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(54) **COMPACT CONTAINER**

(57) The present invention disclosed herein related to a compact container, more particularly a compact container wherein a plurality of sealing protrusions formed with a predetermined distance separated at an upper portion of an inner circumferential surface of a middle case is coupled to sealing grooves formed at an outer circumferential surface of the sealing member when a sealing member closes an upper end of a contents reception part, thereby making it possible to improve an inner airtightness of the contents reception part and also to prevent leakage of content in a process of a decompression test by closing an upper end of the contents reception part by means of a structure of first and second leakage prevention protrusions equipped at a bottom surface of the sealing member.

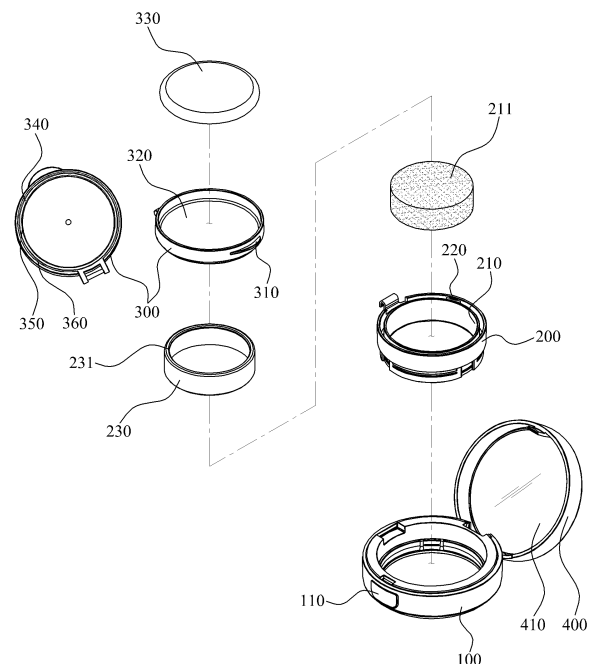


Fig. 1

## Description

### BACKGROUND

[0001] The present invention disclosed herein related to a compact container, more particularly a compact container wherein a plurality of sealing protrusions formed with a predetermined distance separated at an upper portion of an inner circumferential surface of a middle case is coupled to sealing grooves formed at an outer circumferential surface of the sealing member when a sealing member closes an upper end of a contents reception part, thereby making it possible to improve an inner airtightness of the contents reception part and also to prevent leakage of content in a process of a decompression test by closing an upper end of the contents reception part by means of a structure of first and second leakage prevention protrusions equipped at a bottom surface of the sealing member.

[0002] Generally, a compact container is supposed to be portably carried by women with color cosmetics or powder for facial makeup received therein.

[0003] This type compact container is manufactured in various shapes. No matter what shapes, compact containers, having color cosmetics or powder contents received in a storing part, have in common in that a user applies cosmetics onto face by means of a makeup tool such as a puff or a brush by opening an outer cap through a hinge-rotation by pressurizing a button equipped at a front surface of the container body and smearing the cosmetics on a cosmetic tool such as a puff or a brush received in the interior thereof.

[0004] Such a conventional compact container as in the above is configured to keep an inner airtightness by covering an upper end of the contents storage part through an inner cap, such that it is possible to block air from coming in some degree, but it is not possible to completely keep the inner airtightness due to the structural limitation.

[0005] To solve this problem, "a compact container" which is configured to improve an inner airtightness of a contents storage part, is disclosed in the registered patent no. 10-1333044. (Hereafter it is called "the registered patent".)

[0006] The registered patent includes a lower case receiving a contents storage part and provided with a guide protrusion at a inner lower end for ascending/descending the contents storage part; a middle case rotatably coupled to an upper portion of the lower case; a contents storage part storing contents and received in the lower case, and provided with a rotation protrusion which moves along the guide protrusion; a rotation body seated to an upper portion of the middle case and rotating as being interlocked when the middle case rotates, and guiding a perpendicular movement of the contents storage part; a sealing member hinge-coupled to one side of the rotation body for opening/closing an upper end of the rotation body; and an upper case hinge-coupled to

one side of the middle case, and rotating the middle case together as rotating one side or the other side by user's pressurization.

