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(54) STORAGE CONTAINER FOR REFRIGERATOR AND REFRIGERATOR

(57) A storage container (100) for a refrigerator and a refrigerator are provided. The storage container includes: a container body (110) comprising a receiving cavity (111), a bottom wall (112), and a front wall (113) connected to a front side of the bottom wall (112) and extending upward, wherein the front wall (113) comprises a front raised edge (114) protruding toward the receiving cavity (111) to be engaged with at least one decoration member (120) extending along the front wall (113). The container body of the container provided by the present invention may be used in conjunction with the decoration member, or may be used alone, facilitating improvement of compatibility of the container body of a manufacturer.

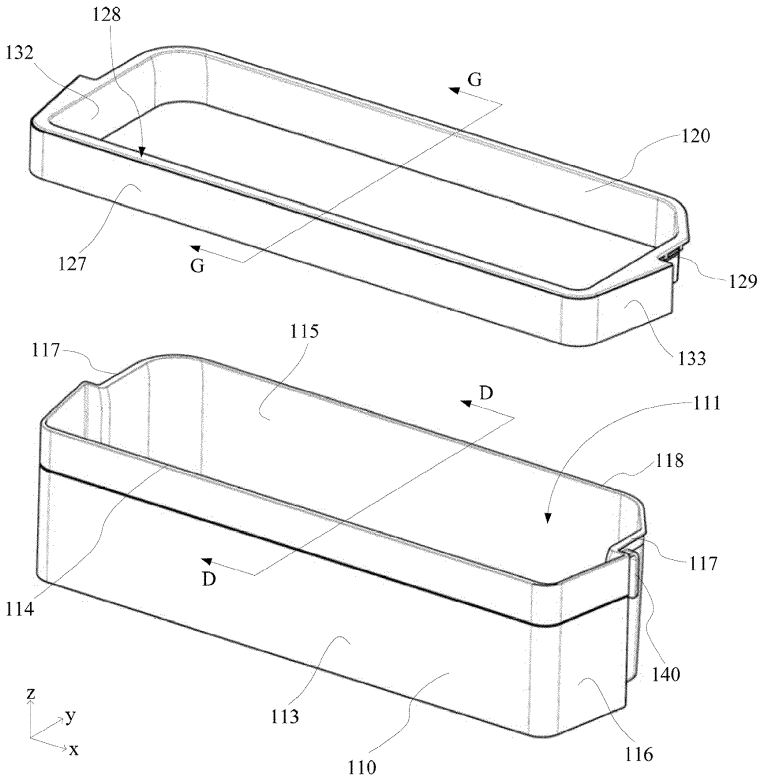

FIG. 2

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Description

BACKGROUND

Technical Field

[0001] The present invention relates to the technical field of storage containers, and in particular, to a storage container for a refrigerator and a refrigerator.

Related Art

[0002] In refrigeration appliances such as a refrigerator, a storage container is usually provided for users to use. The storage container is arranged to keep stored products in the refrigerator clean and hygienic, and it is also convenient for users to take.

[0003] For example, a door container may be disposed at one side of a door body of the refrigerator facing a chamber, to maximize storage space of the refrigerator.

[0004] According to a location of the storage container and an application scenario, the existing storage container design for the refrigerator mainly includes two categories. The first one is a body structure that can only be used independently, and this body structure is not designed with an additional fixing mechanism to assemble a frame assembly. The second is a body structure with a frame assembly. In actual use, the frame assembly needs to be used in combination with the body structure. The body structure is designed with a fixing mechanism to fix the frame assembly. However, the fixing mechanism may affect an appearance of a product, resulting in the structure of such design unable to be used alone.

[0005] It may be learned from the foregoing that due to a significant difference in the design of the body structure in the two designs, when the manufacturer produces products of the two designs, the body mold cannot be used universally, production operation is extremely complicated, investment in molds is high, and compatibility of the body is poor.

SUMMARY

[0006] Embodiments of the present invention are intended to provide an improved storage container for a refrigerator and a refrigerator.

[0007] An embodiment of the present invention provides a storage container for a refrigerator, including: a container body including a receiving cavity, a bottom wall, and a front wall connected to a front side of the bottom wall and extending upward; the front wall including a front raised edge protruding toward the receiving cavity to be engaged with at least one decoration member extending along the front wall.

[0008] The container body of the storage container provided by the embodiment of the present invention may be used in conjunction with the decoration member, or may be used alone, facilitating improvement of compatibility of the container body of a manufacturer, reduce investment in body molds, and reduce complexity of production operation. Specifically, since the front raised edge protrudes toward the receiving cavity, when the container body is used alone, the front raised edge will not affect the appearance of the container body. When the container body and the decoration member are used together, the front raised edge may play an effective fixing role to limit relative movement between the decoration member and the container body.

[0009] Optionally, the storage container includes a decoration member, the decoration member having a first slot, the front wall being inserted into the first slot, and the front raised edge being engaged with the decoration member in the first slot. As a result, a junction of the front raised edge and the decoration member is hidden in the first slot, facilitating beautification of the appearance of the storage container provided with the decoration member.

[0010] Optionally, the decoration member includes at least two blocks disposed at an interval in the first slot, a gap existing between the block and a bottom wall of the first slot, and the front raised edge being located between the block and the bottom wall. Therefore, an internal buckling structure is formed through cooperation of the bottom wall and a block, to be securely engaged with the front raised edge, and in a height direction of the container body, up-down movement of the decoration member on the container body may be limited within an allowable error range.

[0011] Optionally, the decoration member includes a back groove wall extending into the container body and a protruding rib extending toward the front wall from the back groove wall, the block being formed by the protruding rib, to increase hardness of the structure.

[0012] Optionally, the decoration member includes at least two protruding ribs disposed at an interval in the first slot, the protruding ribs being adapted to abut against an inner surface of the front wall. Therefore, in a width direction of the container body, front-back movement of the decoration member on the container body may be limited within an allowable error range.

[0013] Optionally, along a direction that the first slot points to a free end of the protruding rib, a side of the protruding rib facing the front wall has a first vertical section, an oblique cross section extending in the direction of the front wall, and a second vertical section in sequence, where the second vertical section abuts against the inner surface of the front wall, and a gap exists between the first vertical section and the inner surface of the front wall. Therefore, when the front-back movement of the decoration member on the container body is restricted through the second vertical section, and the up-down movement of the decoration member on the container body is restricted through the block, a chamfer angle formed by the oblique cross section serves as a guide groove, facilitating reduction of interference between the decoration member and the container body, so that a gap

between the protruding rib and a front groove wall of the decoration member is not too small, which facilitates mounting of the decoration member, and can reduce the risk of collision damage.

[0014] Optionally, a length of the second vertical section may be not less than one third of a length of the protruding rib along the direction of a slot opening toward the bottom wall of the first slot, so that a contact area between the protruding rib and the inner surface of the front wall is large enough to ensure a limiting effect in the width direction.

[0015] Optionally, the container body includes a pair of side walls disposed oppositely, the side walls including a side raised edge protruding toward the outside of the receiving cavity to be engaged with a part of the decoration member extending along the side walls. Therefore, when the container body and the decoration member are used together, the side raised edge may play an effective fixing role to limit left-right movement of the decoration member on the container body in a length direction of the container body. Further, since the side raised edge is located on a side wall of the container body, the appearance of the container body may not be affected when used alone.

[0016] Optionally, the part of the decoration member extending along the side wall includes at least one snap structure, the side raised edge being engaged with the snap structure. Therefore, through cooperation of the side raised edge and the snap structure, up-down movement of the decoration member on the container body may be limited in the height direction of the container body.

[0017] Optionally, the part of into the decoration member extending along the side wall has a second slot, the side wall being inserted into the second slot. Therefore, through cooperation of the side wall and the second slot, left-right movement of the decoration member on the container body may be limited in the length direction of the container body.

[0018] Optionally, the part of the decoration member extending along the side wall includes at least one limiting rib, the limiting rib being adapted to abut against an inner surface of the side wall. Therefore, in the length direction of the container body, left-right movement of the decoration member on the container body may be limited within an allowable error range.

[0019] Optionally, the part of the decoration member extending along the side wall of the container body includes an inner side groove wall extending into the receiving cavity, and the limiting rib extends in a direction of the side wall from the inner side groove wall, to ensure the limiting effect on the decoration member in the length direction. In addition, the limiting rib is externally blocked by the inner side groove wall and is invisible to the user during use, which facilitates a nice appearance of the product.

[0020] Optionally, the container body includes a back wall connected to a rear side of the bottom wall and extending upward, the back wall including a rear raised edge protruding toward the outside of the receiving cavity to be engaged with a part of the decoration member extending along the back wall. Therefore, when the container body and the decoration member are used together, the rear raised edge may play an effective fixing role to limit up-down movement of the decoration member on the container body in a height direction of the container body together with the front raised edge. Further, since the rear raised edge is located on a back wall of the container body, the appearance of the container body may not be affected when used alone.

[0021] Optionally, the part of the decoration member extending along the back wall includes at least one snap structure, the rear raised edge being engaged with the snap structure. Therefore, through cooperation of the rear raised edge and the snap structure, up-down movement of the decoration member on the container body may be limited in the height direction of the container body.

