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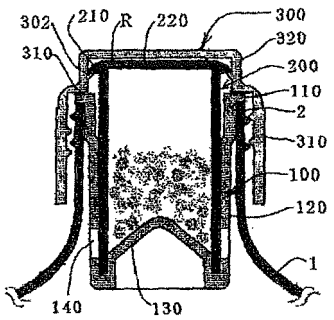
(54) CONTAINER STOPPER HAVING SEPARATED ADDITIVE ACCOMMODATION TUBE

(57) Disclosed is a container cap having a separated additive storage tube, which includes: a lower cap (100) which is coupled to a mouth (2) of a container (1) and which has a stopper (130) protruding upward from a bottom of an extension tube (120); a storage tube (200) which is sealing coupled to an edge of the stopper (130) and in which an additive is contained; and an upper cap (300) which is coupled with the storage tube (200) together with the lower cap (100). When the upper cap (300) is separated from the container (1), the stopper (130) and the storage tube (200) is uncoupled only by upward movement rather than rotation of the storage tube (200) so that the additive is discharged through a lower portion of the storage tube (200) and discharge holes.

Fig.1



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Description

[Technical Field]

[0001] The present invention relates, in general, to a container cap having a separated additive storage tube and, more particularly, to a container cap having a separated additive storage tube, which includes a lower cap which is coupled to a mouth of a container and which has a stopper whose central portion is formed so as to protrude upward from a bottom of an extension tube extending into the mouth of the container and open discharge holes formed in a circumference of the stopper, a storage tube whose open lower end is openably coupled to an edge of the stopper of the lower cap, in which an additive is contained, whose upper end lateral surface has a shoulder increased in diameter, and whose upper end surface is closed, and an upper cap whose inner surface has a ridge supporting the shoulder so as to allow the storage tube to move up or down, and which is coupled with the storage tube together with the lower cap, and which causes the storage tube to be separated from the stopper when separated from the mouth of the container, so that the additive is discharged through a lower portion of the storage tube and the discharge holes.

[Background Art]

[0002] In general, additive storage caps capable of adding an additive into a container have been known as functional caps. One of the additive storage caps is given as an example in Korean Patent No. 10-0597216. The additive storage cap includes:

> a lower cap as a storage member which is fixed to a mouth of a container by screwing or hooking, which has discharge holes formed in a bottom edge of an injection tube extending into the mouth of the container at regular intervals, and to a bottom of which a bottom stopper is fixed; and
> an upper cap as an opening member which is separably coupled to an upper portion of the lower cap, which has an additive storage tube extending downward from an inner surface of an upper portion thereof in one body, and which causes the storage tube to be separated from the bottom stopper so that the additive is discharged to the discharge holes when moving up. In this case, the stopper may be hooked or integrally formed with the injection tube of the lower cap.

[0003] However, in this method, the stopper should be separately provided. To secure sealability in the event of assembly, the upper cap having the storage tube should be assembled with the stopper by torque coupling. As such, there is a problem in that, when torque occurs, the stopper is damaged or the storage tube is twisted, so that the sealability cannot be maintained. To address this problem, a separate packing ring is added to a joint portion, which is responsible for an increase in cost.

[0004] Meanwhile, another additive storage cap known from Korean Utility Model Application Registration No. 20- 0363704 includes:

> a lower cap as a packing member which has an injection tube fixed in a mouth of a container and a bottom stopper protruding from a bottom of the injection tube, and several discharge holes between a circumference of the bottom stopper and a lower end of the injection tube; and
> an upper cap as a cover which encloses and fixes an upper portion of the lower cap and the container, and which has a storage tube coupled with an upper inner surface of the upper cap and the bottom stopper and causing an additive in the storage tube to be added into the container when moving up.

[0005] This technical structure is a two-piece structure of the upper and lower caps, and has an advantage in that it contributes to cost saving and has good assemblability. However, due to two pieces, to store the additive and to secure sealability, a lower end of the storage tube and the bottom stopper should be assembled by torque coupling. In the event of the torque coupling, the storage tube is twisted, and ribs formed between the bottom stopper and the injection tube so as to form discharge slots are damaged. Thus, there is a problem in which the sealability cannot be maintained.

