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(54) **ROTATION DISCHARGE-TYPE COSMETIC CONTAINER**

(57) The present invention relates to a rotation discharge-type cosmetic container characterized in that a content absorbing member, which absorbs a discharged content, is installed on the upper portion of a rotating body such that it is possible to smear only a necessary

amount of the content, which has been absorbed by the content absorbing member, on a cosmetic applying means, such as a puff, and use the content, thereby preventing unnecessary waste of the content.

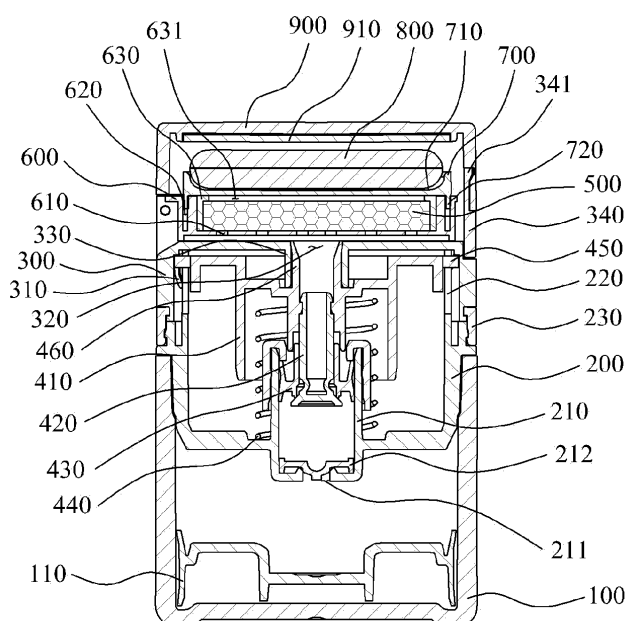


Figure 3

Description

BACKGROUND OF THE INVENTION

[0001] The present invention relates to a rotation discharge-type cosmetic container characterized in that a content absorbing member, which absorbs a discharged content, is installed on the upper portion of a rotating body such that it is possible to smear only a necessary amount of the content, which has been absorbed by the content absorbing member, on a cosmetic applying means, such as a puff, and use the content, thereby preventing unnecessary waste of the content.

[0002] Generally, it is well known that cream-type cosmetics such as nourishing creams, massage creams, eye creams or foundation lotions comprise a substantial amount of moisture and thereby may be spoiled more easily than other low-viscosity cosmetics. These types of cosmetics are usually stored in wide-mouthed containers for easy use by taking a small portion with a hand, which may result in more possibilities of oxidation by direct contact with air as well as of spoilage by foreign substances or moisture smeared on a hand.

[0003] To resolve these disadvantages, vacuumed and sealed cosmetic containers are widely used to discharge a certain amount of content. Particularly, instead of discharging contents directly by hands, content can be provided using a dish shaped button and providing a certain amount of content thereof.

[0004] A utility model registered patent no. 20-0311503 (hereupon it is called as "the utility model registration") discloses this type of existing vacuumed cosmetic container equipped with dish-shaped button. The utility model registration which was applied for on February 4, 2003, as a prior application by the said applicant and registered, relates to "a dispenser container", comprising a container part storing content, a dispenser combined to an upper end of the container part, wherein the dispenser including a cylinder combined at an upper end of the container part, a valve body equipped at an intake cavity of the cylinder, and a button equipped at the cylinder for being capable of repeated pumping by equipping a dish portion expanded to cover the upper portion of the container part, and a piston equipped between at an inner wall of the cylinder and at a lower end of the button, wherein a slide hole is equipped at the center of the button in upward and downward direction, wherein the upper portion of the valve body is extended upwards and is inserted slidingly into a slide hold, wherein a cover member covering the slide hole of the button is combined at an upper end of the valve body, wherein the button descends along an outer circumferential surface when the button is pressed and between the cover member and the button emerges a gap, through which content is discharged and pooled in a dish part of the button.

[0005] The utility model registration as the above has a configuration wherein an upper end of a button has a dish-like shape whose upper end gets more dented as it

goes toward the center portion, and thereby content is to be used by smearing content on a hand or with a cosmetic applicator. A single pumping operation by pressurizing a button discharges a certain amount of content from the upper end of the button. However, since every user uses different amounts of content, it is possible that the discharged content will be more than actually needed. In this case, excess amount of content may be used unnecessarily applied to skin or wasted without using, thereby resulting in a user's burden of expense increase.

SUMMARY OF THE INVENTION

[0006] The present invention is devised to solve the said problems above, and the goal of this invention is to provide a rotation discharge-type cosmetic container wherein a content absorbing member, which absorbs a discharged content, is installed on the upper portion of a rotating body such that it is possible to smear only a necessary amount of the content, which has been absorbed by the content absorbing member on a cosmetic applying means such as a puff and then use the content, thereby preventing unnecessary waste of the content.

[0007] Further, it is the aim of the invention to provide a rotation discharge-type cosmetic container, wherein a storage cap capable of an upward/downward movement is combined to one side of a content absorbing member support body while encasing an upper portion of the content absorbing member support body, which increases air tightness of an interior space of the content absorbing member support body to which a content absorbing member is provided in an ordinary state; whereby, the evaporation of the content absorbed in the content absorbing member may be minimized, and also spoilage of content can be efficiently prevented.