[0022] Optionally, the bottom wall of the storage container is fixed to the door body of the refrigerator at a preset angle to use the storage container as a door container. In addition, different preset angles facilitate the formation of storage spaces of different sizes, which can meet the requirements for storage capacity of refrigerators of different sizes.

[0023] An embodiment of the present invention further provides a refrigerator, including: a case body having a chamber, the chamber having an opening; and a door body configured to open or close the opening, where the storage container is fixed in the chamber, and/or the storage container is fixed at one side of the door body facing the case body. The refrigerator provided by the embodiment of the present invention has a storage container, which is convenient for users to separate and store stored products, and the storage container has a beautiful shape and is easy to mount.

BRIEF DESCRIPTION OF THE DRAWINGS

[0024]

FIG. 1 is a schematic diagram of a storage container for a refrigerator according to an embodiment of the present invention;

FIG. 2 is an exploded view of a storage container shown in FIG. 1;

FIG. 3 is a cross-sectional view of a storage container along a direction AA shown in FIG. 1;

FIG. 4 is a partial enlarged view of a region B in FIG. 3;

FIG. 5 is a partial enlarged view of a region C in FIG. 3;

FIG. 6 is a cross-sectional view of a container body along a direction DD shown in FIG. 2;

FIG. 7 is a partial enlarged view of a region E in FIG. 6;

FIG. 8 is a partial enlarged view of a region F in FIG. 6;

FIG. 9 is a cross-sectional view of a decoration member along a direction GG shown in FIG. 2;

FIG. 10 is a schematic diagram of a decoration member along a direction z shown in FIG. 2;

FIG. 11 is a schematic diagram of a decoration member along a reverse direction of a direction y shown in FIG. 2;

FIG. 12 is a partial enlarged view of a region H in FIG. 11;

FIG. 13 is a schematic diagram of a decoration member along a direction x shown in FIG. 2;

FIG. 14 is a partial enlarged view of a region I in FIG. 13;

FIG. 15 is a schematic diagram of a combination of a limiting rib and a container body shown in FIG. 12;

FIG. 16 is a schematic diagram of a storage container along a direction x shown in FIG. 1; and

FIG. 17 is a schematic diagram of a refrigerator according to an embodiment of the present invention.

[0025] In the accompanying drawings:
100-Storage container; 110-Container body; 111-Receiving cavity; 112-Bottom wall of the container body; 113-Front wall; 113a-Inner surface of the front wall; 114-Front raised edge; 115-Back wall; 116-Side wall; 116a-Inner surface of the side wall; 117-Side raised edge; 118-Rear raised edge; 120-Decoration member; 121-First slot; 122-Block; 123-Bottom wall of the first slot; 124-Back groove wall; 125-Protruding rib; 125a-Free end of the protruding rib; 126-Oblique cross section; 127-Front groove wall; 128-Top wall; 129-Snap structure; 130-Second slot; 131-Limiting rib; 132-Inner side groove wall; 133-Outer side groove wall; 134-Rear groove wall; 135-First vertical section; 136-Second vertical section; 140-Fixing portion; 200-Refrigerator; 210-Case body; 211-Chamber; 212-Opening; 220-Door body.

DETAILED DESCRIPTION

[0026] As described in the background art, when an existing manufacturer manufactures a storage container used in a refrigerator, it is necessary to separately open molds depending on whether the storage container is provided with a frame assembly. Consequently, the body mold cannot be used universally, production operation is extremely complicated, investment in molds is high, and compatibility of the body is poor.

[0027] In order to resolve the foregoing technical problem, an embodiment of the present invention provides a storage container for a refrigerator, including: a container body including a receiving cavity, a bottom wall, and a front wall connected to a front side of the bottom wall and extending upward; the front wall including a front raised edge protruding toward the receiving cavity to be engaged with at least one decoration member extending along the front wall.

[0028] The container body of the storage container provided by the embodiment of the present invention may be used in conjunction with the decoration member, or may be used alone, facilitating improvement of compatibility of the container body of a manufacturer, reduce investment in body molds, and reduce complexity of production operation. Specifically, since the front raised edge protrudes toward the receiving cavity, when the container body is used alone, the front raised edge will not affect the appearance of the container body. When the container body and the decoration member are used together, the front raised edge may play an effective fixing role to limit relative movement between the decoration member and the container body.

[0029] In order to make the foregoing objectives, characteristics, and advantages of the present invention clearer and easier to understand, specific embodiments of the present invention are described in detail below with reference to accompanying drawings.

[0030] FIG. 1 is a schematic diagram of a storage container for a refrigerator according to an embodiment of the present invention. FIG. 2 is an exploded view of a storage container shown in FIG. 1;
For convenience of description, assuming that a length direction of a storage container 100 is a direction x, a width direction of the storage container 100 is a direction y, and a height direction of the storage container 100 is a direction z.

[0031] Specifically, with reference to FIG. 1 and FIG. 2, the storage container 100 may include: a container body 110 including a receiving cavity 111, a bottom wall 112 (see FIG. 3), and a front wall 113 connected to a front side of the bottom wall 112 and extending upward.

[0032] Further, the container body 110 may further include a back wall 115 connected to a rear side of the bottom wall 112 and extending upward. Preferably, the front wall 113 and the back wall 115 are oppositely disposed.

[0033] Further, the container body 110 may further include a pair of side walls 116 oppositely disposed.

[0034] In one or more embodiments, the bottom wall 112, the front wall 113, the back wall 115, and a pair of side walls 116 enclose the receiving cavity 111.

[0035] In a specific implementation, the front wall 113

may be a wall facing a user when in use. For example, when the storage container 100 is disposed on a refrigerator door, the front wall 113 may be a wall facing the user during normal use after the door is opened. For another example, when the storage container 100 is disposed in a storage compartment of the refrigerator, the front wall 113 may also be a wall facing the user when the refrigerator door is opened to expose the storage compartment.

[0036] In a variation, a rear side of the receiving chamber 111 may be not closed, that is, the container body 110 may not have a back wall 115. In a specific implementation, a back side of the bottom wall 112 of the container body 110 may be directly mounted onto the refrigerator door. In this case, the bottom wall 112, a pair of side walls 116, and the refrigerator door enclose the receiving cavity 111. Alternatively, the back side of the bottom wall 112 of the container body 110 may further be directly mounted onto an inner wall of the storage compartment of the refrigerator. In this case, the bottom wall 112, a pair of side walls 116, and the inner wall of the storage compartment enclose the receiving cavity 111.

[0037] Similarly, one of left and right sides of the receiving cavity 111 along a direction x may not be closed, that is, the container body 110 may only have one side wall 116. In a specific implementation, the left or right side of the bottom wall 112 of the container body 110 along the direction x may be directly mounted onto the refrigerator door or the inner wall of the storage compartment.

[0038] Similarly, the container body 110 may only have a front wall 113, a bottom wall 112, and a side wall 116. In this case, the refrigerator door or walls in two directions of the inner wall of the storage compartment may also be used to form the receiving cavity 111.

[0039] More specifically, with reference to FIG. 1 to FIG. 7, the front wall 113 may include a front raised edge 114 protruding toward the receiving cavity 111 to be engaged with at least one decoration member 120 extending along the front wall 113.

[0040] To this end, the container body 110 of the storage container 100 provided by the embodiment of the present invention may be used in conjunction with the decoration member 120, or may be used alone, facilitating improvement of compatibility of the container body 110 of a manufacturer, reduce investment in body molds, and reduce complexity of production operation. Specifically, since the front raised edge 114 protrudes toward the receiving cavity 111, when the container body 110 is used alone, the front raised edge 114 will not affect the appearance of the container body 110. When the container body 110 and the decoration member 120 are used together, the front raised edge 114 may play an effective fixing role to limit relative movement between the decoration member 120 and the container body 110.

[0041] In one or more embodiments, with reference to FIG. 1, FIG. 2, FIG. 3, FIG. 5, FIG. 9, and FIG. 10, the storage container 100 may include the decoration member 120 having a first slot 121, the front wall 113 being inserted into the first slot 121, and the front raised edge 114 being engaged with the decoration member 120 in the first slot 121. As a result, a junction of the front raised edge 114 and the decoration member 120 is hidden in the first slot 121, facilitating beautification of the appearance of the storage container 100 provided with the decoration member 120.

[0042] In one or more embodiments, referring to FIG. 3, FIG. 5, and FIG. 9, the decoration member 120 may include at least two blocks 122 disposed at an interval in the first slot 121, there is a gap between the block 122 and a bottom wall 123 of the first slot 121, and the front raised edge 114 is located between the block 122 and the bottom wall 123. Therefore, an internal buckling structure is formed through cooperation of the bottom wall 123 and a block 122, to be securely engaged with the front raised edge 114, and in a height direction (that is, a direction z shown in the figure) of the container body 110, up-down movement of the decoration member 120 on the container body 110 may be limited within an allowable error range.

[0043] In one or more embodiments, the decoration member 120 may include a back groove wall 124 extending into the container body 110 and a protruding rib 125 extending toward the front wall 113 from the back groove wall 124, the block 122 being formed by the protruding rib 125 to increase hardness of the structure.

[0044] For example, referring to FIG. 10, six protruding ribs 125 may be disposed at intervals in the first slot 121, where blocks 122 are formed on at least two protruding ribs 125. Preferably, the block 122 may be formed on each of the protruding ribs 125.