[Disclosure]

[Technical Problem]

[0006] Accordingly, the present invention has been made while keeping in mind the above problems occurring in the related art, and is intended to provide a container cap having a separated additive storage tube, which includes a lower cap that has a stopper at a bottom of an extension tube fixed to an inner wall of a mouth of a container and an upper cap that has a storage tube sealing coupled with the stopper and stores and discharges an additive, wherein the storage tube is sealing coupled with the stopper only by downward movement rather than rotation when the upper cap is coupled to the mouth of the container, and the storage tube is separated from the stopper when moving upward so as to add an additive without being twisted.

[0007] The present invention is intended to provide a container cap having a separated additive storage tube, which includes a lower cap that has a stopper, which is allowed to be opened/closed by a hinge, at a bottom of an extension tube fixed to an inner wall of a mouth of a container and an upper cap that has a storage tube sealing coupled with the stopper and stores and discharges an additive, wherein the storage tube is kept sealed with the stopper only by downward movement rather than ro-

tation when the upper cap is coupled to the mouth of the container, and the storage tube is separated from the stopper when moving upward to add an additive in the storage tube so as to add the additive into the container without being twisted.

[0008] The present invention is intended to provide a container cap having a separated additive storage tube, in which an upper cap is separated from a storage tube, in which the storage tube is configured so that an upper end thereof is closed by an upper end face and so that a lateral surface thereof has a shoulder supported on the upper cap, and in which at least one of the upper end face of the storage tube and the corresponding upper cap is provided with a protrusion rail reducing friction, wherein the storage tube is fixed and only the upper cap is allowed to be turned so that the storage tube moves up or down without causing torque.

[0009] The present invention is intended to provide a container cap having a separated additive storage tube, in which an extension tube of a lower cap which extends along an inner wall of a mouth of a container and a corresponding inner wall of the mouth are configured to enable profile coupling so as to have fixability and sealability.

[Technical Solution]

[0010] According to an aspect of the present invention, there is provided a container cap having a separated additive storage tube, which includes:

a lower cap which is coupled to an upper end of a mouth of a container by a catching flange and which has a stopper whose central portion is formed so as to protrude upward from a bottom of an extension tube extending downward from the catching flange into the mouth of the container, and open discharge holes formed in a circumference of the stopper;
a storage tube whose open lower end is sealing coupled to an edge of the stopper of the lower cap, in which an additive is contained, whose upper end outer surface has a shoulder increased in diameter, and whose upper end surface is closed; and
an upper cap whose inner surface has a ridge supporting the shoulder so as to prevent rotation of the storage tube, which is coupled with the storage tube together with the lower cap, and which causes the storage tube to perform only downward movement when coupled to the lower cap,
wherein, when the upper cap is separated from the container, the sealing coupling of the stopper and the storage tube is released only by upward movement rather than the rotation of the storage tube so that the additive is discharged through a lower portion of the storage tube and the discharge holes.

[0011] According to another aspect of the present invention, there is provided a container cap having a separated additive storage tube, which includes:

a lower cap that is coupled to an upper end of a mouth of a container by a catching flange and that has a stopper whose central portion is formed so as to protrude upward from a bottom of an extension tube extending downward from the catching flange into the mouth of the container and which is integrally formed with the extension tube by a hinge,
a storage tube whose open lower end is sealing coupled to an edge of the stopper of the lower cap, in which an additive is contained, whose upper end outer surface has a shoulder increased in diameter, and whose upper end surface is closed, and
an upper cap whose inner surface has a ridge supporting the shoulder so as to prevent rotation of the storage tube, which is coupled with the storage tube together with the lower cap so that the stopper of the lower cap is hinged to a lower end of the storage tube around the hinge, and which causes the storage tube to perform only downward movement when coupled to the lower cap,
wherein, when the upper cap is separated from the container, the sealing coupling of the stopper and the storage tube is released only by upward movement rather than the rotation of the storage tube, and the stopper and the storage tube are opened on the basis of the hinge so that the additive is discharged through a lower portion of the opened storage tube.

[Advantageous Effects]

[0012] The present invention provides a container cap having a separated additive storage tube, which includes a lower cap that has a stopper at a bottom of an extension tube fixed to an inner wall of a mouth of a container and an upper cap that has a storage tube sealing coupled with the stopper and stores and discharges an additive, wherein the storage tube is sealing coupled with the stopper only by downward movement rather than rotation when the upper cap is coupled to the mouth of the container, and the storage tube is separated from the stopper when moving upward so as to add an additive without being twisted.

