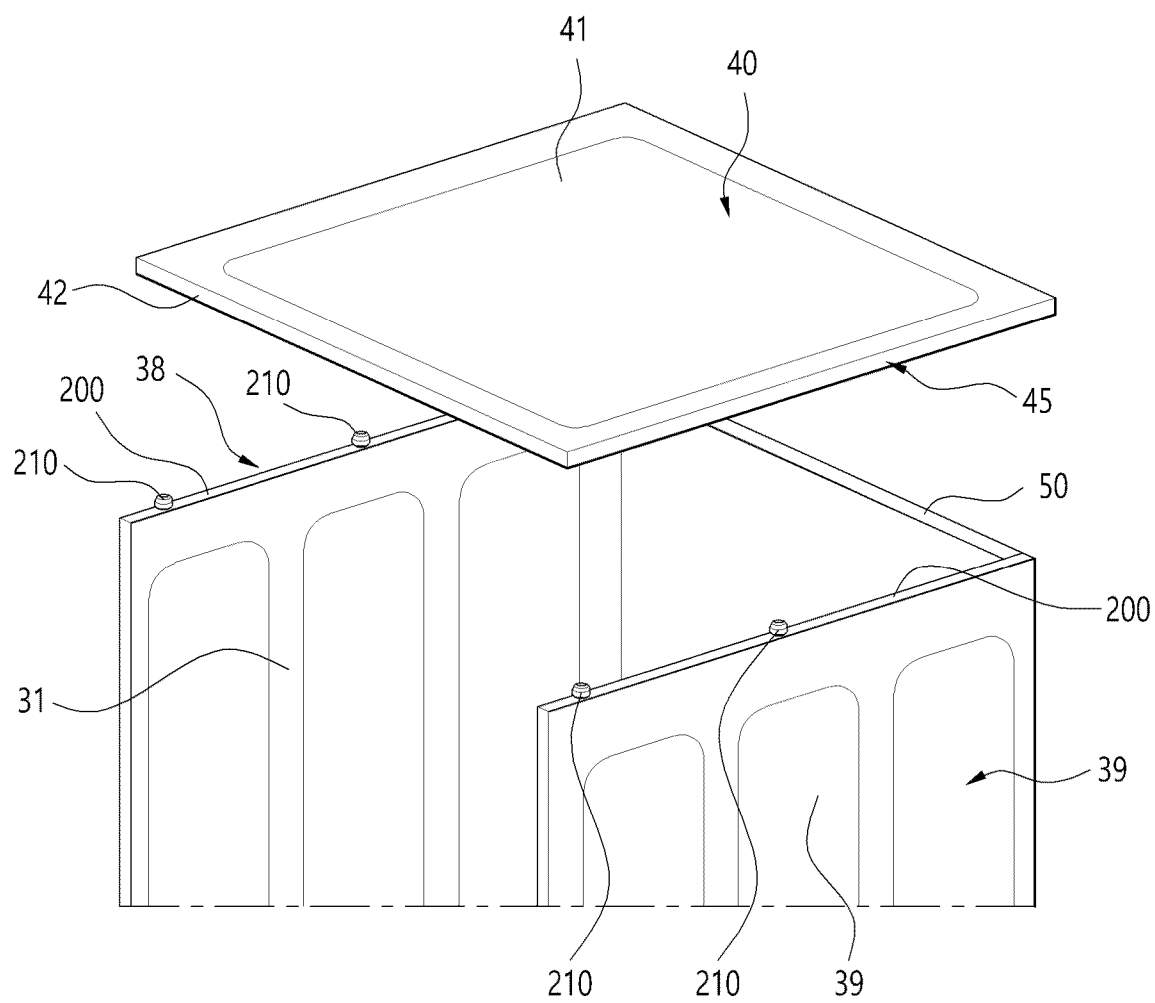


FIG. 17

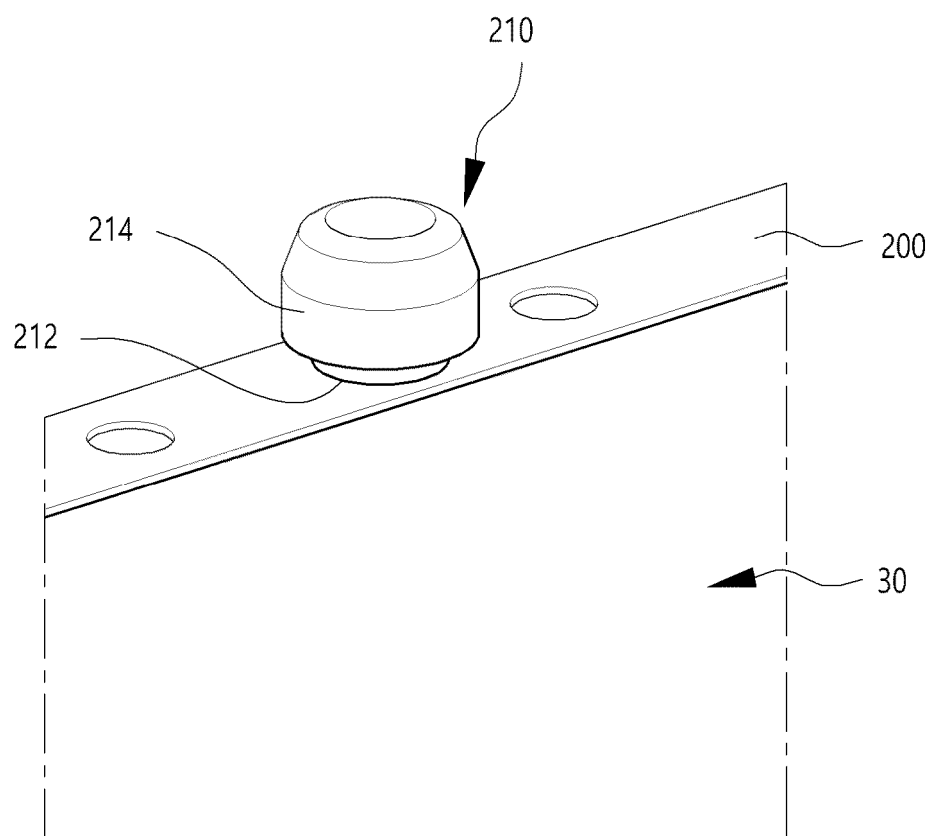


FIG. 18

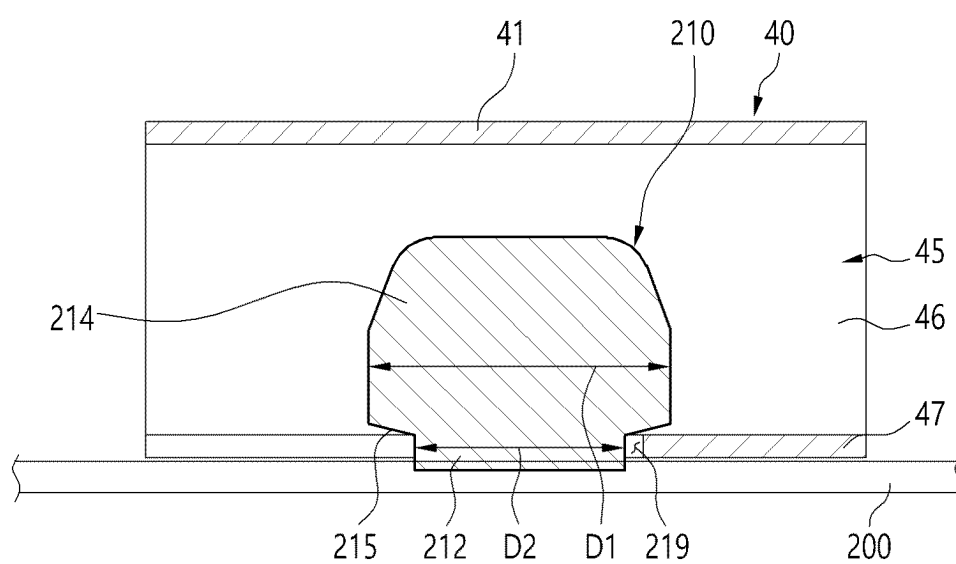


FIG. 19

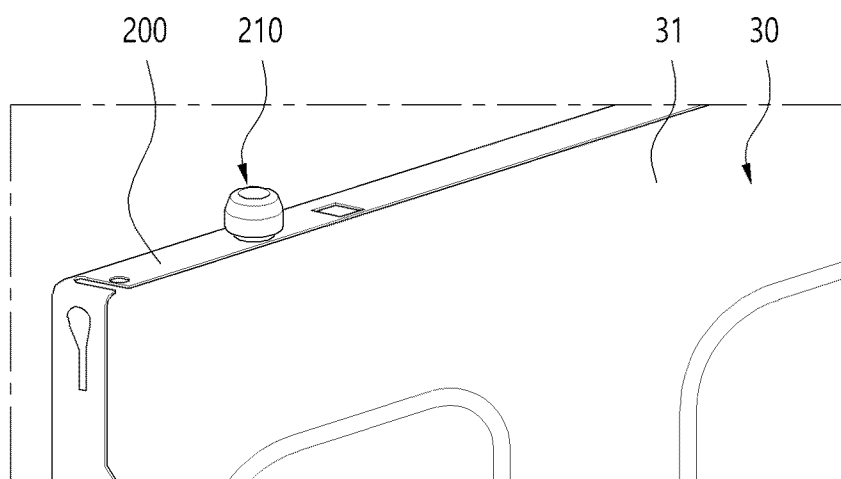


FIG. 20

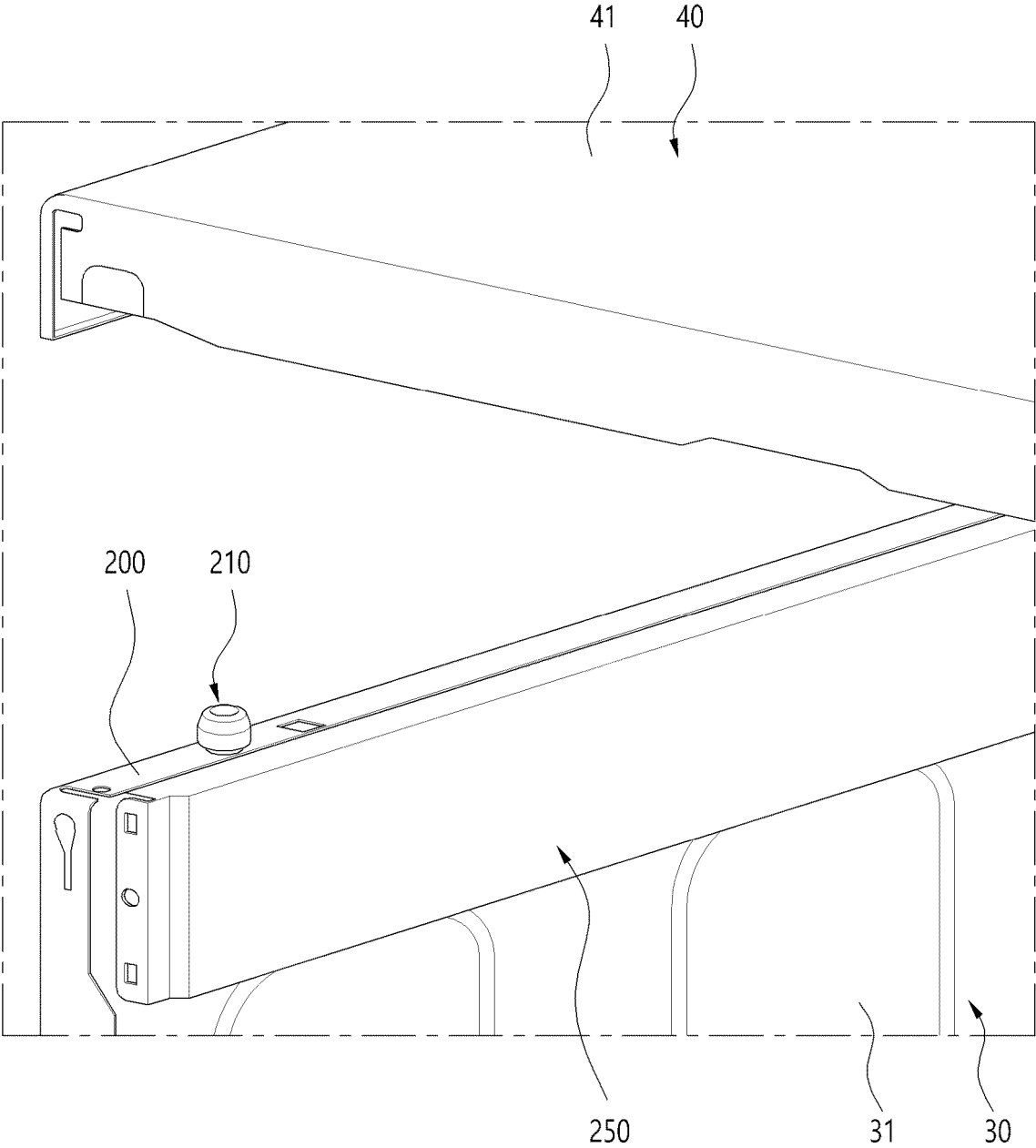


FIG. 21

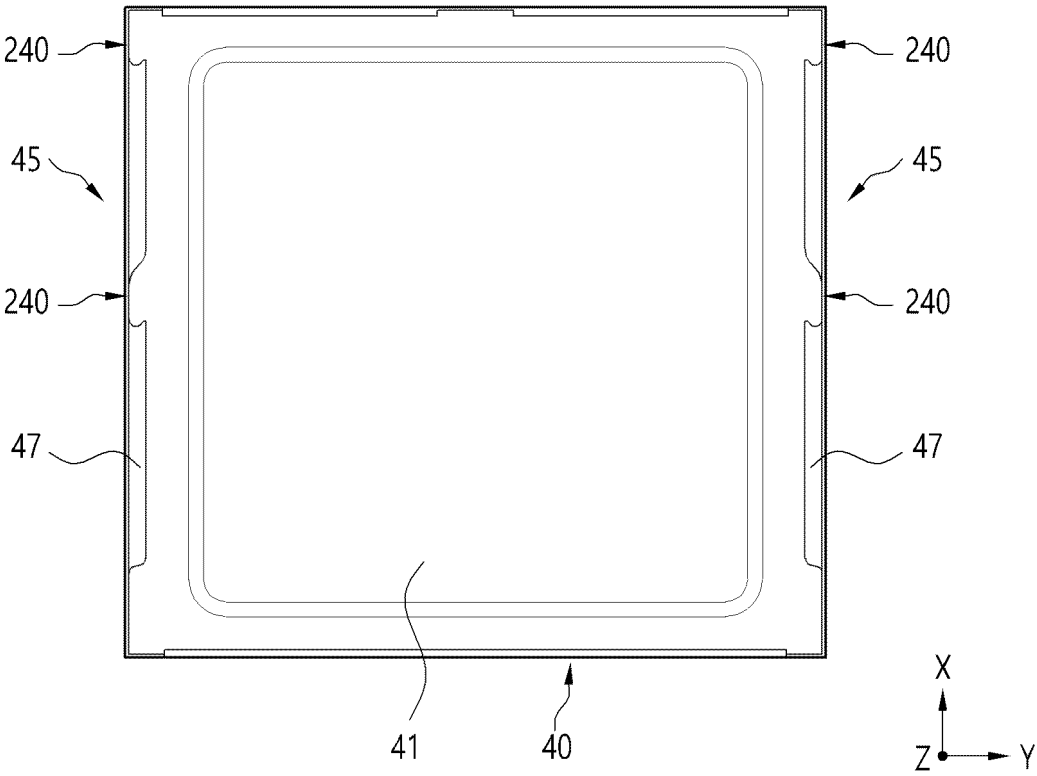


FIG. 22

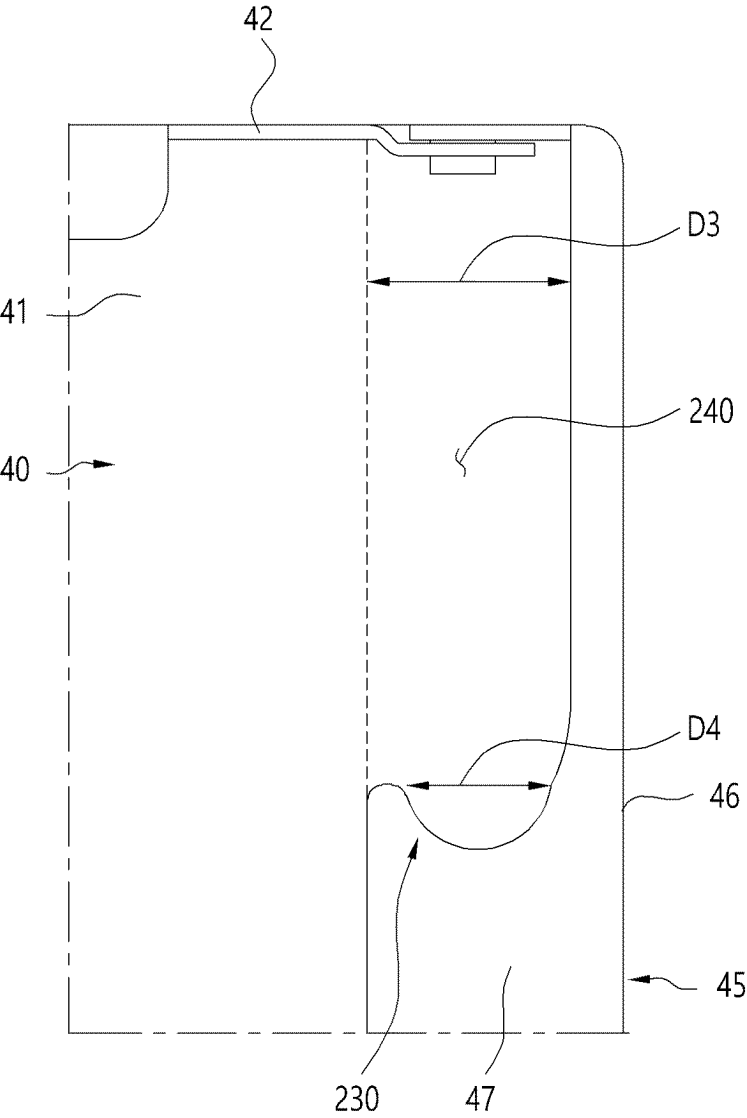


FIG. 23

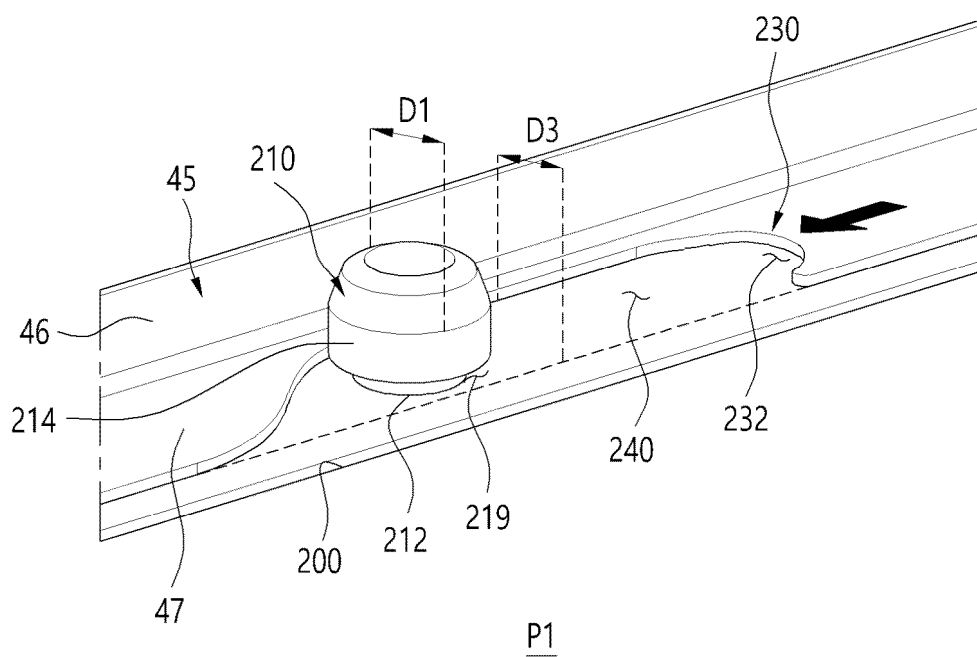


FIG. 24