[0008] To solve the above problems, a rotation discharge-type cosmetic container according to the present invention comprises: a container body that contains content, equipped with a piston that ascends according to the use of the content therein; a housing which is combined to an upper portion of the container body, further comprising a content inflow part which forms a content inflow hole in the center of a lower end such that the content held in the container body may flow in; a rotation body combined rotably to an upper portion of the housing, further comprising a discharging hole in which content is discharged in a center thereof; a pumping member which ascends and descends by rotation of the rotation body and discharges the content by a pumping operation; a content absorbing member which is placed at an upper portion of a discharging hole of the rotation body and absorbs the content discharged through a discharging hole; a content absorbing member support body placed between the rotation body and the content absorbing member supports the content absorbing member and comprises at least more than one content movement hole such that the content discharged through the discharging hole moves in; a storage cap which is combined with a

hinge combination at one side of the content absorbing member support body for an upward/downward movement and opens/closes an interior space of the content absorbing member support body where a content absorbing member is provided; a content application member for applying to a user's skin by smearing content absorbed into the content absorbing member; and an over cap encasing the content application member for moving upwards/downwards at one side of the rotation body.

[0009] Further, the invention is characterized therein, that at the housing there is provided a plurality of perpendicular guide grooves detached with a fixed distance, encasing an outer circumferential surface for guiding a perpendicular movement of the pumping member.

[0010] Further, the invention is characterized therein, that at an inner side of the rotation body there is provided a rotation guide forming a flexure portion alternately above and below, and encasing an inner circumferential surface for guiding an ascent/descent of the pumping member.

[0011] Further, the invention is characterized therein, that at the pumping member there are provided a plurality of guide protrusions which move along a lower end surface of the rotation guide in when inserted into the perpendicular guide groove and ascends/descends inside of the perpendicular guide grooves on an outer circumferential surface for ascending/descending by rotation of the rotation body.

[0012] Further, the invention is characterized therein, that the housing further comprises a combining ring, which rotatably combines the rotation body to the housing.

[0013] Further, the invention is characterized therein, that at an upper end of the content absorbing member support body there is provided a combining groove to which the storage cap is combined, and a combining protrusion whereto the combining groove is combined at the lower end of the storage cap.

[0014] Further, the invention is characterized therein, that a button part which opens/closes the pumping member is provided at a front surface part of the rotation body, wherein a latch protrusion is provided to an upper portion of the button part for supporting an inner side of an over cap for preventing the over cap from opening when the over cap is closed.

[0015] As mentioned above, the present invention has the advantage that a content absorbing member, which absorbs a discharged content, is installed on the upper portion of a rotating body such that it is possible to smear only a necessary amount of the content, which has been absorbed by the content absorbing member on a cosmetic applying means such as a puff, and use the content, thereby preventing unnecessary waste of the content.

[0016] Further, the present invention has the advantage that a rotation discharge-type cosmetic container, wherein a storage cap capable of an upward/downward movement is combined at one side of a content absorbing member support body while encasing an upper portion

of the content absorbing member support body, which increases air tightness of an interior space of the content absorbing member support body to which a content absorbing member is provided in an ordinary state; whereby evaporation of the content absorbed in the content absorbing member can be minimized, and also spoilage of content can be efficiently prevented.

BRIEF DESCRIPTION OF THE DRAWINGS

[0017]

Fig.1 is a disassembled cross-sectional view illustrating a configuration of a rotary dispenser-type cosmetic container according to an exemplary embodiment of the present invention.

Fig. 2 is an assembled perspective view illustrating a configuration of a rotary dispenser-type cosmetic container according to an exemplary embodiment of the present invention.

Fig. 3 is a cross-sectional view illustrating a configuration of the rotary dispenser-type cosmetic container according to an exemplary embodiment of the present invention.

Fig. 4 is a perspective view illustrating a configuration of a rotation cap of the rotary dispenser-type cosmetic container according to an exemplary embodiment of the present invention.

Fig. 5 is an explanatory drawing illustrating a state of a guide protrusion moving along a rotation guide of the rotary dispenser-type cosmetics container according to an exemplary embodiment of the present invention.

Fig. 6 is an explanatory drawing illustrating a discharging process of the rotary dispenser-type cosmetics container according to an exemplary embodiment of the present invention.

Fig. 7 and 8 are explanatory drawings illustrating a using method of the rotary dispenser-type cosmetics container according to an exemplary embodiment of the present invention.

DETAILED DESCRIPTION OF PREFERRED EMBODIMENTS

[0018] Hereinafter, exemplary embodiments of the present invention will be described in detail with reference to the accompanying drawings. The same reference numerals provided in the drawings indicate the same members.

[0019] Fig.1 is a disassembled cross-sectional view illustrating a configuration of a rotary dispenser-type cosmetic container according to an exemplary embodiment of the present invention.

metic container according to an exemplary embodiment of the present invention. Fig. 2 is an assembled perspective view illustrating a configuration of a rotary dispenser-type cosmetic container according to an exemplary embodiment of the present invention.

[0020] Fig. 4 is a perspective view illustrating a configuration of a rotation cap of the rotary dispenser-type cosmetic container according to an exemplary embodiment of the present invention. Fig. 5 is an explanatory drawing illustrating a state of a guide protrusion moving along a rotation guide of the rotary dispenser-type cosmetics container according to an exemplary embodiment of the present invention.

[0021] Referring to Figs. 1 to 5, a rotary dispenser-type cosmetic container according to an exemplary embodiment of the present invention comprises a container body 100, a housing 200, a rotation body 300, a pumping member 400, a content absorbing member 500, a content absorbing member support body 600, a storage cap 700, a content application member 800 and an over cap 900.

[0022] The container body 100 containing content comprises a piston 110 thereof, which ascends in response to the use of the content.

