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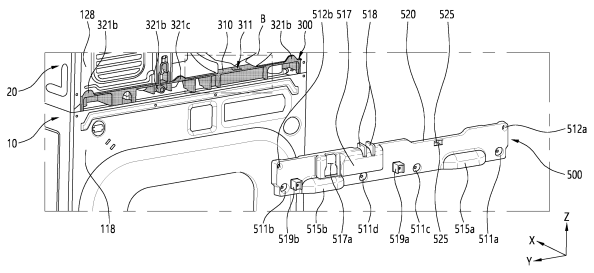
(54) APPARATUS FOR TREATING LAUNDRY

(57) Provided is an apparatus for treating laundry. In one embodiment, the apparatus for treating laundry comprises: a first treatment device equipped with a first cabinet, which comprises a first rear panel forming the rear surface thereof, and a first drum for receiving laundry therein; and a second treatment device, which is mounted on top of the first treatment device, is equipped with a second cabinet, comprising a second rear panel forming the rear surface thereof, and has a second drum for receiving laundry therein. The apparatus for treating laundry further comprises a rear bracket, which is fixed to the first and second rear panels and has handles formed so as to make room for receiving the hands of a carrier, wherein the second treatment device has a first guide part for engagement with the rear bracket, and the rear bracket has a second guide part formed at a position corresponding to the first guide part and connected to the first guide part.

FIG. 5



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Description

TECHNICAL FIELD

[0001] The present disclosure relates to a laundry treating apparatus.

BACKGROUND

[0002] A laundry treating apparatus is an apparatus that performs necessary processing on laundry, such as placing laundry, for example, clothing or bedding, inside a drum, removing contamination from laundry or drying laundry.

[0003] When the laundry treating apparatus is provided to remove contamination from laundry, the laundry treating apparatus performs processes such as washing, rinsing, dehydration, and drying. The laundry treating apparatus includes a cabinet defining an outer apparatus, a tub accommodated inside the cabinet, a drum rotatably mounted inside the tub and into which laundry is fed, and a detergent supply device that supplies detergent into the drum. When the drum rotates by a motor while washing water is supplied to the laundry contained in the drum, dirt on the laundry may be removed through friction with the drum and the washing water.

[0004] When the laundry treating apparatus is configured to dry laundry, the laundry treating apparatus may provide dry air to the laundry and remove moisture from the laundry. The laundry treating apparatus includes a cabinet, a drum rotatably provided inside the cabinet, and a heater for heating or drying air provided to laundry. Moisture present in the laundry may be evaporated and removed by dry air, and moisture in the laundry may be removed by supplying the dry air to the laundry contained in the drum.

[0005] A laundry treating apparatus is provided to reduce a floor space by stacking a first treating device (e.g., a washing machine) for washing laundry and a second treating device (e.g., a dryer) for drying laundry and improve user convenience in treating laundry.

[0006] Published Reference No. KR 10-2021-0106768 A1 (Cited Reference 1) discloses a laundry treating apparatus including a plurality of treating devices. The laundry treating apparatus has a washing machine installed at a lower side and a dryer installed at an upper side. Cited Reference 1 discloses a structure in which a washing machine and a dryer are connected to each other at rear sides thereof and have a fastening portion (rear bracket) that provides a handle. In Cited Reference 1, a front-back depth of the dryer is less than a front-back depth of the washing machine, and thus a step difference is formed at a rear side of the laundry treating apparatus. The fastening portion (rear bracket) is the step difference between the washing machine and the dryer and is located above the washing machine to be connected to the laundry treating apparatus. In the case of a stack-type laundry treating apparatus including Cited Reference 1, it is important to present an efficient arrangement relationship between components and a stable and effective combination relationship between the components for a plurality of treating devices.

DISCLOSURE

Technical Problem

[0007] The present disclosure is to provide a structure of a stack-type laundry treating apparatus for ensuring ease of transport.

[0008] The present disclosure is to provide a laundry treating apparatus including a rear bracket provided to support one of two treating devices stacked above each other to be prevented from coming off from the other treating device provided at a lower side.

[0009] The present disclosure is to provide a laundry treating apparatus for improving assembly efficiency by stacking and coupling two treating devices.

[0010] The present disclosure is to provide a laundry treating apparatus for improving coupling performance by stacking and coupling two treating devices.

[0011] The present disclosure is to provide a laundry treating apparatus for effectively coupling two treating devices by stacking the treating devices even when there is no difference between a first treating device and a second treating device.

[0012] The present disclosure is to provide a laundry treating apparatus for providing a structure for effectively and economically fixing a drain hose of a first treating device to a required location according to an installation environment.

[0013] The present disclosure is to provide a laundry treating apparatus configured to prevent a loss of a cap provided in a test port formed in a second treating device.

[0014] The objects according to the present disclosure are not limited thereto, and other problems not mentioned will be clearly understood by those of skill in the art from the description below.

Technical Solution

[0015] The present disclosure provides a laundry treating apparatus. According to an embodiment, a laundry treating apparatus includes a first treating device including a first cabinet including a first rear panel defining a rear surface and a first drum configured to accommodate laundry therein, a second treating device including a second cabinet disposed above the first treating device and including a second rear panel defining a rear surface and a second drum configured to accommodate laundry therein, and a rear bracket fixed to the first rear panel and the second rear panel and having a handle formed therein to define a space for accommodating a hand of a carrier, wherein the second treating device includes a first guide formed thereon for coupling with the rear bracket and includes a second guide formed at a location

of the rear bracket, which corresponds to the first guide, and connected to the first guide.

[0016] According to an embodiment, the first guide may be formed as a coupling hole, the second guide may be formed as a coupling protrusion protruding toward the second rear panel, and the coupling protrusion may be inserted into the coupling hole.

[0017] According to an embodiment, the coupling protrusion may include an insertion portion extending at least downward, and the insertion portion may be inserted into the coupling hole.

[0018] According to an embodiment, the second treating device may further include a base defining an outer appearance of a lower portion of the second treating device, and the second guide may be located on the base.

[0019] According to an embodiment, the first guide may be formed on an upper surface of the base.

[0020] According to an embodiment, the first guide and the second guide may be coupled and connected to each other.

[0021] According to an embodiment, the rear bracket may include a first fixing portion coupled to the first treating device through a fastening member and a second fixing portion coupled to the second treating device through a fastening member.

[0022] According to an embodiment, when viewed from a front side in the rear bracket, a first opening may be formed in an area overlapping the coupling protrusion, and the rear bracket may further include a plurality of reinforcing ribs that protrude inwardly from the first opening and extend to the coupling protrusion.

[0023] According to an embodiment, the plurality of reinforcing ribs may protrude downward from an upper surface of the first opening and extend to the coupling protrusion.

[0024] According to an embodiment, a protruding rib protruding upward may be formed at a rear end of the base, and the protruding rib may be located behind the second rear panel and restrains a location of a lower portion of the second rear panel.

[0025] According to an embodiment, the rear bracket may include a first rib protruding upwardly, and a second rib protruding upwardly and spaced apart from the first rib by a predetermined distance.

[0026] According to an embodiment, the second treating device may further include a drain hose port configured to discharge condensate, and a second drain hose coupled to the drain hose port, and the rear bracket may correspond to the drain hose port such that the drain hose port is exposed to the outside.

[0027] According to an embodiment, the rear bracket may include at least one of a first hose fixing portion located lower than the drain hose port and offset to one side with respect to the drain hose port, and directly or indirectly fixing the second drain hose, and a second hose fixing portion located lower than the drain hose port and offset to the other side with respect to the drain hose port, and directly or indirectly fixing the second drain hose.

[0028] According to an embodiment, the second drain hose may be directly or indirectly located by either the first hose fixing portion or the second hose fixing portion, and the first treating device may further include a first drain hose for draining washing water, and the first drain hose and the second drain hose may be bound to each other downstream of a portion in which the second drain hose is positioned.

[0029] According to an embodiment, the first drain hose may be provided to extend from below the first drum of the first treating device to above the first drum.

[0030] The present disclosure provides a laundry treating apparatus. According to an embodiment, a laundry treating apparatus includes a first treating device including a first cabinet including a first rear panel defining a rear surface and a first drum configured to accommodate laundry therein, a second treating device including a second cabinet that is disposed above the first treating device and defines a rear surface, a second drum configured to accommodate laundry therein, a drain hose port provided in the second rear panel to discharge water, and a second drain hose coupled to the drain hose port, and a rear bracket coupled to the first rear panel and the second rear panel and having a handle formed therein to provide a space for accommodating a hand of a carrier, wherein the rear bracket includes a first hose fixing portion that is spaced to one side from the drain hose port and fixes the second drain hose.

[0031] According to an embodiment, the first hose fixing portion may be located lower than the drain hose port.

[0032] According to an embodiment, the second drain hose may be directly or indirectly located and fixed by the first hose fixing portion, and the first treating device may further include a first drain hose for draining washing water, and the first drain hose and the second drain hose may be bound to each other downstream of a portion at which the second drain hose is located.

[0033] According to an embodiment, the laundry treating apparatus may further include a second hose fixing portion located to the other side with respect to the drain hose port and directly or indirectly fixing the second drain hose.

[0034] According to an embodiment, the second hose fixing portion may be formed lower than the drain hose port.

[0035] According to an embodiment, the second drain hose may be directly or indirectly located by either the first hose fixing portion or the second hose fixing portion, and the first treating device may further include a first drain hose for draining washing water, and the first drain hose and the second drain hose may be bound to each other downstream of a portion in which the second drain hose is located.

[0036] According to an embodiment, the rear bracket may have a port opening formed at a location corre-

sponding to the drain hose port such that the drain hose port is exposed to the outside.

[0037] According to an embodiment, the first drain hose may be provided to extend from below the first drum of the first treating device to above the first drum.

Advantageous Effects

[0038] According to an embodiment of the present disclosure, it may be possible to ensure the ease of transport of a stack-type laundry treating apparatus.

[0039] According to an embodiment of the present disclosure, a structure may be obtained in which one of two treating devices stacked at an upper side does not detach from the other treating device stacked at a lower side.

[0040] According to an embodiment of the present disclosure, when two treating apparatuses are stacked and coupled, the assembly efficiency may be improved.

[0041] According to an embodiment of the present disclosure, when two treating devices are stacked and coupled, the coupling performance may be improved.

[0042] According to an embodiment of the present disclosure, when two treating devices are coupled to each other by stacking the two treating devices, the treating devices may be effectively coupled to each other even when there is no step between the first treating device and the second treating device.

[0043] According to an embodiment of the present disclosure, a drain hose of the first treating device may be effectively and economically fixed to a required location according to an installation environment.

[0044] According to an embodiment of the present disclosure, it may be possible to prevent the loss of a cap provided in a test port formed in a second treating device.

[0045] It will be appreciated by those of skill in the art that the effects that could be achieved with the present disclosure are not limited to what has been particularly described hereinabove and other advantages of the present disclosure will be more clearly understood from the above detailed description.

BRIEF DESCRIPTION OF THE DRAWINGS

[0046]

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

FIG. 2 is a perspective view of a laundry treating apparatus of an embodiment of the disclosure.

FIG. 3 is a perspective view of a laundry treating apparatus of an embodiment of the disclosure.

FIG. 4 is a side view of laundry treating apparatus viewed from a rear side, of an embodiment of the present disclosure and is an enlarged diagram of portion A in which a rear bracket is located.

FIG. 5 is a side view of laundry treating apparatus viewed from a rear side, of an embodiment of the present disclosure and is an enlarged diagram of a rear bracket in a disassembled state.

FIG. 6 is a front perspective view (a perspective view showing the inside) of a rear bracket according to an embodiment of the present disclosure.

FIG. 7 is an enlarged view of a portion C of FIG. 6.