[0013] The present invention provides a container cap having a separated additive storage tube, which includes a lower cap that has a stopper, which is allowed to be opened/closed by a hinge, at a bottom of an extension tube fixed to an inner wall of a mouth of a container and an upper cap that has a storage tube sealing coupled with the stopper and stores and discharges an additive, wherein the storage tube is kept sealed with the stopper only by downward movement rather than rotation when the upper cap is coupled to the mouth of the container, and the storage tube is separated from the stopper when moving upward to add an additive in the storage tube so as to add the additive into the container without being twisted.

[0014] The present invention provides a container cap having a separated additive storage tube, in which an upper cap is separated from a storage tube, in which the storage tube is configured so that an upper end thereof is closed by an upper end face and so that a lateral surface thereof has a shoulder supported on the upper cap, and in which at least one of the upper end face of the storage tube and the corresponding upper cap is provided with a protrusion rail reducing friction, wherein the storage tube is fixed and only the upper cap is allowed to be turned so that the storage tube moves up or down without causing torque.

[0015] The present invention provides a container cap having a separated additive storage tube, in which an extension tube of a lower cap which extends along an inner wall of a mouth of a container and a corresponding inner wall of the mouth are configured to enable profile coupling so as to have fixability and sealability.

[Description of Drawings]

[0016]

FIG. 1 is a cross-sectional view showing an assembled state of the present invention.

FIG. 2 is a cross-sectional view showing a process in which a storage tube of the present invention is separated.

FIG. 3 is an assembled state cross-sectional view showing another example of the present invention.

FIG. 4 is a cross-sectional view showing a state in which a storage tube of FIG. 3.

FIG. 5 is an essential part enlarged view showing another example of the present invention.

FIG. 6 is an enlarged cross-sectional view showing a coupling relation between an extension tube of a lower cap and an inner wall of a mouth of a container in the present invention.

FIG. 7 shows a case of coupling an upper cap and a storage tube and injecting an additive in the present invention.

FIG. 8 showing a state in which a lower cap is coupled to an assembly of FIG. 7.

FIG. 9 showing a state in which an assembly of FIG. 8 is turned upside down and coupled to a container.

FIG. 10 shows an example of a real design of FIG. 1.

FIG. 11 shows an example of a real design of FIG. 3.

FIG. 12 is a perspective view of a storage tube of the present invention.

FIG. 13 is a perspective view of a coupled state of the present invention.

FIG. 14 is a perspective view of a lower cap showing another example of the present invention.

FIG. 15 is a photograph of a state in which the present invention using FIG. 14 is coupled to a container.

[Best Mode]

[0017] The present invention provides a container cap having a separated additive storage tube, which includes:

a lower cap which is coupled to an upper end of a mouth of a container by a catching flange and which has a stopper whose central portion is formed so as to protrude upward from a bottom of an extension tube extending downward from the catching flange into the mouth of the container, and open discharge holes formed in a circumference of the stopper;

a storage tube whose open lower end is sealing coupled to an edge of the stopper of the lower cap, in which an additive is contained, whose upper end outer surface has a shoulder increased in diameter, and whose upper end surface is closed; and

an upper cap whose inner surface has a ridge supporting the shoulder so as to prevent rotation of the storage tube, which is coupled with the storage tube together with the lower cap, and which causes the storage tube to perform only downward movement when coupled to the lower cap,

wherein, when the upper cap is separated from the container, the sealing coupling of the stopper and the storage tube is released only by upward movement rather than the rotation of the storage tube so that the additive is discharged through a lower portion of the storage tube and the discharge holes.

[0018] The present invention provides a container cap having a separated additive storage tube, which includes:

a lower cap that is coupled to an upper end of a mouth of a container by a catching flange and that has a stopper whose central portion is formed so as to protrude upward from a bottom of an extension tube extending downward from the catching flange into the mouth of the container and which is integrally formed with the extension tube by a hinge,

a storage tube whose open lower end is sealing coupled to an edge of the stopper of the lower cap, in which an additive is contained, whose upper end outer surface has a shoulder increased in diameter, and whose upper end surface is closed, and

an upper cap whose inner surface has a ridge supporting the shoulder so as to prevent rotation of the storage tube, which is coupled with the storage tube together with the lower cap so that the stopper of the lower cap is hinged to a lower end of the storage tube around the hinge, and which causes the storage tube to perform only downward movement when coupled to the lower cap,

wherein, when the upper cap is separated from the container, the sealing coupling of the stopper and the storage tube is released only by upward movement rather than the rotation of the storage tube, and the stopper and the storage tube are opened on the

basis of the hinge so that the additive is discharged through a lower portion of the opened storage tube.

