(19) Europäisches Patentamt
European Patent Office
Office européen des brevets

(11) EP 3 243 406 A1

(12) **EUROPEAN PATENT APPLICATION**
published in accordance with Art. 153(4) EPC

(43) Date of publication:
15.11.2017 Bulletin 2017/46

(21) Application number: **15907855.9**

(22) Date of filing: **04.11.2015**

(51) Int Cl.:
A45D 40/22 *(2006.01)* ***A45D 40/00*** *(2006.01)*
B65D 43/16 *(2006.01)* ***B65D 43/22*** *(2006.01)*
B65D 77/04 *(2006.01)*

(86) International application number:
PCT/KR2015/011786

(87) International publication number:
WO 2017/078192 (11.05.2017 Gazette 2017/19)

(84) Designated Contracting States:
AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR
Designated Extension States:
BA ME
Designated Validation States:
MA MD

(71) Applicant: **Pum-Tech Korea Co., Ltd**
Bupyeong-gu
Incheon 403-030 (KR)

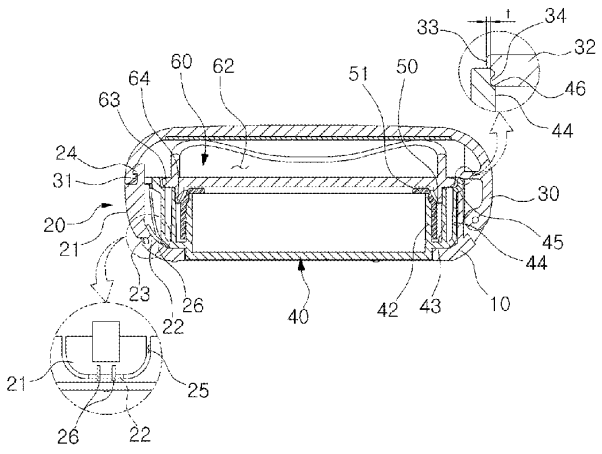
(72) Inventor: **LEE, Do Hoon**
Incheon 403-030 (KR)

(74) Representative: **Eder, Michael**
df-mp Dörries Frank-Molnia & Pohlman
Patentanwälte Rechtsanwälte PartG mbB
Theatinerstrasse 16
80333 München (DE)

(54) COMPACT CONTAINER HAVING BUTTON INTEGRALLY FORMED THEREON

(57) The present invention relates to a compact container having a button integrally formed thereon and, more specifically, to a compact container having a button integrally formed thereon and having: the button integrally formed on a main container body; gaps formed at either side of a pressing part; a groove formed in the outer side of a connecting part, which connects the pressing part and the main container body, so that the pressing part can elastically move back and forth so as to allow a lid to be opened by easily pressing the pressing part and not require the structure of separately assembling the button into the main container body; and a tension bar integrally formed at the upper hinge part of a container lid so that when the container lid is closed, the tension bar presses the upper end of the main container body so as to allow the container lid to be elastically opened, even without forming a separate elastic member, at the time of pressing the button and opening the container lid, thereby enhancing usability and reducing production costs.

[Fig. 5]



EP 3 243 406 A1

Description

[Technical Field]

[0001] The present invention relates to a compact container integrated with a button, and more particularly, to a compact container integrated with a button which is capable of enhancing usability and reducing the manufacturing cost, where the button is integrally formed with a container body, gaps are formed at both sides of a push part, and a groove is formed on an outside of a connecting part connecting the push part and the container body to each other such that the push part is enabled to be elastically reciprocated, so the push part is easily pressed to open a cover without an additional structure for assembling a separated button in the container body. In addition, a tension bar is integrally formed on a hinge of the container cover to press an upper end of the container body when the container cover is closed, so that the container cover is elastically opened without forming an elastic member when the button is pushed to open the container cover.

[Background Art]

[0002] Color cosmetics, which are used for the purpose of making outer appearance or skin beautiful, are classified into a base makeup used for unifying a skin color or covering a defect and a point makeup used for partially enhancing a cubic effect of lips, eyes or nails, where the base makeup includes makeup base, foundation and powder, and the point makeup includes lipstick, eye liner and mascara.

[0003] The foundation is classified into solid foundation, liquid foundation and gel foundation according to a type of cosmetics. Although the solid foundation has a good cover effect, the solid foundation lumps in fixing makeup. Although the liquid foundation has good adhesion, the durability is weak. Thus, the consumers preferring gel foundation, which has high durability and good adhesion when it is covered on skin, have been recently increased.

[0004] Thus, there is a need to develop a container for gel foundation. Generally, when the gel foundation filled in a glass container or tub container is used, after taking out the gel foundation from the container to his hand, or squeezing the container, a user coats it on his skin by using a puff.