[0007] The registered patent is configured in a way that when the rotation body rotates, a contents storage part is rotated along by an ascending/descending protrusion of the contents storage part inserted into a guide groove of the rotation body, and when the contents storage part rotates, a rotation protrusion formed at a lower end of the contents storage part moves long a slope surface of the guide protrusion of a lower case. Due to this, the contents storage part ascends and makes an upper end of the contents storage part sealed by a sealing part of the sealing member.

[0008] However, the registered patent in the above has a complicated structure for improving an inner airtightness of the contents storage part, therefore having a problem in increase of manufacturing time and increases of production cost of the container itself as well.

[0009] Meanwhile, recently it is likely that such a compact container as in the above stores liquid-type contents or a polyurethane foam impregnated with liquid-type contents. Furthermore, inner airtightness problems due to the sealing structure has been leading to develop a variety of sealing structures for solving the problems like leakage of contents stored in the contents storage part in a process of a compression test.

### SUMMARY OF THE INVENTION

[0010] The present invention is devised to solve the said problems above, and its goal is to provide a compact container wherein a plurality of sealing protrusions formed with a predetermined distance separated at an upper portion of an inner circumferential surface of a middle case is coupled to sealing grooves formed at an outer circumferential surface of the sealing member when a sealing member closes an upper end of a contents reception part, thereby making it possible to improve an airtightness of an interior of the contents reception part and also to prevent leakage of contents in a process of a decompression test by closing an upper end of the contents reception part by means of a structure of first and second leakage prevention protrusions equipped at a bottom surface of the sealing member.

[0011] To solve the above problems, a compact container according to the present invention includes: a lower case; a middle case disposed at an inner side of the lower case and provided with a contents reception part for receiving a contents absorption member impregnated with liquid-type contents; a sealing member hinge-coupled to the middle case for opening/closing an upper portion of the contents reception part, and provided with a reception groove such that contents application member can be received at an upper portion thereof; and an upper case encasing the contents application member and hinge-coupled for being rotated upwards and downwards to the lower case,

[0012] characterized in that a plurality of sealing protrusions are formed with a predetermined distance separated at an upper portion of an outer circumferential surface of the middle case such that an inner airtightness of the contents reception part can be kept when the sealing member closes an upper end of the contents reception part, wherein a plurality of sealing grooves coupled with a plurality of the sealing protrusions at a lower portion of an outer circumferential of the sealing member.

[0013] Furthermore, it is characterized in that at the sealing member is provided a first leakage prevention protrusion of a ring-shape, which is contacted to an upper end of the contents reception part and extends downwards from a bottom surface of the sealing member such that contents stored in the contents reception part can be prevented from being leaked.

[0014] Furthermore, it is characterized in that at the sealing member is provided a first leakage prevention protrusion of a ring-shape, which is contacted to an upper end of the contents reception part and extends downwards from a bottom surface of the sealing member such that contents stored in the contents reception part can be prevented from being leaked.

[0015] Furthermore, the sealing protrusion is characterized in a way that three of sealing protrusions are formed with a 120 degrees interval at an inner circumferential surface of the middle case.

[0016] As described in the above, the compact container is configured wherein a plurality of sealing protrusions formed with a predetermined distance separated at an upper portion of an inner circumferential surface of an middle case is coupled to sealing grooves formed at an outer circumferential surface of the sealing member when a sealing member closes an upper end of a contents reception part, thereby making it possible to improve an airtightness of an interior of the contents reception part and also to prevent leakage of content in a process of a decompression test by closing an upper end of the contents reception part by means of a structure of first and second leakage prevention protrusions equipped at a bottom surface of the sealing member.

## BRIEF DESCRIPTION OF THE DRAWINGS

[0017]

FIG. 1 is an exploded perspective view illustrating a configuration of a compact container according to an exemplary embodiment of the present invention.

FIG. 2 is an assembled perspective view illustrating a configuration of a compact container according to an exemplary embodiment of the present invention. FIG. 3 is an assembled cross-sectional view illustrating a configuration of a compact container according to an exemplary embodiment of the present invention.