[Mode for Invention]

[0019] Reference will now be made in greater detail to an exemplary embodiment of the invention with reference to the accompanying drawings.

[0020] The present invention provides a container cap having a separated additive storage tube, which includes a lower cap 100 that is coupled to an upper end of a mouth 2 of a container 1 by a catching flange 110 and has a stopper 130 whose central portion is formed so as to protrude upward from a bottom of an extension tube 120 extending downward from the catching flange 110 into the mouth of the container 1 and open discharge holes 140 formed in a circumference of the stopper 130, a storage tube 200 whose open lower end is sealing coupled to an edge of the stopper 130 of the lower cap 100, in which an additive is contained, whose upper end outer surface has a shoulder 210 increased in diameter, and whose upper end surface 220 is closed, and

an upper cap 300 whose inner surface has a ridge supporting the shoulder 210 so as to prevent rotation of the storage tube 200, which is coupled with the storage tube 200 together with the lower cap 100, and which causes the storage tube 200 to perform only downward movement when coupled to the lower cap 100,

wherein, when the upper cap 300 is separated from the container 1, the sealing coupling of the stopper 130 and the storage tube 200 is released only by upward movement rather than the rotation of the storage tube 200 so that the additive is discharged through a lower portion of the storage tube 200 and the discharge holes.

[0021] Further, the present invention provides a container cap having a separated additive storage tube, which includes a lower cap 100 that is coupled to an upper end of a mouth 2 of a container 1 by a catching flange 110 and has a stopper 130 whose central portion is formed so as to protrude upward from a bottom of an extension tube 120 extending downward from the catching flange 110 into the mouth of the container 1 and which is integrally formed with the extension tube 120 by a hinge 150,

a storage tube 200 whose open lower end is sealing coupled to an edge of the stopper 130 of the lower cap 100, in which an additive is contained, whose upper end outer surface has a shoulder 210 increased in diameter, and whose upper end surface 220 is closed, and

an upper cap 300 whose inner surface has a ridge supporting the shoulder 210 so as to prevent rotation of the storage tube 200, which is coupled with the storage tube 200 together with the lower cap 100 so that the stopper 130 of the lower cap is hinged to a lower end of the storage tube 200 around the hinge 150, and which causes the storage tube 200 to perform only downward movement when coupled to the lower cap 100,

wherein, when the upper cap 300 is separated from the container 1, the sealing coupling of the stopper 130 and the storage tube 200 is released only by upward movement rather than the rotation of the storage tube 200, and the stopper 130 and the storage tube 200 are opened on the basis of the hinge 150 so that the additive is discharged through a lower portion of the opened storage tube 200.

[0022] An auxiliary discharge hole 230 may be formed in a lower end edge excluding a portion of the hinge 150 of the extension tube 120.

[0023] An outer wall of the extension tube 120 and an inner wall of the mouth 2 of the container 1 are configured to enable profile coupling to provide mutual sealability.

[0024] The upper cap 300 is made up of an outer cap 310 having a bent inner step 312 so that a shoulder of the upper cap 300 is radially reduced to press and seal the catching flange 110 of the lower cap when coupled with the lower cap 100, and

a protrusion cap 320 directed upward from the inner step 312 in a vertical direction.

[0025] The shoulder 210 of the storage tube 200 is fitted to an inner sidewall of the protrusion cap 320. The ridge 322 providing an upward/downward movement force of the storage tube 200 is formed on the inner sidewall of the protrusion cap 320.

[0026] Any one of the closed upper end face 220 of the storage tube 200 and an inner surface of the protrusion cap 320 which corresponds to the closed upper end face is formed with a protrusion rail R reducing friction between them.

[0027] The upper cap 300 is made up of an outer cap 310 having a bent inner step 312 so that a shoulder of the upper cap 300 is radially reduced to press and seal the catching flange 110 of the lower cap when coupled with the lower cap 100, and

a protrusion cap 320 directed upward from the inner step 312 in a vertical direction, and is configured so that

the shoulder 210 of the storage tube 200 is fitted to an inner sidewall of the protrusion cap 320. The ridge 322 guiding upward/downward movement of the storage tube 200 is formed on the inner sidewall of the protrusion cap 320, and

the inner step 312 presses and seal the shoulder 210 and the catching flange 110 at the same time.