[0045] In a specific implementation, a quantity of the protruding ribs 125 and an interval between adjacent protruding ribs 125 may be determined according to a length of the front wall 113 in the direction x.

[0046] Further, a part of the decoration member 120 extending along the front wall 113 of the container body 110 may include a back groove wall 124 extending into the receiving cavity 111, a front groove wall 127 located outside the receiving cavity 111, and a top wall 128 connecting the back groove wall 124 and the front groove wall 127. Further, the back groove wall 124, the front groove wall 127, and the top wall 128 enclose a first slot 121 having a slot opening in a reverse direction of a direction z shown in the figure.

[0047] In one or more embodiments, referring to FIG. 10, the decoration member 120 may include at least two protruding ribs 125 disposed at an interval in the first slot 121. With reference to FIG. 3 and FIG. 5, the protruding ribs 125 are adapted to abut against an inner surface 113a of the front wall 113. The inner surface 113a of the front wall 113 is a surface of the front wall 113 close to the receiving cavity 111. Therefore, in a width direction (that is, a direction y shown in the figure) of the container body 110, front-back movement of the decoration member 120 on the container body 110 may be limited within

an allowable error range.

[0048] Further, referring to FIG. 5, along the direction that the first slot 121 points to a free end 125a of the protruding rib 125, that is, along a reverse direction of the direction z shown in FIG. 1, a side of the protruding rib 125 facing the front wall 113 has a first vertical section 135, an oblique cross section 126 extending in the direction of the front wall 113, and a second vertical section 136 in sequence. The free end 125a is an end of the protruding rib 125 away from the first slot 121 in the direction z, that is, an end that is not connected to a top wall 128 of the decoration member 120.

[0049] Specifically, one end of the first vertical section 135 in the direction z is connected to the top wall 128, and the other end of the first vertical section 135 in the direction z is connected to the oblique cross section 126. One end of the oblique cross section 126 away from the front wall 113 in the direction z is connected to the first vertical section 135, and one end of the oblique cross section 126 close to the front wall 113 in the direction z is connected to the second vertical section 13. One end of the second vertical section 136 in the direction z is connected to the oblique cross section 126, and the other end of the second vertical section 136 in the direction z forms a free end 125a of the protruding rib 125.

[0050] Further, the second vertical section 136 abuts against the inner surface 113a of the front wall 113, and there is a gap between the first vertical section 135 and the inner surface 113a of the front wall 113.

[0051] Therefore, when the front-back movement of the decoration member 120 on the container body 110 is restricted through the second vertical section 136, and the up-down movement of the decoration member 120 on the container body 110 is restricted through the block 122, a chamfer angle formed by the oblique cross section 126 serves as a guide groove, facilitating reduction of interference between the decoration member 120 and the container body 110, so that a gap between the protruding rib 125 and a front groove wall 127 of the decoration member 120 is not too small, which facilitates mounting of the decoration member 120, and can reduce the risk of collision damage.

[0052] Further, the design of the oblique cross section 126 allows the internal buckling structure formed by the block 122 and the bottom wall 123 of the first slot 121 to be buckled to a lesser extent, which facilitates the assembly of the decoration member 120 and the container body 110.

[0053] In one or more embodiments, a length of the second vertical section 136 may be not less than one third of a length of the protruding rib 125 along the direction (that is, the direction z shown in the figure) of a slot opening toward the bottom wall 123 of the first slot 121, so that a contact area between the protruding rib 125 and the inner surface 113a of the front wall 113 is large enough to ensure a limiting effect in the direction y.

[0054] In one or more embodiments, a direction in which the second vertical section 136 extends may be parallel to the direction z to achieve a better effect of abutting against each other.

[0055] Similarly, a direction in which the first vertical section 135 extends may be parallel to the direction z to achieve a better effect of avoiding interference.

[0056] In a variation, the surface of the second vertical section 136 may have a texture, such as a wave shape, to increase friction.

[0057] In one or more embodiments, referring to FIG. 2, the side wall 116 may include a side raised edge 117 protruding toward the outside of the receiving cavity 111 to be engaged with a part of the decoration member 120 extending along the side wall 116. Therefore, when the container body 110 and the decoration member 120 are used together, the side raised edge 117 may play an effective fixing role to limit left-right movement of the decoration member 120 on the container body 110 in a length direction (that is, a direction x shown in the figure) of the container body 110. Further, since the side raised edge 117 is located on a side of the container body 110, the appearance of the container body 110 may not be affected when used alone.

[0058] For example, for the structure and shape of the side raised edge 117, reference may be made to the shape and structure shown in a region F in FIG. 6 and FIG. 8.

[0059] Further, referring to FIG. 2, FIG. 10 to FIG. 14, a part of the decoration member 120 extending along the side wall 116 may include at least one snap structure 129, the side raised edge 117 being engaged with the snap structure 129. Therefore, through cooperation of the side raised edge 117 and the snap structure 129, up-down movement of the decoration member 120 on the container body 110 may be limited in the height direction (that is, the direction z shown in the figure) of the container body 110.

[0060] For example, for a connection state of the side raised edge 117 and the snap structure 129, reference may be made to the connection state shown in a region B in FIG. 3 and FIG. 4.

[0061] For example, assuming that the pair of side walls 116 are a left side wall and a right side wall, a part of the decoration member 120 corresponding to the left side wall and a part corresponding to the right side wall are respectively provided with a snap structure, so that the container body 110 and the decoration member 120 are firmly engaged on the left and right sides in the direction x.

[0062] In a specific implementation, a number of the snap structures 129 provided on a part of the decoration member 120 extending along each side wall 116 and an interval therebetween may be adjusted as required. For example, a larger length of the corresponding side wall 116 in the direction y leads to a larger number of the snap structures 129 disposed on the decoration member 120.

[0063] In a specific implementation, the number of the snap structures 129 provided on the decoration members 120 corresponding to different side walls 116 may be

different.

[0064] In one or more embodiments, referring to FIG. 10, the part of the decoration member 120 extending along the side wall 116 may have a second slot 130, the side wall 116 being inserted into the second slot 130. Therefore, through cooperation of the side wall 116 and the second slot 130, left-right movement of the decoration member 120 on the container body 110 may be limited in the length direction (that is, the direction x shown in the figure) of the container body 110.

[0065] For example, a value of the length of the second slot 130 extending along the direction y may range from one third to one half of the length of the side wall 116 of the container body 110 along the direction y.

[0066] Further, referring to FIG. 1, FIG. 2, FIG. 10, FIG. 11, FIG. 12, and FIG. 15, the part of the decoration member 120 extending along the side wall 116 may include at least one limiting rib 131, the limiting rib 131 being adapted to abut against an inner surface 116a of the side wall 116. The inner surface 116a of the side wall 116 is a surface of the side wall 116 close to the receiving cavity 111. Therefore, in a length direction (that is, a direction x shown in the figure) of the container body 110, left-right movement of the decoration member 120 on the container body 110 may be limited within an allowable error range.

[0067] Further, a part of the decoration member 120 extending along the side wall 116 of the container body 110 may include an inner side groove wall 132 extending into the receiving cavity 111, an outer side groove wall 133 located outside the receiving cavity 111, and a top wall 128 connecting the inner side groove wall 132 and the outer side groove wall 133. Further, the outer side groove wall 133, the inner side groove wall 132, and the top wall 128 enclose a second slot 130 having a slot opening in a reverse direction of a direction z shown in the figure.

[0068] Further, the limiting rib 131 may extend toward the side wall 116 from the inner side groove wall 132.

[0069] In one or more embodiments, the second slot 130 may be closer to the front wall 113 of the container body 110 than the snap structure 129. Therefore, the snap structure may be blocked through the limiting rib 131, so that the snap structure 129 is externally invisible.

[0070] Further, the outer side groove wall 133 may be connected to the front groove wall 127 to improve an overall appearance of the decoration member 120 and reduce complexity of a mold.

[0071] Further, the inner side groove wall 132 may be connected to the back groove wall 124 to reduce complexity of the mold.

[0072] In one or more embodiments, on the same side wall 116, widths of a plurality of limiting ribs 131 provided in the second slot 130 along the direction x may be different. For example, referring to FIG. 10, in the two limiting ribs 131 disposed at an interval along the direction y in the figure, a width of the limiting rib 131 away from the front wall 113 in the direction x is greater than a width of the limiting rib 131 close to the front wall 113 along the direction x. As a result, when the storage space of the receiving cavity 111 is increased, it is ensured that the limiting rib 131 can completely cover the snap structure 129, to optimize the overall appearance of the storage container 100.

[0073] In one or more embodiments, referring to FIG. 3, FIG. 4, FIG. 6, and FIG. 8, the back wall 115 may include a rear raised edge 118 protruding toward the outside of the receiving cavity 111 to be engaged with a part of the decoration member 120 extending along the back wall 115. Therefore, when the container body 110 and the decoration member 120 are used together, the rear raised edge 118 may play an effective fixing role to limit up-down movement of the decoration member 120 on the container body 110 in a height direction (that is, a direction z shown in the figure) of the container body 110 together with the front raised edge 114 and/or the side raised edge 117. Further, since the rear raised edge 118 is located on the back wall 115 of the container body 110, the appearance of the container body 110 may not be affected when used alone.

