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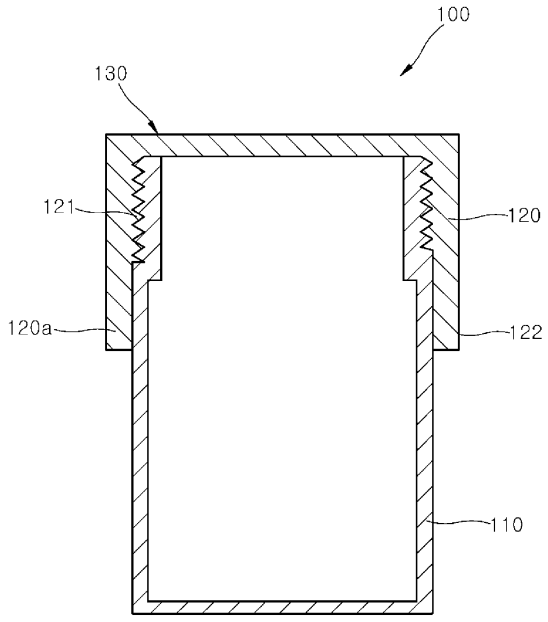
(54) **OPENING AND CLOSING APPARATUS CAPABLE OF CONTROLLING OPENING SAME AND CONTAINER PROVIDED WITH THE APPARATUS**

(57) The present invention relates to an opening and closing apparatus capable of controlling opening same and a container provided with the apparatus, the opening and closing apparatus controlling opening the container by a user by means of: an opening and closing device, provided on a container main body for storing content, having a turning part necessary for opening the container main body on the outer surface of the opening and closing device, and opening and closing one end of the container main body; and a turning control part, separated from the opening and closing actions of the opening and closing device to have no effect on the opening and closing thereof, for controlling the operation of the turning part.

FIG. 2



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Description

[Technical Field]

[0001] The present invention relates to an opening and closing apparatus of which opening is controllable and a container including the same, and more particularly, to an opening and closing apparatus of which opening is controllable for controlling user's opening and closing of a container via an opening and closing device included in a container main body storing contents and provided with a turning part necessary for opening the container main body on an outer surface to open and close one end of the container main body and a turning control part which controls an operation of the turning part separately from an opening and closing operation of the opening and closing device without any influence on opening and closing of the opening and closing device, and a container including the same.

[Background Art]

[0002] Generally, a container for storing contents includes a container main body and an opening and closing apparatus capable of opening and closing the same.

[0003] Such a container is used to store contents in a sealed state by coupling an opening and closing device, such as a cap, to a container main body after the contents are put into the container main body.

[0004] In the present specification, the word 'little child' is used as a word encompassing all concepts including a 'newborn baby', an 'infant', a 'child' and an 'adolescent'.

[0005] When such containers are at a position in a home where hands of a little child can reach, a situation occurs in which the little child easily separates an opening and closing device from a container main body and takes out contents form the container. That is, in a general container, since an opening and closing device having a simple structure is coupled to an upper end of the container main body, even a little child can easily open the opening and closing device and take out the contents from the container main body.

[0006] Particularly, when the contents are medicine, problems may occur in which the little child opens the opening and closing device to take out the medicine stored in the container main body and ingests the medicine or the like.

[0007] Accordingly, a close attention is required in a home that such a container is kept at a high place where hands of the little child does not reach or the like.

[0008] In addition, in the case of disabled or elderly adults, since a problem that is the same as that with little children may occur, a device is needed which requires a level of concentration while still being easy to operate during opening and closing of a container.

[0009] Since operating a commercialized press and turn container is difficult even for adults for whom the use is allowed, a significant effort and concentration are needed, and since accidents occur due to the adults being unable to open containers storing first-aid medical supplies by themselves in an emergency, a device is needed that is easier to operate.

[Prior Art Document]

[Patent Document]

[0010] (Patent Document 1) Republic of Korea Utility Model Patent Publication No. Y1 20-0318864 (2003.07.04.)

[Disclosure]

[Technical Problem]

[0011] The present invention is directed to making it difficult for a little child to open an opening and closing device such as a cap or to only allow turning the cap when the little child with a curiosity desires to open the opening and closing device such as a cap by differentiating an opening and closing property of a container opening and closing apparatus according to a difference in finger length between grown adults and little children. As described above, the present invention is directed to providing an opening and closing apparatus of which opening is controllable such that a little child may not easily open the opening and closing device and a container including the same. That is, the present invention is directed to providing an opening and closing apparatus of which opening is controllable and includes an opening and closing device which may not be easily opened and closed with the intelligence of and force exerted by a toddler or a little child who cannot properly recognized a danger, and a container including the same.

[0012] The present invention is directed to providing a method of restricting allowable age groups for operating opening and closing of a container by installing a turning section of an opening and closing device based on finger length difference between adults and little children due to growth.

[0013] The present invention is also directed to providing an opening and closing apparatus of which opening is controllable so that structures of opening and closing devices of the opening and closing apparatus and a container including the same are simple to be easily manufactured and may be simply and safely used by an adult ordinarily as well as in an emergency, and a container including the same.

[0014] The present invention is also directed to providing an opening and closing apparatus of which opening is controllable such that disabled or an elderly adult for whom problems like those of a little child may occur to normally understand an operation of opening and closing of a container and open and close the container by requiring a level of concentration and simplifying an operation of an opening and closing device, and a container

including the same.

[Technical Solution]

[0015] One aspect of the present invention provides an opening and closing apparatus including an opening and closing device applied to a container main body and including a turning part for opening and closing the container main body, and a turning control part which controls an operation of the turning part, wherein the turning part is formed on an outer surface of the opening and closing device, and is rotatable when a user touches and operates the turning part, the turning control part which restrict an operation of the turning part by controlling a user's approach to an outer surface of the turning part, and opening and closing of the opening and closing device is blocked by the restriction of the operation of the turning part by the turning control part.

[0016] The turning control part may include a cover cap installed at an upper side of the opening and closing device, the cover cap formed along an outer circumferential surface of the opening and closing device may be operated separately from an opening and closing operation of the opening and closing device, the opening and closing device may be not opened or closed only by an operation of the cover cap, and the cover cap may be installed to be movable along the outer circumferential surface of the opening and closing device.

[0017] When the cover cap covers a part or all of the turning part of the opening and closing device, the operation of the turning part may be blocked, and when the cover cap moves such that the turning part is exposed to be operable, the container main body may be opened by the operation of the turning part.

[0018] The turning part may be formed separated from an upper end of the opening and closing device by a distance within a range in which a user operates the turning part by a hand, and the turning control part formed between the upper end of the opening and closing device and the turning part and positioned separately from the turning part may be a separate outer surface of the opening and closing device.

[0019] The turning part of the opening and closing device may be formed separated from an upper end of the opening and closing device by a distance within a range in which a user operates the turning part by a hand, the turning control part formed between the upper end of the opening and closing device and the turning part and positioned separately from the turning part may include a separate outer surface of the opening and closing device, and when the cover cap is moved in an opening direction of the cover cap along the outer circumferential surface of the opening and closing device, the turning control part may restrict the operation of the turning part by restricting a user's approach to the turning part.

[0020] The cover cap may not operate in conjunction with the opening and closing device, and the opening and closing device may be not opened or closed only by the operation of the cover cap.

[0021] The turning part may be positioned at a lower side of the separate outer surface of the opening and closing device.

[0022] A turning screw thread part coupled to the container main body may be formed on an inner surface of the opening and closing device.

[0023] The opening and closing apparatus may include a guide which enables the cover cap to be movable vertically, wherein the guide may include a perimeter groove formed in the outer surface of the opening and closing device and a perimeter protrusion formed on an inner surface of the cover cap, or may include a perimeter protrusion formed on the outer surface of the opening and closing device and a perimeter groove formed in the inner surface of the cover cap, and the perimeter protrusion may be inserted in the perimeter groove to correspond to each other.

[0024] The cover cap may be detachably coupled to the opening and closing device.

[0025] The opening and closing apparatus may include an extension part formed by extending an outer wall of the opening and closing device under the turning screw thread part, and the turning part may be formed on a surface of the extension part.

[0026] The opening and closing apparatus may include a guide which enables the cover cap to be vertically movable along the outer circumferential surface of the opening and closing device.

[0027] The guide by which the cover cap is vertically movable may include a perimeter groove formed in the outer surface of the opening and closing device and a perimeter protrusion formed on an inner surface of the cover cap, or may include a perimeter protrusion formed on the outer surface of the opening and closing device and a perimeter groove formed in the inner surface of the cover cap.

[0028] The turning part may be formed separated from an upper end of the opening and closing device by a distance within a range in which a user operates the turning part by a hand, and the turning control part may include a separate outer surface of the opening and closing device formed between the upper end of the opening and closing device and the turning part and positioned separately from the turning part.

[0029] The cover cap may not operate in conjunction with the opening and closing device, and the opening and closing device may be not or closed only by the operation of the cover cap.