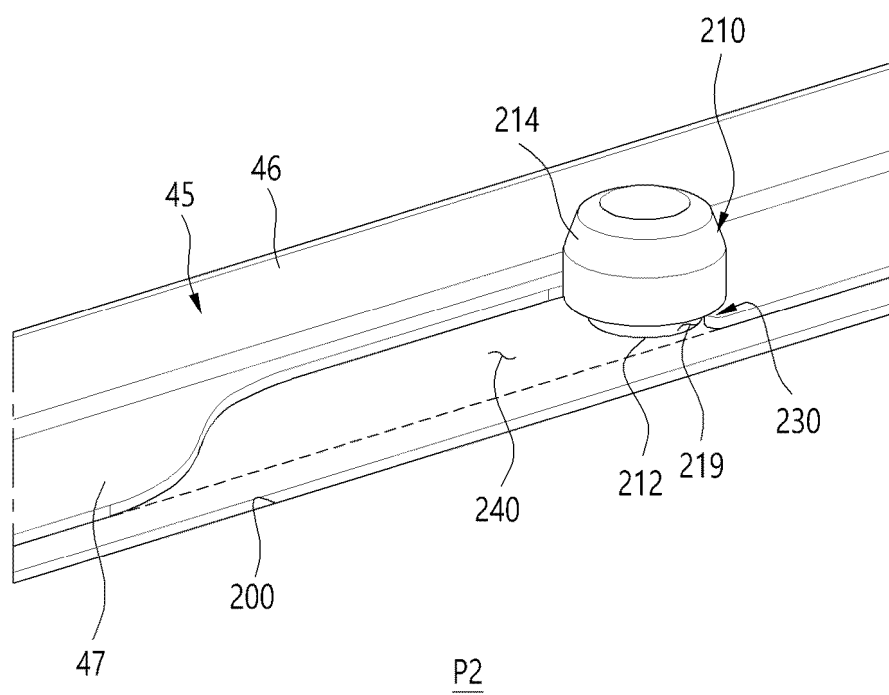


FIG. 25

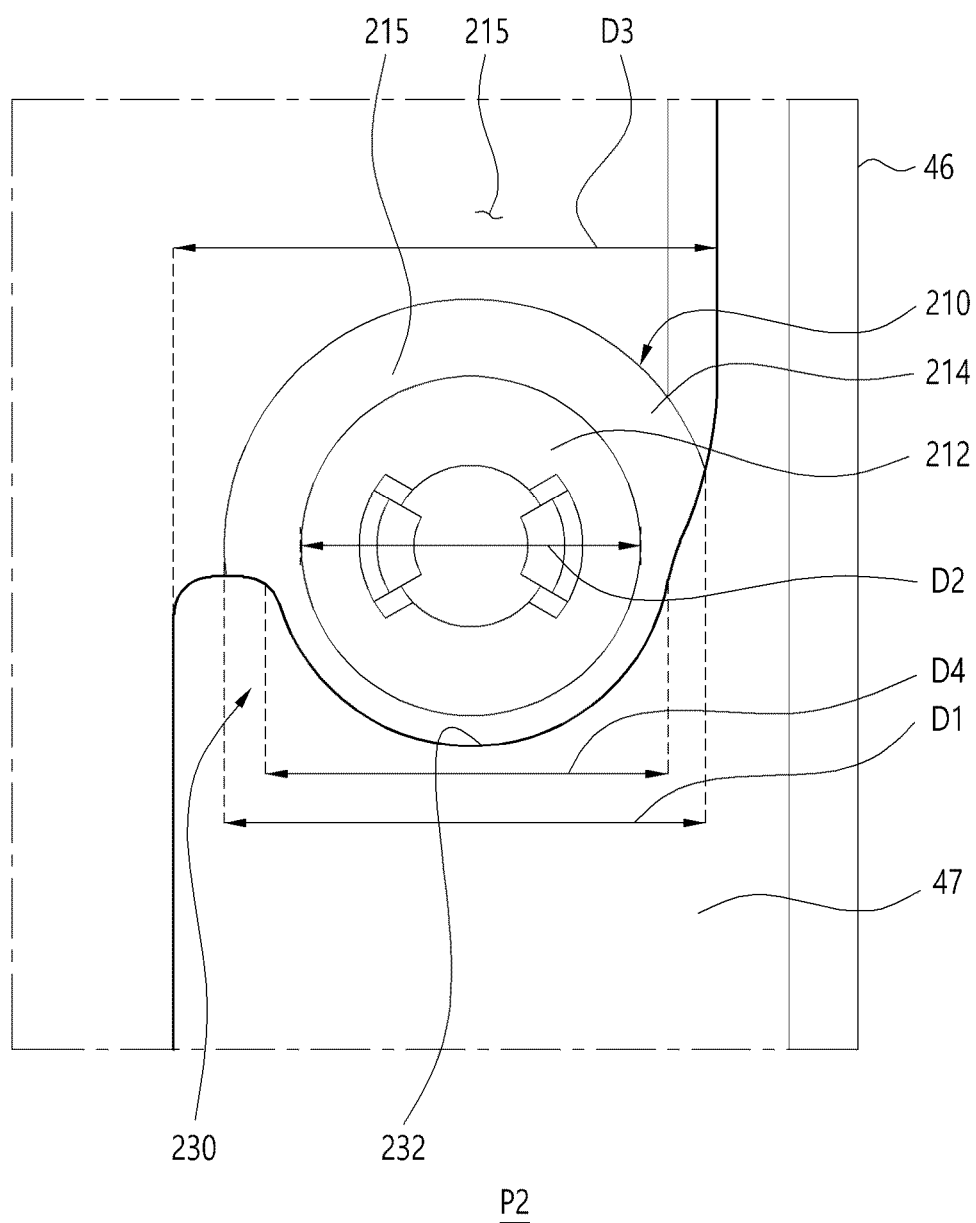


FIG. 26

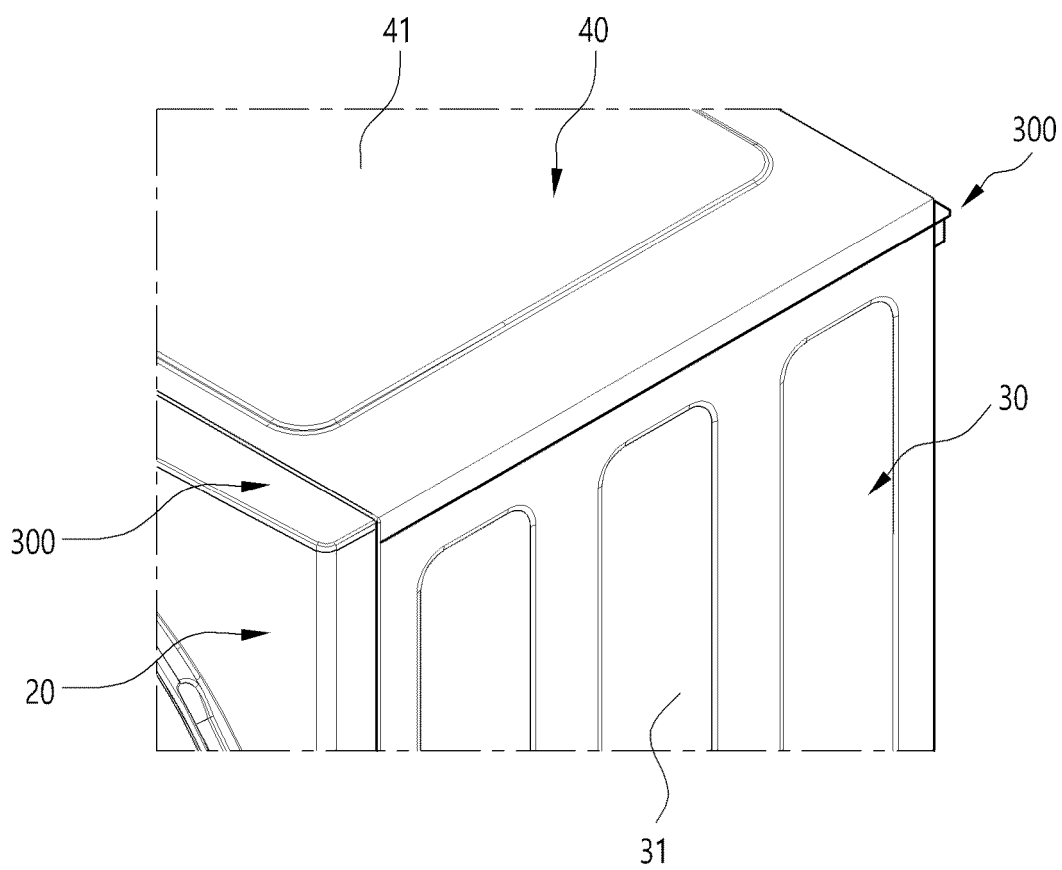


FIG. 27

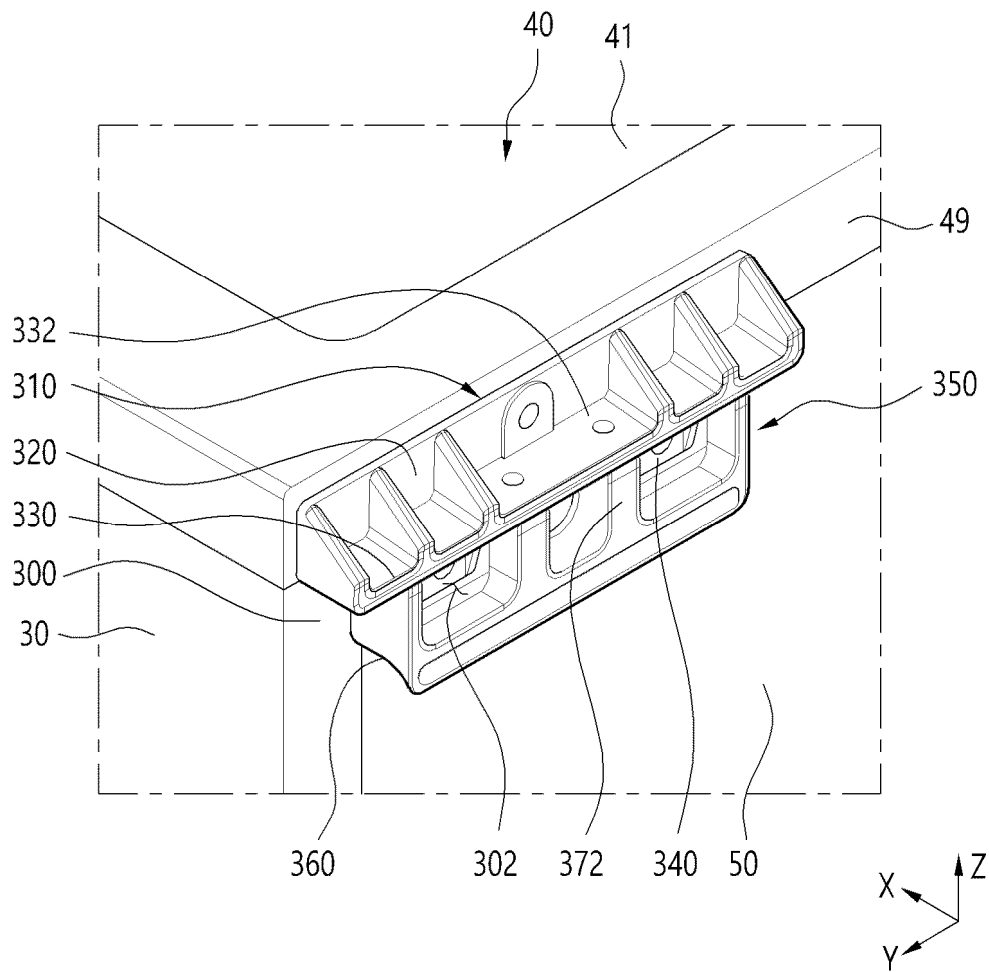


FIG. 28

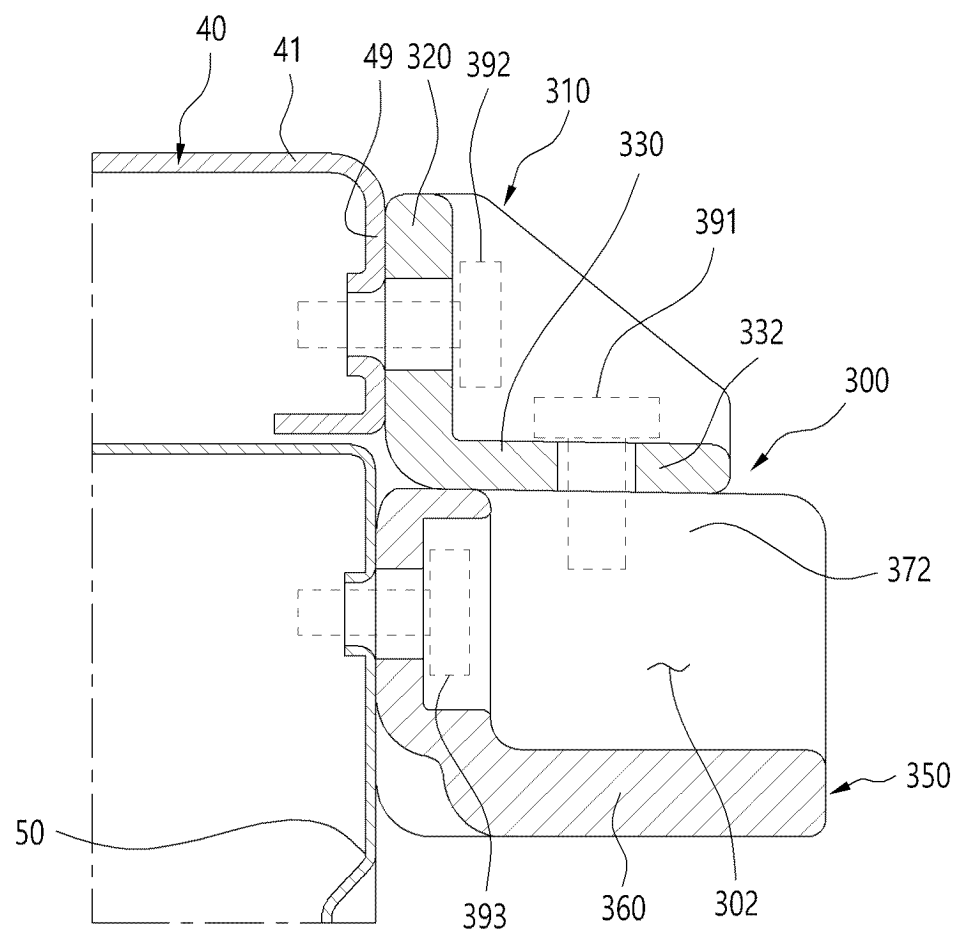


FIG. 19

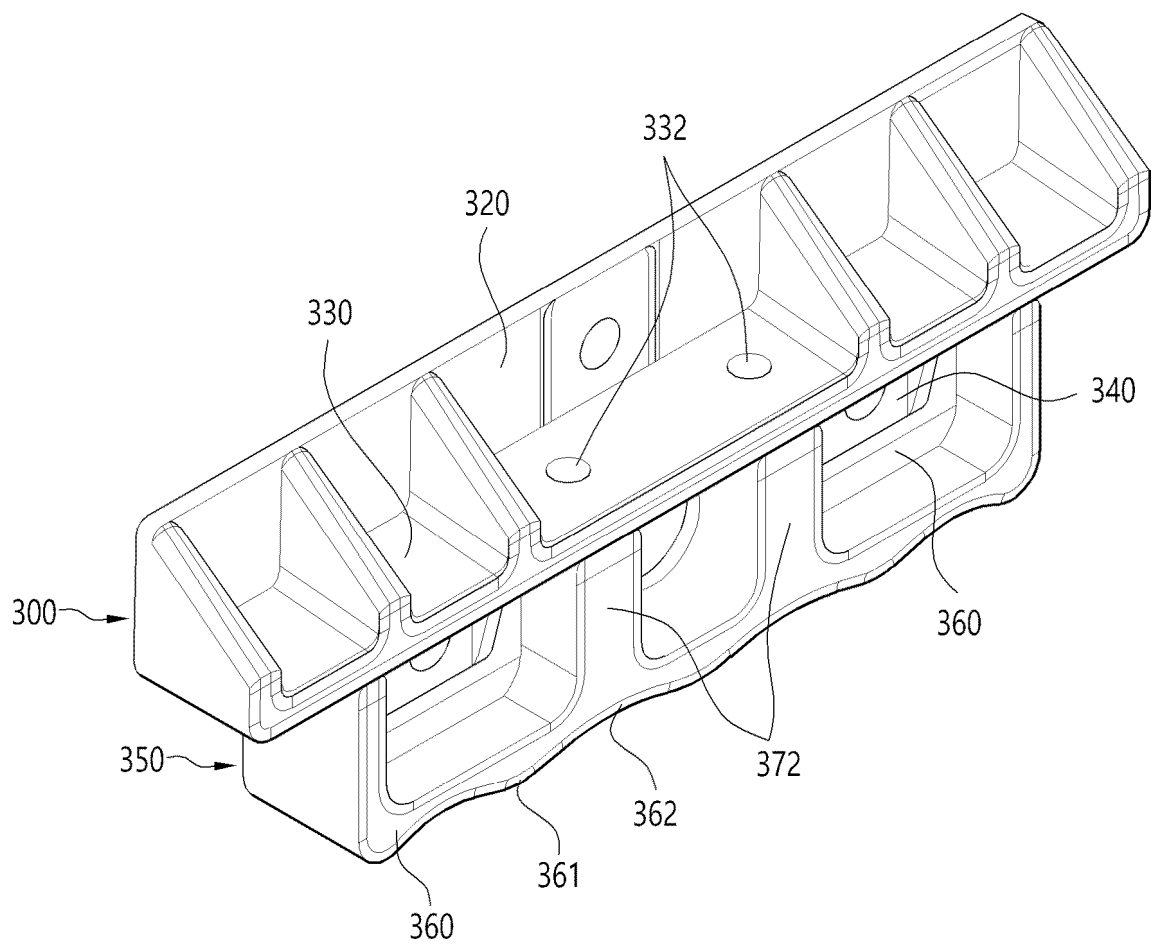


FIG. 30

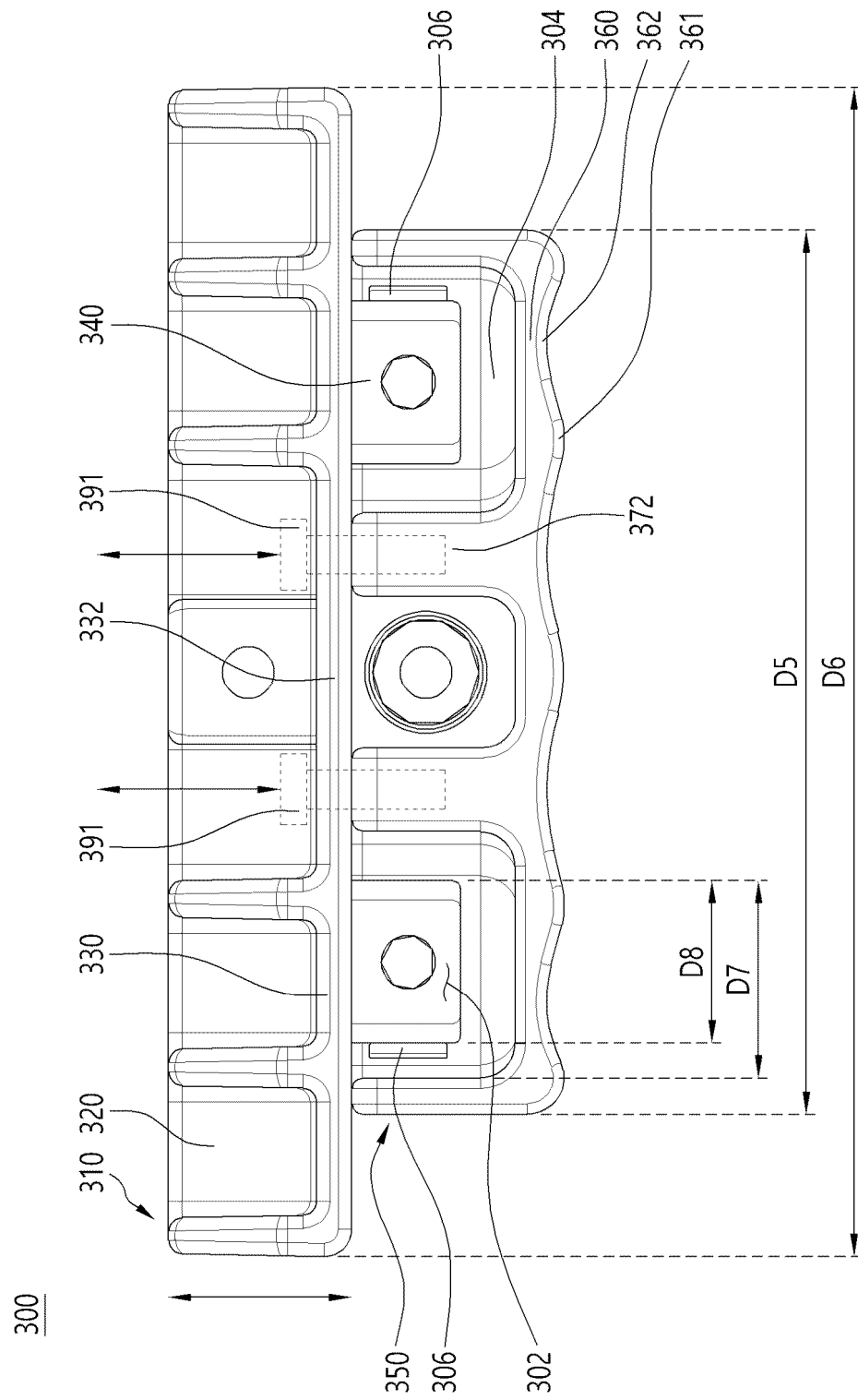


FIG. 31

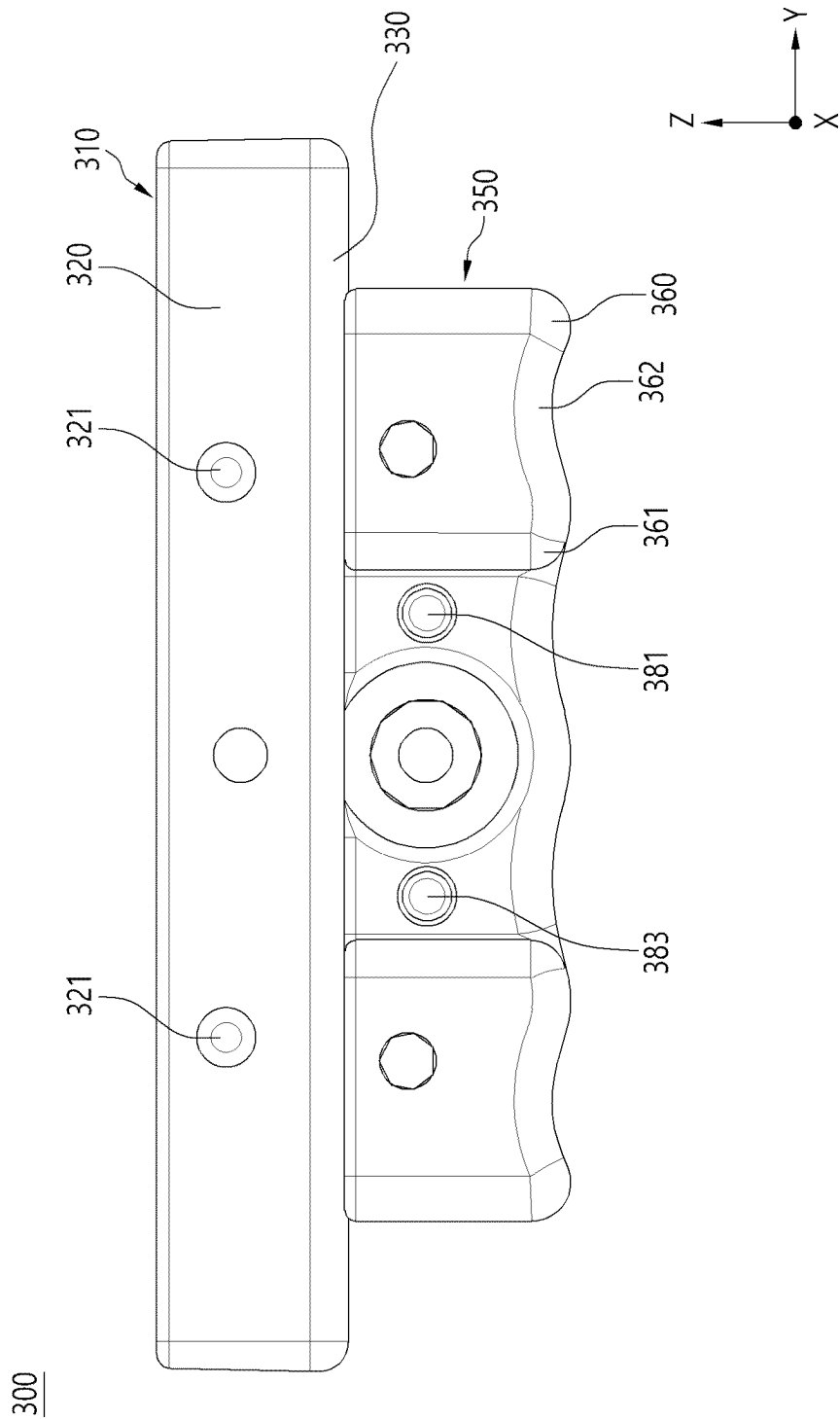


FIG. 32