[0074] Further, referring to FIG. 11, a part of the decoration member 120 extending along the back wall 115 may include at least one snap structure 129, the rear raised edge 118 being engaged with the snap structure 129. Therefore, through cooperation of the rear raised edge 118 and the snap structure 129, up-down movement of the decoration member 120 on the container body 110 may be limited in the height direction (that is, the direction z shown in the figure) of the container body.

[0075] In one or more embodiments, referring to FIG. 2 and FIG. 16, the storage container 100 may further include a fixing portion 140, and the fixing portion 140 may have a U-shaped structure that opens downward, where the downward opening is an opening in a reverse direction of the direction z.

[0076] Further, a fitting portion (not shown) may be provided on the refrigerator door of the refrigerator or the inner wall of the storage compartment, the fitting portion is coupled to the fixing portion 140 to fix the storage container 100 onto the refrigerator door or the inner wall of the storage compartment.

[0077] In one or more embodiments, the part of the decoration member 120 extending along the back wall 115 may also have a rear groove wall 134 extending into a side of the rear wall 115 close to the receiving cavity 111. The rear groove wall 134 extends outside the receiving cavity 111 to form the snap structure 129.

[0078] Further, the rear groove wall 134 may be connected to the inner side groove wall 132.

[0079] In one or more embodiments, the side raised edge 117 and the rear raised edge 118 may be connected.

[0080] In a typical application scenario, when the storage container 100 is fixed onto a door body of the refrigerator, the storage container 100 may be a door container.

[0081] Further, a bottom wall 112 of the storage container 100 may be fixed to the door body of the refrigerator at a preset angle. Preferably, the preset angle may be 90°. In a specific implementation, the preset angle may be flexibly adjusted according to storage requirements of stored products.

[0082] In one or more embodiments, the storage container 100 may be a bottle rack structure.

[0083] FIG. 17 is a schematic diagram of a refrigerator according to an embodiment of the present invention.

[0084] Specifically, in this embodiment, a refrigerator 200 may include: a case body 210 having a chamber 211, the chamber 211 having an opening 212; a door body 220 configured to open or close the opening 212; and the storage container 100 in the embodiments shown in FIG. 1 to FIG. 16.

[0085] In one or more embodiments, the storage container 100 may be fixed in the chamber 211.

[0086] In one or more embodiments, the storage container 100 may be fixed to a side of the door body 220 facing the case body 210.

[0087] The refrigerator 200 provided by the embodiment of the present invention has a storage container 100, which is convenient for users to separate and store stored products, and the storage container 100 has a beautiful shape and is easy to mount.

[0088] FIG. 17 shows an example in which the storage container 100 shown in FIG. 1 to FIG. 16 is applied to a double-door refrigerator 200. Three storage containers 100 are respectively provided on two door bodies 220.

[0089] In one or more embodiments, lengths, widths, and heights of a plurality of storage containers 100 may be different, so as to enclose the storage cavity 111 with different volumes to meet the diverse storage requirements of the user.

[0090] In one or more embodiments, a number of storage containers 100 provided on each door body 220 may be the same or different. Similarly, a number of storage containers 100 provided in the chamber 211 and the number of storage containers 100 provided on the door body 220 may also be different.

[0091] Although specific embodiments have been described above, these embodiments are not intended to limit the scope of the present disclosure, even for the case where a single embodiment is described merely with respect to specific features. The examples of features provided in the present disclosure are intended to be exemplary, not limitative, unless otherwise stated. In a specific implementation, the technical features of one or more dependent claims may be combined with the technical features of an independent claim, and the technical features from corresponding independent claims may be combined in any appropriate manner rather than only through the specific combinations listed in the claims.

[0092] Although the present invention is disclosed as above, the present invention is not limited thereto. A person skilled in the art may make variations and modifications without departing from the spirit and scope of the present invention. Therefore, the protection scope of the present invention should be subject to the claims.

Claims

1. A storage container (100) for a refrigerator, **characterized by** comprising:

   a container body (110) comprising a receiving cavity (111), a bottom wall (112), and a front wall (113) connected to a front side of the bottom wall (112) and extending upward, wherein the front wall (113) comprises a front raised edge (114) protruding toward the receiving cavity (111) to be engaged with at least one decoration member (120) extending along the front wall (113).

2. The storage container (100) according to claim 1, **characterized by** comprising: the decoration member (120) having a first slot (121), the front wall (113) being inserted into the first slot (121), and the front raised edge (114) being engaged with the decoration member (120) in the first slot (121).

3. The storage container (100) according to claim 2, **characterized in that** the decoration member (120) comprises at least two blocks (122) disposed at an interval in the first slot (121), a gap existing between the block (122) and a bottom wall (123) of the first slot (121), and the front raised edge (114) being located between the block (122) and the bottom wall (123).

4. The storage container (100) according to claim 3, **characterized in that** the decoration member (120) comprises a back groove wall (124) extending into the container body (110) and a protruding rib (125) extending toward the front wall (113) from the back groove wall (124), the block (122) being formed by the protruding rib (125).

5. The storage container (100) according to claim 2, **characterized in that** the decoration member (120) comprises at least two protruding ribs (125) disposed at an interval in the first slot (121), the protruding ribs (125) being adapted to abut against an inner surface (113a) of the front wall (113).

6. The storage container (100) according to claim 4 or 5, **characterized in that** along a direction that the first slot (121) points to a free end (125a) of the protruding rib (125), a side of the protruding rib (125) facing the front wall (113) has a first vertical section (135), an oblique cross section (126) extending in the direction of the front wall (113), and a second

vertical section (136) in sequence, wherein the second vertical section (136) abuts against the inner surface (113a) of the front wall (113), and a gap exists between the first vertical section (135) and the inner surface (113a) of the front wall (113).

7. The storage container (100) according to claim 1, **characterized in that** the container body (110) comprises a pair of side walls (116) disposed oppositely, the side walls (116) comprising a side raised edge (117) protruding toward an outside of the receiving cavity (111) to be engaged with a part of the decoration member (120) extending along the side walls (116).

8. The storage container (100) according to claim 7, **characterized in that** the part of the decoration member (120) extending along the side wall (116) comprises at least one snap structure (129), the side raised edge (117) being engaged with the snap structure (129).

9. The storage container (100) according to claim 7, **characterized in that** the part of into the decoration member (120) extending along the side wall (116) has a second slot (130), the side wall (116) being inserted into the second slot (130).

10. The storage container (100) according to claim 9, **characterized in that** the part of the decoration member (120) extending along the side wall (116) comprises at least one limiting rib (131), the limiting rib (131) being adapted to abut against an inner surface (116a) of the side wall (116).

11. The storage container (100) according to claim 1, **characterized in that** the container body (110) comprises a back wall (115) connected to a rear side of the bottom wall (112) and extending upward, the back wall (115) comprising a rear raised edge (118) protruding toward the outside of the receiving cavity (111) to be engaged with a part of the decoration member (120) extending along the back wall (115).

12. The storage container (100) according to claim 11, **characterized in that** the part of the decoration member (120) extending along the back wall (115) comprises at least one snap structure (129), the rear raised edge (118) being engaged with the snap structure (129).

13. A refrigerator (200), **characterized by** comprising:

a case body (210) having a chamber (211), the chamber (211) having an opening (212) ;
a door body (220) configured to open or close the opening (212); and
the storage container (100) according to any of the claims 1 to 12 is fixed in the chamber (211), the storage container (100) being fixed at one side of the door body (220) facing the case body (210).