[0023] The housing 200, which is combined to an upper portion of the container body 110 can suck in the content contained in the container body 100 by a pumping action according to the ascent/descent of an pumping member 400, comprises a content inflow part 210 where a content inflow hole 211 is provided at the center of a lower end of the housing 100 such that the content contained in the container body 100 may flow in.

[0024] At the content inflow hole 211 there is installed a check valve 212 which opens/closes a content inflow hole 211 by the pressure generated in the interior of the contents inflow part 210 when a piston rod 420 and a seal cap 430 ascend and descend inside the contents inflow part 210.

[0025] According to the present invention, at an outer circumferential surface of the housing 200 there is longitudinally installed perpendicular guide grooves 220 such that a guide protrusion 450 to be described later can be inserted and guided upwards and downwards therein, wherein the perpendicular guide grooves 220 are installed in a way that two grooves are simply formed on both sides thereof with a fixed distance apart, and guide a perpendicular movement of a guide protrusion 450, and for a stable operation of a pumping member 400, three grooves are preferred to be inserted with a fixed distance apart in an interval of 120 degrees. Further, at an upper portion of the housing 200 there is provided a combining ring 230, which combines a rotation body 300 rotatably to the housing 200.

[0026] The rotation body 300 is rotatably combined to an upper portion of the housing 200, comprising a discharging hole 320 where content is discharged onto a center thereof.

[0027] In this invention, it is characteristic that at an inner side of the rotation body 300 is combined to a ro-

tation guide 310 which encases an inner circumferential surface and forms a flexure portion alternately above and below, wherein the rotation guide 310, shown in Fig. 5, when the rotation body 300 rotates, guides a guide protrusion to move along a lower end surface thereof. In the section having a downward slope, the rotation guide 300 pressurizes and thereby descends a guide protrusion 450 whereas in the section having an upward slope, the rotation guide 300 guides the guide protrusion 450 to ascend by the elastic force of a spring 440.

[0028] Further, at the rotation body 300 there is provided a combining tube 330 which encases the discharging hole 320 and extends downwards, wherein the combining tube 330 guides a movement of a content movement tube 460 which moves along an inner side of the combining tube 330 and guide a perpendicular movement without twist when the pumping member 400 ascends and descends.

[0029] Further, at a front surface portion of the rotation body 300 there is combined a button part 340 which opens/closes an over cap 900, wherein a latch projection 341 is provided at an upper portion of the button part 340 for preventing the over cap 900 from being opened by supporting an inner side of the over cap 900 when the over cap 900 is closed.

[0030] The pumping member 400, which ascends and descends by rotation of the rotation body 300 and moves the content contained in the container body 100 to a discharging hole 320 by a pumping operation, comprises a pump body 410 which encases an upper portion of a content inflow part 210, a piston rod 420 which is combined at inner side of the pump body 410 and moves together along with movement of the pump body 410, a seal cap 430 which is combined to a lower portion of the piston rod and is tightly contacted to an inner circumferential surface of the content inflow part 210, thereby guiding the content contained in the container body 100 to allow flow into the interior of the content inflow part 210 by the change of pressure in the interior of the content inflow part 210 according to the ascent/descent of the piston rod 420, and a spring 440 which is placed at a lower portion of the pump body 410 and moves the pump body 410 upward by elastic force.

[0031] Further, in the present invention, it is characteristic that at an inner circumferential surface of the pumping member 400 there is provided a plurality of guide protrusions 450 which move along a lower end surface of the rotation guide 310 when inserted into the perpendicular guide groove 220 and ascend/descend in the interior of the perpendicular guide groove 220, wherein the guide protrusion 450, when a rotation body 300 rotates, is pressurized at the lower end surface of a rotation guide 310 and moves downwards in the interior of the perpendicular guide groove 220, thereby making the pumping member 400 descend. Due to this, the pressure of the content inflow part 210 is changed, which enables the content flowing in the content inflow part 210 to move upwards.

[0032] Further, the guide protrusion 450, when the pressure caused by a rotation guide 310 is released, in other words, from the point where the bottom dead center of a flexure portion alternately formed ends, ascends along a lower end surface of the rotation guide 310 by the elastic force of the spring 440 and moves upwards in the interior of the perpendicular guide groove 220, thereby lifting the pumping member 400, which causes the pressure of the content inflow part 210 and enables the content contained in the container body 100 to flow into the content inflow part 210.

[0033] Further, at the pumping member 400 there is provided a content movement tube 460 which is combined to the combining tube 330 and ascends along the inner wall of the combining tube 330, and thereby forms a passage where content moves.

[0034] The content absorbing member 500 is placed at an upper portion of a discharging hole 320 of the rotation body 300 and absorbs the content discharged through the discharging hole 320. Preferably, the content absorbing member 500 is configured to be secured to a content absorbing member support body 600 to be described later at the upper portion of the discharging hole 320, and to absorb the content moving through a content movement hole 610 of the content absorbing member support body 600.

[0035] The content absorbing member 500 absorbs content and enables a user to smear the content by means of a hand or a content application member, which can be made of a variety of absorbing materials, such as a puff, a sponge, foam, a brush, preferably a porous material for easy absorption of the content.

[0036] The content absorbing member 500, when the over cap 900 is closed with the absorbed content not used completely, keeps a state of the content being absorbed and therefore, when reused later, it is possible to use the absorbed content by means of a hand or an applicator without additional pumping operation.

[0037] In case the absorbed content is not enough to be used, the content can be absorbed to the content absorbing member 500 and used by a pumping operation of the pumping member 400 through rotation of the rotation body 300.