FIG. 8 is an enlarged view of a portion B of FIG. 5.

FIG. 9 is an enlarged perspective view of a portion D of FIG. 4, showing an enlarged portion at which a coupling protrusion is coupled to a coupling hole of a base.

FIG. 10 is an enlarged perspective view of a portion E of FIG. 4 and shows a portion in which a rear bracket is coupled to a first treating device and a second treating device, according to an embodiment of the present disclosure.

FIG. 11 is an enlarged perspective view of a hose accommodation portion in a rear bracket of an embodiment of the present disclosure and shows the configuration of a second treating device.

FIG. 12 is a diagram for explaining an example of use of a cap fixing rib of a rear bracket according to an embodiment of the present disclosure.

FIG. 13 is a diagram of a rear bracket viewed from a rear side according to an embodiment of the present disclosure and shows a left side in which a right side is not shown.

FIG. 14 is a diagram for explaining an example of use of a hose fixing portion of a rear bracket according to an embodiment of the present disclosure and shows a lower side of a laundry treating apparatus viewed from a rear side from which an upper side is omitted.

DETAILED DESCRIPTION

[0047] Embodiments of the present disclosure are described in detail so as for those of ordinary skill in the art to easily implement with reference to the accompanying drawings.

[0048] However, the present disclosure may be implemented in various different forms and is not limited to these embodiments. To clearly describe the present disclosure, a part without concerning to the description is omitted in the drawings, and like reference numerals in the specification denote like elements.

[0049] In the present specification, a repeated explanation of the same elements will not be given.

[0050] It will be understood that when an element is referred to as being "connected to" or "coupled to" another element, it may be directly on, connected or coupled to the other element or intervening elements may be present. In contrast, when an element is referred to as being "directly connected to" or "directly coupled to" another element or layer, there are no intervening elements or layers present.

[0051] The terms used in the present specification are used for explaining a specific embodiment, not limiting

the present disclosure.

[0052] In the present specification, the singular expressions include the plural expressions unless clearly specified otherwise in context.

[0053] It will be further understood that the terms "comprises" and/or "comprising" when used in this specification, specify the presence of stated features, integers, steps, operations, elements, components, or combinations thereof but do not preclude the presence or addition of one or more other features, integers, steps, operations, elements, components, and/or combinations thereof.

[0054] In the present specification, the term 'and/or' includes a combination of multiple listed items or any item of multiple listed items. In the present specification, 'a or b' may include 'a', 'b', or 'both a and b'.

[0055] FIG. 1 shows a laundry treating apparatus 1 according to an embodiment of the present disclosure. FIG. 2 is a perspective view of a laundry treating apparatus according to an embodiment of the present disclosure. FIG. 3 is a perspective view of a laundry treating apparatus according to an embodiment of the present disclosure. Referring to FIGS. 1, 2, and 3, the laundry treating apparatus according to an embodiment of the present disclosure is described.

[0056] In a description of the present disclosure, respective definitions of a front direction +X, a rear direction -X, a first lateral direction +Y, a second lateral direction -Y, and an upward direction +Z, a downward direction -Z for components may be defined with the same term. For example, the front and rear directions +X and -X of a first treating device 10 may be defined in the same way as front and rear directions of a control panel 200 or the like, and the lateral directions +Y and -Y and the upward and downward directions +Z and -Z may be defined in the same way.

[0057] According to an embodiment of the present disclosure, the laundry treating apparatus 1 includes a first treating device 10, a second treating device 20, a control panel 200, and a rear bracket 500.

[0058] The first treating device 10 and the second treating device 20 may be provided as various types of devices for treating laundry, such as a washing machine for washing laundry and/or a dryer for drying laundry. The first treating device 10 may be a washing machine and the second treating device 20 may be a dryer. The first treating device 10 and the second treating device 20 may both be washing machines or dryers, or the first treating device 10 may be a dryer and the second treating device 20 may be a washing machine or may be various other devices for treating laundry.

[0059] According to an embodiment, the first treating device 10 located at a lower side may correspond to a washing machine for washing laundry. A first drum 12 and a tub 14 for accommodating laundry may be provided inside the first treating device 10. The first drum 12 inside the first treating device 10 may be provided rotatably inside the tub 14. The second treating device 20 is located above the first treating device 10. The first treating device 10 supports the second treating device 20. The second treating device 20 may correspond to a dryer for drying laundry. The first drum 12 and the tub 14 for accommodating laundry may be provided inside the second treating device 20.

[0060] The first treating device 10 may include a first cabinet 110 defining an outer appearance. The first cabinet 110 may be provided with a first front panel 112 on a front side. A laundry opening communicating with the first drum 12 may be formed in the first front panel 112. The laundry opening may be opened and closed by a first cabinet door 17. The first drum 12 of the first treating device 10 according to an embodiment has a rotation axis parallel to the front and rear directions +X and -X.

[0061] The first treating device 10 may be provided with a first lateral panel 115 on each side in the lateral direction Y, a first rear panel 118 may be provided at a rear side, a first upper panel (not shown) may be provided at an upper side, and a first lower panel (not shown) may be provided at a lower side.

[0062] The first front panel 112, the first lateral panel 115, a first rear panel (not shown), a first upper panel (not shown), and a first lower panel (not shown) may be combined with each other to form the first cabinet 110 and may have a connecting relationship with each other. The first cabinet 110 may define a space in which internal components constituting the first cabinet 110, such as the first drum 12, are provided.

[0063] Laundry required to be treated is input into the first cabinet 110 through the laundry opening of the first treating device 10. The input laundry may be accommodated inside the first drum 12 and treated by the first treating device 10.

[0064] A detergent opening is formed in the first front panel 112. A detergent storage unit 16 is inserted and provided in the detergent opening. In the laundry treating apparatus 1 according to an embodiment, the first treating device 10 may be located on the ground, and the detergent storage unit 16 may be located above the laundry opening of the first treating device 10 to facilitate retraction and extension of the detergent storage unit 16. The detergent storage unit 16 may be located between the laundry opening of the first treating device 10 and the control panel 200. That is, the detergent storage unit 16 may be located above the laundry opening of the first treating device 10 and below the control panel 200. The detergent storage unit 16 may be retracted or extended into and out of the first cabinet 110 by a user. For example, the user may separate the detergent storage unit 16 from the first cabinet 110, store detergent in the detergent storage unit 16, and then retract the detergent storage unit 16 into the first cabinet 110.

[0065] According to an embodiment, a filter opening is formed in the first front panel 112. A filter unit 18 is provided inserted into the filter opening. The filter unit 18 captures foreign substances from washing water. The filter unit 18 may be provided at one side of a lower portion

of the first front panel 112. The filter unit 18 may be retracted into the first cabinet 110 through the filter opening and connected to a path of the washing water discharged from the tub 14. The filter unit 18 may filter out foreign substances from the washing water discharged from the tub 14 after a washing process is performed. A function of the filter unit 18 is not necessarily limited thereto, and the filter unit 18 may be provided to filter foreign substances from various objects as needed. For example, the filter unit 18 may be provided to filter out foreign substances from the washing water used for performing the washing process before the washing process begins.

[0066] The user may retract or extend the filter unit 18 into or out of the first cabinet 110 through the filter opening. The extended filter unit 18 may be reused or replaced after being washed. The filter unit 18 may have a relatively long retract and extension cycle with respect to the detergent storage unit 16, and accordingly, according to an embodiment of the present disclosure, the detergent opening into which the detergent storage unit 16 with a relatively short retract and extension cycle is retracted may be located above the first front panel 112. The filter opening into which the filter unit 18 with a relatively long retract and extension cycle is retracted may be located below the first front panel 112, thereby implementing a structure of the first front panel 112 with improved convenience of use and excellent space utilization.

[0067] A washing water discharge path connected to the tub 14 inside the first cabinet 110 may be located at a lower side within the first cabinet 110 to facilitate discharge of washing water, and according to an embodiment of the present disclosure, the filter unit 18 may be provided at the lower side of the first cabinet 110 and may be efficiently connected to the washing water discharge path.

[0068] A first device controller (not shown) may be provided in the first treating device 10. The first device controller (not shown) is a component that controls various devices constituting the first treating device 10. The first device controller (not shown) is located inside the first cabinet 110. The first device controller (not shown) may include a circuit board and electrical components mounted on the circuit board. According to an embodiment, the first device controller (not shown) may check information corresponding to an operation signal received from the control panel 200 in a memory and perform device control corresponding to the operation signal. The first device controller (not shown) may transmit a state of the first treating device 10 to the control panel 200.

[0069] The second treating device 20 may include a second cabinet 120 defining an outer appearance. The second cabinet 120 may include a second front panel 122 provided at a front side. A laundry opening communicating with a second drum 22 may be formed in the second front panel 122. The laundry opening may be opened and closed by a second cabinet door 27.

[0070] A second lateral panel 125 may be provided on each of the lateral directions +Y and -Y of the second treating device 20. A second rear panel 128 may be provided at a rear side of the second treating device 20. A second upper panel 127 may be provided at an upper side of the second treating device 20. A base 300 (see FIG. 5) may be provided at a lower side of the second treating device 20.

[0071] The second front panel 122, the second lateral panel 125, the second rear panel 128, the second upper panel 127, and the base 300 may be combined with each other to form the second cabinet 120 and may have a coupling relationship with each other. The second cabinet 120 may define a space in which internal components constituting the second treating device 20, such as the second drum 22, are provided.

[0072] Laundry required to be treated may be input into the second cabinet 120 through the laundry opening of the second treating device 20 and accommodated in the second drum 22. A treating process such as washing and drying by the second treating device 20 may be performed on the laundry accommodated in the second drum 22.

[0073] The second treating device 20 according to an embodiment may be provided with the laundry opening provided above the second front panel 122 together with the second cabinet door 27. The second drum 22 accommodated in the second treating device 20 has a rotation axis parallel to the front and rear directions X.

[0074] The second treating device 20 is located above the first treating device 10. According to an embodiment, the lower side of the first treating device 10 may be coupled to the upper side of the second treating device 20. The upper side of the first treating device 10 may have a structure that supports the second treating device 20. For example, the first upper panel (not shown) of the first treating device 10 may have a structure that directly or indirectly supports the base 300 of the second treating device 20.

[0075] A second device controller (not shown) may be provided in the second treating device 20. The second device controller (not shown) is a component that controls various devices constituting the second treating device 20. The second device controller (not shown) is located inside the second cabinet 120. The second device controller (not shown) may include a circuit board and electrical components mounted on the circuit board. According to an embodiment, a second device controller 29 may check information corresponding to an operation signal received from the control panel 200 in a memory and perform device control corresponding to the operation signal. The second device controller (not shown) may transmit a state of the second treating device 20 to the control panel 200.

[0076] The control panel 200 is located between the first front panel 112 and the second front panel 122. The control panel 200 may be provided between the first front panel 112 and the second front panel 122 at a height that

corresponds approximately to the waist of the user, thereby ensuring a height that is convenient for the user to operate. The control panel 200 may be signal-connected to at least one of the first treating device 10 and the second treating device 20. According to an embodiment, the control panel 200 is signal-connected to the first treating device 10 and the second treating device 20. According to an embodiment, the control panel 200 is signal-connected to the first device controller (not shown) and/or the second device controller (not shown). A user interface (UI) is displayed on a front surface of the control panel 200. A user may control the first treating device 10 and/or the second treating device 20 through the control panel 200.

[0077] The rear bracket 500 is provided at a rear side of the laundry treating apparatus 1. The rear bracket 500 is coupled to the first treating device 10 and the second treating device 20. The rear bracket 500 is located at an upper portion of the rear side of the first treating device 10 and at a lower portion of the rear side of the second treating device 20.