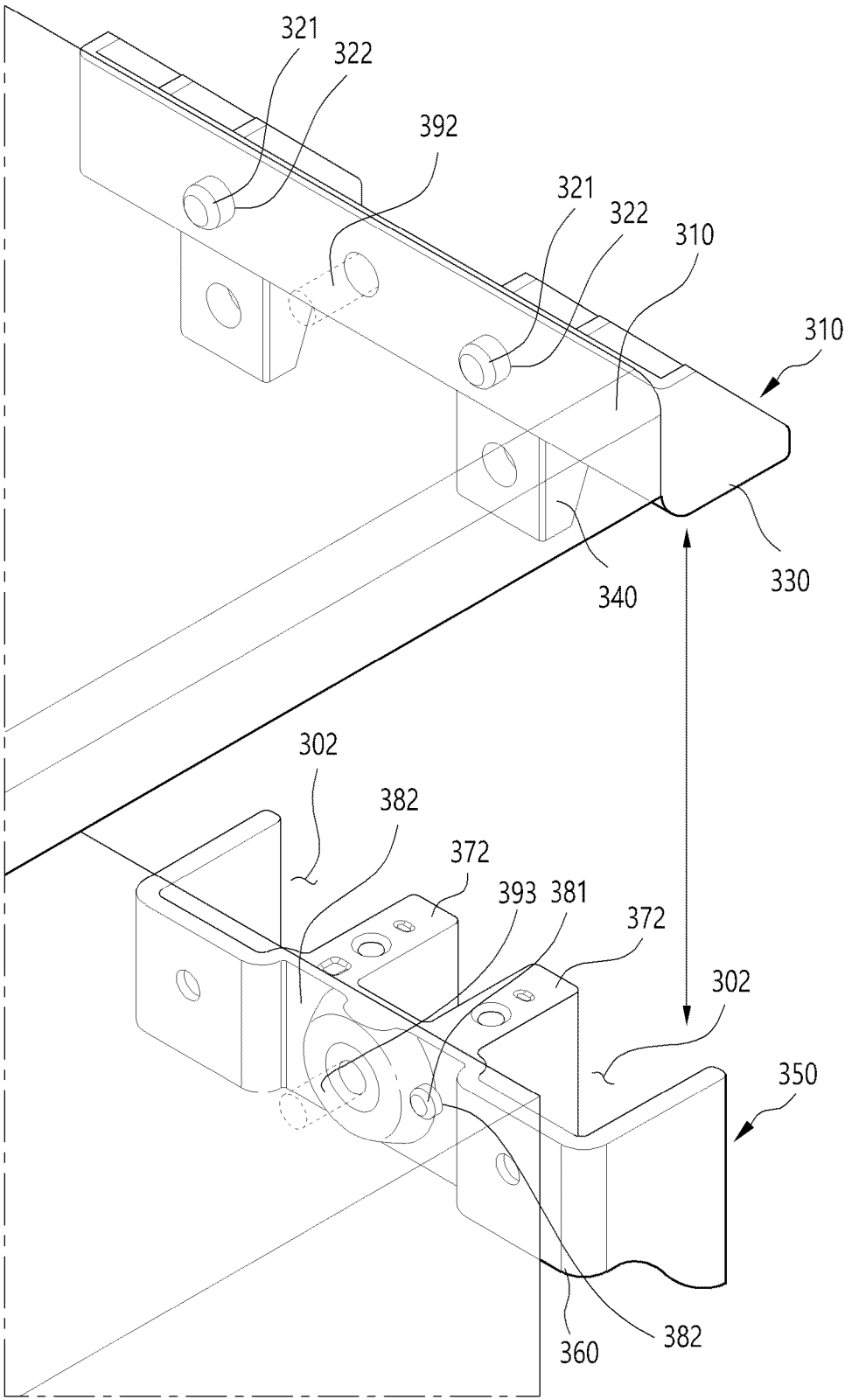


FIG. 33

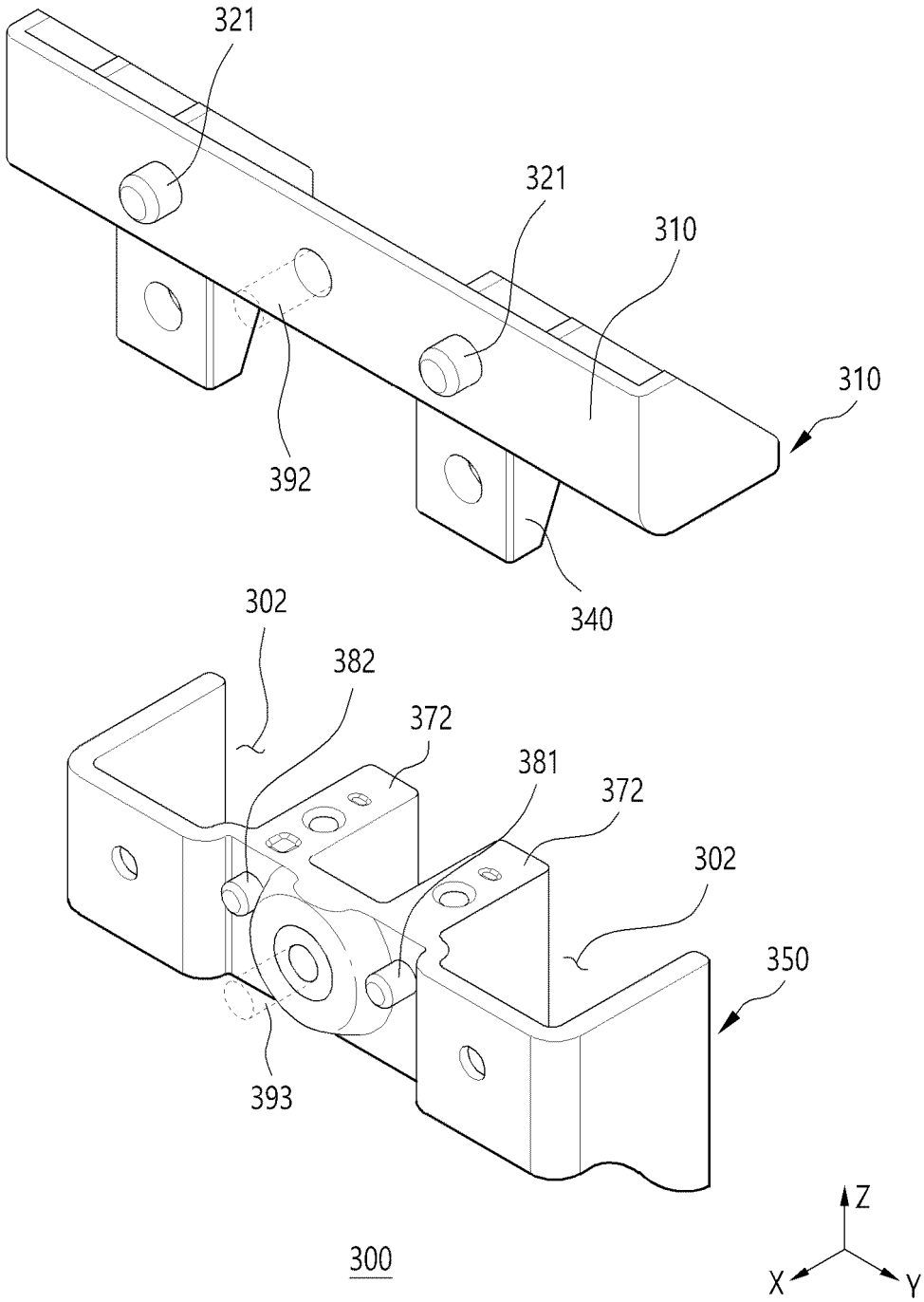
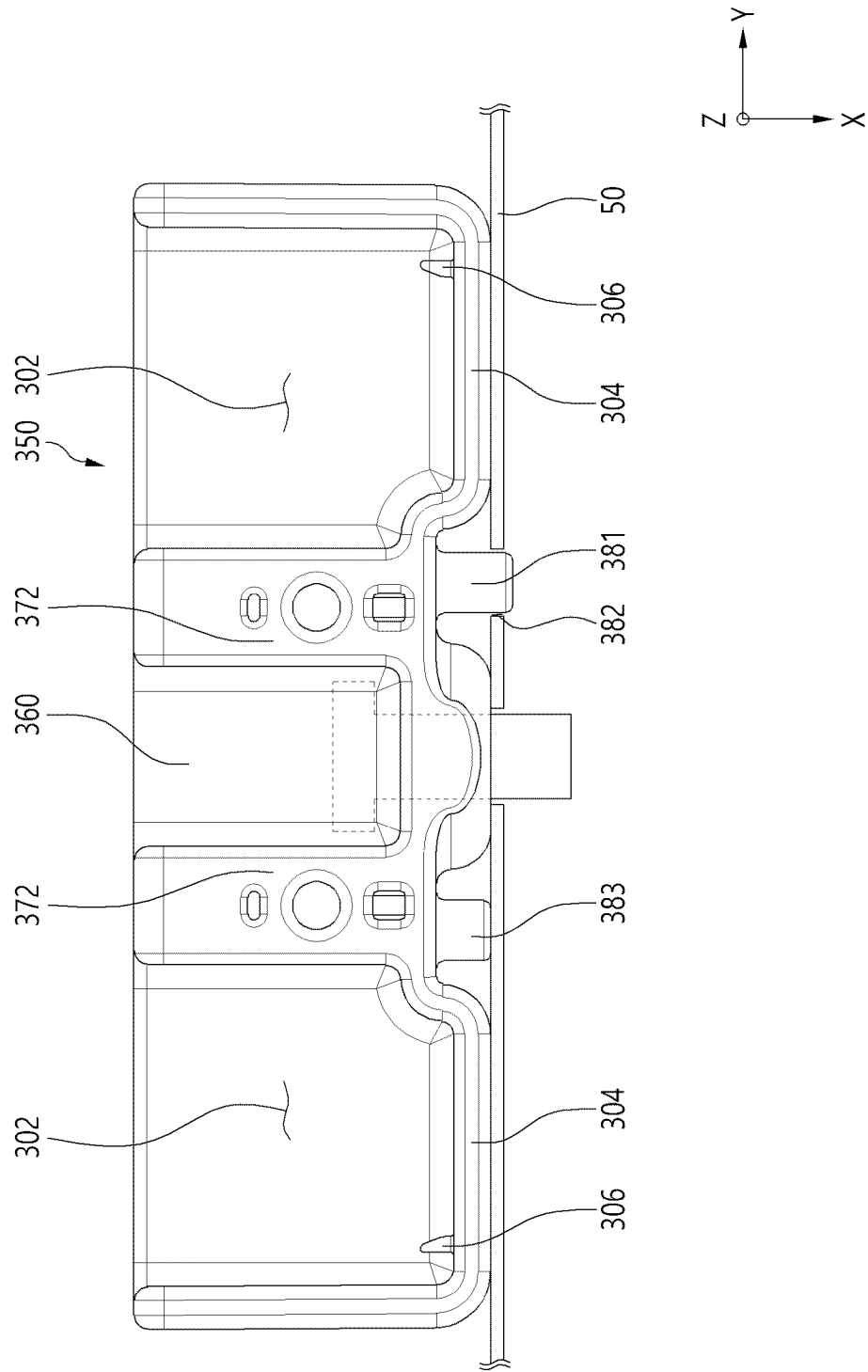


FIG. 34



INTERNATIONAL SEARCH REPORT

International application No.

PCT/KR2023/008285

A. CLASSIFICATION OF SUBJECT MATTER**D06F 37/26**(2006.01)i; **D06F 39/14**(2006.01)i; **D06F 31/00**(2006.01)i

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