FIG. 4 is an explanatory view illustrating a state of coupling a sealing protrusion and a sealing groove

of a compact container according to an exemplary embodiment of the present invention.

## DETAILED DESCRIPTION OF PREFERRED EMBODIMENTS

[0018] Hereinafter, 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 an exploded perspective view illustrating a configuration of a compact container according to an exemplary embodiment of the present invention. FIG. 2 is an assembled perspective view illustrating a configuration of a compact container according to an exemplary embodiment of the present invention.

[0020] FIG. 3 is an assembled cross-sectional view illustrating a configuration of a compact container according to an exemplary embodiment of the present invention. FIG. 4 is an explanatory view illustrating a state of coupling a sealing protrusion and a sealing groove of a compact container according to an exemplary embodiment of the present invention.

[0021] Referring to Figs.1 to 4, a compact container according to an exemplary embodiment of the present invention includes a lower case 100, a middle case 200, a sealing member 300, and an upper case 400.

[0022] The lower case 100, receiving a middle case 200 provided with contents reception part 210, is coupled with a button part 110 for opening/closing the upper case 400 at a front surface thereof.

[0023] The button part 110 is coupled to a front surface of the lower case 100 and normally prevents the upper case 400 from opening, but moves to an inner side direction and causes the upper case 400 to open when a user pressurizes the button part 110, wherein a projection is provided at an upper portion of the button part 110 for supporting a protrusion of the upper case 400 when closing the upper case 400, and thereby preventing the upper case 400 from opening.

[0024] The middle case 200 is disposed at an inner side of the lower case 100, and is provided with a contents reception part 210 at an interior thereof such that a contents absorption member 211 impregnated with liquid-type contents therein can be received. The contents absorption member 211 can be composed of various materials like a puff, a sponge, a foam, and a brush which can be impregnated with liquid-type contents, preferably made of a porous material that can easily absorb contents.

[0025] Meanwhile, the present invention is characterized in a way that a plurality of sealing protrusions 220 are formed with a predetermined distance separated at an upper portion of an inner circumferential surface of the middle case 200 for keeping an inner airtightness of the contents reception part 210 when a sealing member 300 to be described later closes an upper end of a contents reception part 210. The sealing protrusions 220,

coupled with a sealing groove 361 and keeping an inner airtightness of the contents reception part 210, are preferred to have three of sealing protrusions 220 formed with a 120-degree interval at an inner circumferential surface of the middle case 200 for a secure coupling with the sealing member 300.

**[0026]** Furthermore, a fixation tube 230 which encases the contents absorption member 211 is coupled to an inner side of the contents reception part 210 for fixing a contents absorption member 211, wherein a fixation protrusion 231 is provided to an inner side direction at an upper portion of the fixation tube 230 such that the contents absorption member 211 can support an upper end of the contents absorption member 211 and thereby be prevented from being separated from the contents reception part 210.

**[0027]** The sealing member 300, hinge-coupled to the middle case 200 for opening/closing an upper portion of the contents reception part 210, has a handle part 310 at a front surface thereof for easy manipulation during an upward and downward rotation by a hinge coupling.

**[0028]** Furthermore, a reception groove 320 is provided at an upper portion of the sealing member 300 such that a contents application member 330 like a puff can be received therein.

**[0029]** Meanwhile, the present invention is characterized in that first leakage prevention protrusion 340 and second leakage prevention protrusion 350 are provided at a bottom surface of the sealing member 300 for preventing contents from being leaked when a decompression test is being performed in a state that a contents reception part 210 receives liquid-type contents. The first leakage prevention protrusion 340, contacted to an upper end of the contents reception part 210, is composed of a ring shape which extends downwards from the bottom surface of the sealing member 300 for preventing the contents stored in the contents reception part 210 from being leaked, and the second leakage prevention protrusion 350 is composed of a ring shape which extends downwards from a bottom surface of the sealing member 300 and is provided closely encasing an outer circumferential surface of the contents reception part 210 from an outer side of the first leakage prevention protrusion 340, such that contents stored in the contents reception part 210 can be prevented from being leaked.