[0078] FIG. 4 is a side view of laundry treating apparatus viewed from a rear side, according to an embodiment of the present disclosure and is an enlarged diagram of portion A in which a rear bracket is located.

[0079] The rear bracket 500 is fixedly coupled to the first treating device 10 and the second treating device 20. The rear bracket 500 is coupled to the first rear panel 118 and the second rear panel 128. The rear bracket 500 is coupled to an upper portion of the first rear panel 118 and a lower portion of the second rear panel 128.

[0080] The rear bracket 500 includes a face plate 510 and a periphery portion 520. The face plate 510 defines a rear surface of the rear bracket 500. The periphery portion 520 protrudes forward from a periphery of the face plate 510.

[0081] Handles 515a and 515b are formed on the rear bracket 500. The handles 515a and 515b are formed in a shape that protrudes rearward from the face plate 510. The handles 515a and 515b are formed in a shape that protrudes further outward than other portions of the face plate 510. A space is formed in the handles 515a and 515b into which a carrier is capable of putting his or her hand. According to an embodiment, The space into which the carrier is capable of putting his or her hand is formed in a lower side of the handles 515a and 515b. The handles 515a and 515b include a first handle 515a and a second handle 515b. The first handle 515a may be provided at one side of the rear bracket 500, and the second handle 515b may be provided on the other side of the rear bracket 500. Considering that transportation of the laundry treating apparatus 1 is mainly performed by two carriers, the handles 515a and 515b may be provided in two or more.

[0082] A coupling protrusion 525 is formed on the rear bracket 500. The coupling protrusion 525 is provided as an example of a second guide in the present disclosure. The coupling protrusion 525 may be formed at an upper side of the rear bracket 500. The coupling protrusion 525 may be formed to protrude further forward from the periphery portion 520. The coupling protrusion 525 is inserted into a coupling hole 311 (see FIG. 5) formed in an upper surface 310 of the base 300 (see FIG. 5) of the second treating device 20 described later. The coupling protrusion 525 is described in more detail with reference to FIGS. 6 and 7.

[0083] A first opening 513 may be formed in a portion corresponding to the coupling protrusion 525.

[0084] A hose accommodation portion 517 is formed on the rear bracket 500. The hose accommodation portion 517 is formed by forming a convex surface rearward from the rear bracket 500. The hose accommodation portion 517 is formed at a portion corresponding to a drain hose of the second treating device 20.

[0085] A port opening 517a is formed on the rear bracket 500. The port opening 517a is formed at one side of the hose accommodation portion 517. The port opening 517a is an opening formed such that a drain hose port 331 (see FIG. 11) for discharging condensate is exposed to the outside. The port opening 517a is formed at a position corresponding to the drain hose port 331.

[0086] A cap fixing rib 518 may be formed on the rear bracket 500. The cap fixing rib 518 includes a first rib 518a and a second rib 518b. The first rib 518a protrudes upward. The first rib 518a may be located above the hose accommodation portion 517. The second rib 518b protrudes upward at a predetermined distance from the first rib 518a. The cap fixing rib 518 is described in more detail with reference to FIG. 12.

[0087] The rear bracket 500 may further include hose fixing portions 519a and 519b. The hose fixing portions 519a and 519b fix the position of a second drain hose 28 (see FIG. 14). The hose fixing portions 519a and 519b may be formed at a lower location than the drain hose port 331. The hose fixing portions 519a and 519b may include at least one of a first hose fixing portion 519a and a second hose fixing portion 519b. According to an embodiment, the hose fixing portions 519a and 519b may include the first hose fixing portion 519a and the second hose fixing portion 519b. The first hose fixing portion 519a is located inclined to one side with respect to the drain hose port 331. The second hose fixing portion 519b is formed on the other side with respect to the drain hose port 331. That is, the second hose fixing portion 519b may be located at an opposite side to a side at which the first hose fixing portion 519a is located with respect to the drain hose port 331.

[0088] The hose fixing portions 519a and 519b may protrude rearwardly from the face plate 510. The hose fixing portions 519a and 519b is described in more detail in FIG. 14.

[0089] FIG. 5 is a side view of laundry treating apparatus viewed from a rear side, according to an embodiment of the present disclosure and is an enlarged diagram of a rear bracket in a disassembled state. Referring to FIG. 5, a coupling relationship of the first treating

device 10 and the second treating device 20 with respect to the rear bracket 500 is described.

[0090] The second treating device 20 includes the base 300 defining an outer appearance of a lower portion. Although not shown, a circulation path in which a heat exchanger for removing moisture from air flowing in from the second drum 22, a water collector storing condensed moisture, and the like may be formed in the base 300.

[0091] FIG. 5 illustrates a portion of the base 300 exposed to a rear side of the second treating device 20. A coupling hole 311 is formed in the upper surface 310 of the base 300. The coupling hole 311 is provided as an example of a first guide in the present disclosure. The coupling protrusion 525 is inserted into the coupling hole 311 and connected thereto. An upper surface of the base 300 is partially exposed. The coupling hole 311 is formed on the exposed portion of the upper surface 310 defining the upper surface of the base 300. The coupling protrusion 525 of the rear bracket 500 is inserted into the coupling hole 311. By the coupling protrusion 525 into the coupling hole 311, the rear bracket 500 may be temporarily coupled to the laundry treating apparatus 1. The illustrated embodiment presents the coupling hole 311 as an example of the first guide and the coupling protrusion 525 as an example of the second guide. However, the first guide and the second guide are not limited thereto. In an example that is not shown, the first guide may be formed with a first protrusion protruding upward, the second guide portion may be formed with a second protrusion protruding downward, and the first guide and the second guide may be connected to each other by engagement of the first protrusion and the second protrusion. In another example that is not shown, the first guide may be formed with a coupling protrusion, the second guide may be formed with a coupling hole, and the first guide may be inserted into the second guide to connect the first guide and the second guide to each other.

[0092] Protruding ribs 321a, 321b, and 321c protruding upward are formed at an upper side of a rear end of the base 300. The protruding ribs 321a, 321b, and 321c are located behind the second rear panel 128. The protruding ribs 321a, 321b, and 321c constrain the position of the lower portion of the second rear panel 128. The lower portion of the second rear panel 128 may be restrained in position without being spread out of the base 300 by the protruding ribs 321a, 321b, and 321c. The protruding ribs 321a, 321b, and 321c may include a first protruding rib 321a formed at one side, a second protruding rib 321b formed at the other side, and a third protruding rib 321c formed at a central area.

[0093] The drain hose port 331 is formed in the base 300 to discharge condensate to the outside of the laundry treating apparatus 1. The drain hose port 331 may be connected to an water collector or condensate storage tank that is not shown.

[0094] First fixing portions 511a, 511b, 511c, and 511d are formed on the rear bracket 500. Second fixing portions 512a and 512b are formed on the rear bracket 500. The first fixing portions 511a, 511b, 511c, and 511d are portions in which the rear bracket 500 and the first treating device 10 are coupled to each other. The second fixing portions 512a and 512b are portions in which the rear bracket 500 and the second treating device 20 are coupled to each other. The first fixing portions 511a, 511b, 511c, and 511d may be formed with a through hole through which a fastening member such as a screw is capable of passing. The second fixing portions 512a and 512b may be formed with a through hole through which a fastening member such as a screw is capable of passing. The first fixing portions 511a, 511b, 511c, and 511d may be formed in more locations than the second fixing portions 512a and 512b. For example, the first fixing portions 511a, 511b, 511c, and 511d may be formed in four locations, and the second fixing portions 512a and 512b may be formed in two locations. A carrier lifts the laundry treating apparatus 1 from below using the handles 515a and 515b, and thus more stress is generated in the first fixing portions 511a, 511b, 511c, and 511d. In response thereto, the first fixing portions 511a, 511b, 511c, and 511d and the second fixing portions 512a and 512b may be formed appropriately.

[0095] FIG. 6 is a front perspective view (a perspective view showing the inside) of a rear bracket according to an embodiment of the present disclosure.

[0096] A vertical rib 510a and a horizontal rib 510b for reinforcing strength may be formed inside the rear bracket 500. The vertical rib 510a and the horizontal rib 510b may be formed inside the face plate 510.

[0097] The first fixing portions 511a, 511b, 511c, and 511d and the second fixing portions 512a and 512b may be formed in a boss shape.

[0098] A curve may be formed inside the handles 515a and 515b. This is to prevent slipping when using the handle during transport.

[0099] The coupling protrusion 525 may be formed above the coupling protrusion 525 and may protrude forward from the periphery portion 520.

[0100] FIG. 7 is an enlarged view of a portion C of FIG. 6. Referring to FIG. 7, the coupling protrusion 525 is described in more detail.

[0101] The coupling protrusion 525 is formed in a hook shape. The coupling protrusion 525 includes an insertion portion 525b extending downward. The insertion portion 525b is inserted into the coupling hole 311. The insertion portion 525b may be inserted into the coupling hole 311, and thus the laundry treating apparatus 1 and the rear bracket 500 may be temporarily coupled to each other without being fixed by the first fixing portions 511a, 511b, 511c, and 511d and the second fixing portions 512a and 512b. According to an embodiment, a front-to-rear depth of the first treating device 10 and a front-to-rear depth of the second treating device 20 are almost the same. Accordingly, to fix the rear bracket 500 to the laundry treating apparatus 1 without a coupling relationship of the coupling protrusion 525 to the coupling hole 311, an

additional operator may be required or more operating time may be required for either of the first fixing portions 511a, 511b, 511c, and 511d and the second fixing portions 512a and 512b to be coupled to the laundry treating apparatus 1, but according to an embodiment of the present disclosure, the rear bracket 500 may be easily coupled to the laundry treating apparatus 1 even if the front-to-rear depth of the first treating device 10 and the front-to-rear depth of the second treating device 20 are almost the same.

[0102] The first opening 513 is formed in an area that overlaps the coupling protrusion 525 when viewed from the front. An operator may more easily couple the coupling protrusion 525 to the coupling hole 311 by using the first opening 513.

[0103] A reinforcing rib 525a protruding inwardly from the first opening 513 and extending toward the coupling protrusion 525 may be further formed on the rear bracket 500. The reinforcing rib 525a may protrude from an upper surface of the first opening 513 toward a lower surface. The reinforcing rib 525a may be formed in plural (see FIG. 9).

[0104] FIG. 8 is an enlarged view of a portion B of FIG. 5.

[0105] A portion of the upper surface of the base 300 of the second treating device 20 may be exposed to the outside. The coupling hole 311 is formed on the exposed upper surface 310. The coupling hole 311 may be formed to pass through the upper surface 310 in the upward and downward directions. When the thickness of the upper surface 310 is large, a groove may be formed rather than the coupling hole 311.

[0106] The base 300 may include a plurality of support ribs 315 that support the upper surface 310. The plurality of support ribs 315 may reinforce the rigidity of the base 300.

[0107] FIG. 9 is an enlarged perspective view of a portion D of FIG. 4, showing an enlarged portion at which the coupling protrusion 525 is coupled to a coupling hole of the base 300.

[0108] A portion of the base 300 may be exposed through the first opening 513. The reinforcing rib 525a protrudes from an upper surface of the first opening 513 toward a lower surface. The reinforcing rib 525a may extend to the coupling protrusion 525 and may be integrated with the coupling protrusion 525. In the illustrated embodiment, the reinforcing rib 525a is formed at three locations.

[0109] FIG. 10 is an enlarged perspective view of a portion E of FIG. 4 and shows a portion in which a rear bracket is coupled to a first treating device and a second treating device, according to an embodiment of the present disclosure.

[0110] A first fixing portion 511b of the rear bracket 500 provides an accommodation surface into which a first fastening member 541b is to be penetrated and coupled. A second fixing portion 512b of the rear bracket 500 provides an accommodation surface into which a second fastening member 542b is to be penetrated and connected.