[0030] The turning part may be positioned at a lower side of the separate outer surface of the opening and closing device.

[0031] A turning screw thread part coupled to the container main body may be formed on an inner surface of the opening and closing device.

[0032] The opening and closing apparatus may include a perimeter groove formed in the outer surface of the opening and closing device and a perimeter protrusion

formed on an inner surface of the cover cap, or a perimeter protrusion formed on the outer surface of the opening and closing device and a perimeter groove formed in the inner surface of the cover cap, and the perimeter protrusion may be inserted in the perimeter groove to correspond to each other.

[0033] The cover cap may be coupled to the opening and closing device to be separable, or may be integrally provided with the opening and closing device.

[0034] The opening and closing apparatus may include an extension part formed by extending an outer wall of the opening and closing device under the turning screw thread part, and the turning part may be formed on a surface of the extension part.

[0035] Another aspect of the present invention provides a container including a container main body and an opening and closing apparatus which is provided at the container main body and controls opening and closing of the container main body, wherein the opening and closing apparatus includes an opening and closing device including a turning part for opening and closing the container main body, and a turning control part which controls an operation of the turning part, the turning part is formed on an outer surface of the opening and closing device, and is rotatable when a user touches and operates the turning part, the turning control part which restrict an operation of the turning part by controlling a user's approach to an outer surface of the turning part, and opening and closing of the opening and closing device is blocked by the restriction of the operation of the turning part by the turning control part.

[0036] The turning control part may include a cover cap installed at the outside of the opening and closing device, the cover cap formed along an outer circumferential surface of the opening and closing device may be operated separately from an opening and closing operation of the opening and closing device, the opening and closing device may be not opened or closed only by an operation of the cover cap, and the cover cap may be movable along the outer circumferential surface of the opening and closing device.

[0037] When the cover cap covers a part or all of the turning part of the opening and closing device, the operation of the turning part may be blocked, and when the cover cap moves such that the turning part is exposed to be operable, the container main body may be opened by the operation of the turning part.

[0038] The turning part may be formed separated from an upper end of the opening and closing device by a distance within a range in which a user operates the turning part by a hand, and the turning control part formed between the upper end of the opening and closing device and the turning part and positioned separately from the turning part may be a separate outer surface of the opening and closing device.

[0039] The turning part of the opening and closing device may be formed separated from an upper end of the opening and closing device by a distance within a range in which a user operates the turning part by a hand, the turning control part may include a separate outer surface of the opening and closing device formed between the upper end of the opening and closing device and the turning part and positioned separately from the turning part, and when the cover cap is moved in an opening direction of the cover cap along the outer circumferential surface of the opening and closing device, the turning control part may restrict the operation of the turning part by restricting a user's approach to the turning part.

[0040] The cover cap may not operate in conjunction with the opening and closing device, and the opening and closing device may be not opened or closed only by the operation of the cover cap.

[0041] The turning part may be positioned at a lower side of the separate outer surface of the opening and closing device.

[0042] A turning screw thread part coupled to the container main body may be formed on an inner surface of the opening and closing device.

[0043] The container may include a guide which enables the cover cap to be movable vertically, the guide may include a perimeter groove formed in the outer surface of the opening and closing device and a perimeter protrusion formed on an inner surface of the cover cap, or may include a perimeter protrusion formed on the outer surface of the opening and closing device and a perimeter groove formed in the inner surface of the cover cap, and the perimeter protrusion may be inserted in the perimeter groove to correspond to each other.

[0044] The cover cap may be detachably coupled to the opening and closing device.

[0045] The container may include an extension part formed by extending an outer wall of the opening and closing device under the turning screw thread part, and the turning part may be formed on a surface of the extension part.

[0046] The container may include a guide which enables the cover cap to be vertically movable along the outer circumferential surface of the opening and closing device.

[0047] The guide by which the cover cap is vertically movable may include a perimeter groove formed in the outer surface of the opening and closing device and a perimeter protrusion formed on an inner surface of the cover cap, or may include a perimeter protrusion formed on the outer surface of the opening and closing device and a perimeter groove formed in the inner surface of the cover cap.

[0048] The turning part may be formed separated from an upper end of the opening and closing device by a distance within a range in which a user operates the turning part by a hand, and the turning control part may include a separate outer surface of the opening and closing device formed between the upper end of the opening and closing device and the turning part and positioned separately from the turning part.

[0049] The cover cap may not operate in conjunction

with the opening and closing device, and the opening and closing device may be not opened or closed only by the operation of the cover cap.

[0050] The turning part may be positioned at a lower side of the separate outer surface of the opening and closing device.

[0051] A turning screw thread part coupled to the container main body may be formed on an inner surface of the opening and closing device.

[0052] The container may include a perimeter groove formed in the outer surface of the opening and closing device and a perimeter protrusion formed on an inner surface of the cover cap, or a perimeter protrusion formed on the outer surface of the opening and closing device and a perimeter groove formed in the inner surface of the cover cap, and the perimeter protrusion may be inserted in the perimeter groove to correspond to each other.

[0053] The cover cap may be coupled to the opening and closing device to be separable, or may be integrally provided with the opening and closing device.

[0054] The container may include an extension part formed by extending an outer wall of the opening and closing device under the turning screw thread part, and the turning part may be formed on a surface of the extension part.

[Advantageous Effects]

[0055] The present invention can provide an opening and closing apparatus of which opening is controllable and a container including the same so that a little child cannot easily open an opening and closing device.

[0056] Although the present invention provides an opening and closing device which cannot be easily opened by the intelligence of and a force exerted by a toddler or a little child who cannot properly recognize a danger, there is an effect in which opening is made difficult because the opening and closing device cannot be opened by a toddler or a little child who tries to open the opening and closing device or in which the toddler or the little child feels like playing with a toy only by allowing an outer circumferential part of the opening and closing device to turn.

[0057] Since a problem like that of little children can occur in the case of disabled or elderly adults, the present invention has an effect of requiring a level of concentration while still simplifying an operation during opening and closing of a container.

[0058] In addition, the present invention has an effect which enables a structure to be simple and easily manufactured and enables convenient use by normal adults.

[0059] In the case of an adolescent past early childhood, although opening and closing an opening and closing device can be performed by other methods, the present invention has an effect of first enabling the opening and closing to be restricted by finger length difference and then enabling the adolescent to figure out the method.

[Description of Drawings]

[0060]

FIGS. 1 and 2 are views illustrating a first embodiment of the present invention.
FIG. 1 is an overall perspective view.
FIG. 2 is an overall cross-sectional view.
FIGS. 3 to 6 are views of a second embodiment of the present invention.
FIG. 3 is an overall perspective view.
FIG. 4 is a partially cut overall perspective view.
FIG. 5 is an exploded cross-sectional view.
FIG. 6 is a coupled cross-sectional view.
FIGS. 7 to 10 are views of a third embodiment of the present invention.
FIG. 7 is a partially cut overall perspective view.
FIG. 8 is an exploded cross-sectional view.
FIG. 9 is a coupled cross-sectional view.
FIG. 10 is a coupled cross-sectional view for showing usage.

[Modes of the Invention]

[0061] Hereinafter, embodiments of an opening and closing apparatus for which opening is controllable and a container including the same according to the present invention will be described with reference to accompanying drawings. In the description, thicknesses of lines, sizes of components, and the like illustrated in the drawings may be exaggerated for clarity and convenience of explanation. In addition, some terms described below are defined by considering functions in the invention, and meanings may vary depending on, for example, a user or operator's intentions or customs. Therefore, the meanings of the terms should be interpreted based on the scope throughout this specification.

[0062] Hereinafter, a side where an opening and closing device is opened and closed when a container stands is described as an upper end (or an upper side).

[0063] FIGS. 1 and 2 are views illustrating a first embodiment of the present invention. FIG. 1 is an overall perspective view, and FIG. 2 is an overall cross-sectional view. The first embodiment of the present invention which is a container including: a container main body 110 storing contents; and an opening and closing device 120 which opens and closes one end of the container main body 110 discloses an opening and closing apparatus of which opening is controllable and in which a turning part 122 which is needed to open the container main body 110 is positioned at a lower side of the opening and closing device 120 spaced apart from an upper end of the opening and closing device 120 and a container including the same.

[0064] When a distance from an end of the opening and closing device 120 to the turning part 122 is secured,

the structure makes it difficult for little children to turn the opening and closing device 120 with hands and requires a little bit of concentration in the case of adults. A turning screw thread part 121 coupled to the container main body 110 is formed on an inner surface of the opening and closing device 120, and the turning part 122 positioned at a side of an outer circumferential surface of the turning screw thread part 121 may have a shape or material which is easily turned against a hand. The side of the outer circumferential surface of the turning screw thread part 121 becomes the turning part 122 needed to open the container main body 110.

[0065] An outer wall of the opening and closing device 120 may extend below the turning screw thread part 121 to form an extension part 120a, and the turning part 122 may also be formed at the extension part 120a.

[0066] Accordingly, a user turns the opening and closing device 120 and releases the turning screw thread part 121 to open the container main body 110 or screws the turning screw thread part 121 to close the container main body 110.