D06F 37/26(2006.01); D06F 39/00(2006.01); D06F 39/12(2006.01); D06F 58/04(2006.01)

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Korean utility models and applications for utility models: IPC as above

Japanese utility models and applications for utility models: IPC as above

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

eKOMPASS (KIPO internal) & keywords: 세탁기(washing machine), 프론트패널(front panel), 탑패널(top panel), 삽입(insert), 슬라이딩(sliding)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	KR 10-2005-0081454 A (LG ELECTRONICS INC.) 19 August 2005 (2005-08-19) See paragraphs [0003]-[0015] and [0027] and figures 1-4.	1-5,8-9,11,13-15
Y		6-7,10,12,16-21
Y	KR 10-2007-0067466 A (LG ELECTRONICS INC.) 28 June 2007 (2007-06-28) See paragraphs [0022]-[0025] and figures 3-4.	6-7,10
Y	KR 10-2005-0050903 A (LG ELECTRONICS INC.) 01 June 2005 (2005-06-01) See paragraphs [0023]-[0025] and figure 3.	12,16-20
Y	KR 10-2014-0038252 A (LG ELECTRONICS INC.) 28 March 2014 (2014-03-28) See paragraphs [0023]-[0032] and figures 2-6.	19
Y	KR 10-2021-0108862 A (LG ELECTRONICS INC.) 03 September 2021 (2021-09-03) See paragraph [0081] and figures 1-2.	21

☐ Further documents are listed in the continuation of Box C.☒ See patent family annex.

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INTERNATIONAL SEARCH REPORT
Information on patent family members

International application No.
PCT/KR2023/008285

Patent document cited in search report	Publication date (day/month/year)	Patent family member(s)	Publication date (day/month/year)
KR 10-2005-0081454 A	19 August 2005	US 2005-0179347 A1	18 August 2005
KR 10-2007-0067466 A	28 June 2007	KR 10-1258479 B1	26 April 2013
KR 10-2005-0050903 A	01 June 2005	KR 10-1012361 B1	09 February 2011
		US 2005-0110374 A1	26 May 2005
KR 10-2014-0038252 A	28 March 2014	KR 10-1962133 B1	26 March 2019
KR 10-2021-0108862 A	03 September 2021	None	

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REFERENCES CITED IN THE DESCRIPTION

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Patent documents cited in the description

- KR 1020070067466 A1 [0010]
- KR 1020060032326 A1 [0012]