[0005] However, according to the related art, since cosmetics stick to user's hand for use, the user must wash his hand every time when the user uses cosmetics. In addition, since the cosmetics sticking to user's hand are washed, the cosmetics are wasted.

[0006] In order to solve the above problem, a compact container provided therein with a buff has been developed to prevent cosmetics from sticking to hands and to improve the portability of the compact container.

[0007] However, the compact container according to the related art has a structure in which a cover is forcibly assembled with or disassembled from a container body, so, when a user may feel inconvenience when the user opens or closes the cover to use the cosmetics. In addition, the coupling structure of the compact container may be damaged due to the repetition of the forcible assembling and disassembling action, so that the coupling structure may not be used for a long period of time due to the abrasion or breakage.

[0008] In order to solve the above problem, as shown in FIG. 1, Korean Utility Model Registration No. 20-0171448 has been suggested. Korean Utility Model Registration No. 20-0171448 discloses a compact container having a button, in which a hook (210) is integrally formed with a cover (200) and a button (110) is provided in a container body (100) to open or close the cover (200). When a user presses a push part of the button (110), which protrudes out of the container body (100), a hook (120) of the button (110) is released from the hook (210) of the cover (200) so that the cover (200) is open.

[0009] However, according to the above related art, the button (110) is provided separately from the container body (100), so that the manufacturing cost and the assembling steps may be increased, thereby lowering the productivity.

[0010] Further, as another related art, Korean Utility Model Application No. 91-14993 has been suggested. Korean Utility Model Application No. 91-14993 discloses a compact container, in which elastic members (310) are provided at both sides of a hinge, as shown in FIG. 2, in order to allow a cover (300) to be elastically opened when a user opens the cover (300).

[0011] However, according to the above related art, the elastic members (310) are separately manufactured and bonded to both sides of the hinge, so that the manufacturing cost and the assembling steps may be increased, thereby lowering the productivity. In addition, the elastic members (310) have the material property different from the material property of the compact container, so the elastic members (310) have to be collected separately from the compact container in order to recycle the compact container.

[Disclosure]

[Technical Problem]

[0012] To solve the problems described above, an object of the present invention is to provide a compact container integrated with a button which is capable of enhancing usability and reducing the manufacturing cost, where the button is integrally formed with a container body, gaps are formed at both sides of a push part, and a groove is formed on an outside of a connecting part connecting the push part and the container body to each other such that the push part is enabled to be elastically reciprocated, so the push part is easily pressed to open a cover without an additional structure for assembling a

button in the container body. In addition, a tension bar is integrally formed on a hinge of the container cover to press an upper end of the container body when the container cover is closed, so that the container cover is elastically opened without forming an elastic member when the button is pushed to open the container cover.

[0013] In addition, another object of the present invention is to provide a compact container integrated with a button, in which a reinforcement rib for preventing a crack is integrally molded to protrude from an inner surface on which the groove of a connecting part is formed, so that any cracks are prevented from occurring in a push part due to the repeatedly pushing operations of the push part.

[0014] In addition, still another object of the present invention is to provide a compact container integrated with a button, in which a tension bar is integrally formed on a hinge of the container cover to press an upper end of the container body when the container cover is closed, so that the container cover is elastically opened without forming any elastic members when the button is pushed to open the container cover, thereby enhancing the usability and reducing the manufacturing cost.

[0015] In addition, still another object of the present invention is to provide a compact container integrated with a button, in which a hinge protrusion formed on a part of a hinge of an inner container is coupled to a hinge ring formed on a part of the hinge, such that an inner container cover is coupled to the inner container as if a ring clasp, thereby reducing the number of components necessary to manufacture the compact container to reduce the manufacturing cost, and in addition, which is formed in a structure suitable to form the components used to manufacture the compact container of the same material, so that there is no need to disassemble the compact container of which all the contents filled therein are used up for the purpose of waste recycling.

[Technical Solution]

[0016] The present invention provides a compact container which is integrated with a button and includes a container body (10) and a container cover (30) coupled to one side of the container body (10) to be opened or closed. The compact container includes:

a button (20) integrally formed on one side of the container body (10);
the container cover (30) coupled to the container body (10) and having a tension bar (32) integrally formed on an upper portion of a hinge;
an inner container (40) installed in the container body (10); and
an inner container cover (60) coupled to the inner container (40) to open or close the inner container (40),
wherein the button (20) includes a push part (21) formed at two sides thereof with gaps (25) to be elastically movable forward or rearward, a connecting part (22) for integrally connecting the push part (21) and the container body (10) to each other, and a groove (23) formed at an outside of the connecting part (22) to allow the push part (21) to easily move forward or rearward, and
the inner container (40) includes a hinge ring (41) formed on an upper portion of one side of the inner container (40) and a hinge protrusion (61) formed on one side of an outer periphery surface of the inner container cover (60) and fitted into the hinge ring (41) in a ring clasp type.