[0067] Particularly, the opening and closing apparatus 100 includes the opening and closing device 120 including the turning part 122 and a turning control part 105.

[0068] The turning part 122 of the opening and closing device 120 is needed to open and close the container main body 110.

[0069] In addition, the turning control part 105 serves to control an operation of the turning part 122.

[0070] Here, the turning part 122 is formed on an outer surface of the opening and closing device 120 and may be turned when a user touches the turning part 122 to operate.

[0071] In addition, the turning control part 105 restricts an operation of the turning part 122 by controlling a user's approach to an outer surface of the turning part 122, and the opening and closing device 120 is blocked from being opened or closed by restricting the operation of the turning part 122 by the turning control part 105.

[0072] In addition, the turning part 122 of the opening and closing device 120 is formed separated from the upper end of the opening and closing device 120 by a distance within a range in which a user operates the turning part 122 by a hand.

[0073] In addition, the turning control part 105 is formed between the upper end of the opening and closing device 120 and the turning part 122 and is positioned separately from the turning part 122. That is, the turning control part 105 corresponds to the separate outer surface 120b of the opening and closing device 120.

[0074] The turning part 122 is positioned at a lower side of the separate outer surface 120b of the opening and closing device 120.

[0075] During use, a user (adult) may grip and turn the turning part 122 needed to open the container main body 110 of the opening and closing device 120 coupled to the container main body 110, take the opening and closing device 120 off of the container main body 110, and take out the contents from the container main body 110. Even when the separate outer surface 120b is positioned at an inside of a hand, by having fingers come into contact with the turning part 122 of the opening and closing device 120, the opening and closing device 120 may be opened.

[0076] Meanwhile, when a little child opens the opening and closing device 120, since a hand of the little child is smaller than that of an adult, fingers do not reach the turning part 122 or the strength is insufficient to grip and turn only the outer circumferential surface, and thus, opening the opening and closing device 120 is difficult.

[0077] Thus, the opening and closing apparatus 100 may be provided which cannot be intentionally or unintentionally opened and closed easily with only the intelligence and strength of a little child who cannot properly recognize a danger or with only the cognitive abilities of an adult who has a mental handicap.

[0078] Referring to FIGS. 3 to 6, an opening and closing apparatus for which opening is controllable and a container including the same according to a the second embodiment of the present invention includes: a container main body 110 storing contents; an opening and closing device 120 installed at an upper end of the container main body 110 to be capable of opening and closing; and a cover cap 130 installed at an upper side of the opening and closing device 120.

[0079] The container main body 110 stores contents of a container, the upper end thereof is open, and a screw thread part 111 configured to be coupled to the opening and closing device 120 is formed at an open outer surface thereof. With the opening and closing device 120 installed on the container main body 110 to be capable of opening and closing, a turning screw thread part 121 is also formed on an inner perimeter surface of the opening and closing device 120. In the embodiment, although a coupling structure is a screw coupling, various coupling methods may be applied other than that of the embodiment.

[0080] In addition, a circumferential part to be coupled to the cover cap 130 is formed on an outer circumferential surface of an upper end of the opening and closing device 120, and the circumferential part is formed to have a perimeter groove 125 along the outer circumferential surface of the opening and closing device 120.

[0081] The cover cap 130 is installed by being coupled to the upper end of the opening and closing device 120, and a perimeter protrusion 131 corresponding to the perimeter groove 125 is formed at an inside of the cover cap 130.

[0082] Here, the perimeter protrusion 131 of the cover cap 130 is inserted into and coupled to the perimeter groove 125 of the opening and closing device 120.

[0083] In addition, as the cover cap 130 is formed to have a predetermined height extending from the upper end of the opening and closing device 120, a hand of a little child which grips the cover cap 130 may not reach the opening and closing device 120.

[0084] Particularly, the opening and closing apparatus 100 includes a turning control part 105 and the opening and closing device 120 including a turning part 122.

[0085] The turning part 122 of the opening and closing device 120 is needed to open and close the container main body 110. That is, the turning part 122 is formed by extending from an edge or a boundary of the cover cap 130 to cover a perimeter surface of the container main body 110.

[0086] In addition, the turning control part 105 controls an operation of the turning part 122.

[0087] Here, the turning part 122 is formed on an outer surface of the opening and closing device 120 and is capable of turning when touched and operated by a user.

[0088] In addition, the turning control part 105 restricts an operation of the turning part 122 by controlling a user's approach to an outer surface of the turning part 122, and the opening and closing device 120 is blocked from being opened or closed by the turning control part 105 restricting the operation of the turning part 122. That is, the turning control part 105 which includes the cover cap 130 may stably open and close the opening and closing device 120.

[0089] In addition, the turning part 122 of the opening and closing device 120 is formed separated from the upper end of the opening and closing device 120 by a distance within a range in which a user turns the turning part 122 by a hand.

[0090] In addition, the turning control part 105 is formed between the upper end of the opening and closing device 120 and the turning part 122 and is positioned separately from the turning part 122. That is, the turning control part 105 corresponds to a separate outer surface 120b of the opening and closing device 120.

[0091] The turning part 122 is positioned at a lower side of the separate outer surface 120b of the opening and closing device 120.

[0092] Accordingly, the opening and closing apparatus 100 according to the second embodiment of the present invention is provided in a state in which the opening and closing device 120 and the cover cap 130 are separately provided and assembled to the container main body 110.

[0093] When using, a user (adult) may grip and turn the turning part 122 needed to open the container main body 110 of the opening and closing device 120 coupled to the container main body 110, take the opening and closing device 120 off of the container main body 110, and take out contents from the container main body 110. Even when the cover cap 130 or the separate outer surface 120b is positioned inside of a hand, by having fingers come into contact with the turning part 122 of the opening and closing device 120, the opening and closing device 120 may be opened.

[0094] Meanwhile, when a little child opens the opening and closing device 120, since a hand of the little child is smaller than that of an adult, fingers do not reach the turning part 122 of the opening and closing device 120, or the strength is insufficient to grip and turn only the outer circumferential surface when the cover cap 130 is in contact with a palm, and thus it is difficult to open the opening and closing device 120. That is, the cover cap 130 may only turn in place due to being a rotatable structure, and an infant or toddler operating the opening and closing device 120 due to a curiosity may be interested instead in the cover cap 130 which turns in place, and turn the cover cap 130 without really opening the opening and closing apparatus.

[0095] Thus, the opening and closing apparatus 100 may be provided which cannot be intentionally or unintentionally opened and closed easily with only the intelligence and strength of a little child who cannot properly recognize a danger or with only the cognitive ability of an adult with a mental handicap.

[0096] Meanwhile, the opening and closing apparatus of which opening is controllable and a container including the same according to the embodiment of the present invention may also be variously provided according to an installation shape of the opening and closing device and the cover cap.

[0097] FIG. 7 is a partially cut overall perspective view illustrating an opening and closing apparatus according to a third embodiment of the present invention, FIG. 8 is an exploded cross-sectional view, FIG. 9 is a coupled cross-sectional view, and FIG. 10 is a coupled cross-sectional view for showing usage. The same reference number refers to the same functional structure.

[0098] In the embodiment, a cover cap 130 which is formed along an outer circumferential surface of an opening and closing device 120 is provided to be vertically movable along the outer circumferential surface of the opening and closing device 120.

[0099] Particularly, a container according to the embodiment includes a container main body 110 and an opening and closing apparatus 100, and the opening and closing apparatus 100 applied to the container main body 110 includes the opening and closing device 120 including a turning part 122 and turning control part 105, identically with those of the second embodiment.

[0100] A description of the container main body 110 is substituted with the above description.

[0101] Particularly, the opening and closing apparatus 100 includes the opening and closing device 120 including a turning part 122 and a turning control part 105.

[0102] The turning part 122 of the opening and closing device 120 is needed to open and close the container main body 110. That is, the turning part 122 is formed by extending from an edge or boarder of the cover cap 130 to cover a perimeter surface of the container main body 110.

[0103] In addition, the turning control part 105 controls an operation of the turning part 122.

[0104] Here, the turning part 122 is formed on an outer surface of the opening and closing device 120 and is rotatable when touched and operated by a user.

[0105] In addition, the turning control part 105 controls a user's approach to an outer surface of the turning part

122 to restrict the operation of the turning part 122, and the opening and closing device 120 is blocked from being opened or closed by the turning control part 105 restricting the operation of the turning part 122. That is, the turning control part 105 which includes the cover cap 130 may stably open and close the opening and closing device 120.

[0106] In addition, the turning part 122 of the opening and closing device 120 is formed separated from an upper end of the opening and closing device 120 by a distance within a range in which a user turns the turning part 122 by a hand.

[0107] In addition, the turning control part 105 includes a separate outer surface 120b of the opening and closing device 120 which is formed between the upper end of the opening and closing device 120 and the turning part 122 and is positioned separately from the turning part 122.

[0108] Here, the turning part 122 is positioned at a lower side of the separate outer surface 120b.