[0111] The rear bracket 500 is combined with the first rear panel 118 of the first treating device 10 by the first fastening member 541b. The rear bracket 500 is coupled to the second rear panel 128 of the second treating device 20 by the second fastening member 542b. The rear bracket 500 is coupled to the first treating device 10 and the second treating device 20.

[0112] FIG. 11 is an enlarged perspective view of a hose accommodation portion in a rear bracket according to an embodiment of the present disclosure and shows the configuration of a second treating device.

[0113] The drain hose port 331 coupled to a second drain hose 25 is formed in the base 300 of the second treating device 20. The drain hose port 331 is configured to discharge condensate to the outside of the laundry treating apparatus 1. A flow path of the drain hose port 331 may be connected to a connecting hose (not shown) connecting a first connecting port 332 and a second connecting port 333 to each other. A portion of the connecting hose (not shown) connecting the first connecting port 332 and the second connecting port 333 to each other may be located further rearward than a general surface of the face plate 510 of the rear bracket 500. The hose accommodation portion 517 is formed in the rear bracket 500 to accommodate the connecting hose (not shown). The hose accommodation portion 517 is formed by forming a convex surface rearward from the rear bracket 500.

[0114] The port opening 517a is an opening formed such that the drain hose port 331 is exposed to the outside. The port opening 517a is formed at a position corresponding to the drain hose port 331.

[0115] FIG. 12 is a diagram for explaining an example of use of the cap fixing rib 518 of a rear bracket according to an embodiment of the present disclosure.

[0116] The cap fixing rib 518 includes the first rib 518a and the second rib 518b. The first rib 518a protrudes upward. The first rib 518a may be located above the hose accommodation portion 517. The second rib 518b protrudes upward at a predetermined distance from the first rib 518a.

[0117] A test port 338 is located between the first rib 518a and the second rib 518b. The test port 338 is used for product inspection and is not used for users after being shipped. The test port 338 may be closed using a cap 339. The cap 339 that closes the test port 338 has a problem of being lost during transport or installation. The cap fixing rib 518 is configured to rub against the cap 339 on both sides to support the cap 339 to be prevented from coming off from the test port 338. A gap between the first rib 518a and the second rib 518b is sufficient to cause friction with the cap 339.

[0118] FIG. 13 is a diagram of a rear bracket viewed from a rear side according to an embodiment of the present disclosure and shows a left side in which a right side is not shown.

[0119] The hose fixing portions 519a and 519b are formed on the rear bracket 500. The hose fixing portions 519a and 519b may include at least one of a first hose fixing portion 519a and a second hose fixing portion 519b. According to an embodiment, the hose fixing portions 519a and 519b may include the first hose fixing portion 519a and the second hose fixing portion 519b. The first hose fixing portion 519a is located inclined to one side with respect to the drain hose port 331. The second hose fixing portion 519b is formed on the other side with respect to the drain hose port 331. That is, the second hose fixing portion 519b may be located at an opposite side to a side at which the first hose fixing portion 519a is located with respect to the drain hose port 331.

[0120] The hose fixing portions 519a and 519b is formed below a location at which the drain hose port 331 is located. According to an embodiment, the first hose fixing portion 519a is formed at a first height H1 lower than the location at which the drain hose port 331 is located. According to an embodiment, the second hose fixing portion 519b is formed at a second height H2 lower than the location at which the drain hose port 331 is located. According to an embodiment, the first height H1 and the second height H2 may be equal to each other.

[0121] The hose fixing portions 519a and 519b restrict the location of a second drain hose 28 (see FIG. 14). Further explanation is provided with reference to FIG. 14. FIG. 14 is a diagram for explaining an example of use of a hose fixing portion of a rear bracket according to an embodiment of the present disclosure and shows a lower side of a laundry treating apparatus viewed from a rear side from which an upper side is omitted.

[0122] The laundry treating apparatus 1 is provided with a first drain hose 15 and a second drain hose 25 and the present disclosure is to simply organizing the first drain hose 15 and the second drain hose 25. According to an embodiment of the present disclosure, the first drain hose 15 and the second drain hose 25 may be simply organized by fixing the location of the second drain hose 28 by using the hose fixing portions 519a and 519b and binding the second drain hose 28 and the first drain hose 15 to each other.

[0123] According to an embodiment, the first treating device 10 is provided as a washing machine. The first drain hose 15 for draining washing water used in the first treating device 10 is provided using a flexible material. The first drain hose 15 includes more flexible material than the second drain hose 25. A portion of the first drain hose 15 may need to be located above the first treating device 10. That is, the first drain hose 15 may be fixed to start from below the first drum 12 in the first treating device 10, extend above the first drum 12 (see FIG. 2), and then be located again toward an external drain.

[0124] The hose fixing portions 519a and 519b may locate the first drain hose 15 at a desired location according to an installation environment through a coupling relationship with the second drain hose 28. Depending on the installation environment, the desired location may be where the drain is located. According to an embodiment of the present disclosure, the first drain hose 15 may be effectively and economically fixed in position by using the hose fixing portions 519a and 519b.

[0125] The hose fixing portions 519a and 519b may be provided in two locations, and either one may be used depending on the installation environment. In the illustrated embodiment, an example in which the first hose fixing portion 519a is used is described, as the installation environment has a drain located in the +Y direction. If the installation environment has the drain located in the -Y direction, the second hose fixing portion 519b may be used.

[0126] The first hose fixing portion 519a fixes the second drain hose 25 in the +Y direction. According to an embodiment, The second drain hose 25 is fixed to the first hose fixing portion 519a. For example, the second drain hose 25 is fixed to the first hose fixing portion 519a by a string, a tie, or the like.

[0127] The first drain hose 15 may include a fixing portion 15a that fixes the first drain hose 15 upward to position a portion of the first drain hose 15 upward. In general, the first drain hose 15 may be fixed upward, but may not be fixed in the +Y direction or the -Y direction. This is because the location of the drain varies depending on the installation environment. The first drain hose 15 is relatively flexible and thus is difficult to fix a location thereof to the drain port. On the other hand, the second drain hose 28 is relatively less likely to bend compared to the first drain hose 15. according to an embodiment of the present disclosure, the second drain hose 28 may be fixed in position by the first hose fixing portion 519a, and the first drain hose 15 may be coupled to the second drain hose 28, thereby fixing the first drain hose 15 in position in a direction of the drain port. The first drain hose 15 and the second drain hose 28 may be bound to each other by a binding member 9. The binding member 9 may be a string or a cable tie. The binding location of the first drain hose 15 and the second drain hose 28 may be downstream from the location at which the first drain hose 15 and the second drain hose 28 are fixed.

[0128] While the present disclosure has been illustrated and described with respect to specific embodiments thereof, it will be apparent to those of skill in the art that the present disclosure may be variously improved and modified without departing from the technical spirit of the disclosure as defined by the following claims.

Claims

1. A laundry treating apparatus comprising:

a first treating device including a first cabinet including a first rear panel defining a rear surface and a first drum provided inside the first cabinet and configured to accommodate laundry;
a second treating device including a second

cabinet positioned above the first treating device and including a second rear panel defining a rear surface and a second drum provided inside the first cabinet and configured to accommodate laundry; and

a rear bracket coupled to the first rear panel and the second rear panel and having a handle formed therein to define a space for accommodating a hand of a carrier,

wherein the second treating device includes a first guide formed thereon for coupling with the rear bracket and includes a second guide formed at a location of the rear bracket, which corresponds to the first guide, and connected to the first guide.

2. The laundry treating apparatus of claim 1, wherein the first guide is formed as a coupling hole,

the second guide is formed as a coupling protrusion protruding toward the second rear panel, and

the coupling protrusion is configured to be inserted into the coupling hole.

3. The laundry treating apparatus of claim 2, wherein the coupling protrusion includes an insertion portion extending downward, and the insertion portion is inserted into the coupling hole.

4. The laundry treating apparatus of claim 1, wherein the second treating device further includes a base forming the lower exterior of the second treating device, and the second guide is located on the base.

5. The laundry treating apparatus of claim 4, wherein the first guide is formed on an upper surface of the base.

6. The laundry treating apparatus of any one of claims 1 to 5, wherein the rear bracket includes a first fixing portion coupled to the first treating device through a fastening member and a second fixing portion coupled to the second treating device through a fastening member.

7. The laundry treating apparatus of claim 2, wherein a first opening is formed in an area of the rear bracket, which is located behind the coupling protrusion, and the rear bracket further includes a plurality of reinforcing ribs that protrude inwardly of the first opening and extend to the coupling protrusion.

8. The laundry treating apparatus of claim 7, wherein the plurality of reinforcing ribs protrude downward from an upper surface of the first opening and extend to the coupling protrusion.

9. The laundry treating apparatus of claim 4, wherein a protruding rib protruding upward is formed at a rear end of the base, and

the protruding rib is located behind the second rear panel and restrains a location of a lower portion of the second rear panel.

10. The laundry treating apparatus of claim 1, wherein the second treating device further includes a drain hose port configured to discharge water inside the second cabinet, and a second drain hose coupled to the drain hose port, and

a port opening is formed at a location of the rear bracket, which corresponds to the drain hose port, such that the drain hose port is exposed to an outside.

11. The laundry treating apparatus of claim 10, wherein the rear bracket includes at least one of a first hose fixing portion located lower than the drain hose port and spaced to one side from the drain hose port to fix the second drain hose, and a second hose fixing portion located lower than the drain hose port and spaced to another side from the drain hose port to fix the second drain hose.

12. The laundry treating apparatus of claim 11, wherein the first treating device further includes a first drain hose configured to drain water inside the first cabinet, and

the second drain hose is bound to the first drain hose at a downstream side from a portion fixed by at least one of the first hose fixing portion and the second hose fixing portion.

13. The laundry treating apparatus of claim 12, wherein the first drain hose is configured to extend from below the first drum of the first treating device to above the first drum.

14. A laundry treating apparatus comprising:

a first treating device including a first cabinet including a first rear panel defining a rear surface and a first drum configured to accommodate laundry therein;

a second treating device including a second cabinet that is disposed above the first treating device and defines a rear surface, a second drum configured to accommodate laundry therein, a drain hose port provided in the second rear panel to discharge water, and a second drain hose coupled to the drain hose port; and

a rear bracket coupled to the first rear panel and the second rear panel and having a handle formed therein to provide a space for accommodating a hand of a carrier,

wherein the rear bracket includes a first hose

fixing portion that is spaced to one side from the drain hose port and fixes the second drain hose.

15. The laundry treating apparatus of claim 14, wherein the first hose fixing portion is located lower than the drain hose port.

16. The laundry treating apparatus of claim 14, wherein a location of the second drain hose is restricted by the first hose fixing portion,

the first treating device further includes a first drain hose configured to drain water inside the first cabinet, and
the second drain hose is bound to the first drain hose at a downstream side from the first hose fixing portion.

17. The laundry treating apparatus of claim 14, further comprising a second hose fixing portion that is spaced to another side from the drain hose port and fixes the second drain hose,

wherein the second drain hose is fixed by either the first hose fixing portion or the second hose fixing portion,
the first treating device further includes a first drain hose configured to drain water inside the first cabinet, and
the second drain hose is bound to the first drain hose at a downstream side from a portion fixed by either the first hose fixing portion or the second hose fixing portion.

18. The laundry treating apparatus of claim 17, wherein the first drain hose is configured to extend from below the first drum of the first treating device to above the first drum.