**[0030]** The first leakage prevention protrusion 340 and the second leakage prevention protrusion 350 are configured to be composed of a ring shape for respectively sealing an upper end and an outer circumferential surface of the contents reception part 210. As illustrated in FIG. 3, since the second leakage prevention protrusion 350 supports the outer circumferential surface of the contents reception part 210, it is possible to prevent the contents reception part 210 from being separated to an outer side direction by an inner pressure during the decompression test, therefore, making it possible to prevent the contents stored in the contents reception part 210 from being leaked.

**[0031]** Meanwhile, the present invention is characterized in that at a bottom surface of the sealing member 300 is provided a coupling protrusion 360 which is formed with a certain distance apart, encasing the second leakage prevention protrusion 350 and equipped with a plurality of sealing grooves 361 for coupling with the sealing protrusion 220 of the middle case 200. The contents reception part 210 can keep an inner airtightness of the contents reception part 210 through coupling of the sealing groove 361 and the sealing protrusion 220 when the sealing member 300 closes an upper end of the contents reception part 210.

**[0032]** That is, the second leakage prevention protrusion 350 supports an outer circumferential surface of the contents reception part, such that it is possible not only to prevent contents stored in the contents reception part 210 from being leaked during the decompression test, but to keep an inner airtightness of the contents reception part 210 by being coupled to the sealing protrusion 220 of the middle case through the coupling protrusion 360 including sealing groove 361 equipped at an outer side thereof.

**[0033]** The upper case 400, which encases the contents application member 330 and is hinge-coupled for being able to rotate upwards and downwards on the lower case 100, allows the contents application member 330 to be used when being rotated upwards and being opened, and protects the contents application member 330 from external impact and at the same time blocks foreign matters from flowing in when being rotated downwards and being closed.

**[0034]** A mirror 410 is preferably equipped at the upper case 400 such that a user can see contents being applied while putting up the makeup.

**[0035]** As described in the 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. Therefore, those skilled in the art will appreciate that various modifications and other equivalent embodiments are possible from the above embodiments. Accordingly, the scope of the present invention should be defined by the technical spirit of the accompanying claims.

## Claims

1. A compact container comprising:

- a lower case (100);
- a middle case (200) disposed at an inner side of the lower case (100) and provided with a contents reception part (210) for receiving a contents absorption member (211) impregnated with liquid-type contents;

a sealing member (300) hinge-coupled to the middle case for opening/closing an upper portion of the contents reception part (210), and provided with a reception groove (320) such that contents application member (330) can be received at an upper portion thereof; and an upper case (400) encasing the contents application member (330) and hinge-coupled for being rotated upwards and downwards to the lower case (100),

**characterized in that** at the sealing member (300) is provided a first leakage prevention protrusion (340) of a ring-shape, which is contacted to an upper end of the contents reception part (210) and extends downwards from a bottom surface of the sealing member (300) such that contents stored in the contents reception part (210) can be prevented from being leaked.

**characterized in that** at the sealing member (300) is provided a first leakage prevention protrusion (340) of a ring-shape, which is contacted to an upper end of the contents reception part (210) and extends downwards from a bottom surface of the sealing member (300) such that contents stored in the contents reception part (210) can be prevented from being leaked, and

**characterized in that** a plurality of sealing protrusions (220) are formed with a predetermined distance separated at an upper portion of an outer circumferential surface of the middle case (200) such that an inner airtightness of the contents reception part (210) can be kept when the sealing member (300) closes an upper end of the contents reception part (210), wherein a plurality of sealing grooves (361) coupled with a plurality of the sealing protrusions (220) at a lower portion of an outer circumferential of the sealing member (300).