[0109] When the cover cap 130 is moved in an opening direction of the cover cap 130 along the outer circumferential surface of the opening and closing device 120, the turning control part 105 restricts an operation of the turning part 122 by restricting a user's approach to the turning part 122.

[0110] The turning part 122 is positioned at a lower side of the separate outer surface 120b of the opening and closing device 120.

[0111] The turning control part 105 includes the cover cap 130 installed at an upper side of the opening and closing device 120.

[0112] The cover cap 130 which is formed along the outer circumferential surface of the opening and closing device 120 is operated separately from an opening and closing operation of the opening and closing device 120 such that the opening and closing device 120 is not opened and closed only by an operation of the cover cap 130 and the cover cap 130 is installed movably along the outer circumferential surface of the opening and closing device 120.

[0113] When the cover cap 130 covers a part or all of the turning part 122 of the opening and closing device 120, an operation of the turning part 122 is blocked, and when the cover cap 130 moves such that the turning part 122 becomes exposed to be operable, the container main body 110 is opened by the operation of the turning part 122.

[0114] The turning part 122 is formed separated from an upper end of the opening and closing device 120 by a distance within a range in which a user operates the turning part 122 by a hand.

[0115] The cover cap 130 does not operate in conjunction with the opening and closing device 120, and the opening and closing device 120 is not opened or closed only by the operation of the cover cap 130.

[0116] A turning screw thread part 121 which is coupled to the container main body 110 is formed on an inner surface of the opening and closing device 120.

[0117] The cover cap 130 includes a guide 130a which enables the cover cap 130 to be vertically movable along the outer circumferential surface of the opening and closing device 120. Particularly, the guide 130a by which the cover cap 130 is vertically movable includes a perimeter groove formed in the outer surface of the opening and closing device 120 and a perimeter protrusion formed on an inner surface of the cover cap 130 or includes a perimeter protrusion formed on the outer surface of the opening and closing device 120 and a perimeter groove formed in the inner surface of the cover cap 130.

[0118] In the embodiment, the outer circumferential surface of the opening and closing device 120 includes a perimeter groove 127 having a predetermined clearance width (height) such that the cover cap 130 is vertically movable.

[0119] In addition, the cover cap 130 may be formed to turn in place along the outer circumferential surface of the opening and closing device 120 and may also be formed to cover and overlap the outer circumferential surface of the opening and closing device 120.

[0120] The turning part 122 is formed separated from an upper end of the opening and closing device 120 by a distance within a range in which a user operates the turning part 122 by a hand.

[0121] The cover cap 130 does not operate in conjunction with the opening and closing device 120, and the opening and closing device 120 is not opened or closed only by the operation of the cover cap 130.

[0122] A turning screw thread part 121 which is coupled to the container main body 110 is formed on an inner surface of the opening and closing device 120.

[0123] An extension part 120a may be formed by extending an outer wall of the opening and closing device 120 under the turning screw thread part 121. In addition, a turning part 122 may be formed on a surface of the extension part 120a.

[0124] The cover cap 130 may be detachably coupled to the opening and closing device 120.

[0125] The cover cap 130 may be coupled to the opening and closing device 120 to be separable or may be integrally provided with the opening and closing device 120.

[0126] Accordingly, the opening and closing apparatus according to the embodiment of the present invention is provided in a state in which the opening and closing device 120 and the cover cap 130 are assembled to the container main body 110 to be separable.

[0127] When using the container, a user (adult) may grip and turn the turning part 122 needed to open the container main body 110 of the opening and closing device 120 coupled to the container main body 110, take the opening and closing device 120 off of the container main body 110, and take out contents from the container main body 110. Even when the cover cap 130 is positioned inside of a hand, by having fingers come into contact with the turning part 122 of the opening and closing

device 120, the opening and closing device 120 may be opened.

[0128] Meanwhile, when a little child opens the opening and closing device 120, since a hand of the little child is smaller than that of an adult, fingers do not reach the opening and closing device 120 or the strength is insufficient to grip and turn only the outer circumferential surface when the cover cap 130 is in contact with a palm, and thus it is difficult to open the opening and closing device 120. That is, the cover cap 130 may turn in place due to being a rotatable structure, and an infant or toddler operating the opening and closing device 120 due to a curiosity may be interested instead in the cover cap 130 which turns in place, and the cover cap 130 without really opening the opening and closing apparatus.

[0129] Thus, the opening and closing apparatus 100 may be provided which cannot be intentionally or unintentionally opened and closed easily with only the intelligence and strength of a little child who cannot properly recognize a danger or with only the cognitive ability of an adult with a mental handicap.

[0130] Meanwhile, when the perimeter groove 127 is applied, the cover cap 130 covers the opening and closing device 120 not to expose the opening and closing device 120 to the outside, and in a structure in which the cover cap 130 may be turned, there is an effect of the cover cap 130 turning in place. A normal user (adult) can open the opening and closing device 120 by slightly lifting the cover cap 130. Here, due to the lifted cover cap 130, since a distance between an upper end of the cover cap 130 and the turning part is increased, it is difficult for a little child of a specified age group to perform an opening and closing operation such as turning the opening and closing device 120 with their fingers. In addition, only when the cover cap 130 is lifted, the opening and closing device 120 may be opened and closed.

[0131] When the opening and closing device 120 does not need opening and closing, when the cover cap 130 is lowered maximally, a total length of the container is decreased, and thus storing and moving of the opening and closing apparatus 100 may be easy.

[0132] Particularly, the perimeter groove 127 of the opening and closing device 120 is formed wider than a height of the perimeter protrusion 131.

[0133] Accordingly, the cover cap 130 may turn in place while the perimeter protrusion 131 vertically moves by a distance equaling a width of the perimeter groove 127 of the opening and closing device 120.

[0134] In addition, since the cover cap 130 is vertically movable by a distance equaling the width of the perimeter groove 127, it may be even more difficult for a user to directly grip the opening and closing device 120.

[0135] Reference numbers which have not been described are substituted with the above descriptions.

[0136] While the present invention has been described with reference to the embodiments illustrated in the drawings, these are only examples. It may be understood by those skilled in the art that various modifications and equivalent other embodiments may be made. Therefore, the scope of the present invention is defined by the appended claims and encompasses equivalents that fall within the scope of the appended claims.

Claims

1. An opening and closing apparatus comprising:

   an opening and closing device applied to a container main body and including a turning part for opening and closing the container main body; and
   a turning control part which controls an operation of a turning part,

   wherein the turning part is formed on an outer surface of the opening and closing device, and is rotatable when a user touches and operates the turning part,
   wherein the turning control part restricts an operation of the turning part by controlling a user's approach to an outer surface of the turning part, and
   wherein opening and closing of the opening and closing device is blocked by the restriction of the operation of the turning part by the turning control part.

2. The opening and closing apparatus of claim 1, wherein the turning control part includes a cover cap installed at an upper side of the opening and closing device, and wherein the cover cap formed along an outer circumferential surface of the opening and closing device is operated separately from an opening and closing operation of the opening and closing device, and the opening and closing device is not opened or closed only by an operation of the cover cap; and the cover cap is installed to be movable along the outer circumferential surface of the opening and closing device.

3. The opening and closing apparatus of claim 2, wherein:

   when the cover cap covers a part or all of the turning part of the opening and closing device, the operation of the turning part is blocked; and
   when the cover cap moves such that the turning part is exposed to be operable, the container main body is opened by the operation of the turning part.

4. The opening and closing apparatus of claim 1, wherein:

   the turning part is formed spaced apart from an upper end of the opening and closing device by a distance within a range in which a user operates the turning part by a hand; and

the turning control part formed between the upper end of the opening and closing device and the turning part and positioned spaced apart from the turning part is a separate outer surface of the opening and closing device.

5. The opening and closing apparatus of claim 2, wherein:

the turning part of the opening and closing device is formed spaced apart from an upper end of the opening and closing device by a distance within a range in which a user operates the turning part by a hand;
the turning control part includes a separate outer surface of the opening and closing device formed between the upper end of the opening and closing device and the turning part and positioned separately from the turning part; and

when the cover cap is moved in an opening direction of the cover cap along the outer circumferential surface of the opening and closing device, the turning control part restricts the operation of the turning part by restricting a user's approach to the turning part.

6. The opening and closing apparatus of claim 2, wherein:

the cover cap does not operate in conjunction with the opening and closing device; and
the opening and closing device is not opened or closed only by the operation of the cover cap.

7. The opening and closing apparatus of claim 4 or 5, wherein the turning part is positioned at a lower side of the separate outer surface of the opening and closing device.

8. The opening and closing apparatus of claim 1, wherein a turning screw thread part coupled to the container main body is formed on an inner surface of the opening and closing device.

9. The opening and closing apparatus of claim 3, further comprising a guide which enables the cover cap to be movable vertically, wherein:

the guide includes a perimeter groove formed in the outer surface of the opening and closing device and a perimeter protrusion formed on an inner surface of the cover cap, or includes a perimeter protrusion formed on the outer surface of the opening and closing device and a perimeter groove formed in the inner surface of the cover cap; and
the perimeter protrusion is inserted in the perimeter groove to correspond to each other.