[0028] Any one of the closed upper end face 220 of the storage tube 200 and an inner surface of the protrusion cap 320 which corresponds to the closed upper end face is formed with a protrusion rail R reducing friction between them.

[0029] The present invention configured in this way is configured to turn the upper cap 300 and the storage tube 200 upside down as shown in FIG. 7, mutually couple the ridge 322 and the shoulder 210 shown in FIG. 1, and put the additive into the storage tube 200 in an arrow direction. Then, as shown in FIG. 8, the lower cap 100 is coupled so that the stopper 130 presses and closes the open end of the storage tube 200.

[0030] Subsequently, the coupled upper cap is turned

upside down as shown in FIG. 9, and is capped to the mouth of the container 1 filled with a content using a capping means (not shown) as shown in FIG. 1.

[0031] When used, the upper cap 300 is loosened in an unscrewing direction. Then, the shoulder 210 extending from the closed upper end face 220 is supported on the ridge 322 of the upper cap 300, and the upper end face 220 and the inner surface of the protrusion cap 320 of the upper cap 300 are in point contact with the rail R. Accordingly, even when the upper cap 300 is turned in the unscrewing direction, the storage tube 200 merely performs upward movement, and thus functions to be coupled with and separated from the extension tube 120 and the stopper 130 without being twisted. Due to this operation, when the upper cap 300 and the storage tube 200 are separated together as shown in FIG. 2, a user can drink the content to which the additive is added. In this case, the lower cap 100 may be separated along with the upper cap 300, or may be kept fixed to the inner wall of the mouth of the container.

[0032] In the present invention, as shown in FIG. 1, the stopper 130 may be integrally formed with the extension tube 120, and has the several discharge holes in the circumference thereof. As shown in FIGS. 3, 4 and 11, the stopper 130 may be configured to be opened/closed by the hinge 150.

[0033] In the present invention, the shoulder 210 may be configured to be horizontal with respect to the upper end face 220. As shown in FIG. 5, the shoulder 210 may be configured to receive a pressing force of the inner step 312 of the upper cap 300.

[0034] The means for fixing the lower cap 100 to the inner wall of the mouth of the container can be variously realized in the present invention. However, as shown in FIG. 6, the means may be realized by an uneven configuration based on a convex and a concave, but is not limited to this configuration.

[0035] The stopper 130 integrally formed with the extension tube 120 of the lower cap 100 of the present invention may be configured as shown in FIGS. 14 and 15. The hinge 150 may be integrally formed with a hinge connector 154 between hinge slots 152, which are formed by partly cutting the lower end of the extension tube 120, in a lengthwise direction. The hinge 150 may be configured to have a length enough to have an elastic force when folded.

[0036] One or more auxiliary discharge holes 153 may be formed at a portion excluding the hinge slots 152.

[0037] Since this embodiment is similar to the operation as described above, only the hinge will be described. This structure is not a structure in which the hinge 150 extends from the end of the extension tube 120, but the hinge 150 is integrally formed with the hinge connector 154 between hinge slots 152, which are formed by partly cutting the lower end of the extension tube 120 at a short length. As such, the hinge 150 functions to allow the stopper 130 to be closed with an elastic force without being folded when the stopper 130 is opened/closed. Thus, as shown in FIG. 4, when the stopper 130 is opened, the hinge 150 functions to allow the stopper 130 to be instantly opened with an elastic recovery force. Thereby, the additive is easily added into the container, and the remaining of the additive is not left in the storage tube 200, so that reliability on the container cap is improved. Furthermore, if necessary, the additive is induced to be instantly discharged into the container in a lateral direction through the auxiliary discharge hole 153.

[Industrial Applicability]

[0038] The present invention provides a container cap having a separated additive storage tube, which includes a lower cap that has a stopper at a bottom of an extension tube fixed to an inner wall of a mouth of a container and an upper cap that has a storage tube sealing coupled with the stopper and stores and discharges an additive, wherein the storage tube is sealing coupled with the stopper only by downward movement rather than rotation when the upper cap is coupled to the mouth of the container, and the storage tube is separated from the stopper when moving upward so as to add an additive without being twisted.