[0017] The compact container further includes one to three reinforcement ribs (26) integrally formed on an inner surface of the connecting part (22) of the button (20).

[0018] The compact container further includes a first protrusion (33) and a second protrusion (34) formed on an end of the tension bar (32), wherein the first protrusion (33) is longer than the second protrusion (34) by 0.1 mm to 0.5 mm.

[0019] The inner container (40) includes an outer wall (44), an intermediate wall (43) spaced inwardly from the outer wall (44) by a predetermined distance, an inner wall (42) spaced inwardly from the intermediate wall (43) by a predetermined distance, a receiving sill (45) formed on an upper end of the outer wall (44), and a receiving protrusion wheel (63) formed on the inner container cover (60) to be safely placed on the receiving sill (45).

[0020] The inner container cover (60) includes a sealing protrusion wheel (64) formed at a lower side thereof, and the sealing protrusion wheel (64) is tightly closed to an inside of the intermediate wall (43) of the inner container (40) to seal the inner container (40).

[Advantageous Effects]

[0021] According to the present invention, there is provided a compact container integrated with a button which is capable of enhancing usability and reducing the manufacturing cost, where the button is integrally formed with a container body, gaps are formed at both sides of a push part, and a groove is formed on an outside of a connecting part connecting the push part and the container body to each other such that the push part is enabled to be elastically reciprocated, so the push part is easily pressed to open a cover without an additional structure for assembling a button in the container body. In addition, a tension bar is integrally formed on a hinge of the container cover to press an upper end of the container body when the container cover is closed, so that the container cover is elastically opened without forming an elastic member when the button is pushed to open the container cover.

[0022] According to the present invention, there is provided a compact container integrated with a button, in which the reinforcement rib for preventing a crack is integrally molded to protrude from the inner surface on which the groove of the connecting part, so that any cracks are prevented from occurring in the push part due

to the repeatedly pushing operations of the push part.

[0023] According to the present invention, there is provided a compact container integrated with a button, in which the tension bar is integrally formed on the hinge of the container cover to press an upper end of the container body when the container cover is closed, so that the container cover is elastically opened without forming any elastic members when the button is pushed to open the container cover, thereby enhancing the usability and reducing the manufacturing cost.

[0024] According to the present invention, there is provided a compact container integrated with a button, in which a hinge protrusion formed on a part of a hinge of an inner container is coupled to a hinge ring formed on a part of the hinge, such that an inner container cover is coupled to the inner container as if a ring clasp, thereby reducing the number of components necessary to manufacture the compact container to reduce the manufacturing cost, and in addition, which is formed in a structure suitable to form the components used to manufacture the compact container of the same material, so that there is no need to disassemble the compact container of which all the contents filled therein are used up for the purpose of waste recycling.

[Description of Drawings]

[0025]

FIG. 1 is a perspective view showing a compact container according to the related art.

FIG. 2 is an exploded perspective view showing another compact container according to the related art.

FIG. 3 is a perspective view showing a compact container integrated with a button according to an embodiment of the present invention.

FIG. 4 is an exploded perspective view showing a compact container integrated with a button according to an embodiment of the present invention.

FIG. 5 is a sectional view showing a compact container integrated with a button according to an embodiment of the present invention.

FIG. 6 is a sectional view showing a state of pushing a button of a compact container integrated with the button according to an embodiment of the present invention.

FIG. 7 is a sectional view showing a state of opening or closing a container cover of a compact container integrated with a button according to an embodiment of the present invention.

FIG. 8 is a sectional view showing a state of opening or closing a container cover of a compact container integrated with a button according to an embodiment of the present invention.

[Best Mode]

[Mode for Invention]

[0026] A compact container integrated with a button according to an embodiment of the present invention will be described with reference to accompanying drawings.

[0027] FIG. 3 is a perspective view showing a compact container integrated with a button according to an embodiment of the present invention. FIG. 4 is an exploded perspective view showing a compact container integrated with a button according to an embodiment of the present invention. FIG. 5 is a sectional view showing a compact container integrated with a button according to an embodiment of the present invention. FIG. 6 is a sectional view showing a state of pushing a button of a compact container integrated with the button according to an embodiment of the present invention. FIG. 7 is a sectional view showing a state of opening or closing a container cover of a compact container integrated with a button according to an embodiment of the present invention. FIG. 8 is a sectional view showing a state of opening or closing a container cover of a compact container integrated with a button according to an embodiment of the present invention.