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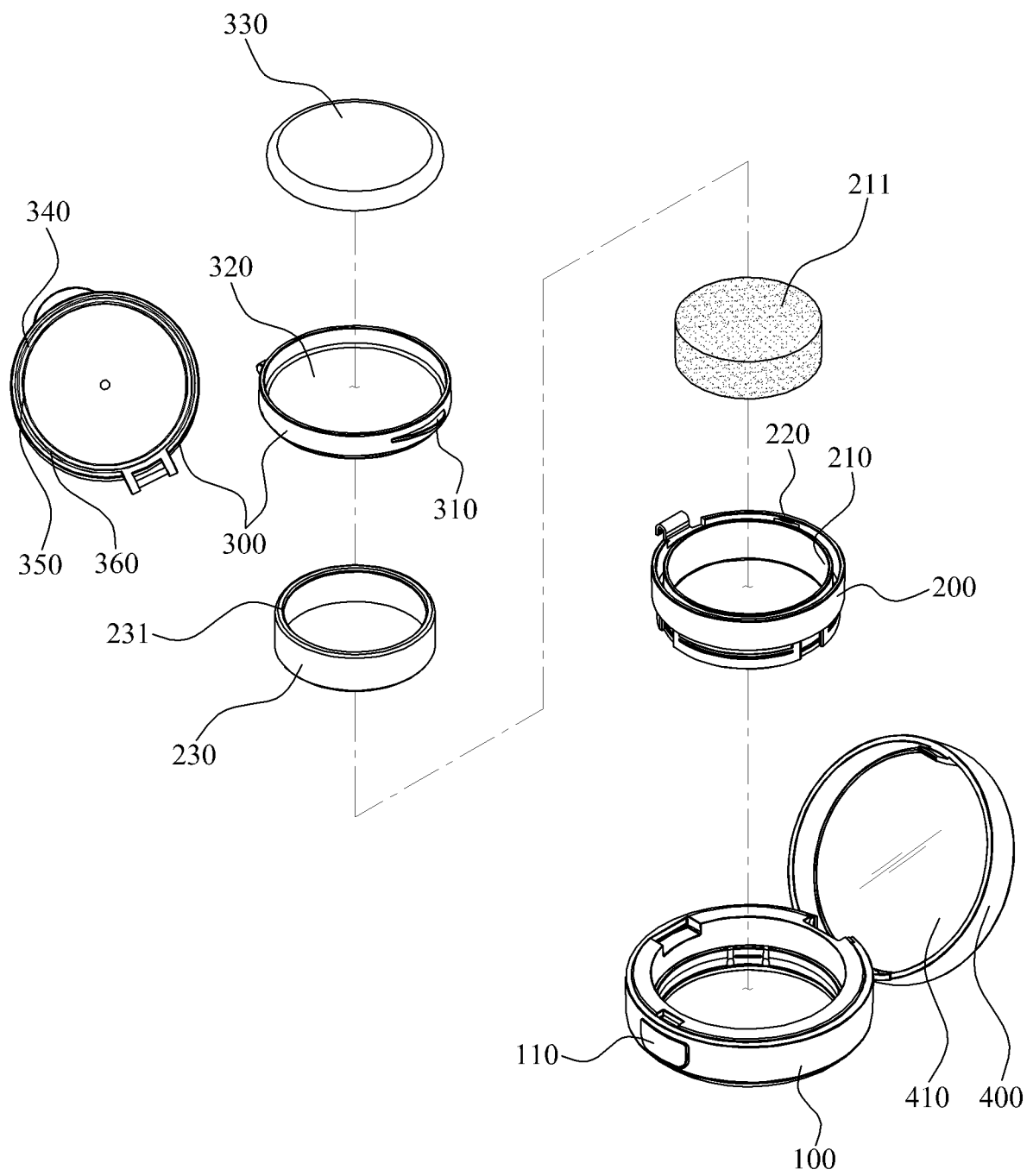