[0038] The content absorbing member support body 600 is placed between the rotation body 300 and the content absorbing member 500, and supports the content absorbing member 500, wherein a content movement hole 610 is formed at the lower end of the absorbing member support body 600 so as for the content discharged through the discharging hole 320 to move upwards, wherein the content movement hole 610 is formed as a plurality of smaller holes with a fixed distance apart in order that content can be absorbed evenly on the entire surface.

[0039] It is preferred that the absorbing member support body 600 forms a space where the content can move with a small margin apart from the discharging hole 320 of the rotation body 300 such that the content can move

smoothly to a plurality of content movement holes 610.

[0040] Further, at the upper end of the absorbing member support body 600 there is provided a combining groove 620 that is combined with a combining protrusion 720 of a storage cap 700 to be described later.

[0041] Further, at the inner side of the absorbing member support body 600 there is provided a content absorbing member fixing body 630 that fixes the content absorbing member 500, wherein the content absorbing member fixing body 630 forms a hollow which exposes the content absorbing member 600 to the exterior such that a user can use the content absorbed in the content absorbing member 600.

[0042] The storage cap 700 is combined with a hinge combination at one side of the content absorbing member support body 600 for being capable of an upward/downward movement, and opens/closes the interior space of the content absorbing member support body 600 where the content absorbing member 500 is provided, further comprising a securing groove 710 at the upper end thereof, and a combining protrusion 720 which is combined to a combining groove 620 of the content absorbing member support body 600 when interior space of the content absorbing member support body 600 is closed.

[0043] The storage cap closes the interior space of the content absorbing member support body 600, and thereby maintains the air tightness; therefore, evaporation of content absorbed in the content absorbing member is minimized.

[0044] Meanwhile, it is preferred that at one side of the storage cap 700 is provided a handle part 730 such that a user can rotate the storage cap 700 easily.

[0045] The content application member 800 which is secured at an upper end of the storage cap 700 can be smeared with the content absorbed in the content absorbing member 500 and apply the content on a user's skin, can be made of a variety of materials such as a puff, a brush etc.

[0046] The over cap 900 is combined with a hinge combination so as to encase the content absorbing member 500 and rotate upwards and downwards at one side of the rotation body 300, and it is preferred that is comprises a mirror 910 at an inner side thereof such that a user can see her face while putting on make-up.

[0047] In the following, referring to Fig. 6, a content discharging process of a rotary dispenser-type cosmetic container according to an exemplary embodiment of the present invention will be explained. Fig. 6 is an explanatory drawing illustrating a content discharging process of a rotary dispenser-type cosmetic container according to an exemplary embodiment of the present invention.

[0048] Referring to Fig. 6, as for a content discharging process of a rotary dispenser-type cosmetic container according to an exemplary embodiment of the present invention, when a user rotates a rotation body 300 in a state that content flow into the interior of a contents inflow part 210, guide protrusions 450 of a pumping member 400 move along a rotation guide 310 formed at an inner

side of the rotation body 300; at this moment, due to the shape of the rotation guide 310, the guide protrusions 450 move downwards inside the perpendicular guide groove 220, and descend the pumping member 400.

[0049] When the pumping member 400 descends as the above, a piston rod 430 and a seal cap 440, which compose the pumping member 400, descend together, the pressure inside the content inflow part 210 changes, which leads the content flowing into the content inflow part 210 to be discharged through the discharging hole 320 via a content movement tube 460; at the moment, the content discharged through the discharging hole 320 move through a content movement hole 610 of the content absorbing member support body 600 and is absorbed to the content absorbing member 500, and thereby it is possible to use the content by the content application member 800.

[0050] In the following, referring to Fig. 7 and 8, an operational method of a rotary dispenser-type cosmetic container according to an exemplary embodiment of the present invention will be explained. Fig. 7 and 8 are an explanatory drawing illustrating an operational method of a rotary dispenser-type cosmetic container according to an exemplary embodiment of the present invention.

[0051] Referring to Fig. 7 and 8, as for an operational method of a rotary dispenser-type cosmetic container according to an exemplary embodiment of the present invention, first a user pressurizes a container body 100 with one hand and then rotates a rotation body 300 with the other hand. At this moment, a pumping member 400 performs a pumping operation by rotation of the rotation body 300, and thereby results in absorption of content to a content absorbing member 500.

[0052] Next, shown in Fig. 7 (b), after pressurizing a button part 340 and rotating to an over cap 900, the user withdraws a content application member 800 secured at a storage cap 700 and then, as shown in Fig. 8(c), rotates a storage cap 700 upwards by pressurizing a handle part 730.

[0053] As the above, when the storage cap 700 is rotated upwards, the content absorbing member 500 in which content is absorbed is exposed, and then is smeared with the content absorbed in the content absorbing member 500 through a content application member 800 as required and then applied to a user's skin.

[0054] The present invention, as described previously, is configured such that content with high viscosity can be discharged through pumping operation of a pumping member 400 according to a rotation of a rotation body 300, and, therefore, can store a large amount of content in a relatively bigger container than a compact container which stores cream-type cosmetics with a high viscosity like a foundation cream. This will not only give a user enough content but also makes it possible to apply content to the skin utilizing a content application member 800, thus resulting in minimizing evaporation of foundation fluid.

[0055] As described above, optimal embodiments

have been disclosed in the drawings and the specification. Although specific terms have been used herein, these are only intended to describe the present invention and are not intended to limit the meanings of the terms or to restrict the scope of the present invention as disclosed in the accompanying claims. Accordingly, those skilled in the art will appreciate that various modifications and other equivalent embodiments are possible from the above embodiments.