FIG. 1

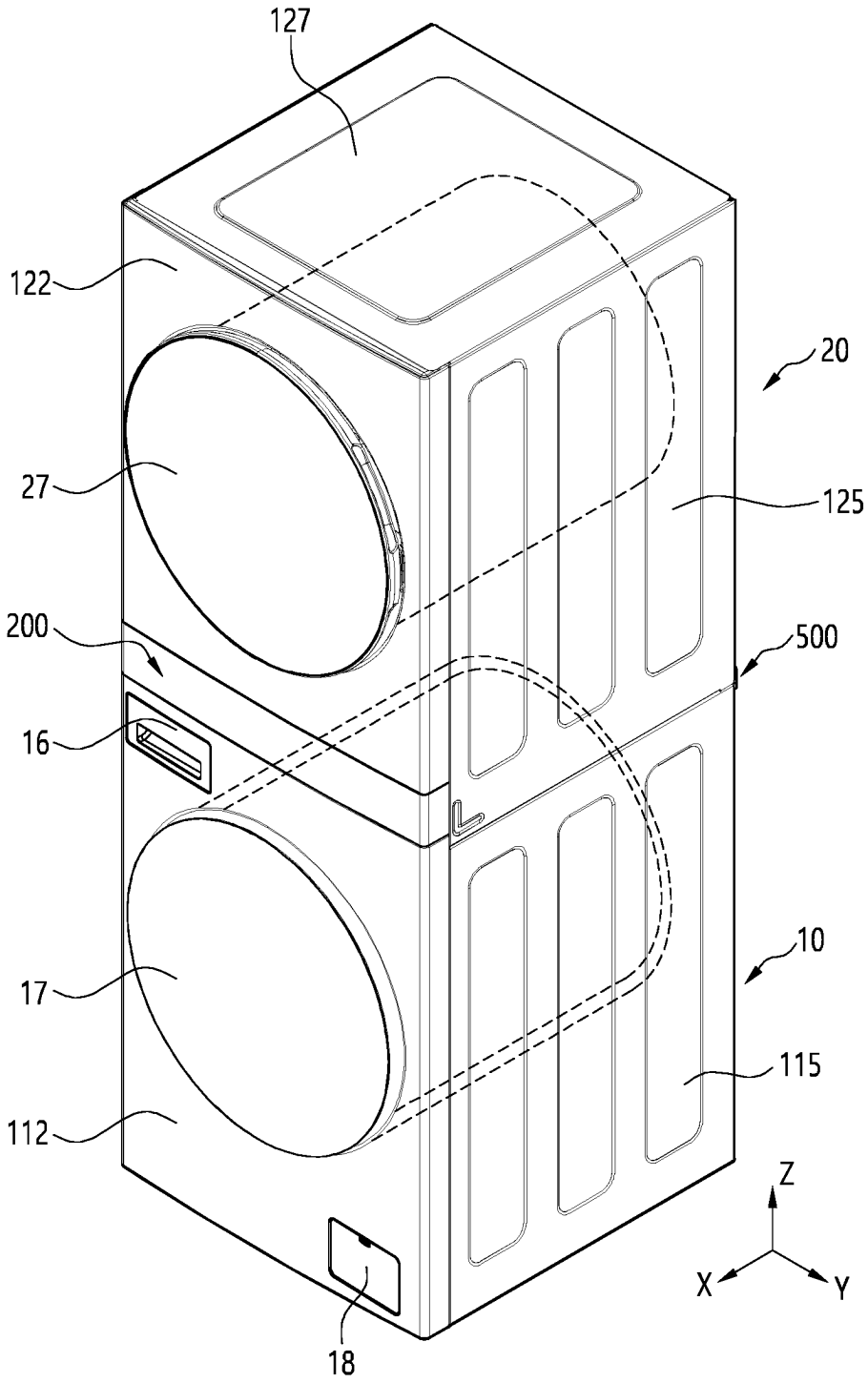

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FIG. 2

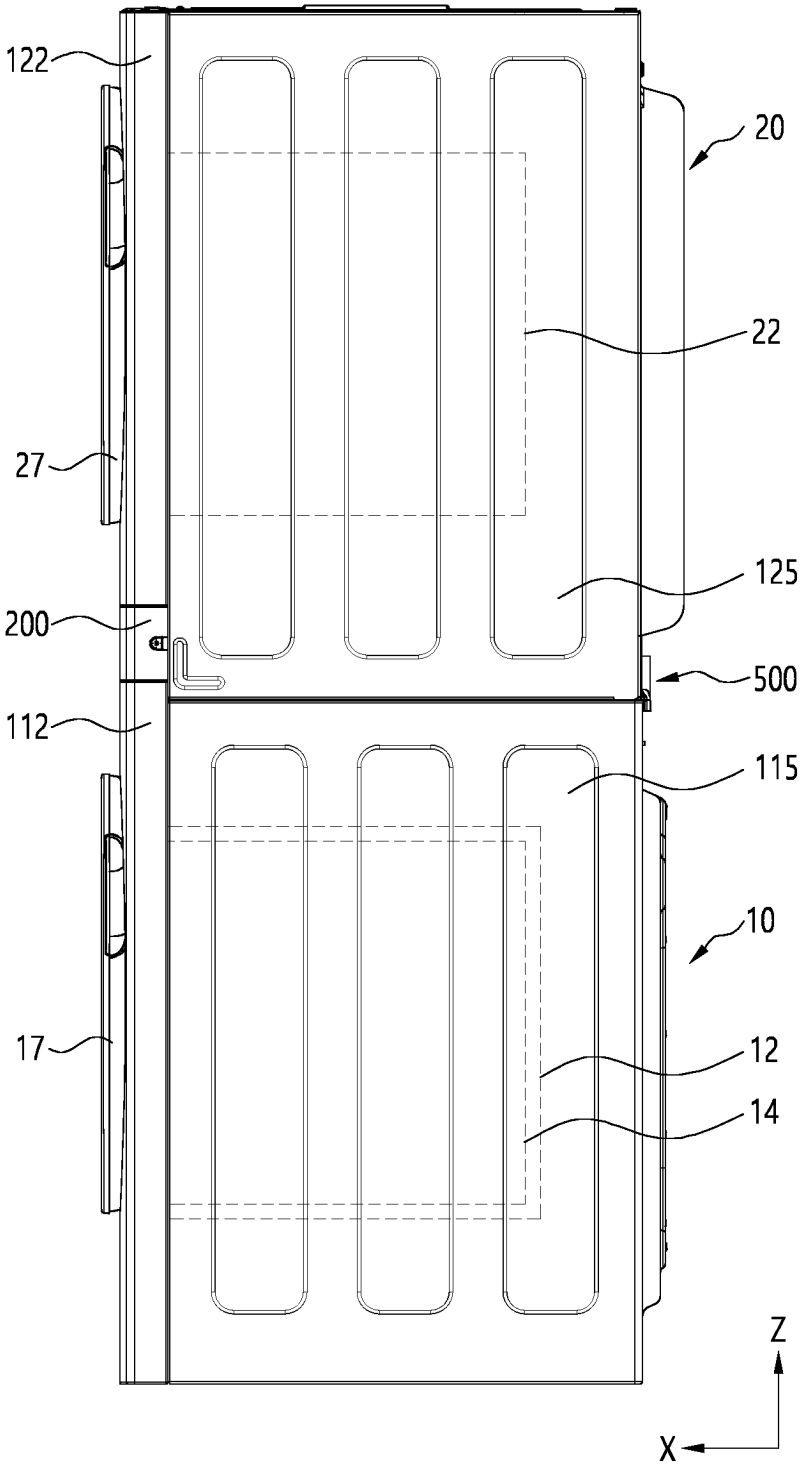


FIG. 3

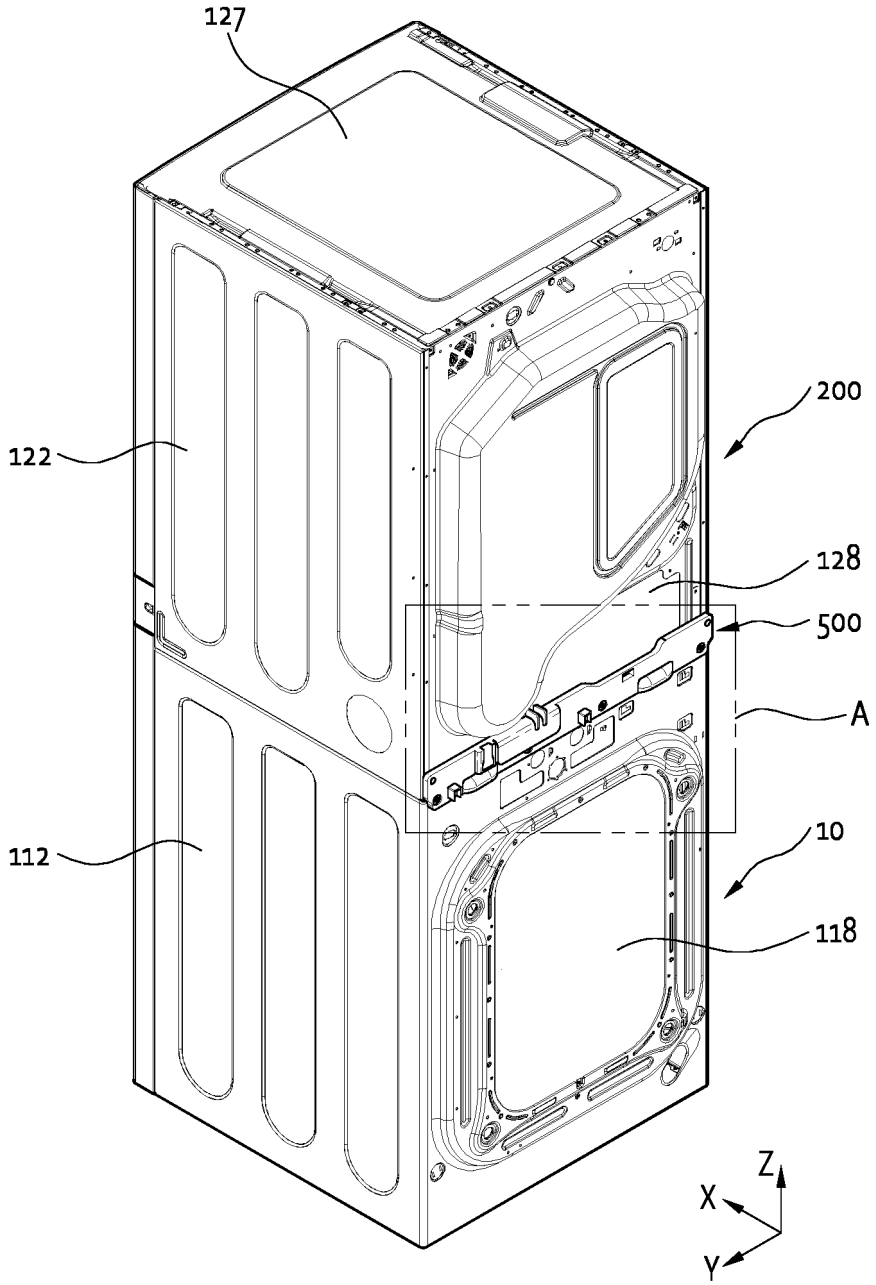
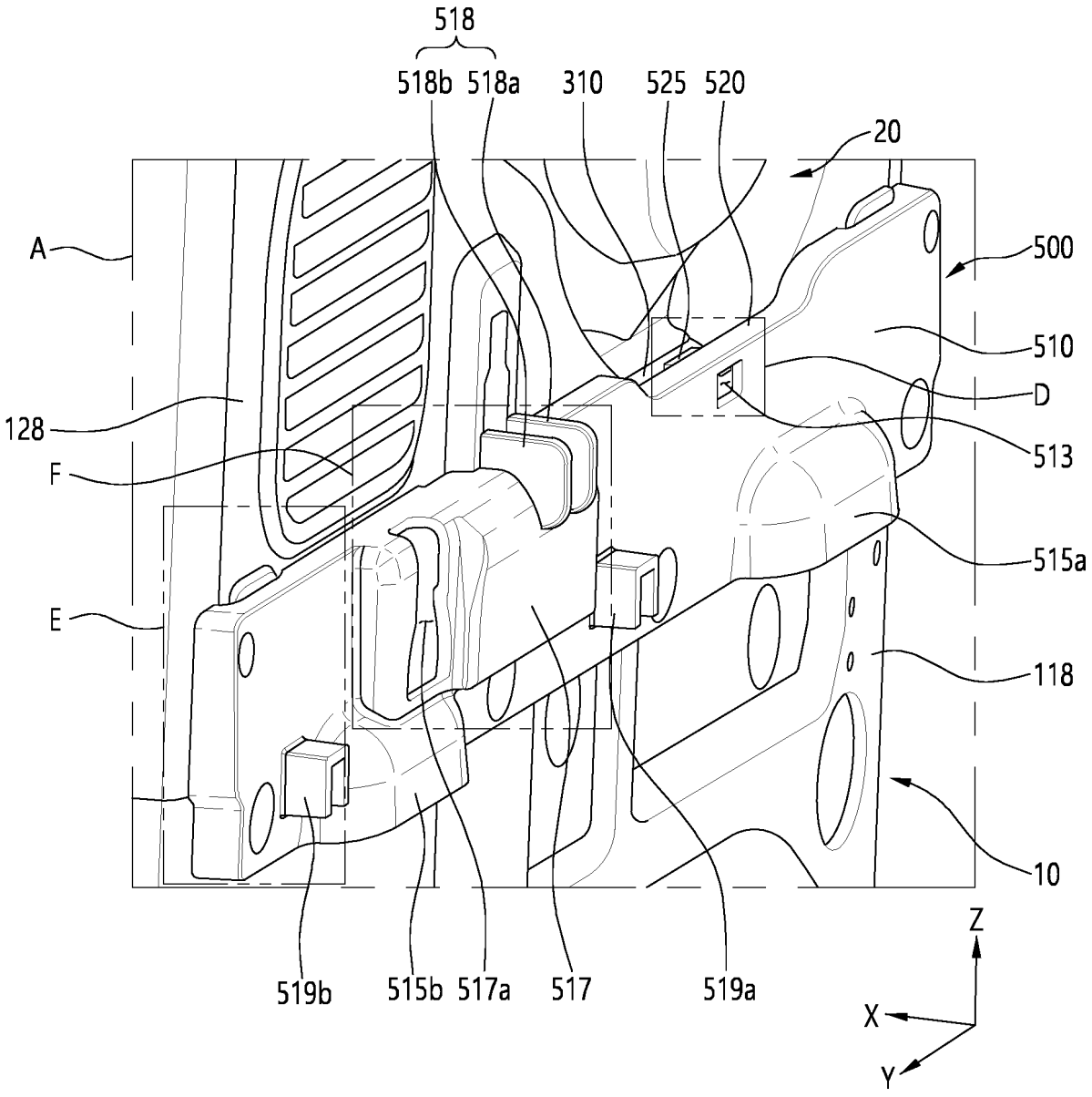