[0039] The present invention provides a container cap having a separated additive storage tube, which includes a lower cap that has a stopper, which is allowed to be opened/closed by a hinge, at a bottom of an extension tube fixed to an inner wall of a mouth of a container and an upper cap that has a storage tube sealing coupled with the stopper and stores and discharges an additive, wherein the storage tube is kept sealed with the stopper only by downward movement rather than rotation when the upper cap is coupled to the mouth of the container, and the storage tube is separated from the stopper when moving upward to add an additive in the storage tube so as to add the additive into the container without being twisted.

[0040] The present invention provides a container cap having a separated additive storage tube, in which an upper cap is separated from a storage tube, in which the storage tube is configured so that an upper end thereof is closed by an upper end face and so that a lateral surface thereof has a shoulder supported on the upper cap, and in which at least one of the upper end face of the storage tube and the corresponding upper cap is provided with a protrusion rail reducing friction, wherein the storage tube is fixed and only the upper cap is allowed to be turned so that the storage tube moves up or down without causing torque.

[0041] The present invention provides a container cap having a separated additive storage tube, in which an extension tube of a lower cap which extends along an inner wall of a mouth of a container and a corresponding inner wall of the mouth are configured to enable profile coupling so as to have fixability and sealability.

Claims

1. A container cap having a separated additive storage tube, comprising:

   a lower cap (100) which is coupled to an upper end of a mouth (2) of a container (1) by a catching flange (110) and which has a stopper (130) whose central portion is formed so as to protrude upward from a bottom of an extension tube (120) extending downward from the catching flange (110) into the mouth of the container (1), and open discharge holes (140) formed in a circumference of the stopper (130);
   a storage tube (200) whose open lower end is sealing coupled to an edge of the stopper (130) of the lower cap (100), in which an additive is contained, whose upper end outer surface has a shoulder (210) increased in diameter, and whose upper end surface (220) is closed; and
   an upper cap (300) whose inner surface has a ridge supporting the shoulder (210) so as to prevent rotation of the storage tube (200), which is coupled with the storage tube (200) together with the lower cap (100), and which causes the storage tube (200) to perform only downward movement when coupled to the lower cap (100),
   wherein, when the upper cap (300) is separated from the container (1), the sealing coupling of the stopper (130) and the storage tube (200) is released only by upward movement rather than the rotation of the storage tube (200) so that the additive is discharged through a lower portion of the storage tube (200) and the discharge holes.

2. A container cap having a separated additive storage tube, comprising:

   a lower cap (100) that is coupled to an upper end of a mouth (2) of a container (1) by a catching flange (110) and that has a stopper (130) whose central portion is formed so as to protrude upward from a bottom of an extension tube (120) extending downward from the catching flange (110) into the mouth of the container (1) and which is integrally formed with the extension tube (120) by a hinge (150),
   a storage tube (200) whose open lower end is sealing coupled to an edge of the stopper (130) of the lower cap (100), in which an additive is contained, whose upper end outer surface has a shoulder (210) increased in diameter, and whose upper end surface (220) is closed, and
   an upper cap (300) whose inner surface has a ridge supporting the shoulder (210) so as to prevent rotation of the storage tube (200), which is coupled with the storage tube (200) together with the lower cap (100) so that the stopper (130) of the lower cap is hinged to a lower end of the storage tube (200) around the hinge (150), and which causes the storage tube (200) to perform only downward movement when coupled to the lower cap (100),
   wherein, when the upper cap (300) is separated from the container (1), the sealing coupling of the stopper (130) and the storage tube (200) is released only by upward movement rather than the rotation of the storage tube (200), and the stopper (130) and the storage tube (200) are opened on the basis of the hinge (150) so that the additive is discharged through a lower portion of the opened storage tube (200).

3. The container cap according to claim 2, wherein an auxiliary discharge hole (230) is formed in a lower end edge excluding a portion of the hinge (150) of the extension tube (120).

4. The container cap according to claim 1 or 2, wherein an outer wall of the extension tube (120) and an inner wall of the mouth (2) of the container (1) are configured to enable profile coupling to provide mutual sealability.

5. The container cap according to claim 1 or 2, wherein:

   the upper cap (300) includes an outer cap (310) having a bent inner step (312) so that a shoulder of the upper cap (300) is radially reduced to press and seal the catching flange (110) of the lower cap when coupled with the lower cap (100), and a protrusion cap (320) directed upward from the inner step (312) in a vertical direction; the shoulder (210) of the storage tube (200) is fitted to an inner sidewall of the protrusion cap (320); and the ridge (322) providing an upward/downward movement force of the storage tube (200) is formed on the inner sidewall of the protrusion cap (320).