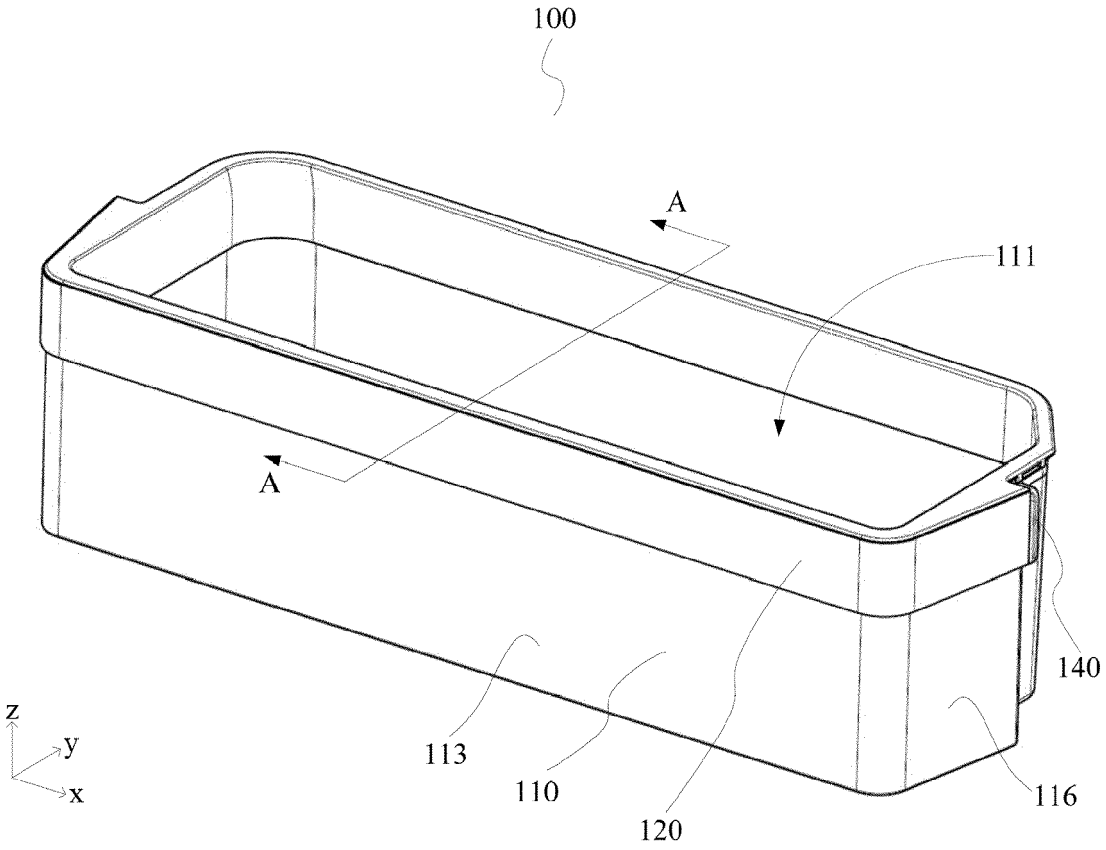
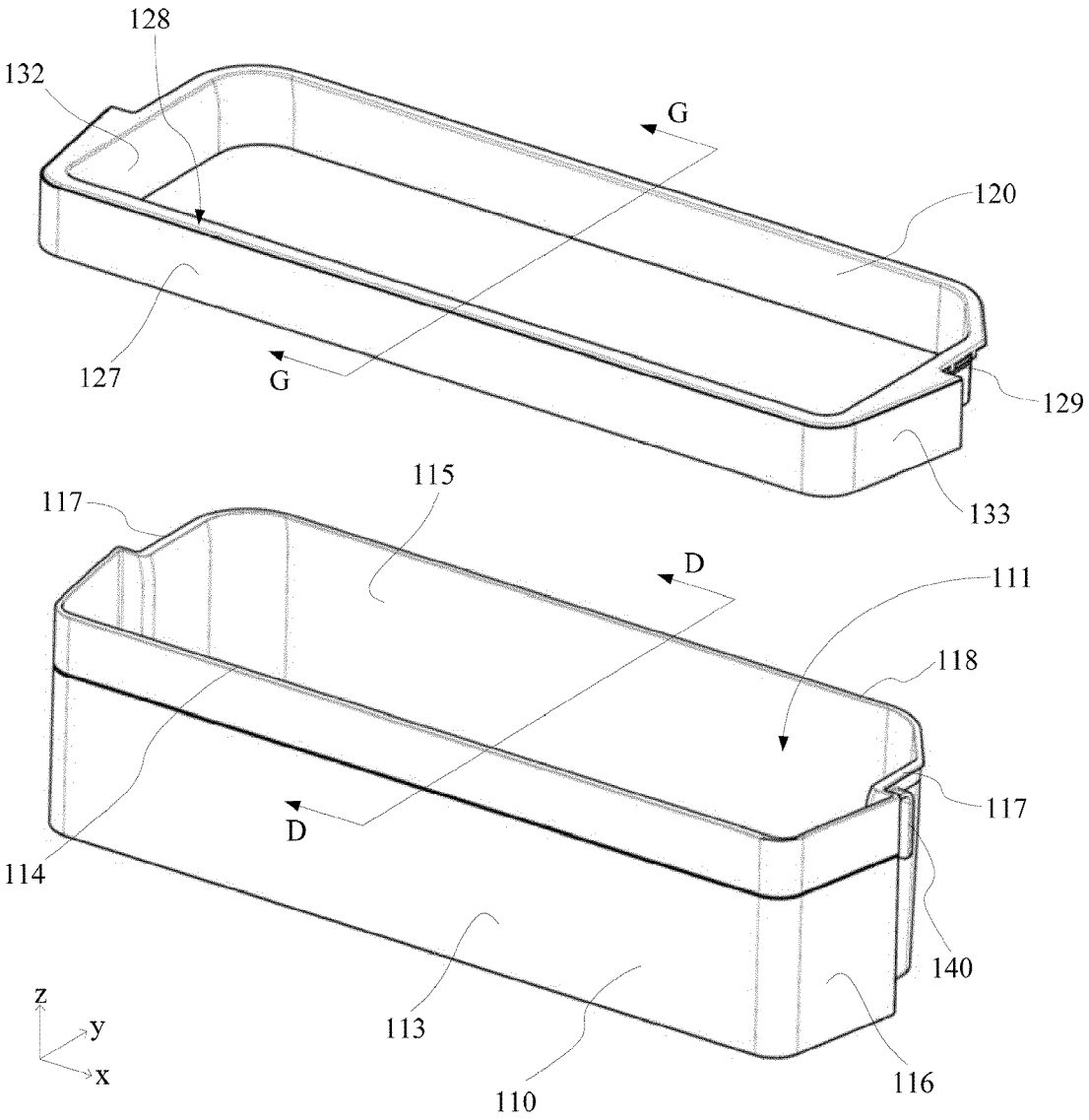


FIG. 1


128
132
G
120
127
G
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133
115
117
D
111
118
D
117
114
140
z
y
x
113
110
116