FIG. 4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D
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E
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517
519a
Z
X
Y

FIG. 5

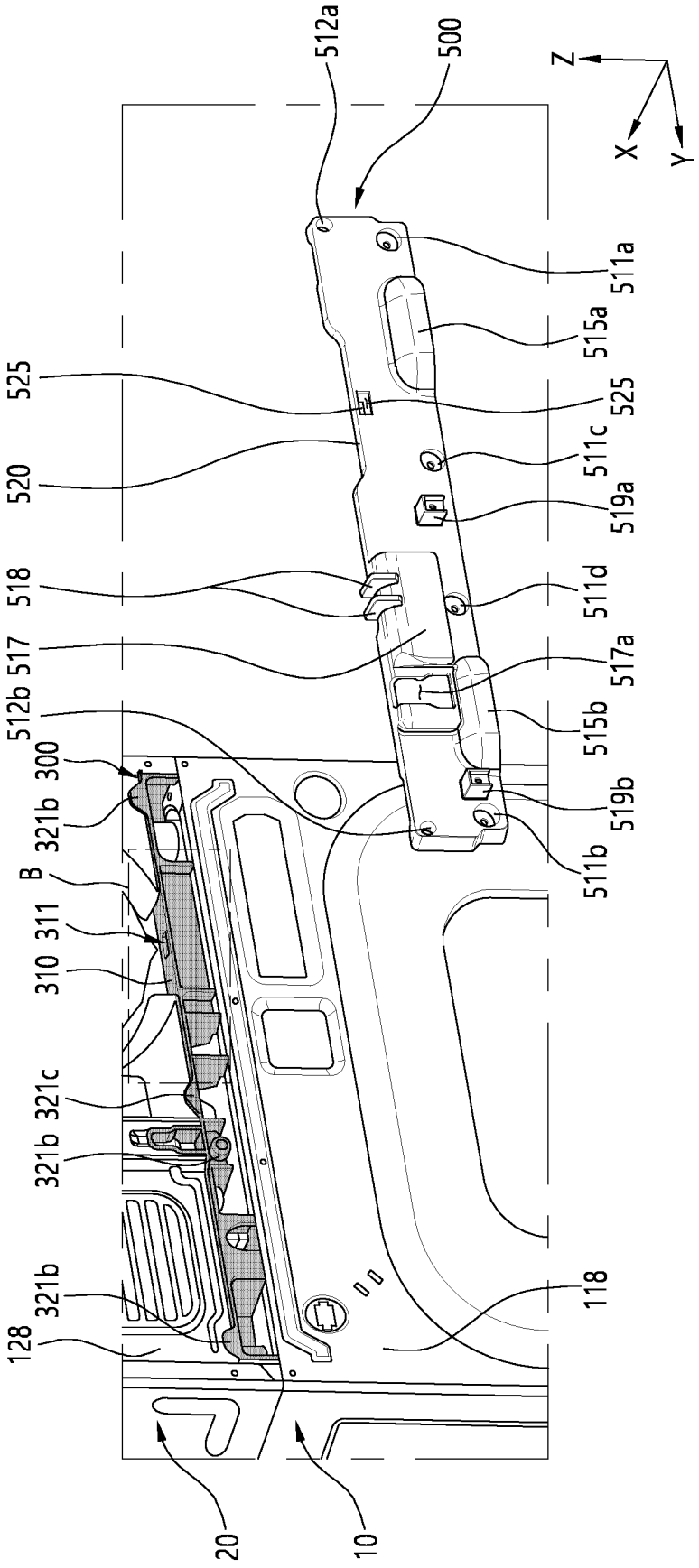
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FIG. 6

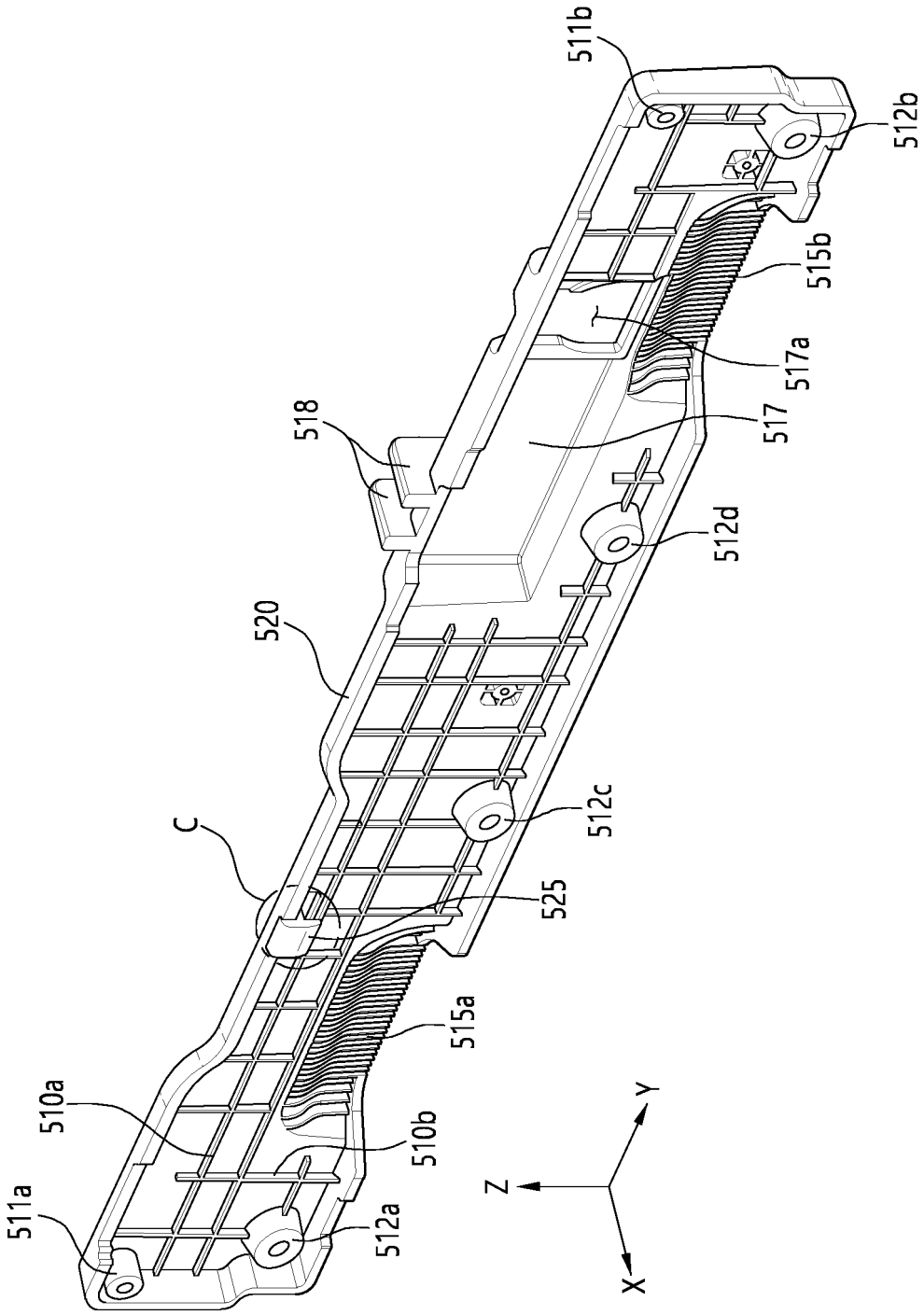
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FIG. 7