[0028] According to the present invention, there is provided a compact container which is integrated with a button and includes a container body (10) and a container cover (30) coupled to one side of the container body (10) to be opened or closed. The compact container includes a button (20) integrally formed on one side of the container body (10), the container cover (30) coupled to the container body (10) and having a tension bar (32) integrally formed on an upper portion of a hinge, an inner container (40) installed in the container body (10), and an inner container cover (60) coupled to the inner container (40) to open or close the inner container (40).

[0029] The inner container (40) is provided at a central portion in the inside of the container body (10) and the button (20) is integrally formed on one side of the container body (10). A hinge is formed at a side facing the button (20) such that the button (20) is hinge-coupled to the container cover (30).

[0030] The button (20) includes a push part (21) formed at one side of the container body (10) and provided with a gap (25) to be elastically movable, a connecting part (22) formed below the push part (21), a groove (23) formed at an outside of the connecting part (22).

[0031] The push part (21) may allow a locking sill (24) extending on an upper portion to be easily moved rearward through the pushing operation of a user such that the locking sill may easily escape from a locking protrusion (31) of the container cover (30).

[0032] As shown in FIG. 5, the push part (21) are provided at both sides thereof with the gaps (25) by which the side surface of the push part (21) is separated from the container body (10) such that the push part (21) is elastically movable forward or rearward.

[0033] The connecting part (22) is integrally connected to the push part (21) and the container body (10) and is provided at an outside thereof with the groove (23) to allow the push part (21) to easily move forward or rearward, such that the push part (21) may be elastically movable forward or rearward.

[0034] The container cover (30) may be opened by pushing the push part (21) and thus, an additional structure for assembling the button (20) is not necessary in the container body (10) so that the manufacturing cost and the number of assembling processes are reduced, thereby improving the productivity.

[0035] As shown in FIGS. 5 to 8, the groove (23) formed on the connecting part (22) below the push part (21) allows the connecting part (22) to have a thin thickness, such that the push part (21) may elastically move.

[0036] A reinforcement rib (26) for preventing a crack is integrally molded to protrude from an inner surface on which the groove (23) of the connecting part (22) is formed, so that any cracks are prevented from occurring in the push part (21) due to the repeatedly pushing operations of the push part (21).

[0037] One to three reinforcement ribs (26) are formed to maintain the elasticity of the push part (21) and preferably, two reinforcement ribs (26) are formed.

[0038] The container cover (30), which covers the upper portion of the container body (10), is hinge-coupled to the container body (10) and opens or closes the container body (10).

[0039] A locking protrusion (31) is formed on one side of the container cover (30) and has a protrusion shape corresponding to the locking sill (24) of the button (20).

[0040] In addition, the tension bar (32) is integrally formed on an upper portion of the hinge of the container cover (30), and as shown in FIG. 5, the first and second protrusions (33) and (34) are formed on the end of the tension bar (32).

[0041] The tension bar (32) is integrally formed with the container cover (30). Since the upper end of the outer wall (44) of the inner container (40) contained in the container body (10) is pressed when the container cover (30) is closed, the container cover (30) is elastically opened when the push cover (30) is opened, so that the container cover (30) may be elastically opened, thereby enhancing the usability and reducing the manufacturing cost.

[0042] The length of the first protrusion (33) of the tension bar (32) is longer than that of the second protrusion (34) by 0.1 mm to 0.5 mm, preferably, 0.2 mm.

[0043] In addition, a push sill (46) pressed by the second protrusion (34) of the tension bar (32) is formed on an upper outer periphery surface of an outer wall (44) of the inner container (40), so that the first protrusion (33) of the tension bar (32) presses an upper end of the outer wall (44) of the inner container (40) and the second protrusion (34) presses the push sill (46).

[0044] The inner container (40) is installed in the container body (10) and a hinge ring (41) is integrally formed on one upper side of the inner container (40). An intermediate wall (43) is spaced inwardly from an inside of the outer wall (44), and an inner wall (42) is spaced inwardly from the intermediate wall (43).

[0045] Contents may be contained in the inner container (40) or a containing sponge impregnated with the contents may be installed in the inner container (40).

[0046] The hinge ring (41) is fitted into a hinge protrusion (61) formed on one side of an outer periphery surface of the inner container cover (60) as if a ring clasp.

[0047] A fixing member (50) is further coupled to an outer periphery surface of the inner wall (42), where the fixing member (50) is provided on an upper portion thereof with a fixing protrusion wheel (51) which extends inwardly and is under-cut, or screw or forcibly coupled to an outer periphery surface of the inner wall (42) of the inner container (40).

[0048] A sealing protrusion wheel (64) formed on the inner container cover (60) is inserted into an inside of the intermediate wall (43) so that the air-tightness of the inner container (40) is improved.