FIG. 2

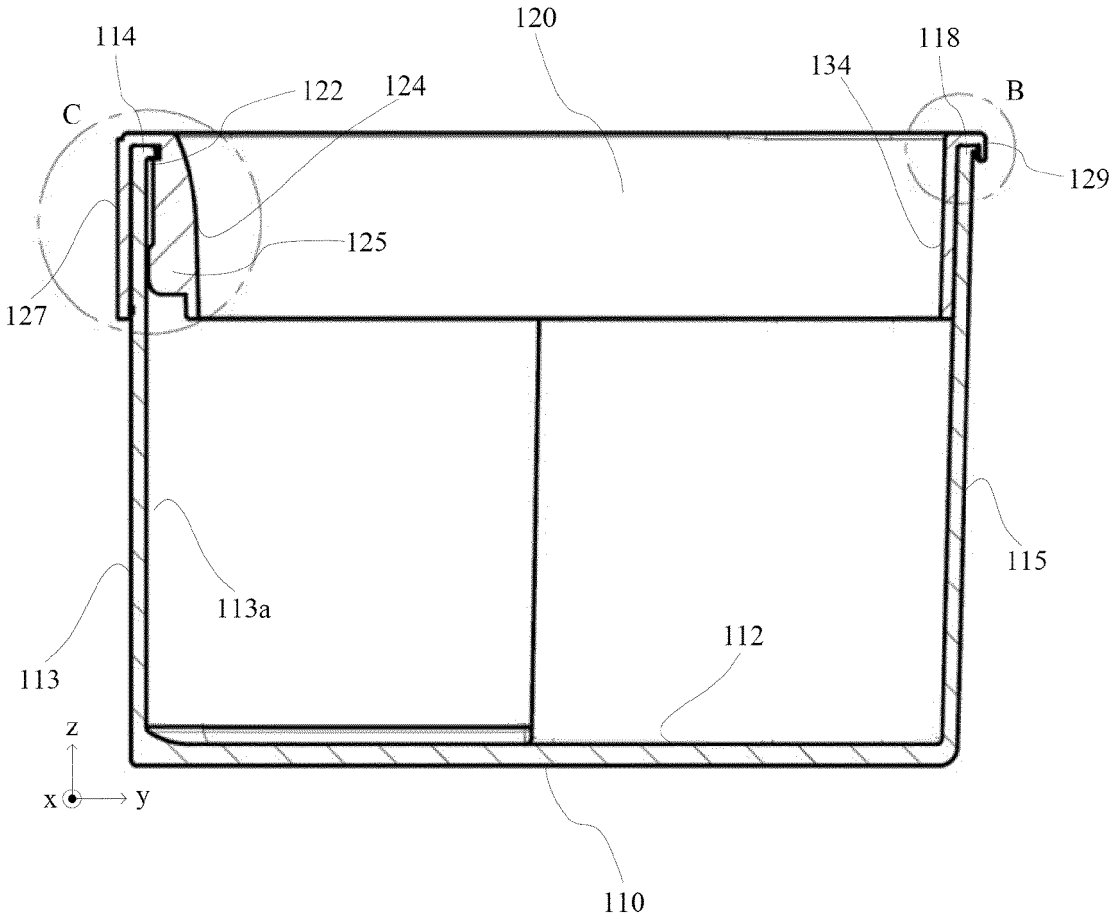


FIG. 3

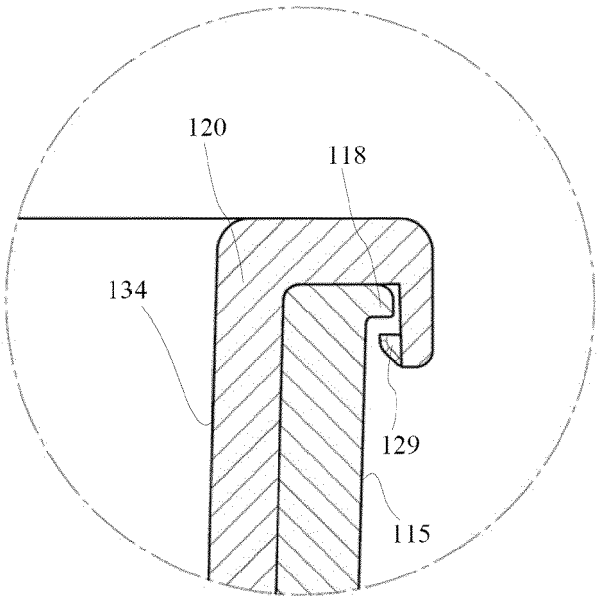
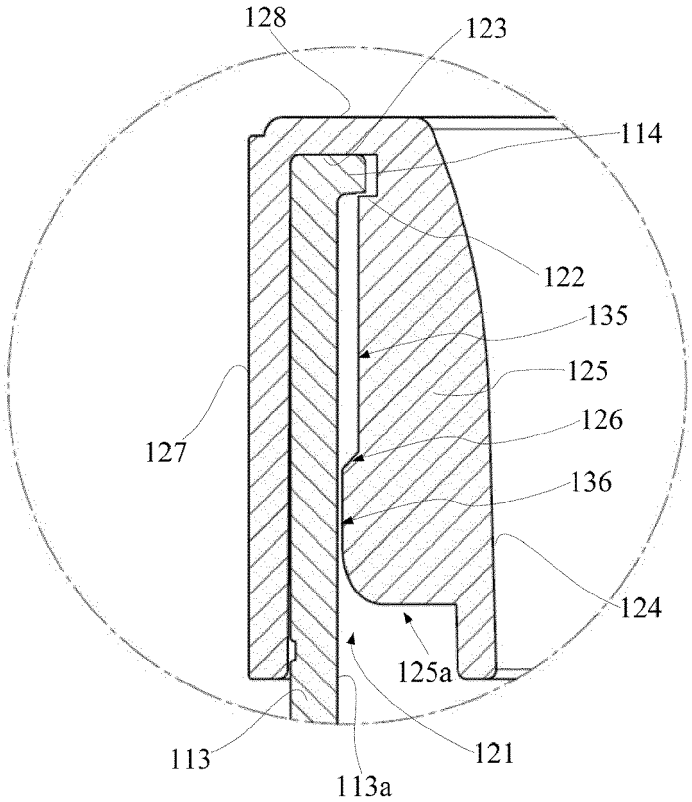

120
118
134
129
115

FIG. 4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123
114
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125
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136
124
125a
113
121
113a

FIG. 5

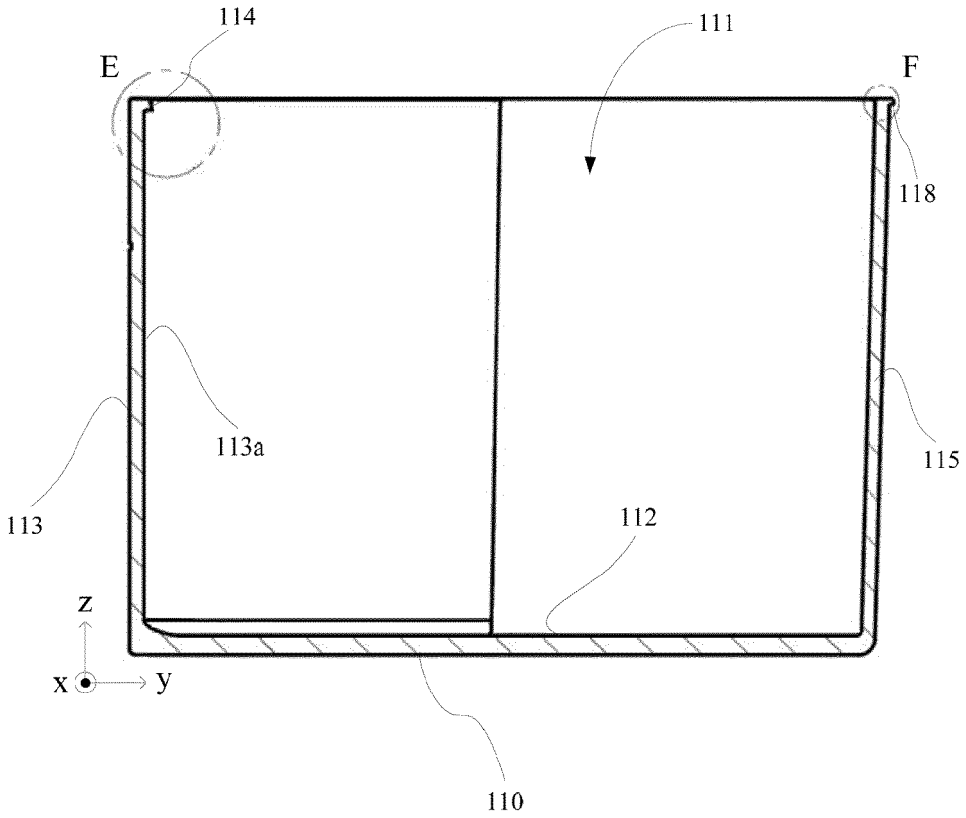


FIG. 6

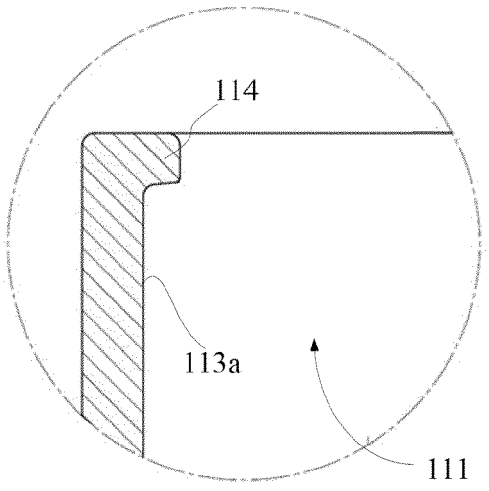


FIG. 7

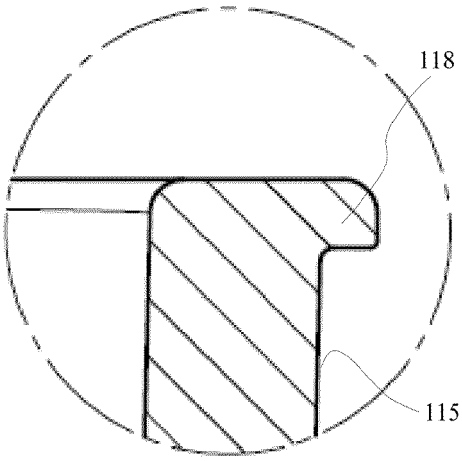


FIG. 8

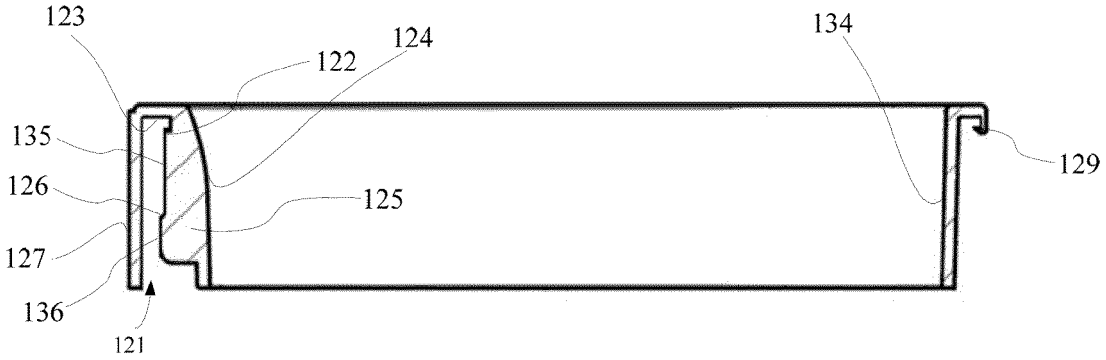
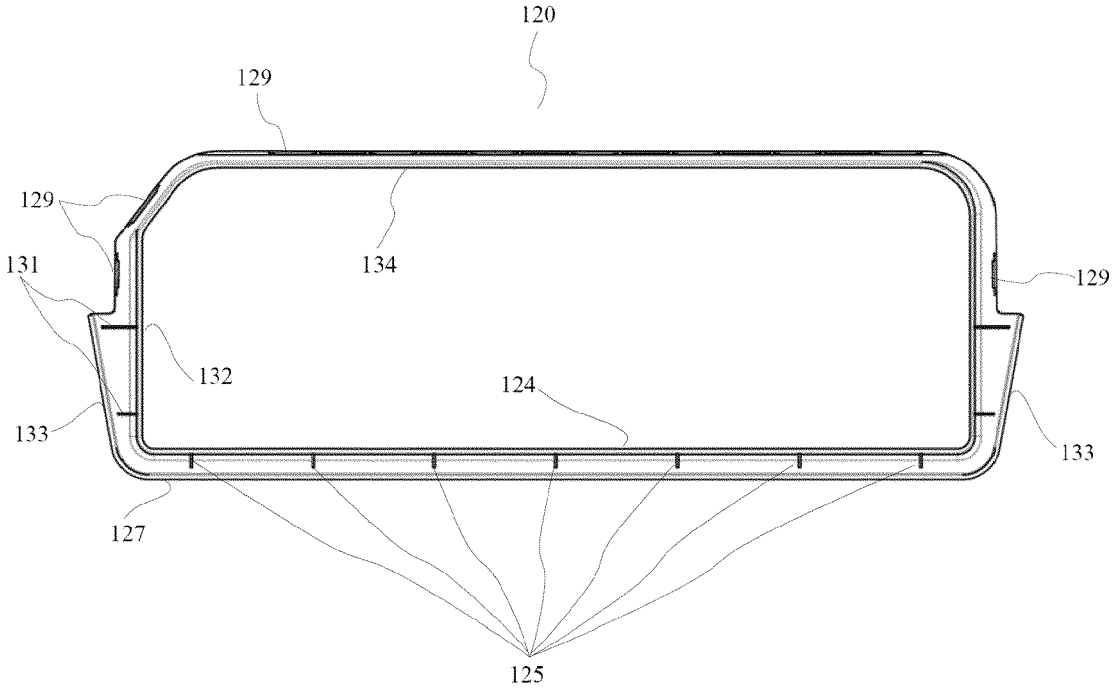