Claims

1. A rotary dispenser-type cosmetic container comprising:

a container body (100) containing content, further comprising a piston which ascends in response to the use of said content;
a housing (200) combined with an upper portion of the container body (100), further comprising a content inflow part (210) forming a content inflow hole (211) at the center of a lower end of the housing (100) such that the content contained in the container body (100) flows in;
a rotation body (300) combined rotatably to an upper portion of the housing 200, further comprising a discharging hole (320) wherein content is discharged onto a center thereof; a pumping member (400) ascended/descended by rotation of the rotation body (300) for discharging content according to a pumping operation;
a content absorbing member (500) placed at an upper portion of the discharging hole (320) for absorbing the content discharged through the discharging hole (320);
a content absorbing member support body (600) placed between the rotation body (300) and the content absorbing member (500) and supporting the content absorbing member (500), further comprising at least more than one content movement hole (610) to which the content discharged through the discharging hole (320) move;
a storage cap (700) combined with a hinge combination to one side of the content absorbing member support body (600), for opening/closing an interior space of the content absorbing member support body (600) where the content absorbing member (500) is provided;
a content application member (800) secured at an upper end of the storage cap (700), capable of smearing the content absorbed in the content absorbing member (600) and applying the content to a user's skin; and
an over cap (900) encasing the content application member (800) and combined with a hinge combination at one side of the rotation body

(300) to be able to be rotated upwards/downwards.

2. The rotary dispenser-type cosmetic container of claim 1, wherein at the housing (200) there is provided a plurality of perpendicular guide grooves (220) with a fixed distance apart, encasing an outer circumferential surface, so as to guide a perpendicular movement of the pumping member (400). 5
3. The rotary dispenser-type cosmetic container of claim 2, wherein at an inner side of the rotation body (300) there is provided a rotation guide (310), encasing an inner circumferential surface and comprising a flexure portion alternately above and below, for guiding an ascent/descent of the pumping member (400). 10
4. The rotary dispenser-type cosmetic container of claim 3, wherein at the pumping member there are provided a plurality of guide protrusions ascending/descending inside of the perpendicular guide grooves and moving along a lower end surface of the rotation guide when inserted into the perpendicular guide groove on an outer circumferential surface for ascending/descending by rotation of the rotation body. 15
5. The rotary dispenser-type cosmetic container of claim 1, further comprising a combining ring (230) rotatably combining the rotation body (300) to the housing (100). 20
6. The rotary dispenser-type cosmetic container of claim 1, wherein at an end of the content absorbing member support body (600) there is provided a combining groove where the storage cap (700) is combined, wherein at a lower end of the storage cap (700) there is provided a combining protrusion (720) combined to the combining groove (620). 25
7. The rotary dispenser-type cosmetics container of claim 1, wherein at a front surface portion of the rotation body (300) is combined to a button part (340) for opening/closing of the over cap (900), further comprising a latch projection (341) for preventing the over cap from opening by supporting an inner side of the over cap (900) when the over cap closes. 30

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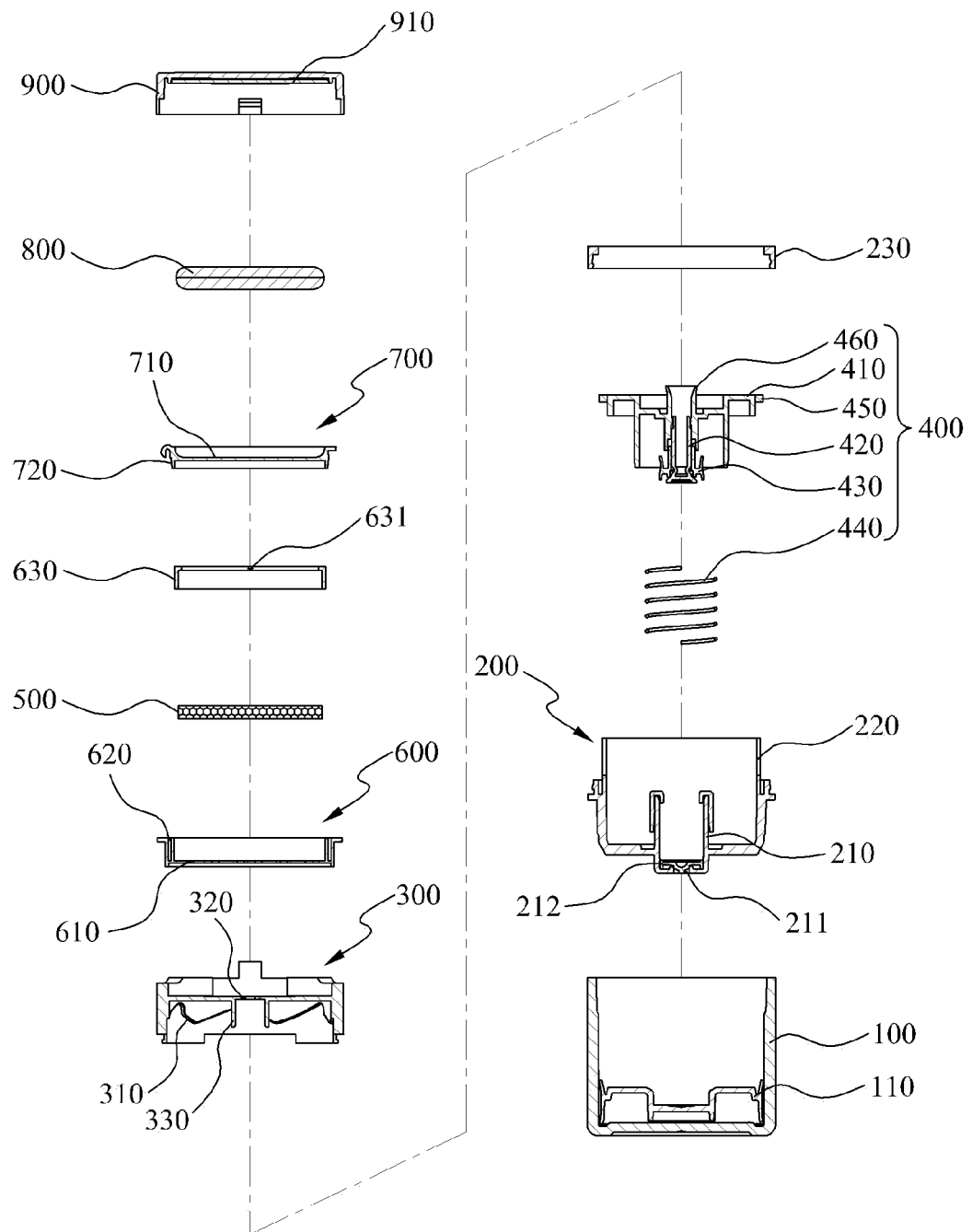