Fig. 1

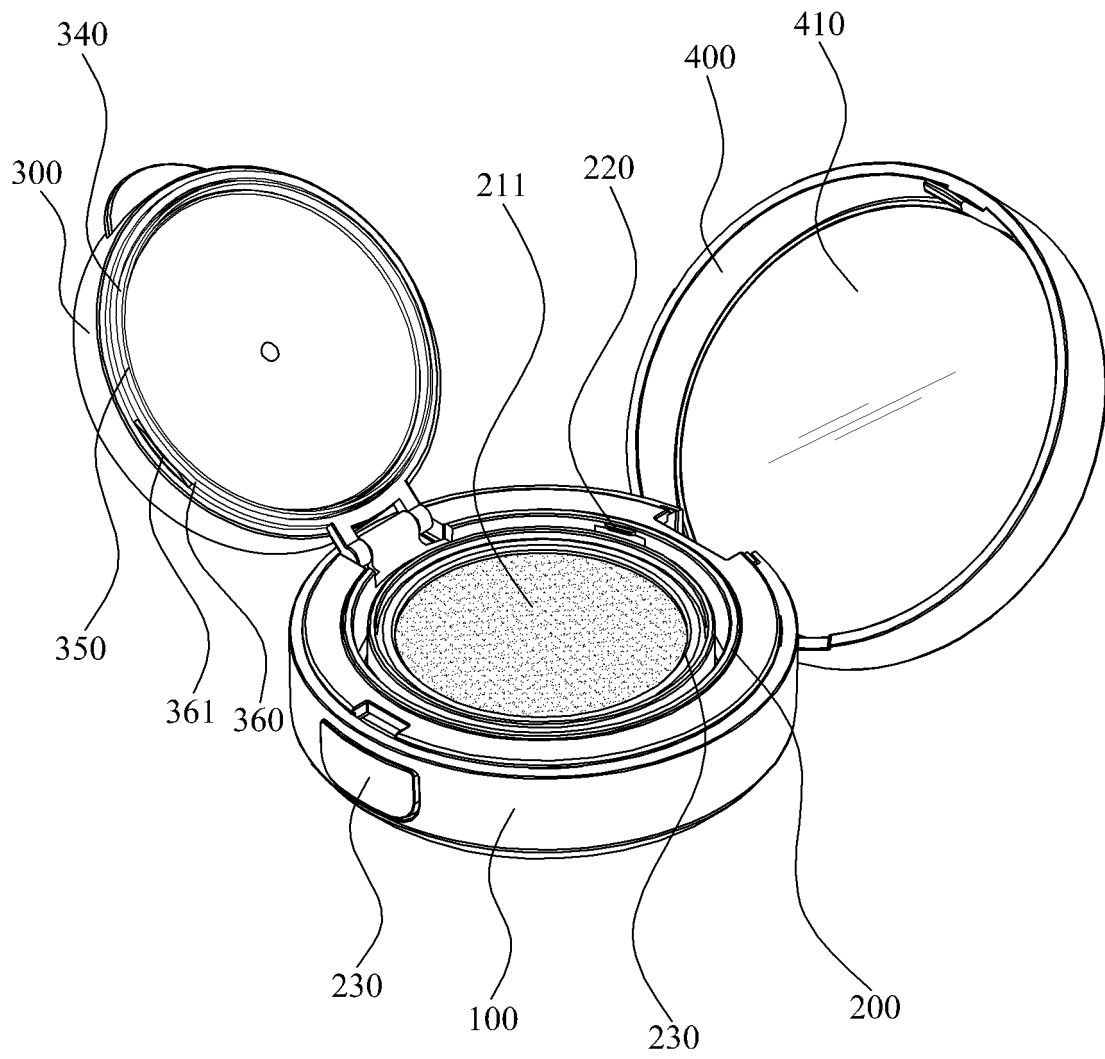


Fig. 2

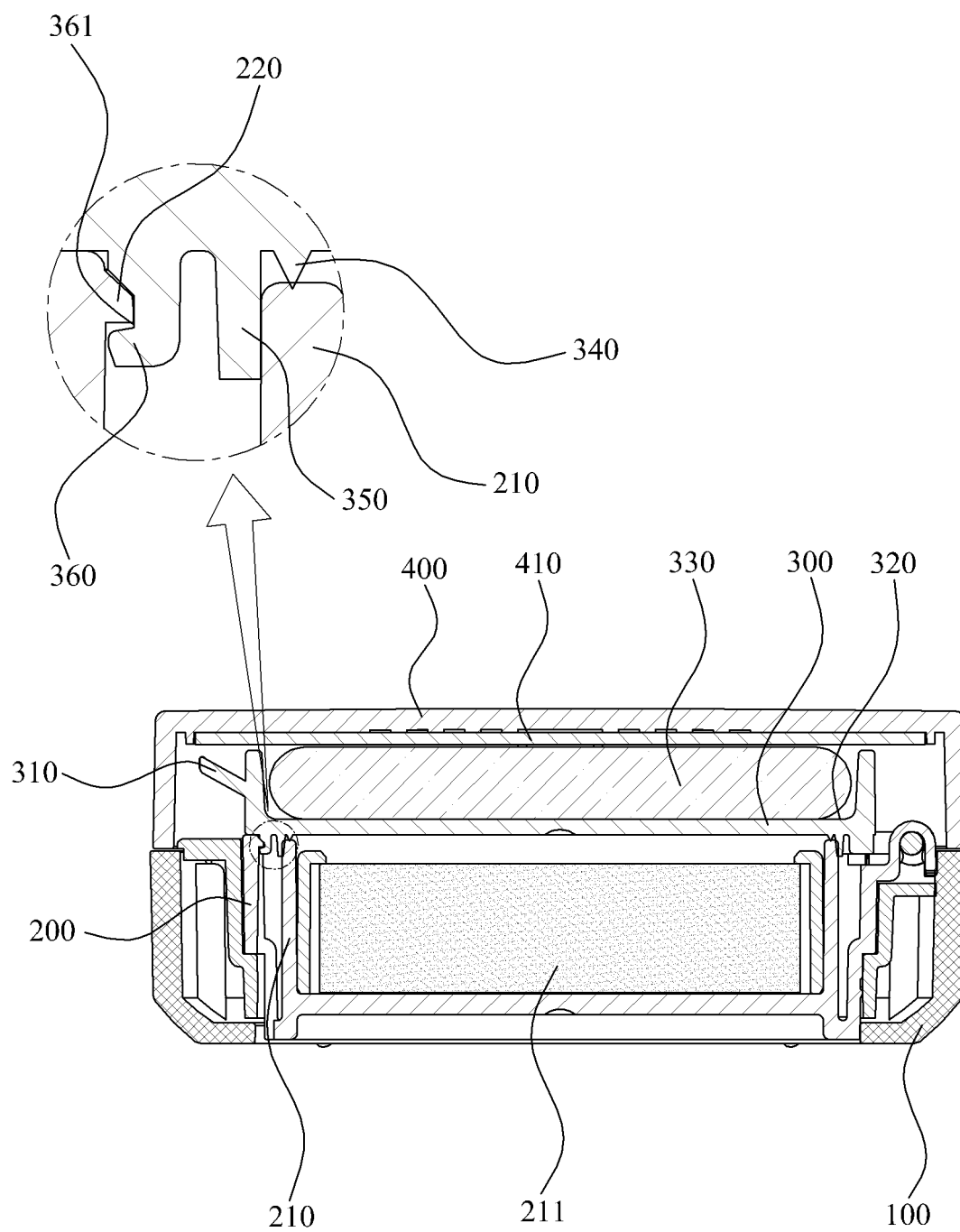


Fig. 3



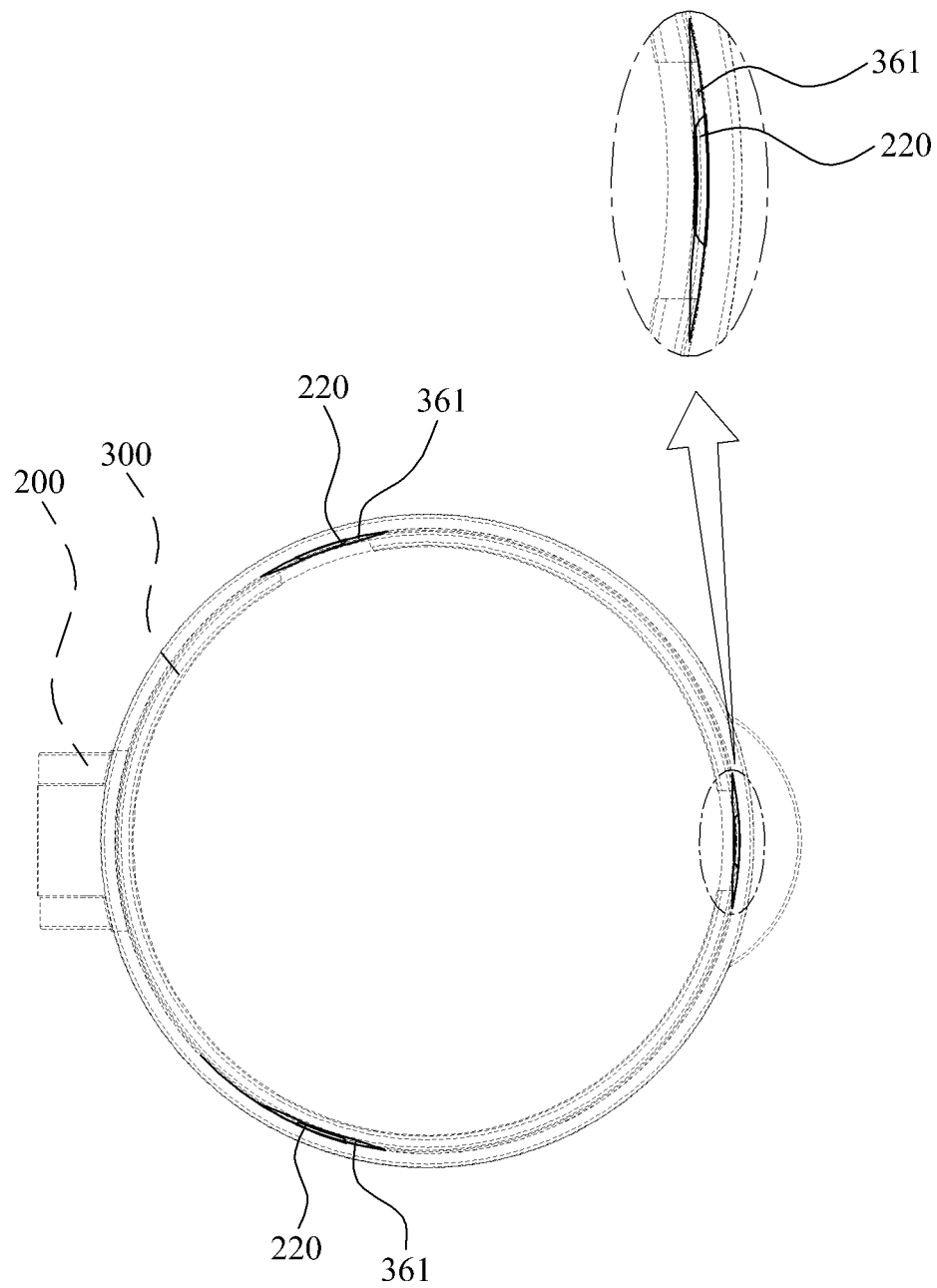


Fig. 4

## INTERNATIONAL SEARCH REPORT

International application No.

PCT/KR2016/004012

## A. CLASSIFICATION OF SUBJECT MATTER

*A45D 34/00(2006.01)i, B65D 43/16(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 34/00; A45D 33/22; B65D 53/00; A45D 33/00; B65D 43/16; A45D 33/16; A45D 33/24; 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) &amp; Keywords: cosmetics, container, hinge, spill, block, projection, sealing

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	KR 10-1448713 B1 (LG HOUSEHOLD & HEALTH CARE LTD. et al.) 08 October 2014 See paragraphs [0032]-[0068]; claims 1, 2, 7, 8; figures 1-8.	1
A	JP 2000-236938 A (YOSHIDA INDUSTRY CO., LTD.) 05 September 2000 See the entire document.	1
A	KR 10-1333044 B1 (YONWOO CO., LTD.) 27 November 2013 See the entire document.	1
A	KR 10-2011-0043129 A (LEE, Sung - Whan) 27 April 2011 See the entire document.	1
A	KR 20-0429553 Y1 (JUNG MIN CO., LTD.) 24 October 2006 See the entire document.	1
PX	KR 10-1569090 B1 (YONWOO CO., LTD.) 13 November 2015 See paragraphs [0012]-[0035]; claim 1; figures 1-4.	1

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

\* Special categories of cited documents:

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Date of the actual completion of the international search

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INTERNATIONAL SEARCH REPORT  
Information on patent family members

International application No.

PCT/KR2016/004012

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**REFERENCES CITED IN THE DESCRIPTION**

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**Patent documents cited in the description**

- WO 101333044 A [0005]