[0049] Preferably, an outer diameter of the sealing protrusion wheel (64) of the inner container cover (60) is greater than that of the intermediate wall (43) of the inner container (40) by 0.01 mm to 0.3 mm, so that the sealing protrusion wheel (64) is pressed and coupled to the intermediate wall (40) of the inner container (40) to be sealed when the inner container (40) is covered with the inner container cover (60).

[0050] A receiving sill (45) is formed on an upper end of the outer wall (44) and a receiving protrusion wheel (63) formed on the inner container cover (60) is placed on the receiving sill (45).

[0051] The inner container cover (60) is coupled to the inner container (40) to open the inner container (40).

[0052] The hinge protrusion (61) is formed on one side of the outer periphery surface of the inner container cover (60) and a puff receiving part (62) capable of receiving a puff is formed at an upper side of the inner container cover (60).

[0053] As shown in a sectional view taken along line A-A of FIG. 3, the hinge protrusion (61) is fitted into the hinge ring (41), which is formed at one side of an upper portion of the inner container (40), as if a ring clasp, so that the inner container cover (60) can be fitted into the inner container (40) as if a ring clasp without fixing them using pins. Thus, the number of components necessary to manufacture the compact container may be reduced so that the manufacturing cost may be reduced.

[0054] In addition, the components used to manufacture the compact container are formed of the same material, so that there is no need to disassemble the compact container of which all the contents filled therein are used up for the purpose of waste recycling.

[0055] The receiving protrusion wheel (63) is formed on the outer periphery surface of the inner container cover (60) and the sealing protrusion wheel (64) is formed below the receiving protrusion wheel (63).

[0056] The receiving protrusion wheel (63) is placed

on the receiving sill (46) of the inner container (40) to allow the inner container cover (60) to be safely placed on the inner container (40).

[0057] The sealing protrusion wheel (64) is tightly close to the intermediate wall (43) of the inner container (40) to seal the inner container (40).

[0058] Hereinafter, a method of assembling a compact container integrated with a button according to an embodiment of the present invention and a using state thereof will be described in detail as follows.

[0059] In order to assemble the compact container integrated with a button according to the present invention, the container cover (30) is hinge-coupled to the container body (10).

[0060] In this case, the button (20) includes the push part (21) integrally formed at one side of the container body (10) to be elastically movable, the connecting part (22) formed below the push part (21), and the groove (23) formed at an outside of the connecting part (22). In addition, as shown in FIG. 5, the gaps (25) are formed at both sides of the button (20) and the connecting part (22) has a thin thickness due to the groove (23), so that the push part (21) is elastically movable forward or rearward.

[0061] To prevent a crack from being generated in the groove (23), one to three reinforcement ribs (26) are formed on the inner side surface of the groove (23). Preferably, two reinforcement ribs (26) are formed.

[0062] The tension bar (32) is integrally formed on an upper portion of the hinge of the container cover (30). Since the tension bar (32) presses the upper end of the outer wall (44) of the inner container (40) contained in the container body (10), the container cover (30) is enabled to be elastically opened without forming any additional elastic members when the button (20) is pushed to open the push cover (30), so that the usability may be enhanced and the manufacturing cost may be reduced.

[0063] Thereafter, the inner container (40) is installed in the container body (10) and the hinge ring (41) is formed at one side of the inner container (40). Then, by fitting the hinge protrusion (61) which is formed at one side of the outer periphery surface of the inner container cover (60) into the hinge ring (41), the inner container cover (60) and the inner container (40) are coupled to each other as if a ring clasp.

[0064] Next, the fixing member (50) is further coupled to the outer periphery surface of the inner wall (42) of the inner container (40) and the fixing protrusion wheel (51) extends inwardly on the fixing member (50). The fixing protrusion wheel (51) is under-cut or screw coupled to the outer periphery surface of the inner wall (42) of the inner container (40), so that the assembly of the compact container integrated with a button according to the present invention is completed.

[0065] In order to use the compact container integrated with the button assembled through the above-described scheme, as shown in FIG. 6, the button (20) integrally formed at one side of the container body (10) is pressed.

[0066] In this case, since the button (20) is integrally formed with the container body (10), an additional structure for assembling the button (20) is not necessary in the container body (10) so that the manufacturing cost and the number of assembling processes may be reduced, thereby improving the productivity.

[0067] As shown in FIGS. 7 and 8, when the button (20) is pushed, the container cover (30) is elastically opened without any additional elastic members by the tension bar (32) integrally formed on the hinge of the container cover (30), so that the compact container may be conveniently used.

[0068] The compact container integrated with a button described in this disclosure is for an illustrative purpose only, and the present invention is not limited thereto. Thus, it should be understood that numerous other modifications and embodiments can be devised by those skilled in the art within the spirit and scope of the present invention and they will fall within the scope of the present invention.