10. The opening and closing apparatus of claim 2, wherein the cover cap is detachably coupled to the opening and closing device.

11. The opening and closing apparatus of claim 8, further comprising an extension part formed by extending an outer wall of the opening and closing device under the turning screw thread part, wherein the turning part is formed on a surface of the extension part.

12. The opening and closing apparatus of claim 2, further comprising a guide which enables the cover cap to be vertically movable along the outer circumferential surface of the opening and closing device.

13. The opening and closing apparatus of claim 12, wherein the guide by which the cover cap is vertically movable includes a perimeter groove formed in the outer surface of the opening and closing device and a perimeter protrusion formed on an inner surface of the cover cap, or includes a perimeter protrusion formed on the outer surface of the opening and closing device and a perimeter groove formed in the inner surface of the cover cap.

14. The opening and closing apparatus of claim 13, wherein:

the turning part is formed spaced apart from an upper end of the opening and closing device by a distance within a range in which a user operates the turning part by a hand; and
the turning control part includes a separate outer surface of the opening and closing device formed between the upper end of the opening and closing device and the turning part and positioned separately from the turning part.

15. The opening and closing apparatus of claim 12, wherein:

the cover cap does not operate in conjunction with the opening and closing device; and
the opening and closing device is not opened or closed only by the operation of the cover cap.

16. The opening and closing apparatus of claim 14, wherein the turning part is positioned at a lower side of the separate outer surface of the opening and closing device.

17. The opening and closing apparatus of claim 12, wherein a turning screw thread part coupled to the container main body is formed on an inner surface of the opening and closing device.

18. The opening and closing apparatus of claim 12, further comprising a perimeter groove formed in the

outer surface of the opening and closing device and a perimeter protrusion formed on an inner surface of the cover cap, or a perimeter protrusion formed on the outer surface of the opening and closing device and a perimeter groove formed in the inner surface of the cover cap, wherein the perimeter protrusion is inserted in the perimeter groove to correspond to each other.

19. The opening and closing apparatus of claim 12, wherein the cover cap is coupled to the opening and closing device to be separable, or is integrally provided with the opening and closing device.

20. The opening and closing apparatus of claim 17, further comprising an extension part formed by extending an outer wall of the opening and closing device under the turning screw thread part, wherein the turning part is formed on a surface of the extension part.

21. A container comprising:

a container main body; and
an opening and closing apparatus which is provided at the container main body and controls opening and closing of the container main body, wherein:

the opening and closing apparatus includes an opening and closing device including a turning part for opening and closing the container main body, and a turning control part which controls an operation of the turning part;
the turning part is formed on an outer surface of the opening and closing device, and is rotatable when a user touches and operates the turning part;
the turning control part which restrict an operation of the turning part by controlling a user's approach to an outer surface of the turning part; and
opening and closing of the opening and closing device is blocked by the restriction of the operation of the turning part by the turning control part.

22. The container of claim 21, wherein:

the turning control part includes a cover cap installed at the outside of the opening and closing device;
the cover cap formed along an outer circumferential surface of the opening and closing device is operated separately from an opening and closing operation of the opening and closing device, and the opening and closing device is not opened or closed only by an operation of the cover cap; and
the cover cap is installed to be movable along the outer circumferential surface of the opening and closing device.

23. The container of claim 22, wherein:

when the cover cap covers a part or all of the turning part of the opening and closing device, the operation of the turning part is blocked; and
when the cover cap moves such that the turning part is exposed to be operable, the container main body is opened by the operation of the turning part.

24. The container of claim 21, wherein:

the turning part is formed separated from an upper end of the opening and closing device by a distance within a range in which a user operates the turning part by a hand; and
the turning control part formed between the upper end of the opening and closing device and the turning part and positioned separately from the turning part is a separate outer surface of the opening and closing device.

25. The container of claim 22, wherein:

the turning part of the opening and closing device is formed separated from an upper end of the opening and closing device by a distance within a range in which a user operates the turning part by a hand;
the turning control part includes a separate outer surface of the opening and closing device formed between the upper end of the opening and closing device and the turning part and positioned separately from the turning part; and

when the cover cap is moved in an opening direction of the cover cap along the outer circumferential surface of the opening and closing device, the turning control part restricts the operation of the turning part by restricting a user's approach to the turning part.

26. The container of claim 22, wherein:

the cover cap does not operate in conjunction with the opening and closing device; and
the opening and closing device is not opened or closed only by the operation of the cover cap.

27. The container of claim 24 or 25, wherein the turning part is positioned at a lower side of the separate outer surface of the opening and closing device.

28. The container of claim 21, wherein a turning screw thread part coupled to the container main body is formed on an inner surface of the opening and closing device

29. The container of claim 23, further comprising a guide

which enables the cover cap to be movable vertically, wherein:

the guide includes a perimeter groove formed in the outer surface of the opening and closing device and perimeter protrusion formed on an inner surface of the cover cap, or includes a perimeter protrusion formed on the outer surface of the opening and closing device and a perimeter groove formed in the inner surface of the cover cap; and
the perimeter protrusion is inserted in the perimeter groove to correspond to each other.

30. The container of claim 22, wherein the cover cap is detachably coupled to the opening and closing device.

31. The container of claim 28, further comprising an extension part formed by extending an outer wall of the opening and closing device under the turning screw thread part, wherein the turning part is formed on a surface of the extension part.

32. The container of claim 22, further comprising a guide which enables the cover cap to be vertically movable along an outer circumferential surface of the opening and closing device.

33. The container of claim 32, wherein the guide by which the cover cap is vertically movable includes a perimeter groove formed in the outer surface of the opening and closing device and a perimeter protrusion formed on an inner surface of the cover cap, or includes a perimeter protrusion formed on the outer surface of the opening and closing device and a perimeter groove formed in the inner surface of the cover cap.

34. The container of claim 33, wherein:

the turning part is formed separated from an upper end of the opening and closing device by a distance within a range in which a user operates the turning part by a hand; and
the turning control part includes a separate outer surface of the opening and closing device formed between the upper end of the opening and closing device and the turning part and positioned separately from the turning part.

35. The container of claim 32, wherein:

the cover cap does not operate in conjunction with the opening and closing device; and
the opening and closing device is not opened or closed only by the operation of the cover cap.

36. The container of claim 34, wherein the turning part is positioned at a lower side of the separate outer surface of the opening and closing device.

37. The container of claim 32, wherein a turning screw thread part coupled to the container main body is formed on an inner surface of the opening and closing device.

38. The container of claim 32, further comprising a perimeter groove formed in the outer surface of the opening and closing device and a perimeter protrusion formed on an inner surface of the cover cap, or a perimeter protrusion formed on the outer surface of the opening and closing device and a perimeter groove formed in the inner surface of the cover cap, wherein the perimeter protrusion is inserted in perimeter groove to correspond to each other.

39. The container of claim 32, wherein the cover cap is coupled to the opening and closing device to be separable, or is integrally provided with the opening and closing device.

40. The container of claim 37, further comprising an extension part formed by extending an outer wall of the opening and closing device under the turning screw thread part, wherein the turning part is formed on a surface of the extension part.