6. The container cap according to claim 5, wherein any one of the closed upper end face (220) of the storage tube (200) and an inner surface of the protrusion cap (320) which corresponds to the closed upper end face is formed with a protrusion rail (R) reducing friction between them.

7. The container cap according to claim 1 or 2, wherein:

   the upper cap (300) includes an outer cap (310) having a bent inner step (312) so that a shoulder of the upper cap (300) is radially reduced to press and seal the catching flange (110) of the lower cap when coupled with the lower cap (100), and a protrusion cap (320) directed up-

ward from the inner step (312) in a vertical direction; the shoulder (210) of the storage tube (200) is fitted to an inner sidewall of the protrusion cap (320); the ridge (322) guiding upward/downward movement of the storage tube (200) is formed on the inner sidewall of the protrusion cap (320); and the inner step (312) presses and seal the shoulder (210) and the catching flange (110) at the same time.

8. The container cap according to claim 7, wherein any one of the closed upper end face (220) of the storage tube (200) and an inner surface of the protrusion cap (320) which corresponds to the closed upper end face is formed with a protrusion rail (R) reducing friction between them.

9. The container cap according to claim 9, wherein at least one auxiliary discharge hole (153) may be formed in a portion excluding hinge slots (152) of the extension tube.

Fig.1

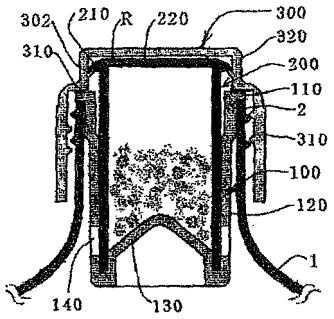
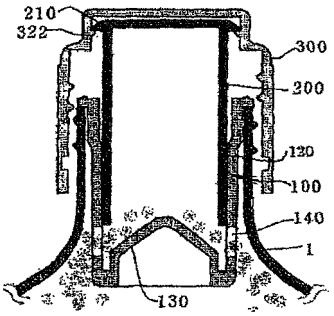


Fig.2



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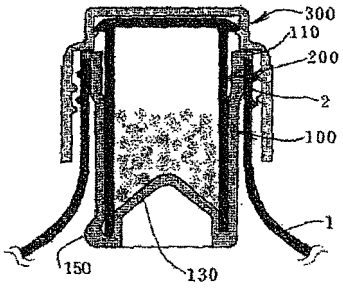

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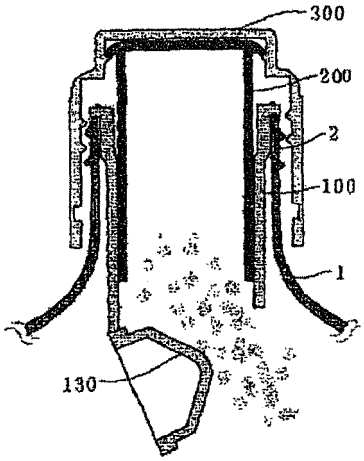

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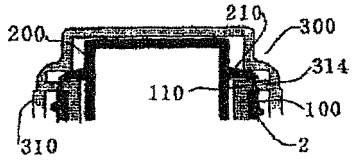

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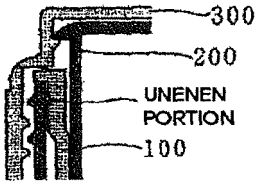

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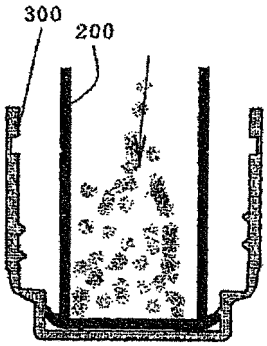

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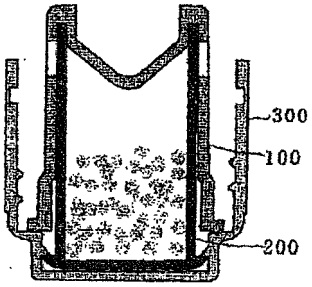