Figure 1

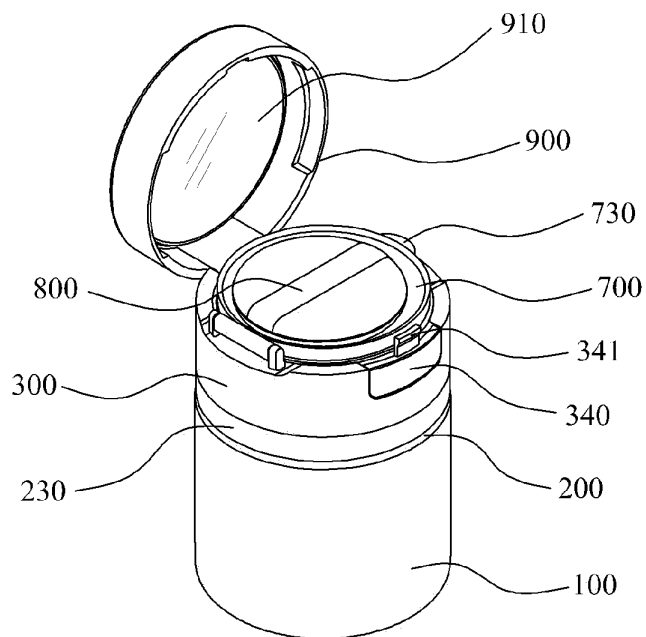


Figure 2

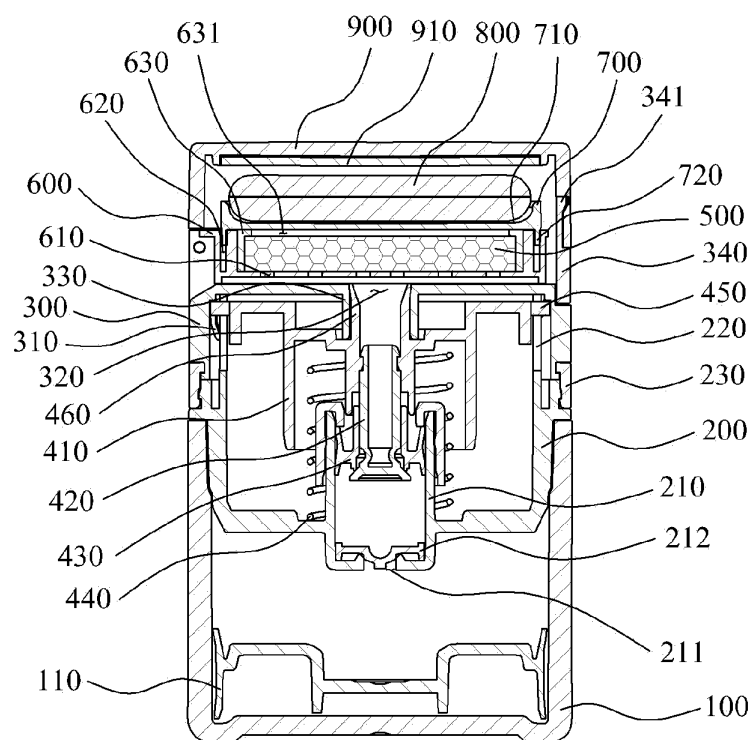


Figure 3

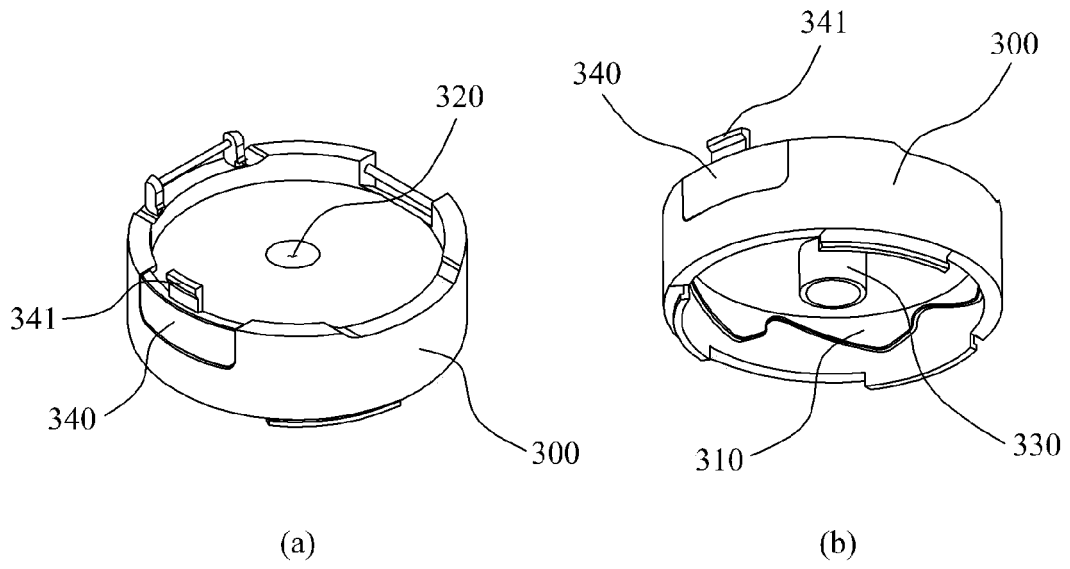