[Description of Reference Numeral]

[0069]

10: Container body
20: Button
21: Push part
22: Connecting part
23: Groove
24: Locking sill
25: Gap
26: Reinforcement rib
30: Container cover
31: Locking protrusion
32: Tension bar
33: First protrusion
34: Second protrusion
40: Inner container
41: Hinge ring
42: Inner wall
43: Intermediate wall
44: Outer wall
45: Receiving sill
46: Push sill
50: Fixing member
51: Fixing protrusion wheel
60: Inner container cover
61: Hinge protrusion
62: Puff receiving part
63: Receiving protrusion wheel
64: Sealing protrusion wheel

Claims

1. A compact container which is integrated with a button and includes a container body (10) and a container

cover (30) coupled to one side of the container body (10) to be opened or closed, the compact container comprising:

a button (20) integrally formed on one side of the container body (10);
the container cover (30) coupled to the container body (10) and having a tension bar (32) integrally formed on an upper portion of a hinge;
an inner container (40) installed in the container body (10); and
an inner container cover (60) coupled to the inner container (40) to open or close the inner container (40),
wherein the button (20) comprises a push part (21) formed at two sides thereof with gaps (25) to be elastically movable forward or rearward, a connecting part (22) for integrally connecting the push part (21) and the container body (10) to each other, and a groove (23) formed at an outside of the connecting part (22) to allow the push part (21) to easily move forward or rearward, and the inner container (40) comprises a hinge ring (41) formed on an upper portion of one side of the inner container (40) and a hinge protrusion (61) formed on one side of an outer periphery surface of the inner container cover (60) and fitted into the hinge ring (41) in a ring clasp type.

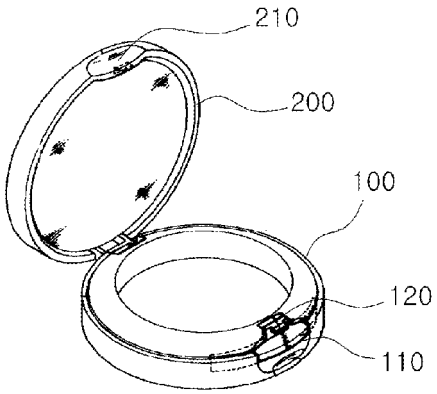
2. The compact container of claim 1, further comprising one to three reinforcement ribs (26) integrally formed on an inner surface of the connecting part (22) of the button (20).

3. The compact container of claim 1, further comprising a first protrusion (33) and a second protrusion (34) formed on an end of the tension bar (32), wherein the first protrusion (33) is longer than the second protrusion (34) by 0.1 mm to 0.5 mm.

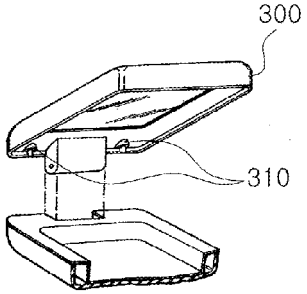
4. The compact container of claim 1, wherein the inner container (40) includes an outer wall (44), an intermediate wall (43) spaced inwardly from the outer wall (44) by a predetermined distance, an inner wall (42) spaced inwardly from the intermediate wall (43) by a predetermined distance, a receiving sill (45) formed on an upper end of the outer wall (44), and a receiving protrusion wheel (63) formed on the inner container cover (60) to be safely placed on the receiving sill (45).

5. The compact container of claim 1, wherein the inner container cover (60) includes a sealing protrusion wheel (64) formed at a lower side thereof, and the sealing protrusion wheel (64) is tightly close to an inside of the intermediate wall (43) of the inner container (40) to seal the inner container (40).

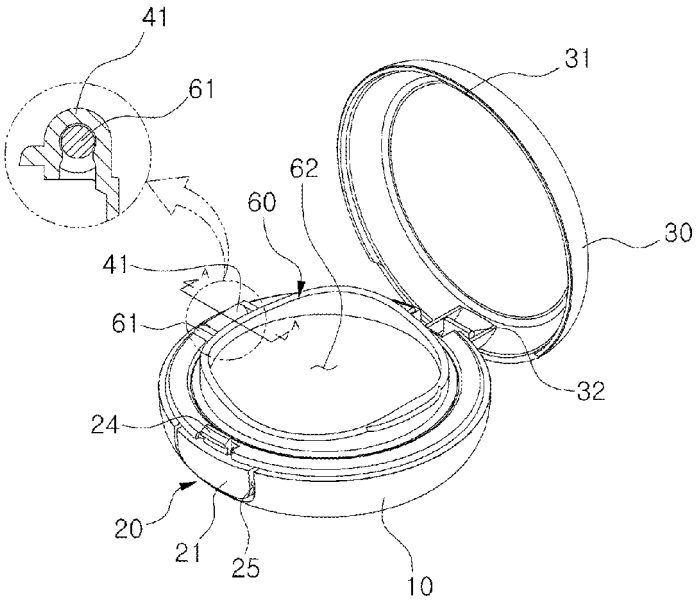
[Fig. 1]