FIG. 1

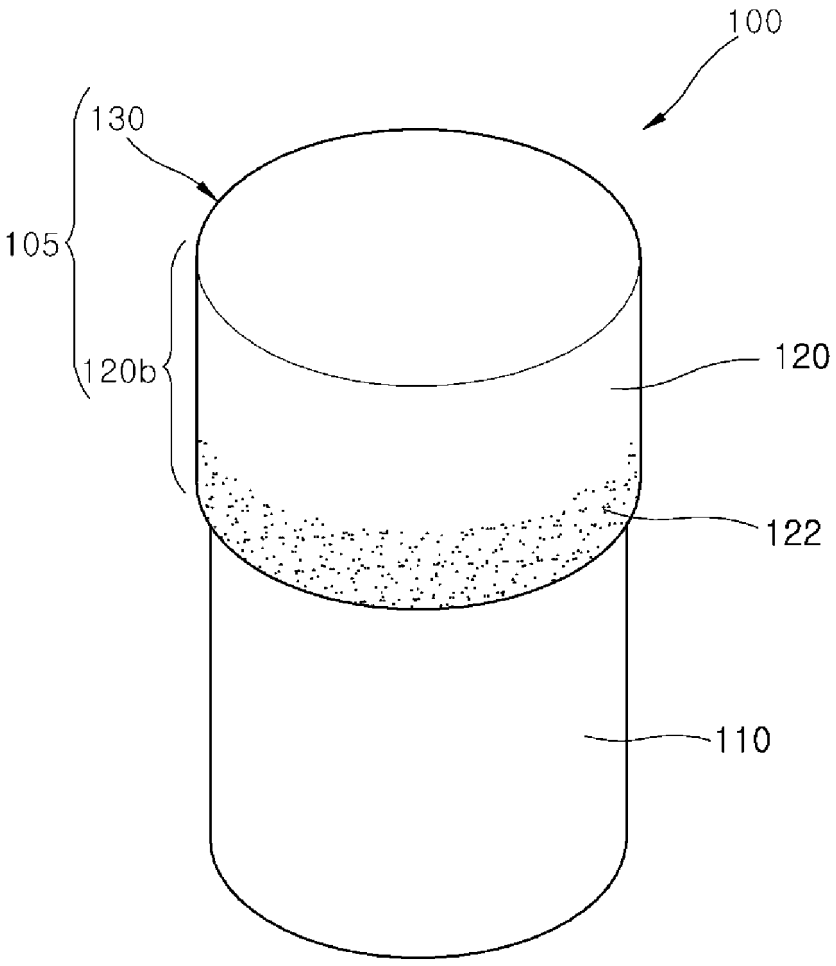


FIG. 2

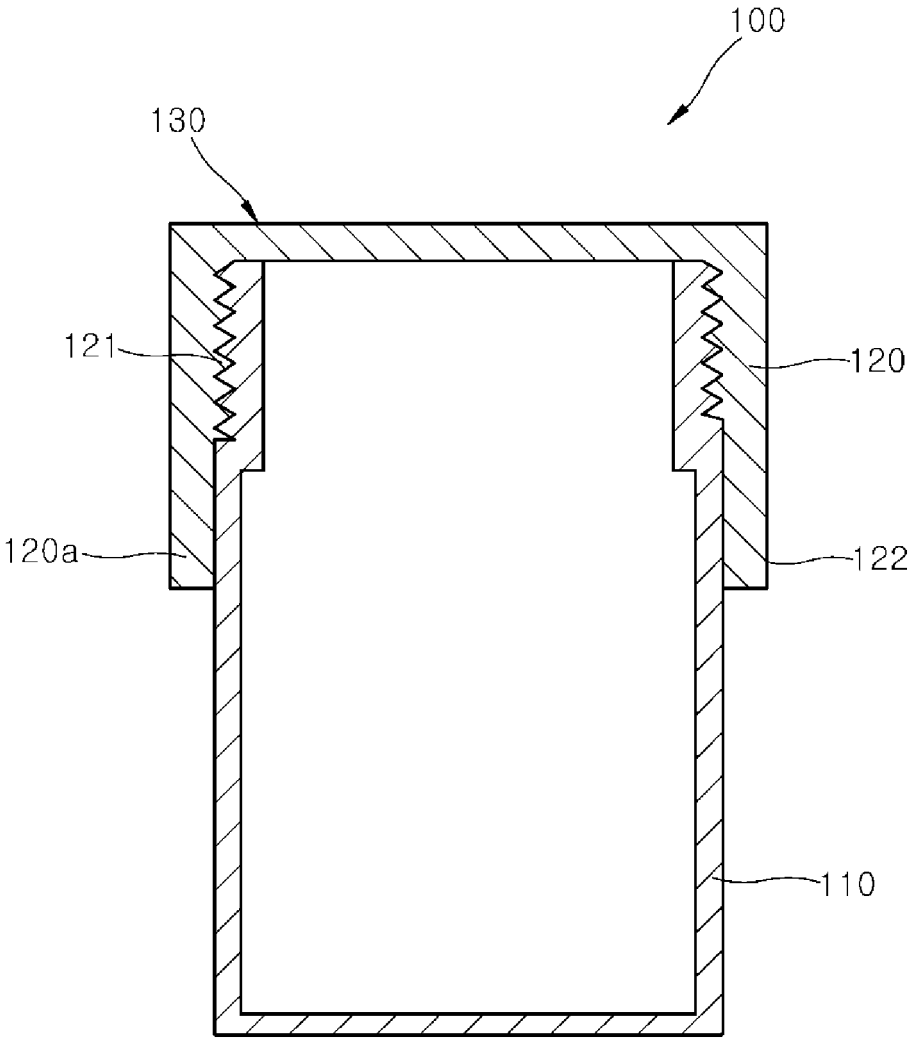


FIG. 3

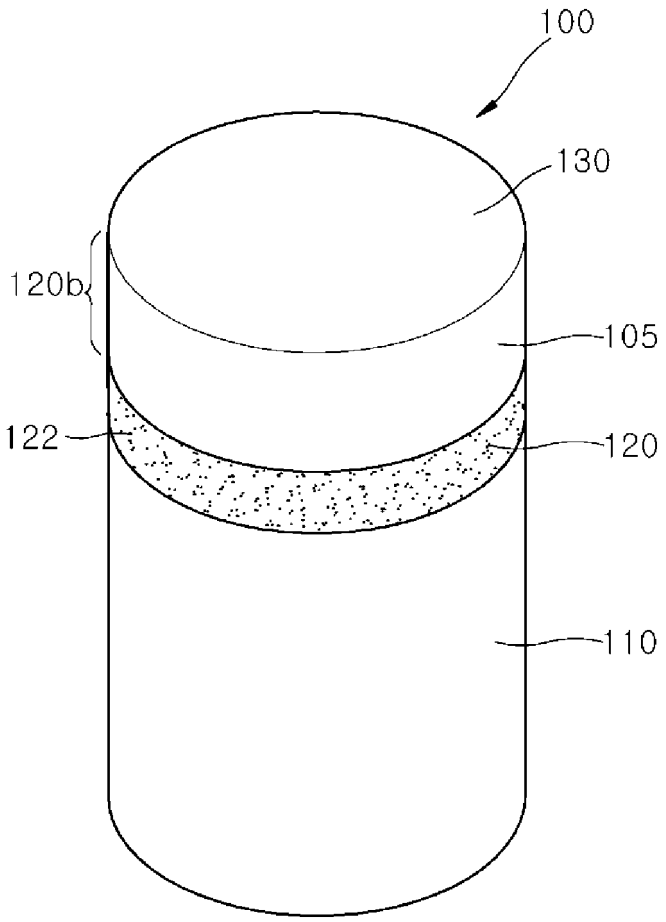


FIG. 4

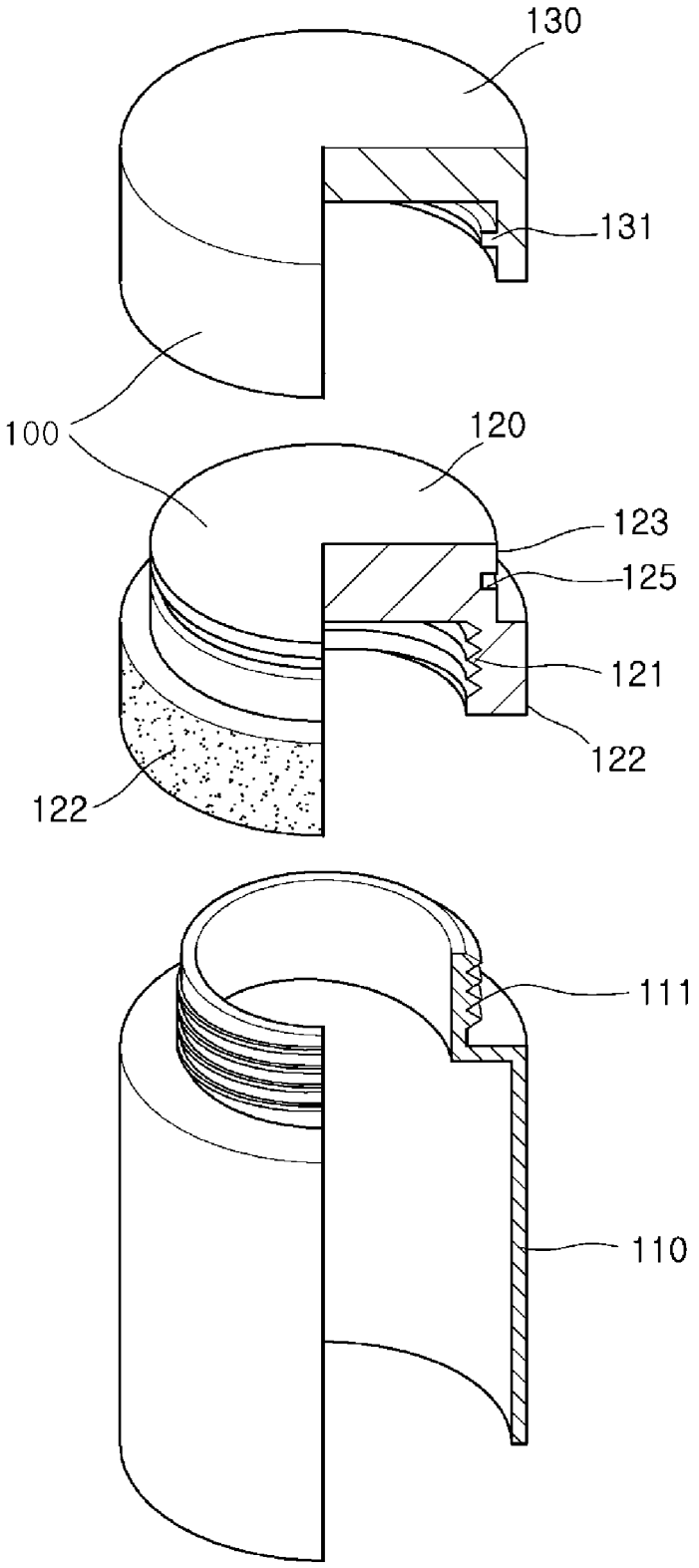


FIG. 5