FIG. 9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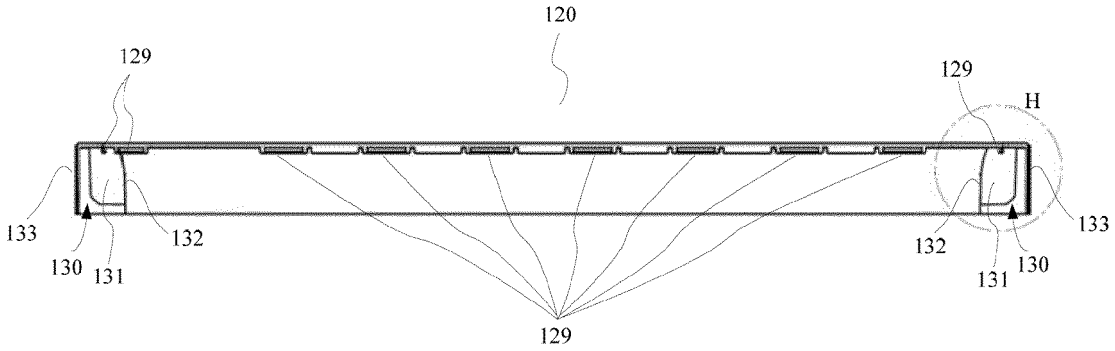
133
127
125