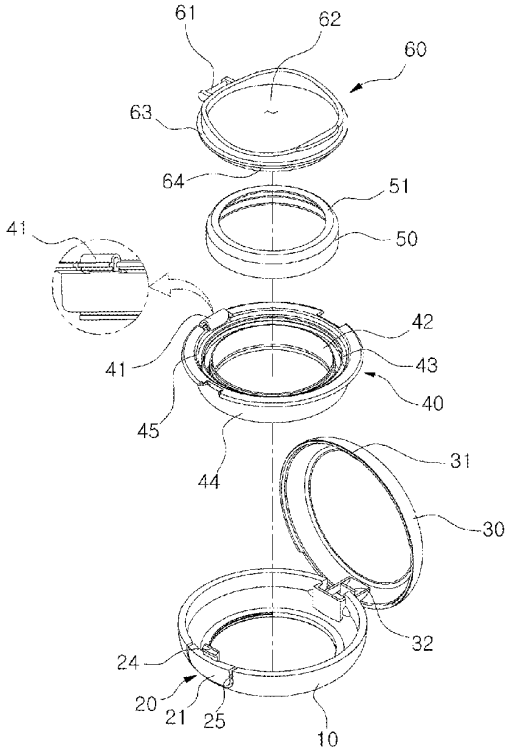
[Fig. 2]



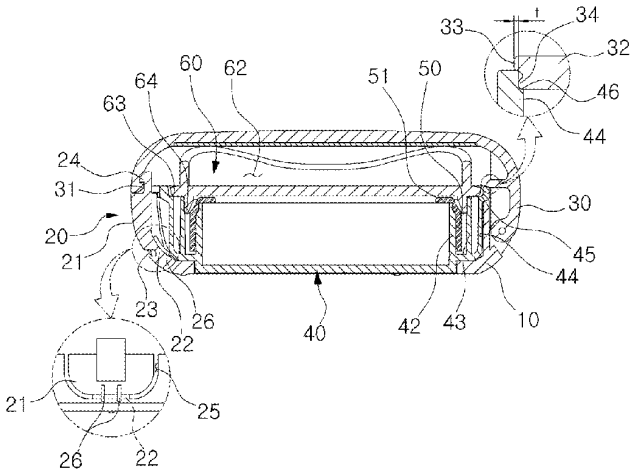
[Fig. 3]



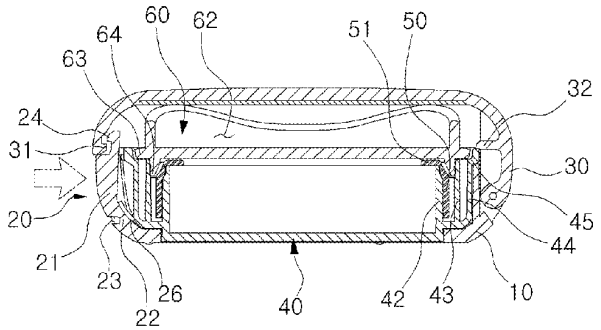
[Fig. 4]



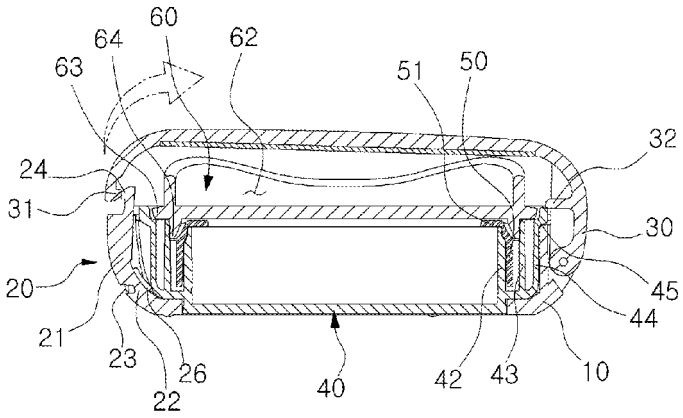
[Fig. 5]