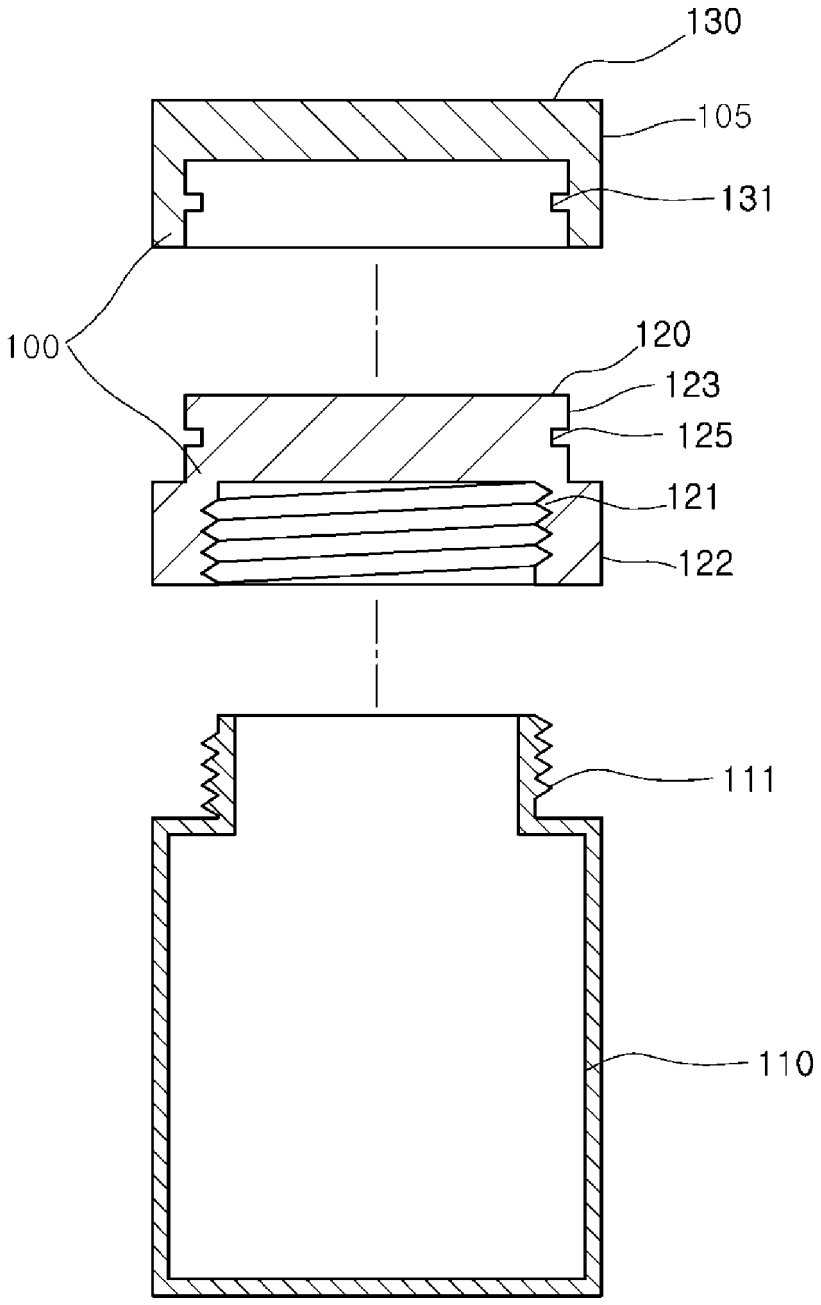


FIG. 6

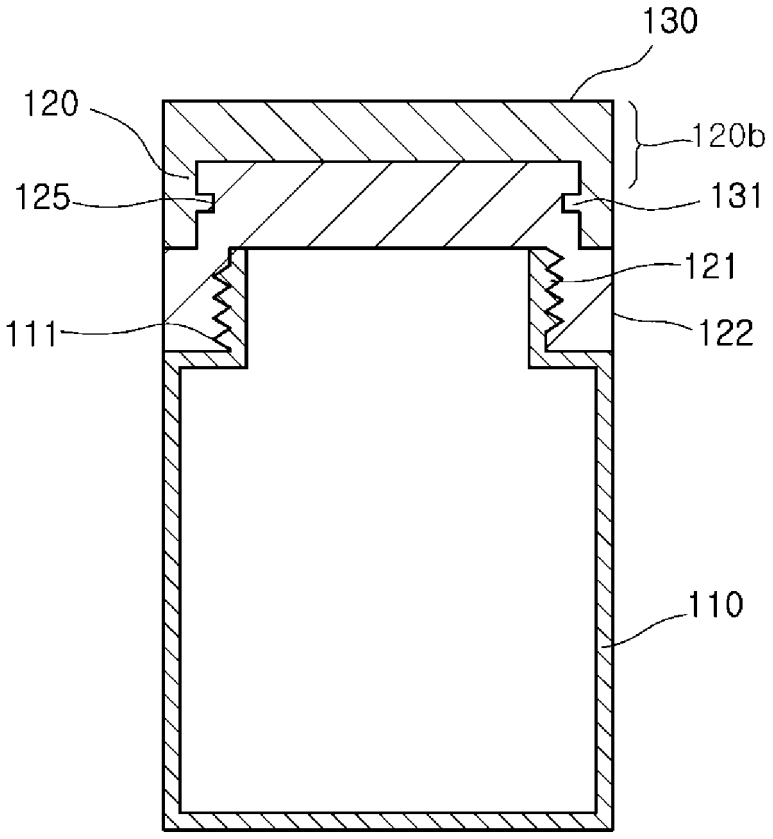


FIG. 7

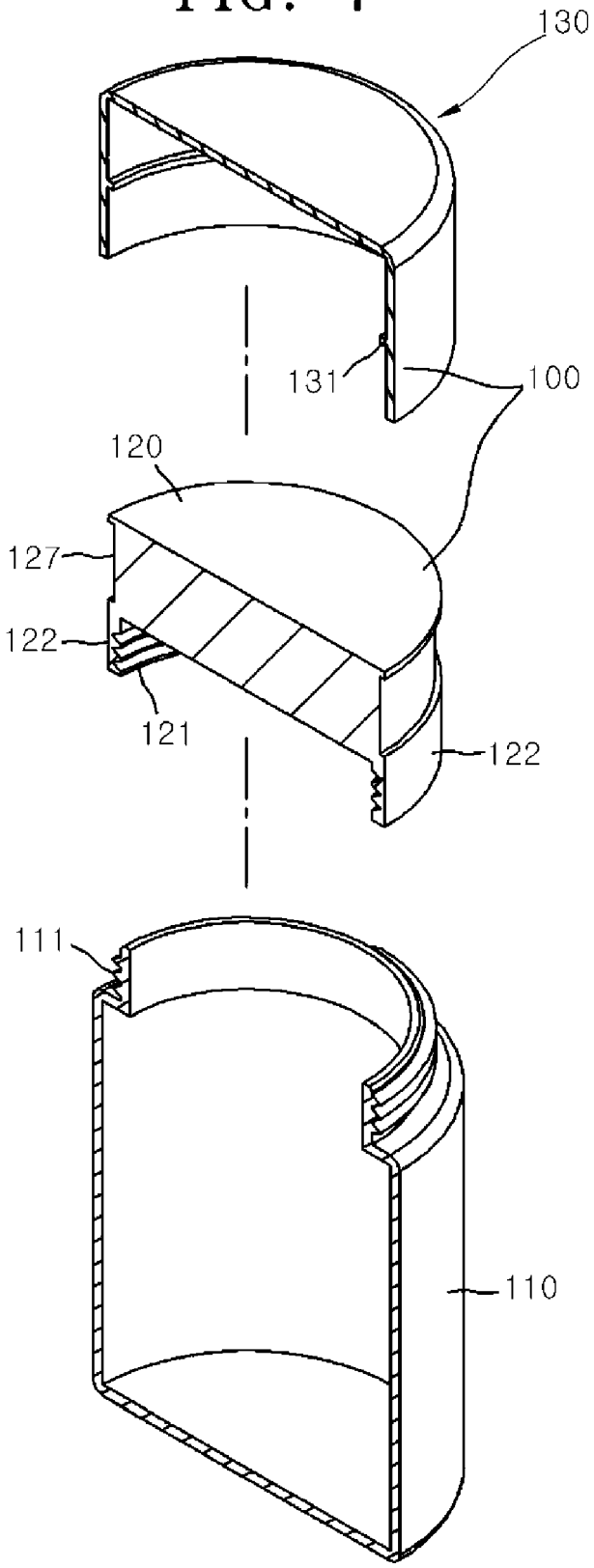


FIG. 8

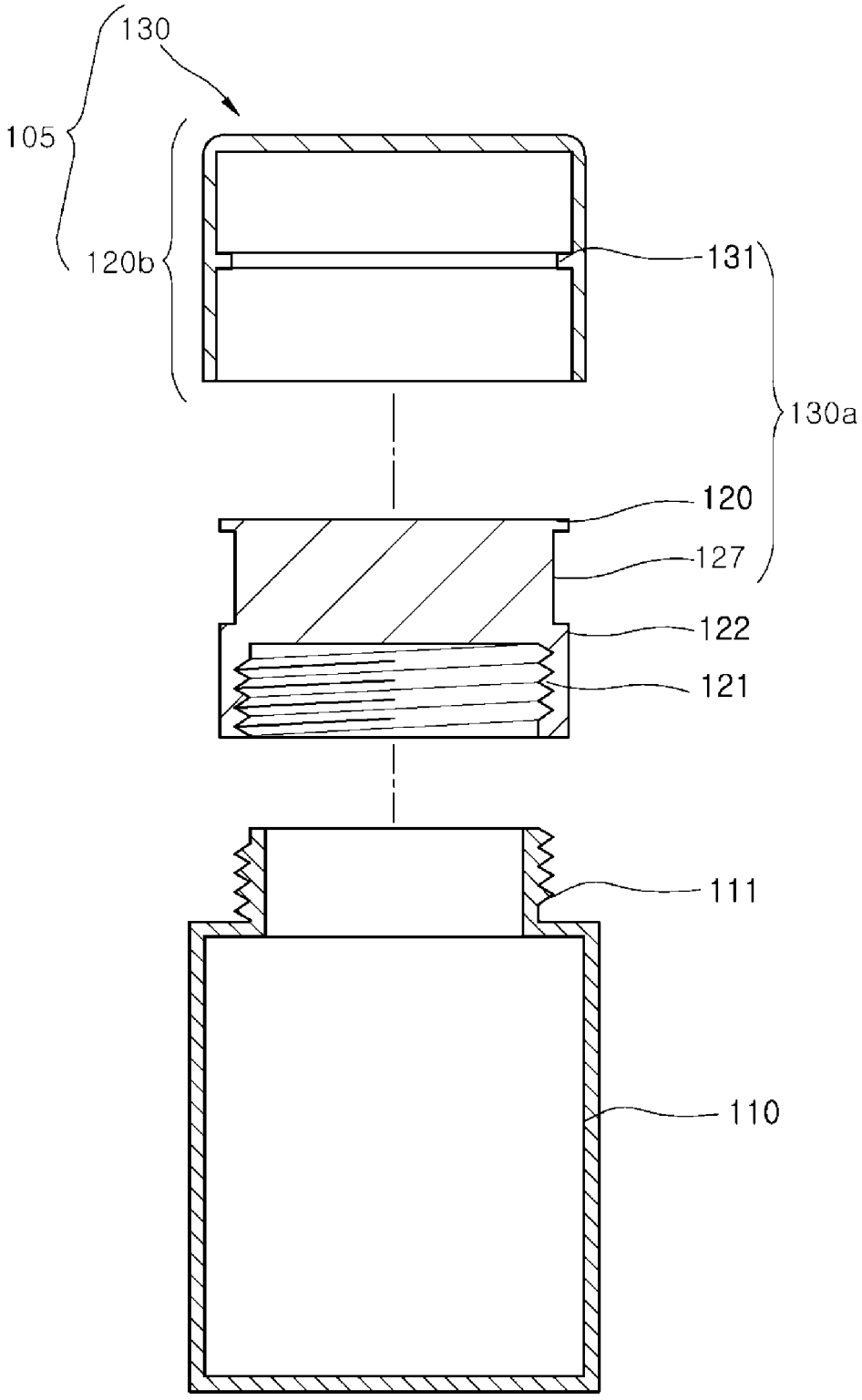


FIG. 9

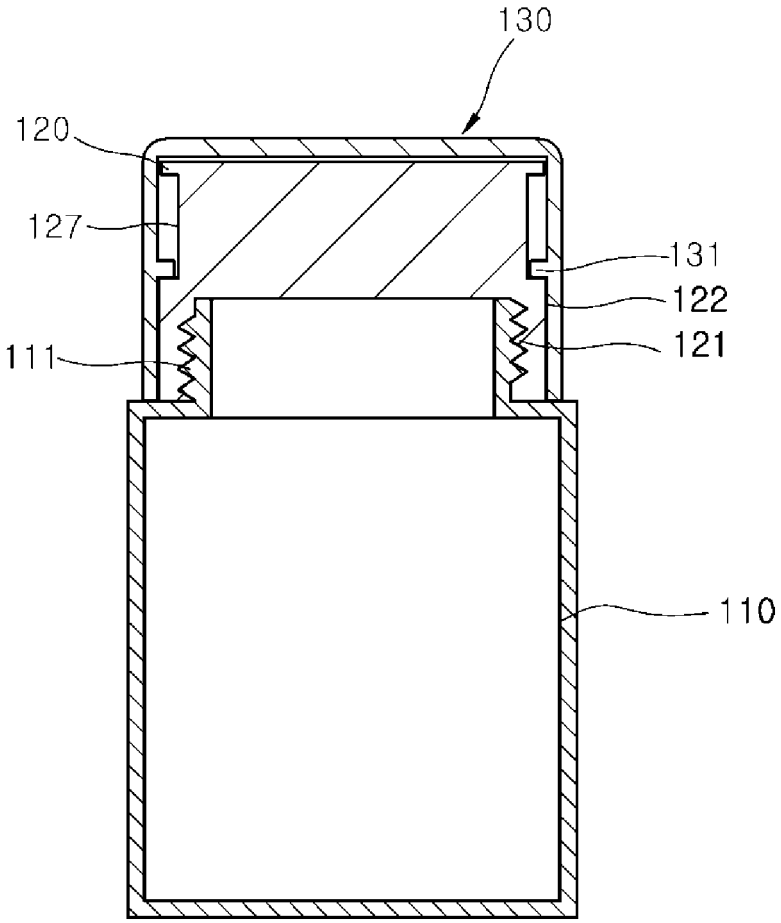