Figure 4

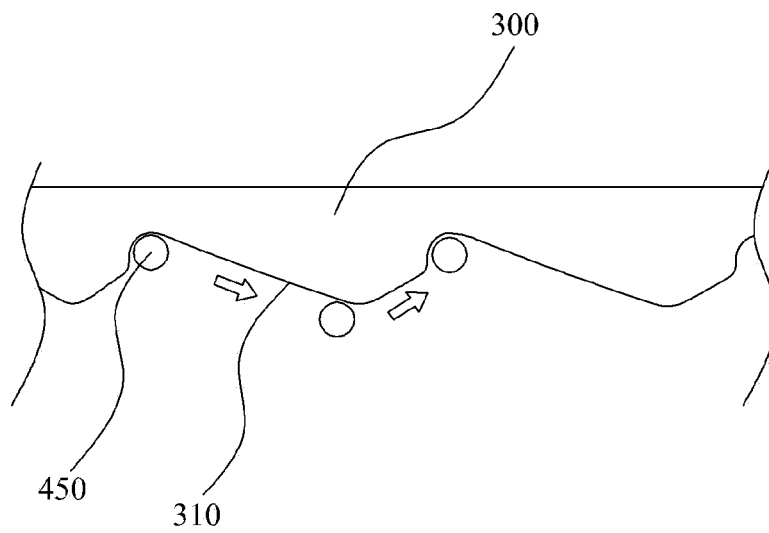
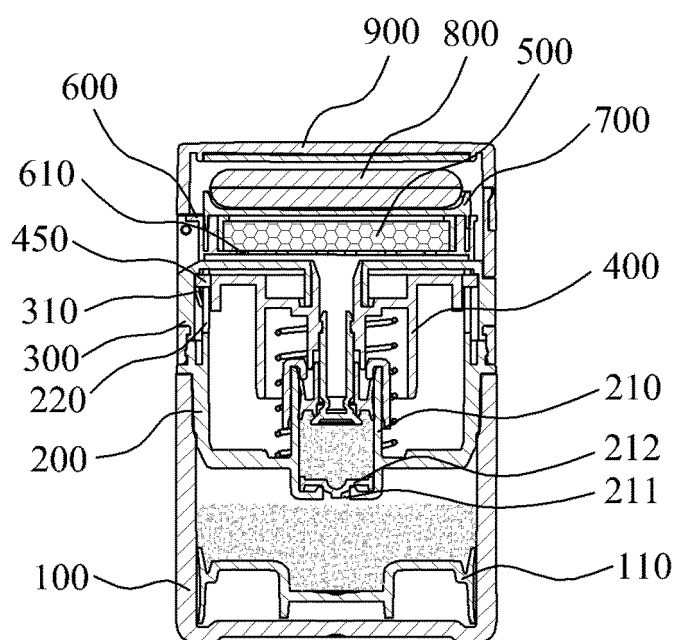


Figure 5

(A)



(B)