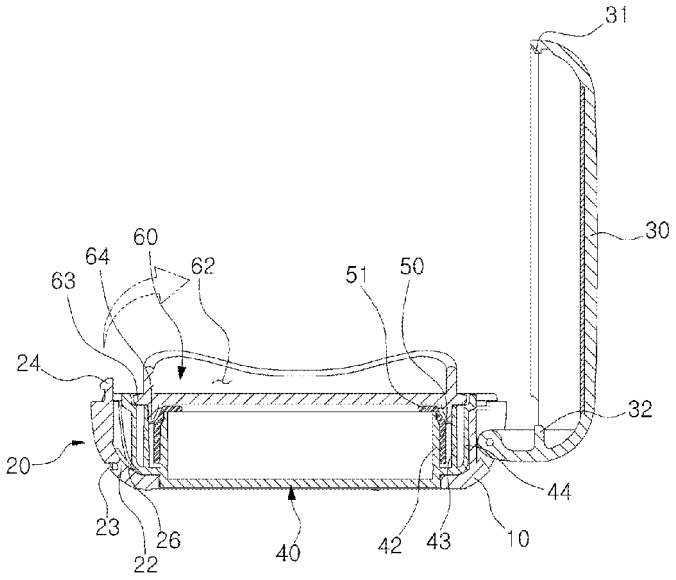
[Fig. 6]



[Fig. 7]


60
64
62
63
51
50
32
24
31
30
20
45
44
21
23
26
22
40
42
43
10

[Fig. 8]


31
30
60
64
62
63
51
50
24
32
20
44
23
26
22
40
42
43
10

INTERNATIONAL SEARCH REPORT

International application No.
PCT/KR2015/011786

A. CLASSIFICATION OF SUBJECT MATTER

A45D 40/22(2006.01)i, A45D 40/00(2006.01)i, B65D 43/16(2006.01)i, B65D 43/22(2006.01)i, B65D 77/04(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 40/22; A45D 33/00; B65D 43/16; A45D 34/00; A45D 40/00; B65D 43/22; B65D 77/04

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: compact container, button, push part, tension bar, stiffener, protrusion, elasticity

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	KR 10-0486945 B1 (KOSE CORPORATION et al.) 02 September 2005 See paragraphs [0029]-[0074]; claims 1-11; figures 1a-5b.	1-5
Y	KR 20-0176782 Y1 (TAEPYEONGYANG CORPORATION) 15 April 2000 See page 2, lines 12-30; claim 1; figures 1, 2.	1-5
Y	KR 10-1318467 B1 (JUNG, Ku Youl) 16 October 2013 See paragraphs [0015]-[0041]; claims 1-3; figures 1-10.	1-5
A	KR 10-2015-0087772 A (AMOREPACIFIC CORPORATION) 30 July 2015 See paragraphs [0037]-[0061], [0077]-[0093]; claims 1-12; figures 1-8b.	1-5
A	KR 10-2012-0132141 A (ILLUPACK CO., LTD.) 05 December 2012 See paragraphs [0037]-[0066]; claims 1-9; figures 1-11.	1-5

☐ Further documents are listed in the continuation of Box C.

☒ See patent family annex.

* Special categories of cited documents:

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier application or patent but published on or after the international filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art

"&" document member of the same patent family

Date of the actual completion of the international search	Date of mailing of the international search report
17 FEBRUARY 2016 (17.02.2016)	**17 FEBRUARY 2016 (17.02.2016)**
Name and mailing address of the ISA/KR Korean Intellectual Property Office Government Complex-Daejeon, 189 Seonsa-ro, Daejeon 302-701, Republic of Korea Facsimile No. 82-42-472-7140	Authorized officer Telephone No.

Form PCT/ISA/210 (second sheet) (January 2015)

INTERNATIONAL SEARCH REPORT
Information on patent family members

International application No.
PCT/KR2015/011786

Patent document cited in search report	Publication date	Patent family member	Publication date
KR 10-0486945 B1	02/09/2005	EP 0894452 A1	03/02/1999
		EP 0894452 A4	10/07/2002
		EP 0894452 B1	25/08/2004
		JP 3973695 B2	12/09/2007
		US 5950639 A	14/09/1999
		WO 98-25497 A1	18/06/1998
KR 20-0176782 Y1	15/04/2000	KR 20-1999-0012969 U	15/04/1999
KR 10-1318467 B1	16/10/2013	US 2016-0007717 A1	14/01/2016
		WO 2014-157901 A1	02/10/2014
KR 10-2015-0087772 A	30/07/2015	WO 2015-141937 A1	24/09/2015
KR 10-2012-0132141 A	05/12/2012	WO 2012-165700 A1	06/12/2012

Form PCT/ISA/210 (patent family annex) (January 2015)

REFERENCES CITED IN THE DESCRIPTION

This list of references cited by the applicant is for the reader's convenience only. It does not form part of the European patent document. Even though great care has been taken in compiling the references, errors or omissions cannot be excluded and the EPO disclaims all liability in this regard.

Patent documents cited in the description

- KR 200171448 **[0008]**
- KR 9114993 **[0010]**