FIG. 10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131
130
129

FIG. 11

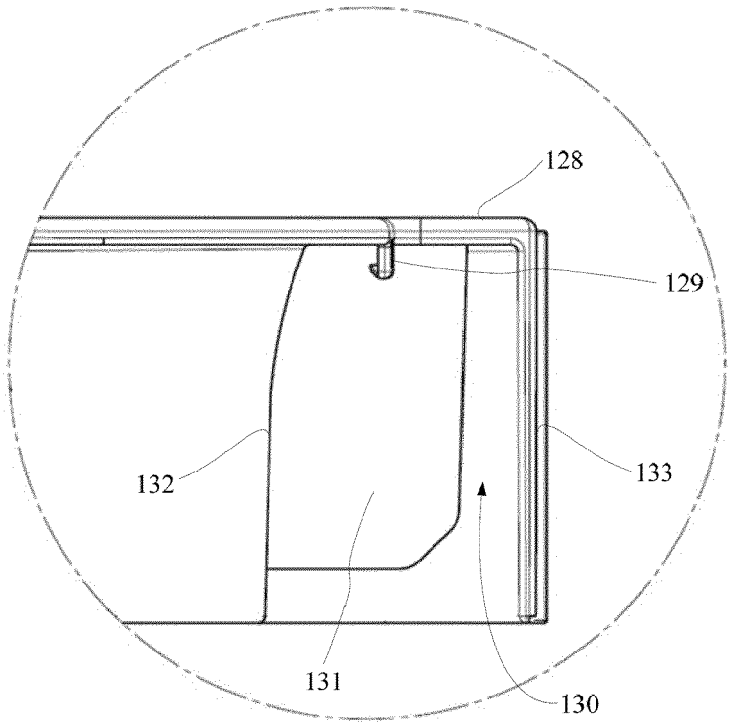

FIG. 12

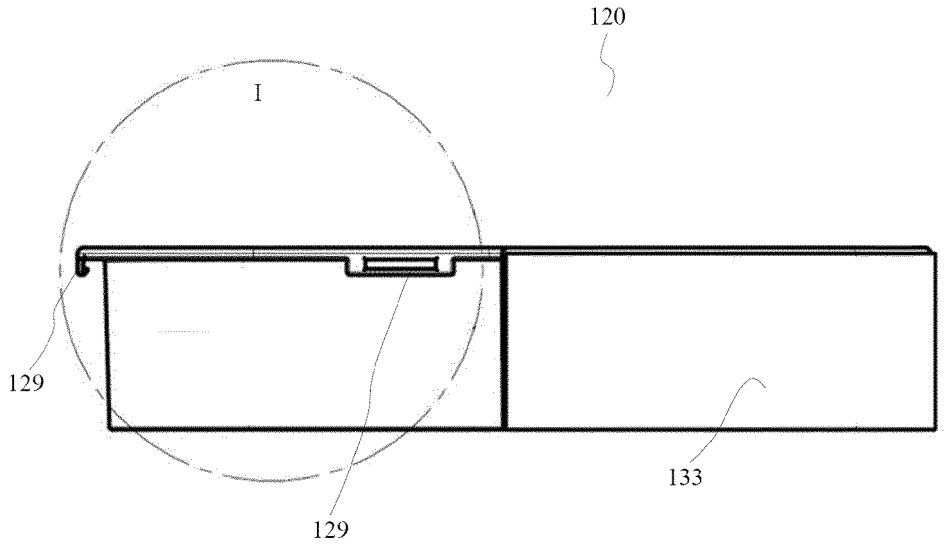

FIG. 13

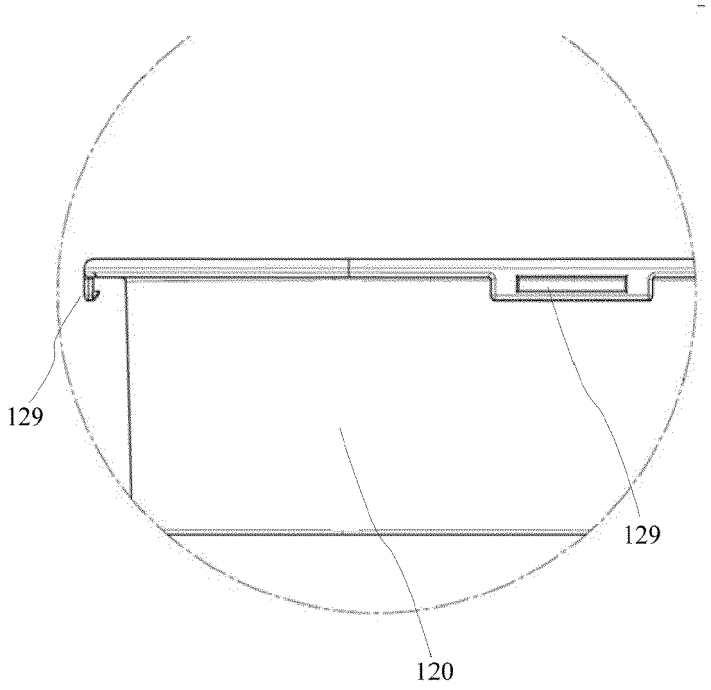

FIG. 14

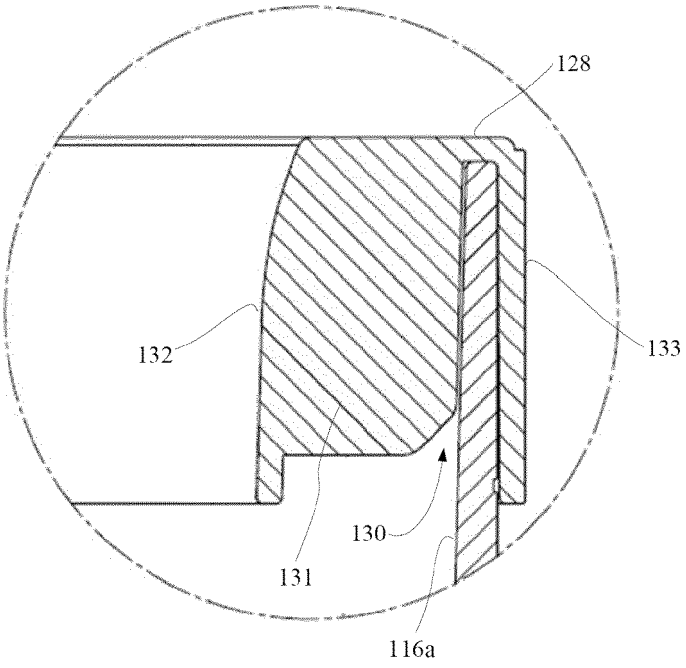

FIG. 15

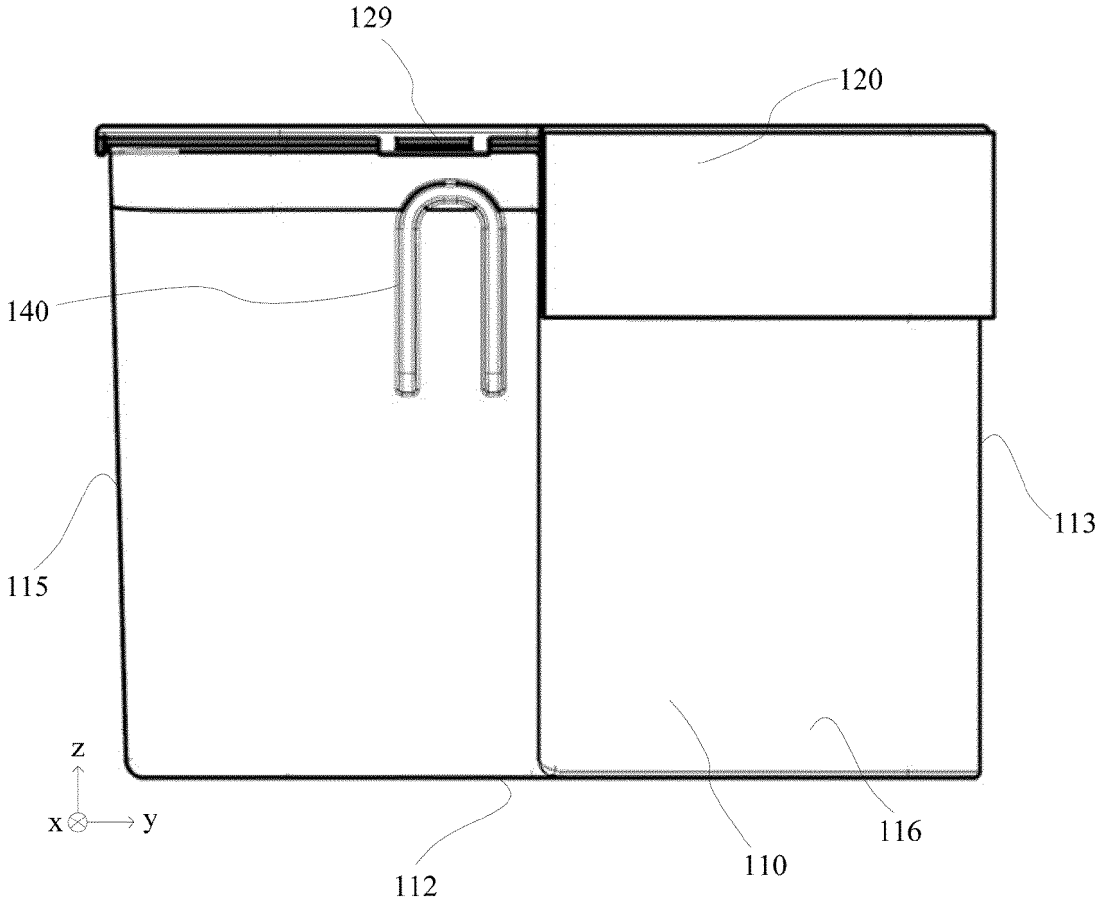

FIG. 16

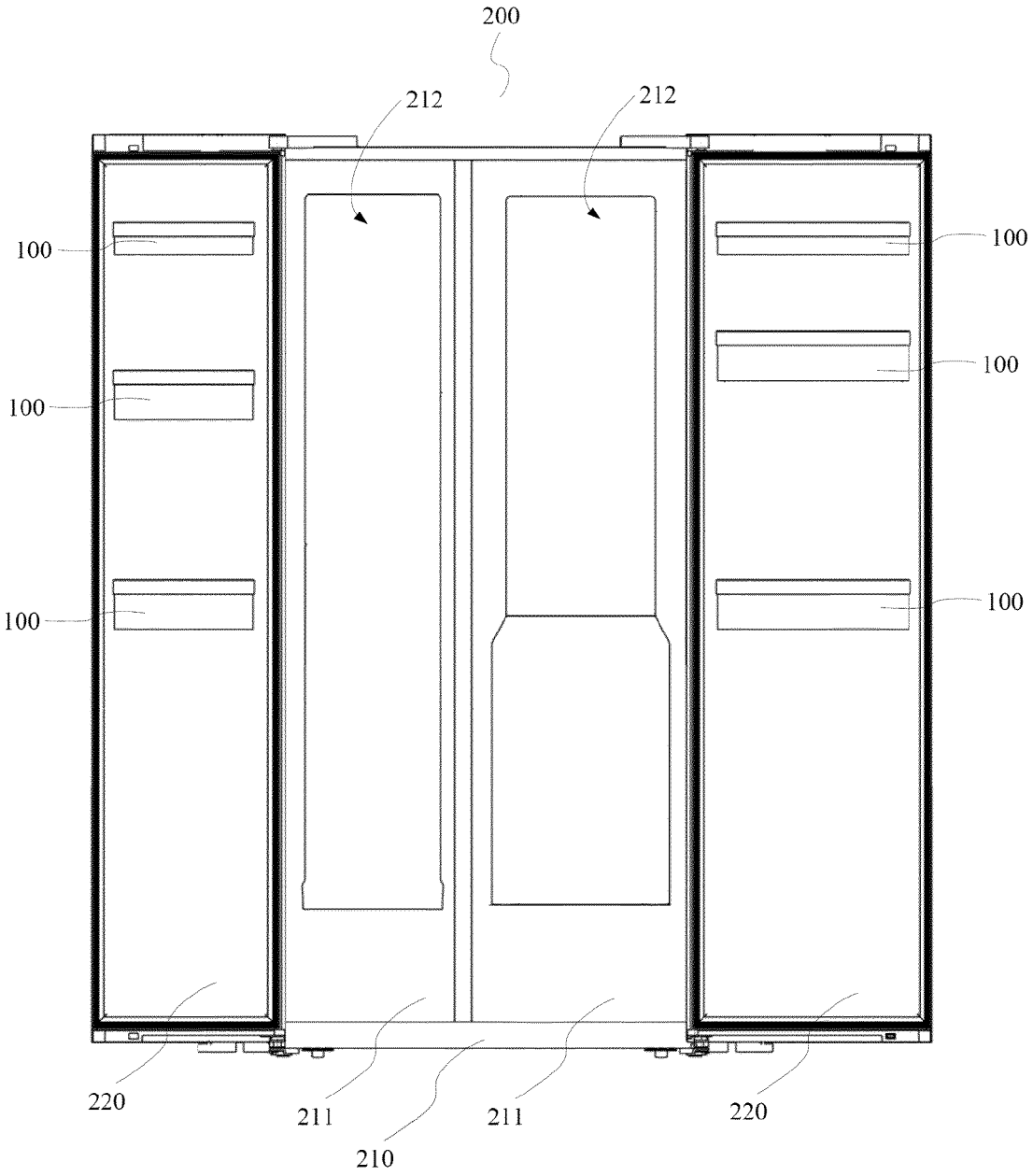

FIG. 17

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EUROPEAN SEARCH REPORT

Application Number
EP 20 17 4704

DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
X	EP 2 464 927 A2 (BSH BOSCH SIEMENS HAUSGERAETE [DE]) 20 June 2012 (2012-06-20) * figures 1,3,4,5 *	1-13	INV. F25D23/04
X	US 2018/180351 A1 (ERTIK MUSTAFA [TR] ET AL) 28 June 2018 (2018-06-28) * figures 8,9 *	1-6, 11-13	
X	EP 2 932 173 A1 (BSH HAUSGERÄTE GMBH [DE]) 21 October 2015 (2015-10-21) * figure 1 *	1-6, 11-13	
X	JP S56 47481 U (-) 27 April 1981 (1981-04-27) * figures 2,3 *	1-6,13	
X	WO 2018/099673 A1 (ARCELIK AS [TR]) 7 June 2018 (2018-06-07) * figures 8,9 *	1-10,13	

TECHNICAL FIELDS SEARCHED (IPC)

F25D
B65D

The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
The Hague	16 October 2020	Canköy, Necdet

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16-10-2020

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
EP 2464927 A2	20-06-2012	CN 102483291 A	30-05-2012
		DE 102009028433 A1	17-02-2011
		EP 2464927 A2	20-06-2012
		PL 2464927 T3	29-03-2019
		RU 2012106748 A	20-09-2013
		WO 2011018349 A2	17-02-2011
US 2018180351 A1	28-06-2018	CN 208620694 U	19-03-2019
		DE 112015005773 T5	28-09-2017
		US 2018180351 A1	28-06-2018
		WO 2016102162 A1	30-06-2016
EP 2932173 A1	21-10-2015	CN 104995469 A	21-10-2015
		DE 102012223118 A1	18-06-2014
		EP 2932173 A1	21-10-2015
		PL 2932173 T3	01-06-2020
		WO 2014090726 A1	19-06-2014
JP S5647481 U	27-04-1981	JP S608631 Y2	27-03-1985
		JP S5647481 U	27-04-1981
WO 2018099673 A1	07-06-2018	EP 3548818 A1	09-10-2019
		TR 201617591 A2	21-06-2018
		WO 2018099673 A1	07-06-2018

EPO FORM P0459

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