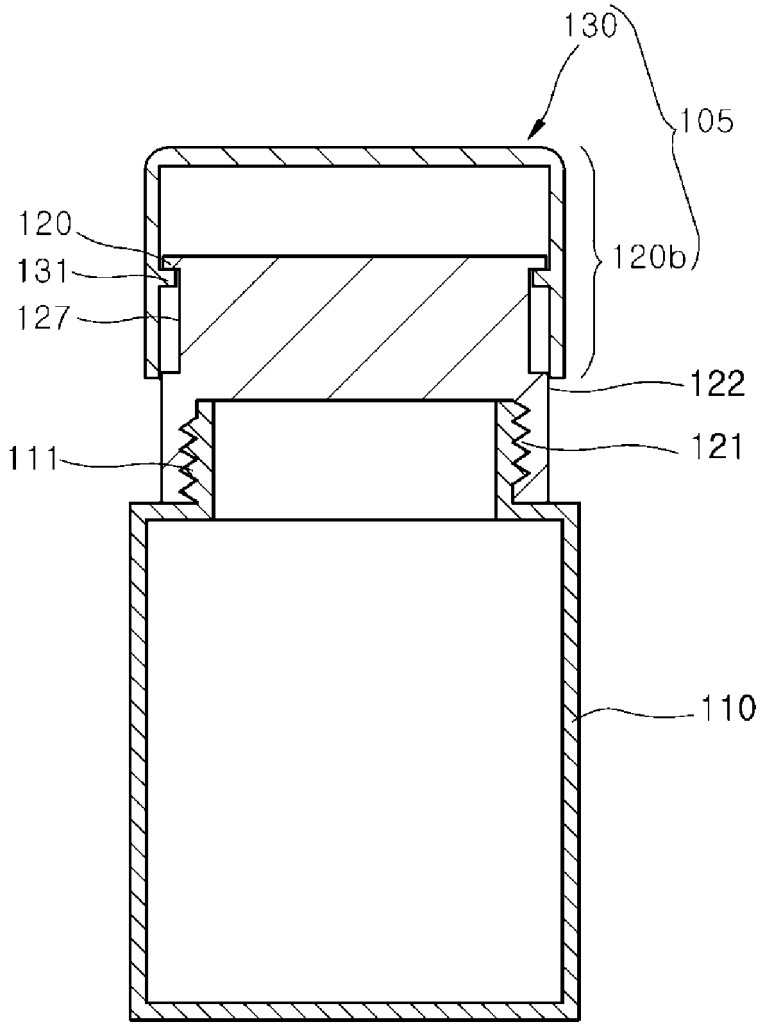


FIG. 10



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Patent documents cited in the description

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