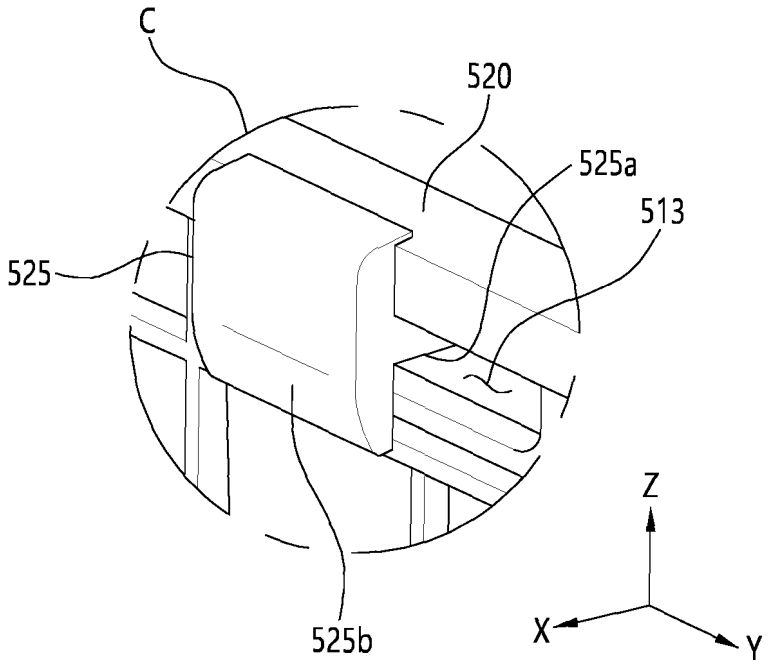


FIG. 8

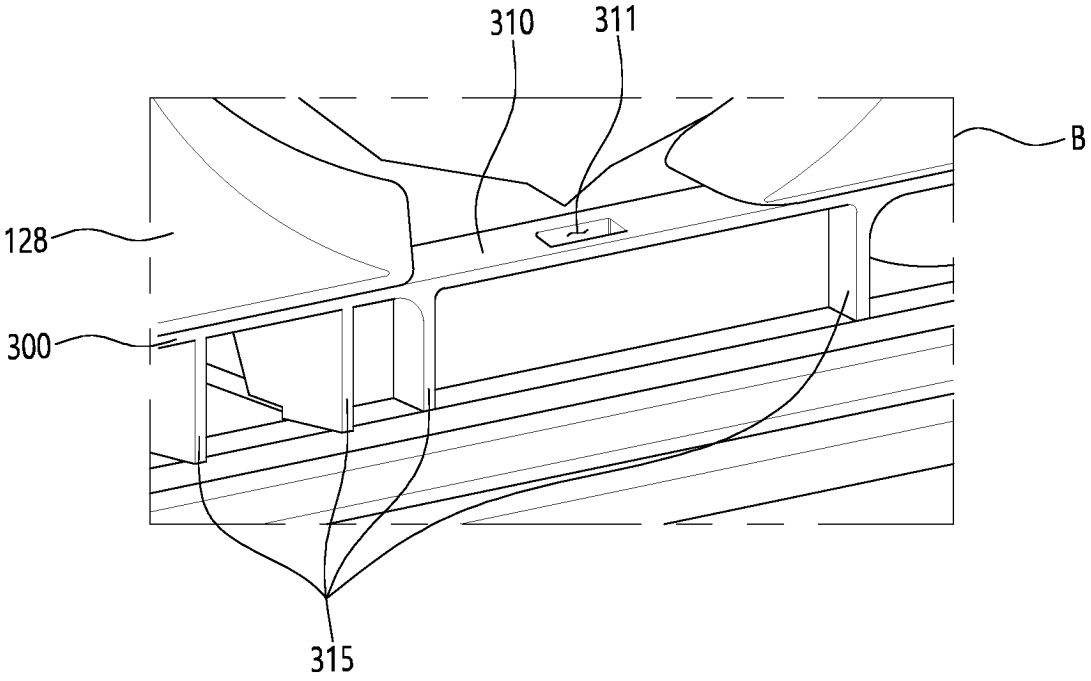


FIG. 9

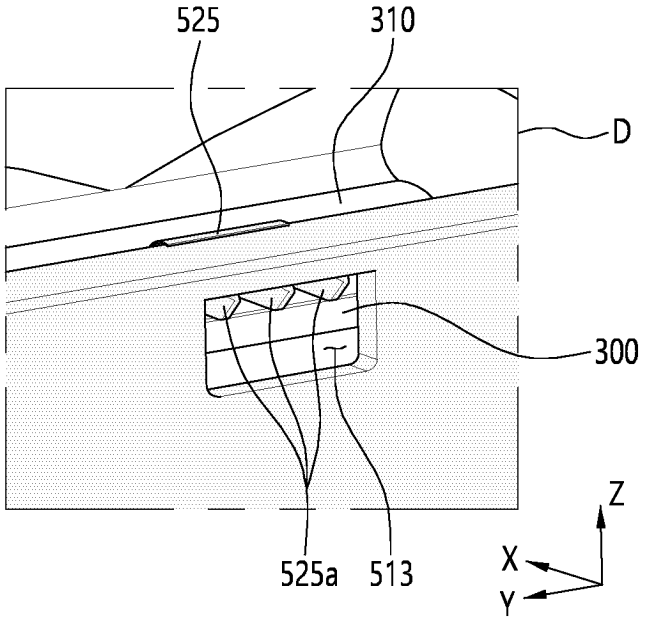


FIG. 10

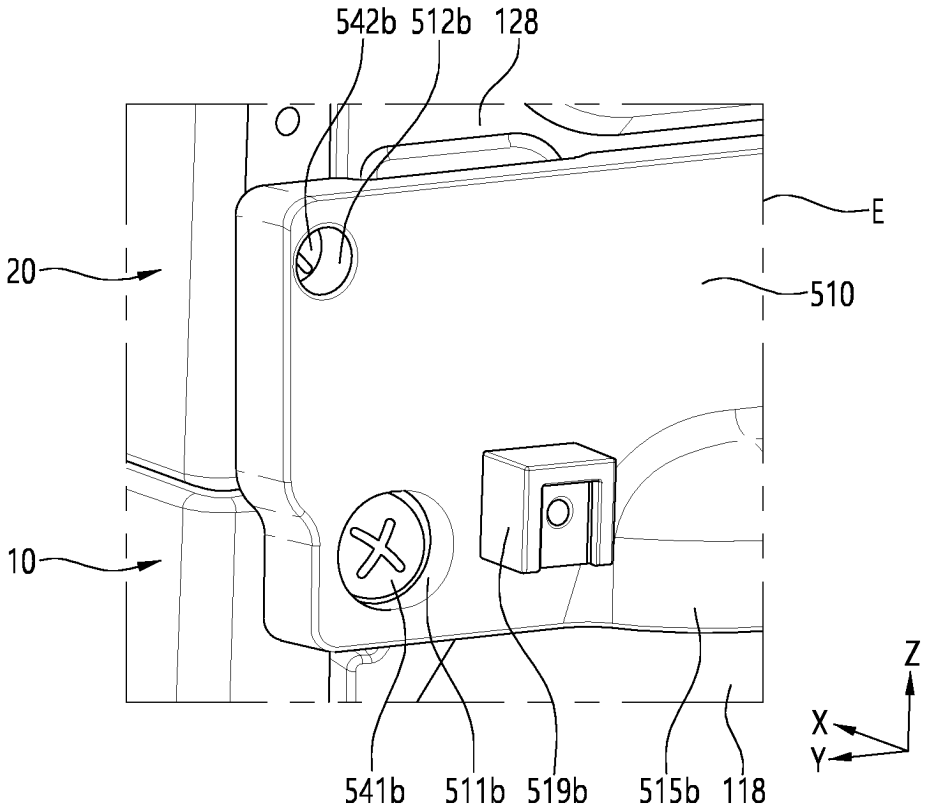


FIG. 11

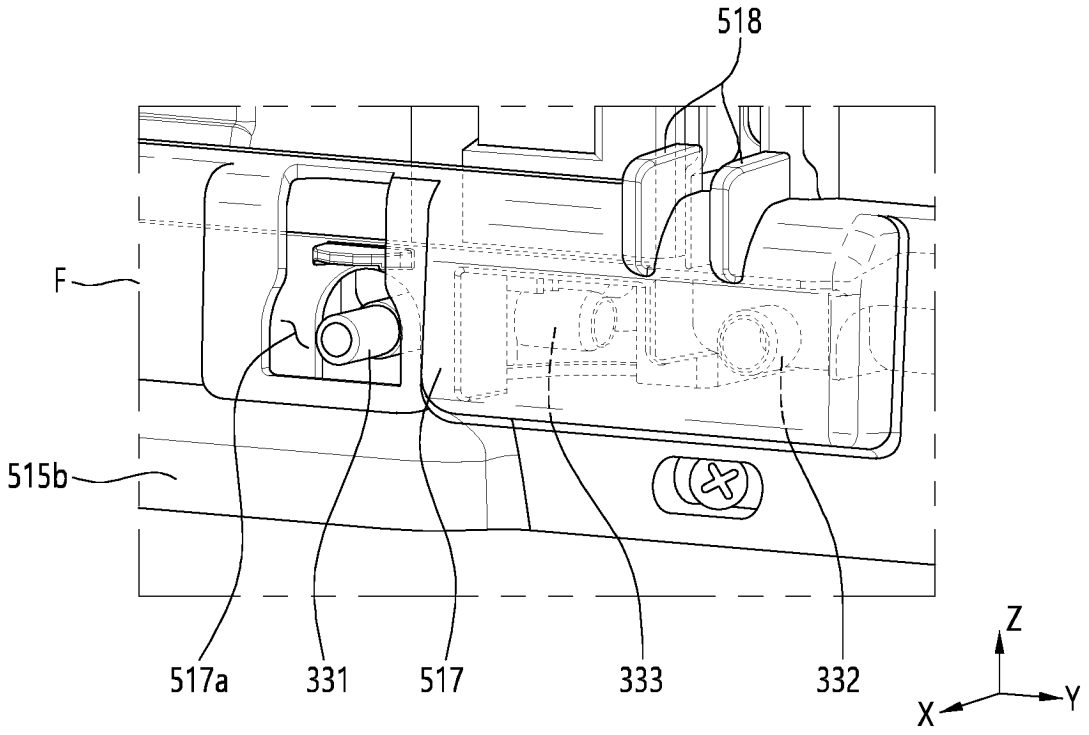


FIG. 12

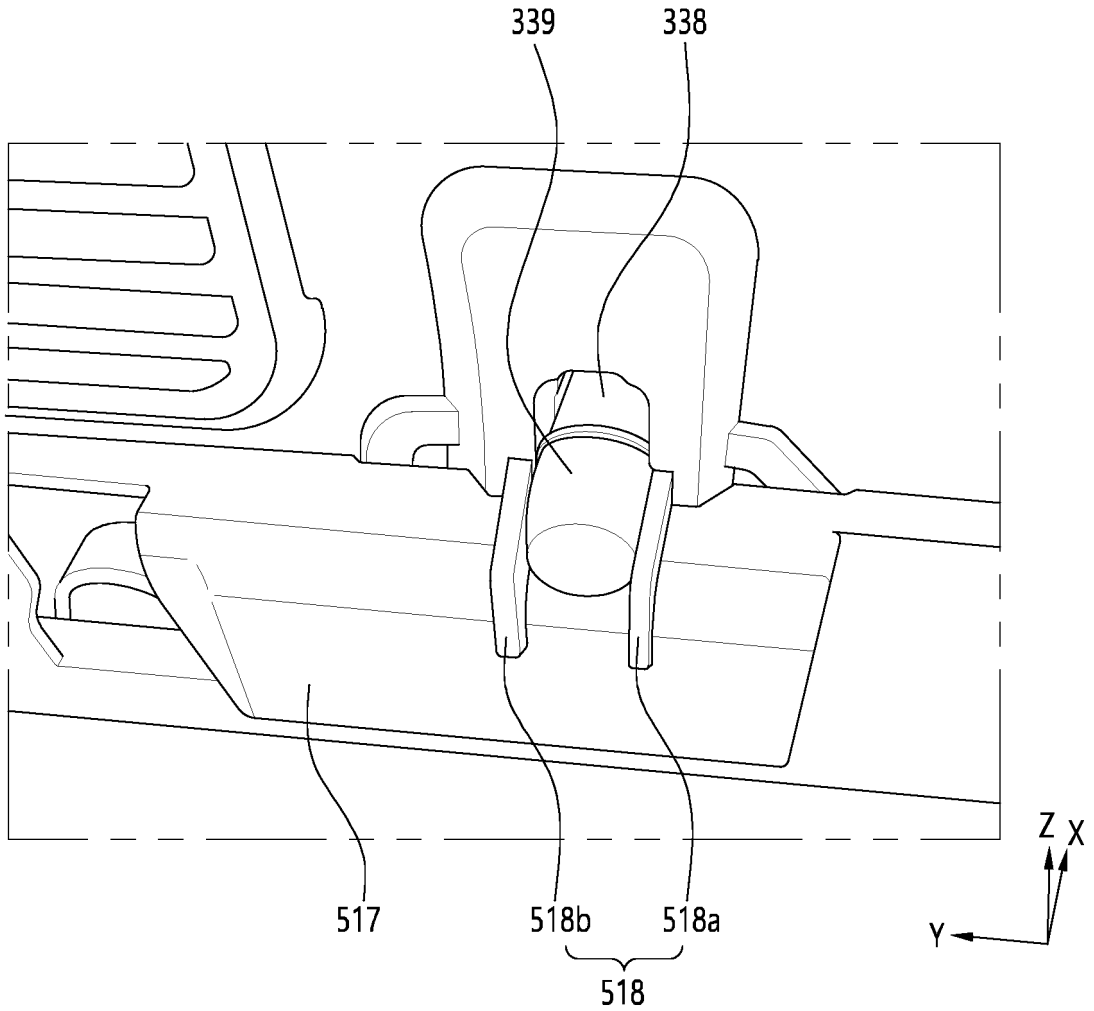


FIG. 13

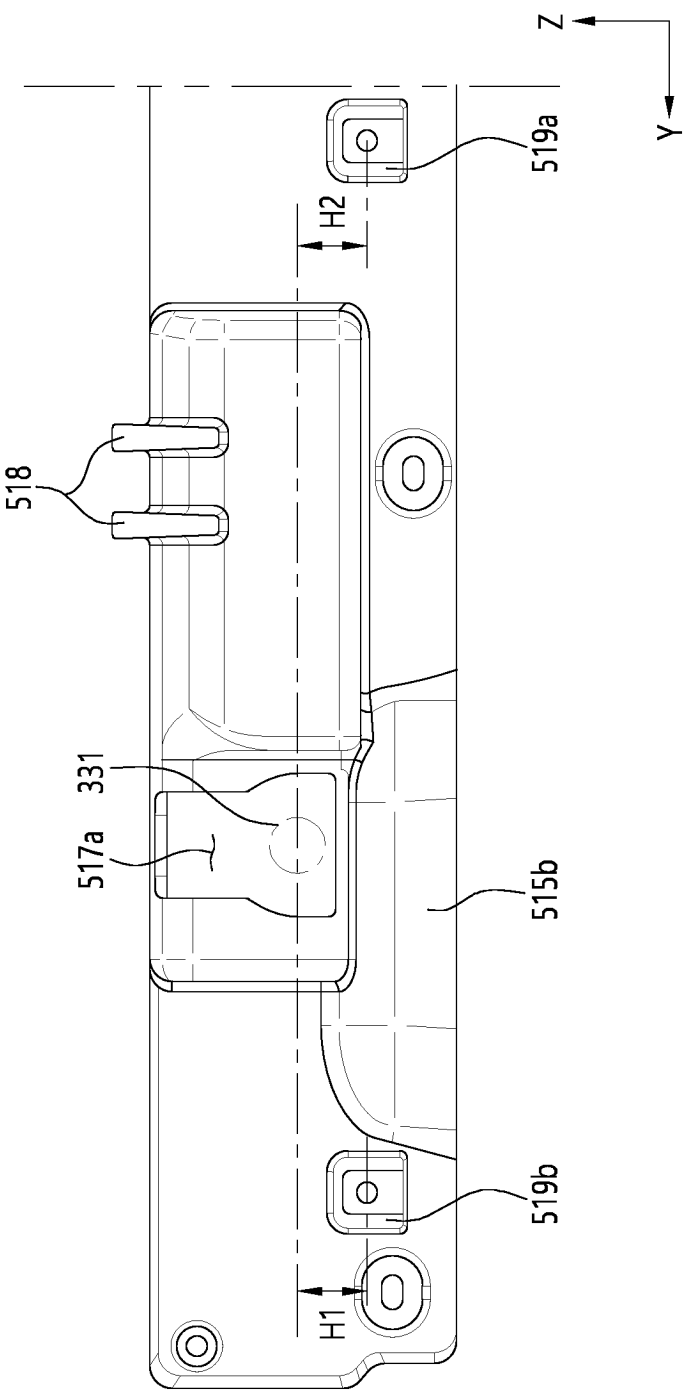
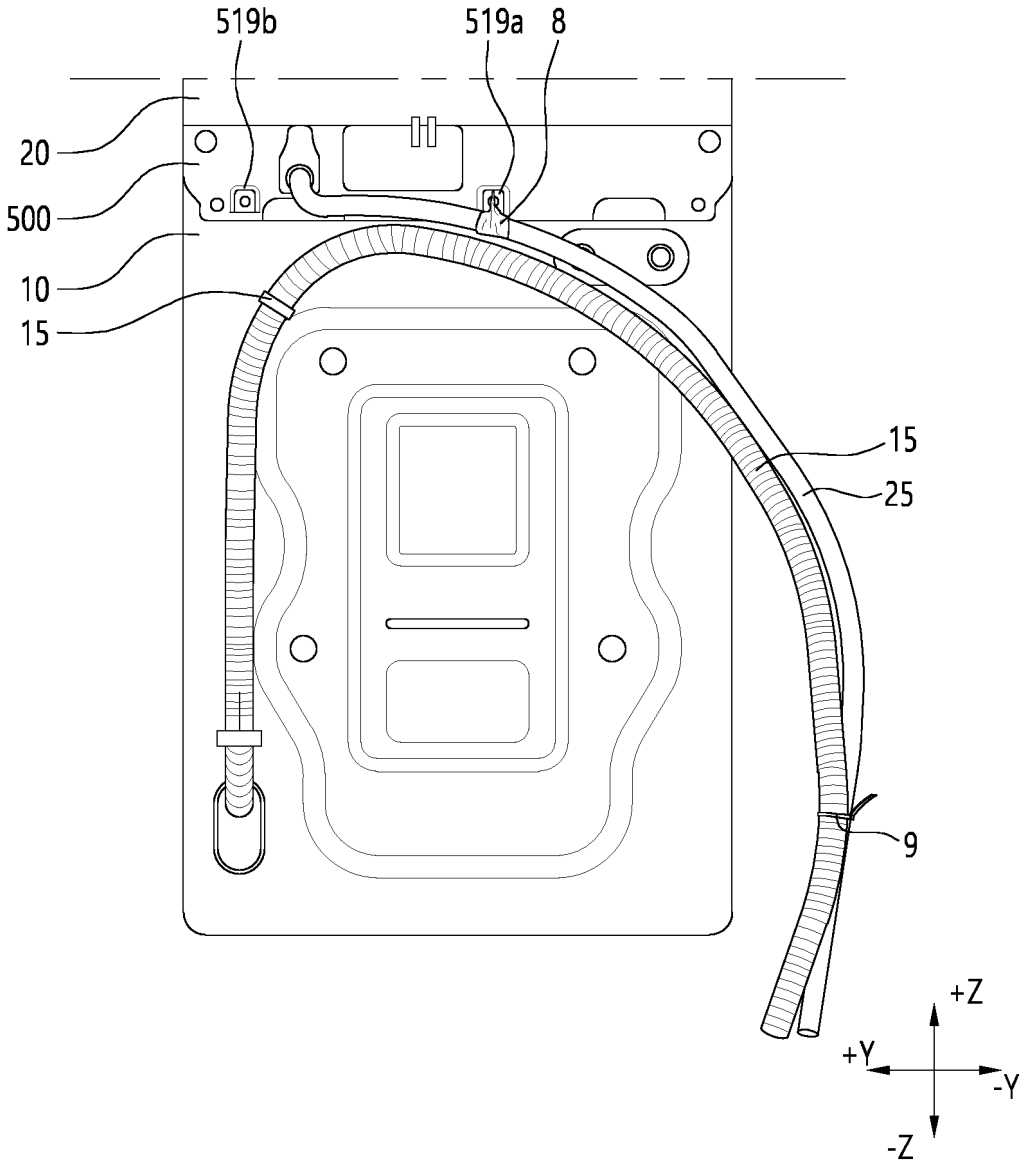


FIG. 14



INTERNATIONAL SEARCH REPORT

International application No.
PCT/KR2023/008305

A. CLASSIFICATION OF SUBJECT MATTER

D06F 39/00(2006.01)i; **D06F 37/26**(2006.01)i; **D06F 31/00**(2006.01)i; **D06F 39/08**(2006.01)i; **D06F 58/20**(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 39/00(2006.01); D06F 29/00(2006.01); D06F 34/05(2020.01); D06F 34/34(2020.01); D06F 37/20(2006.01); D06F 37/26(2006.01); D06F 39/12(2006.01); H05K 7/00(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: 후면패널(rear panel), 의류처리장치(apparatus for treating laundry), 후방브라켓(rear bracket), 핸들(handle), 가이드부(guide part)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
DY	KR 10-2021-0106768 A (LG ELECTRONICS INC.) 31 August 2021 (2021-08-31) See paragraphs [0029]-[0058] and figures 1-2.	1-9
DA		10-18
Y	KR 10-2012-0056712 A (DAEWOO ELECTRONICS CORPORATION) 04 June 2012 (2012-06-04) See paragraphs [0023]-[0025] and figure 2.	1-9
A	KR 10-2021-0105796 A (LG ELECTRONICS INC.) 27 August 2021 (2021-08-27) See paragraphs [0327]-[0357] and figures 21-23.	1-18
A	US 4680948 A (RUMMEL et al.) 21 July 1987 (1987-07-21) See claim 1 and figure 1.	1-18
A	KR 10-2006-0005849 A (SAMSUNG ELECTRONICS CO., LTD.) 18 January 2006 (2006-01-18) See claims 1-3 and figures 1-2.	1-18

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

* Special categories of cited documents:
"A" document defining the general state of the art which is not considered to be of particular relevance