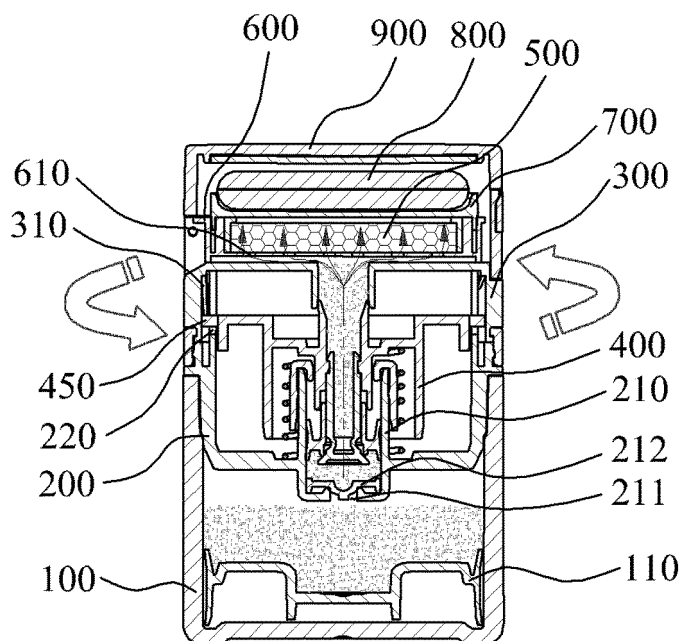


Figure 6

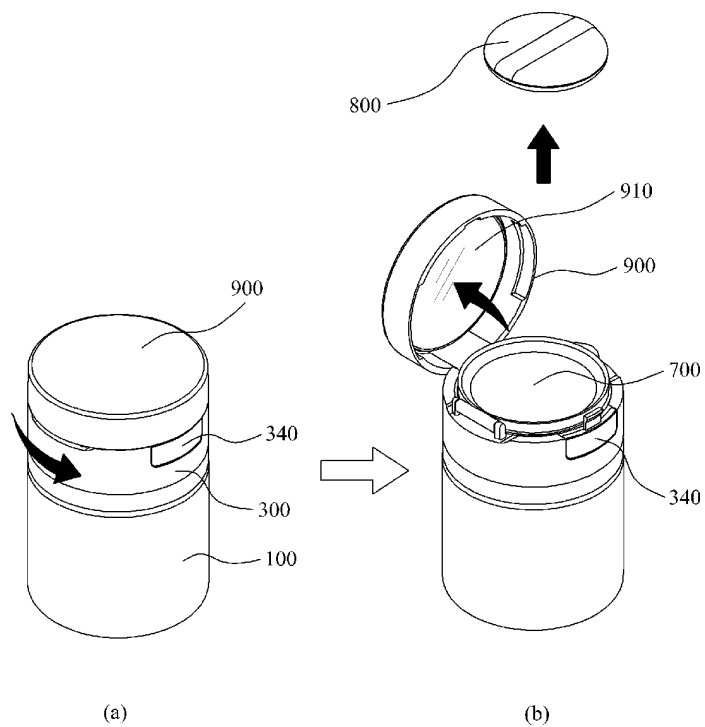


Figure 7

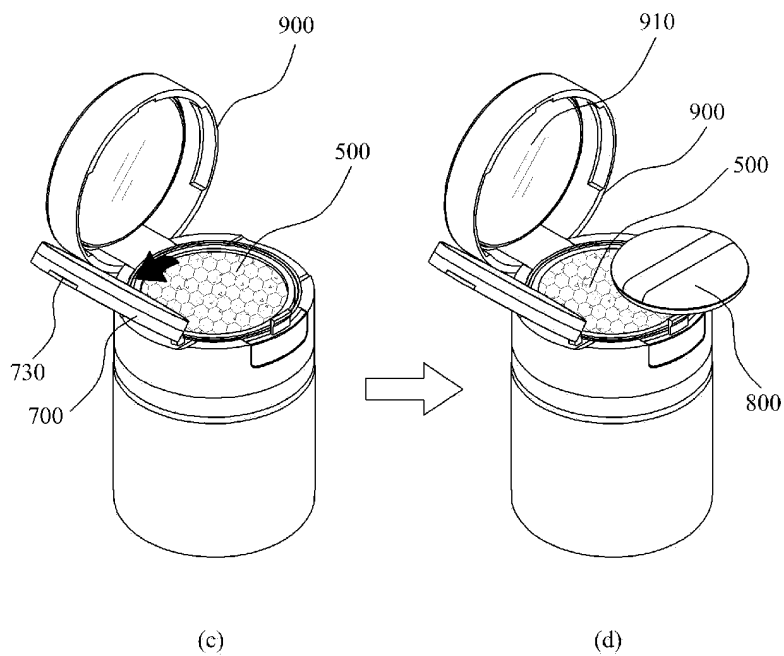


Figure 8

INTERNATIONAL SEARCH REPORT

International application No.

PCT/KR2014/009467

A. CLASSIFICATION OF SUBJECT MATTER

A45D 34/00(2006.01)i, B65D 47/36(2006.01)i, B65D 83/76(2006.01)i

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

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

A45D 34/00; A45D 34/04; B65D 47/34; A45D 40/00; B65D 47/36; B65D 83/76

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

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

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

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

eKOMPASS (KIPO internal) & Keywords: rotation, pump, guide, absorption, impregnation, absorption, dipping, sponge, piston, projection, housing.

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	KR 20-0370308 Y1 (SAINT COREE INT. CO., LTD.) 10 December 2004 See abstract, page 2, line 29-page 3, line 3, figures 1-3.	1-7
Y	KR 20-0452889 Y1 (YONWOO CO., LTD.) 23 March 2011 See abstract, paragraphs [14]-[25], figures 1a-3.	1-7
A	KR 20-2008-0001068 U (MINJIN CO.,LTD.) 15 May 2008 See the entire document.	1-7
A	KR 20-0427883 Y1 (MINJIN CO.,LTD.) 02 October 2006 See the entire document.	1-7
A	KR 10-1190224 B1 (SAMWHA PLASTIC IND.CO.) 16 October 2012 See the entire document.	1-7

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

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PCT/KR2014/009467

Patent document cited in search report	Publication date	Patent family member	Publication date
KR 20-0370308 Y1	10/12/2004	KR 20-0370307 Y1 KR 20-0372911 Y1 KR 20-0383969 Y1 KR 20-0384959 Y1 WO 2006-033559 A1	10/12/2004 21/01/2005 10/05/2005 24/05/2005 30/03/2006
KR 20-0452889 Y1	23/03/2011	KR 20-2010-0008832 U	06/09/2010
KR 20-2008-0001068 U	15/05/2008	KR 20-0440940 Y1	09/07/2008
KR 20-0427883 Y1	02/10/2006	NONE	
KR 10-1190224 B1	16/10/2012	US 2014-0231464 A1 WO 2013-027912 A1	21/08/2014 28/02/2013

REFERENCES CITED IN THE DESCRIPTION

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Patent documents cited in the description

- WO 200311503 A [0004]