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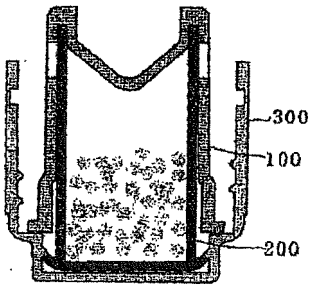


Fig.10

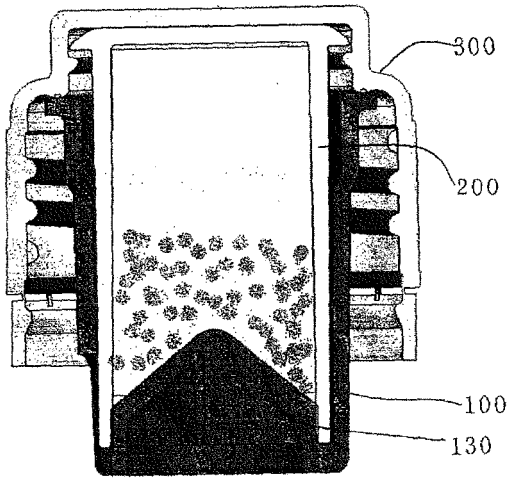


Fig.11

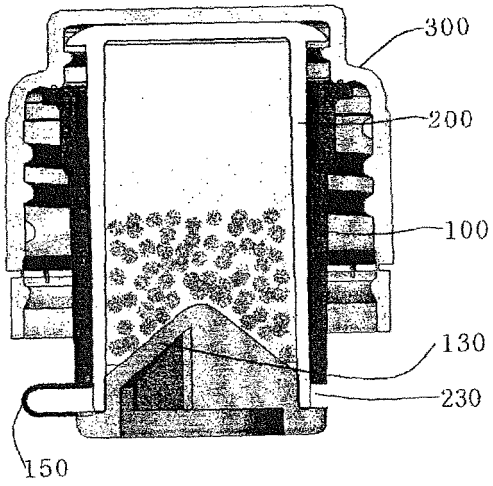


Fig.12

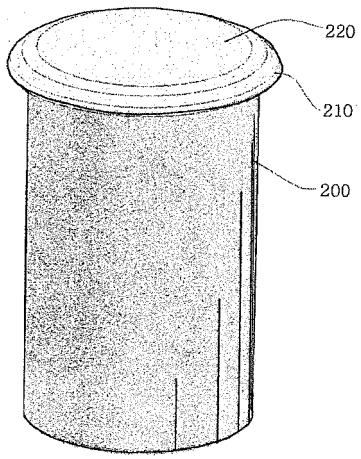


Fig.13

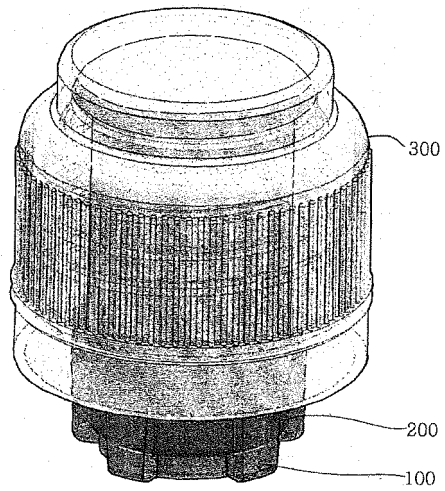


Fig.14

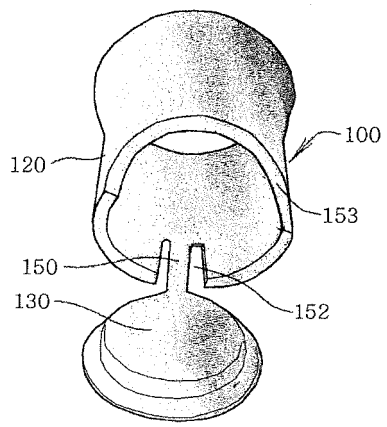
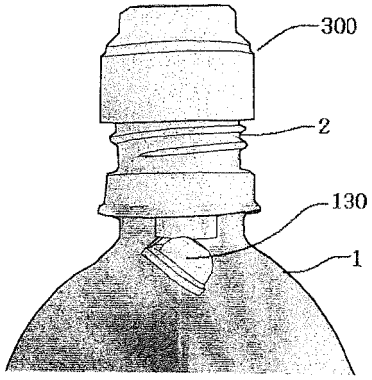


Fig.15



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- KR 200363704 **[0004]**