"D" document cited by the applicant in the international application
"E" earlier application or patent but published on or after the international filing date
"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
"O" document referring to an oral disclosure, use, exhibition or other means
"P" document published prior to the international filing date but later than the priority date claimed
"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
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Date of the actual completion of the international search	Date of mailing of the international search report
26 September 2023	**04 October 2023**
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INTERNATIONAL SEARCH REPORT
Information on patent family members

International application No.
PCT/KR2023/008305

Patent document cited in search report	Publication date (day/month/year)	Patent family member(s)	Publication date (day/month/year)
KR 10-2021-0106768 A	31 August 2021	CN 113293561 A	24 August 2021
		EP 3868946 A1	25 August 2021
		KR 10-2023-0035286 A	13 March 2023
		KR 10-2505418 B1	03 March 2023
		US 2021-0262137 A1	26 August 2021
KR 10-2012-0056712 A	04 June 2012	None	
KR 10-2021-0105796 A	27 August 2021	AU 2021-201041 A1	02 September 2021
		AU 2021-201041 B2	16 March 2023
		CN 113279198 A	20 August 2021
		EP 3868941 A1	25 August 2021
		US 2021-0254263 A1	19 August 2021
US 4680948 A	21 July 1987	CA 1259095 A	05 September 1989
KR 10-2006-0005849 A	18 January 2006	CN 1721713 A	18 January 2006
		CN 1721713 C	18 January 2006
		EP 1616991 A1	18 January 2006
		JP 2006-026400 A	02 February 2006
		JP 4137921 B2	20 August 2008
		US 2006-0010934 A1	19 January 2006

Form PCT/ISA/210 (patent family annex) (July 2022)

REFERENCES CITED IN THE DESCRIPTION

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Patent documents cited in the description

- KR 1020210106768 A1 **[0006]**