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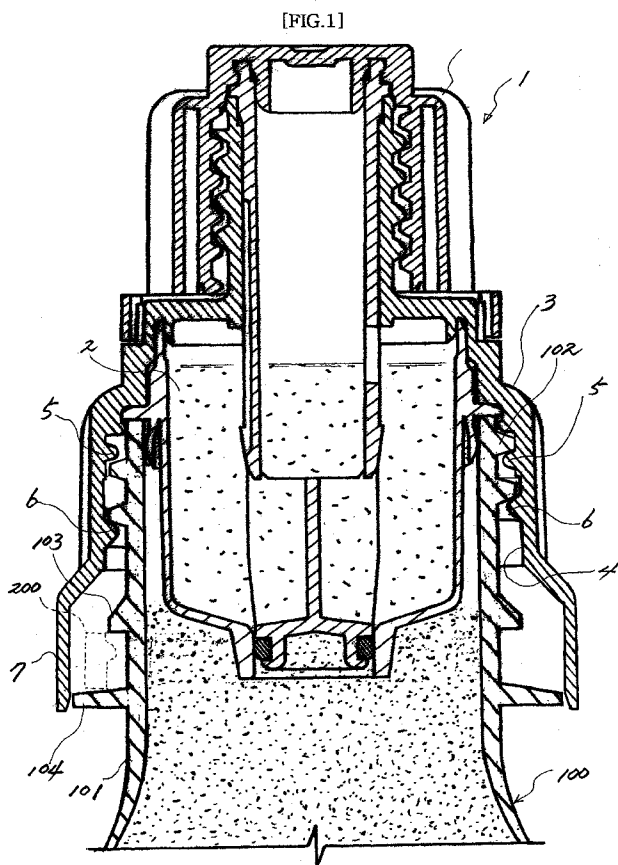
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[Continued on next page]

(54) Title: BOTTLE CAP



(57) Abstract: The bottle cap, this invention, is designed to be suitable for the container necks of different size. As recommended, the bottle cap with two connection sections may be assembled in the container necks showing the different sizes of 26.78MM and 28.0MM.



-
- *before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments*

TITLE

BOTTLE CAP

TECHNICAL FIELD

5 [1] This invention is on the bottle cap. In detail, this invention is on the new type bottle cap designed to be suitable for the diverse containers of different size and shape.

 [2] The purpose of this invention is to enable its users to easily assemble the bottle cap used to contain and seal the secondary
10 material in the container neck of different size.

Background Technologies

 [3] The general bottle cap may be assembled only in the container neck of same size in principle.

15 [4] The bottle cap must guarantee the perfect airtight performance. However, the appropriate assembly or excellent airtight performance is not guaranteed if the size of screw threads mounted in the bottle cap or container neck is different.

 [5] For the specific bottle cap, there are two connection sections in
20 the interior side and exterior side of a bottle cap. However, this design

is acceptable only when the interior side is narrow and exterior side is wide, but this design is not acceptable if the size of container neck is different which is acceptable to this invention. The purpose of this invention is to solve above technical problems.

5

Detailed Descriptions of Invention

Technical Problems

[6] For an example, if the sizes of specific container necks are 26.78mm and 28.00mm, it is impossible to completely seal the container necks of different size with a common bottle cap. However, this invention guarantees the perfect airtight performance by installing the top connection section and bottom connection section to be connected to the container neck in the interior side of bottle cap.

[7] Another purpose of this invention is to enable its users to assemble a bottle cap in the container necks of different size without any additional bottle caps.

How to Technically Solve the Problems

[8] The bottle cap, created through this invention and intended to accomplish above purposes, is designed to mix and drop the secondary

materials in the container when opened or touched after being combined into the container neck. In detail, the bottle cap consists of two connection sections positioned in the interior side contacting the screw thread of container neck.

5 [9] Two connection sections of this invention are positioned in the interior side. However, top connection section forms the connection section suitable for the narrow area and bottom connection section forms the connection section suitable for the wide area respectively.

[10] Top connection section forms the connection section suitable
10 for the size of 26.78mm and bottom connection section forms the connection section suitable for the size of 28.00mm.

[11] Above connection sections of bottle cap are designed to accomplish the intended purpose after being assembled as the connection sections.

15

Expected Effects

[12] This invention enable its users to accomplish the intended purpose by being assembled in the container necks of different size without any additional bottle caps, so its sales shop may reduce the
20 management cost by simplifying the sales items and its user may

conveniently uses this invention without any additional instruction because he or she may assemble the bottle cap in the similar containers.

[13] Especially, this invention is characterized by its excellent
5 features of enabling the use of a bottle cap regardless of different size of 26.78MM or 28.0MM and drink of secondary material after opening the bottle cap.

BRIEF DESCRIPTION OF THE DRAWINGS

10 [14] The figure 1 shows that the bottle cap is assembled in the wide container neck.

[15] The figure 2 shows that the bottle cap is assembled in the narrow container neck.

[16] The figure 3 shows how the connection sections (top
15 connection section and bottom connection section) are assembled in the container necks of different size.

[17] The figures 4 thru 7 show how the connection sections (top connection section, bottom connection section and accessory connection section) are transformed.

20 [18] The figures 8 and 9 show that the design of bottle cap may be

diversely changed.

BEST MODE FOR CARRYING OUT THE INVENTION

[19] The operation examples of this invention recommended
5 according to enclosed drawings or figures are as follows:

[20] The figure 1 shows a recommended operation example of this invention. The bottle cap (1), this invention, is combined in the beverage container through the screw in principle. Also, above bottle cap (1) is flexibly designed to accommodate the storage space (2) or
10 other secondary materials through the diverse designs. In addition, above bottle cap (1) consists of body (3) designed to be combined into the container neck (101) with screw thread (102) of container (100) in principle.

[21] Two connection sections are positioned in the interior side (4)
15 of body (3) forming a part of bottle cap (1). Above connection sections are positioned in the interior side (4) forming a part of top and bottom.

[22] The connection sections positioned in above interior side (4) consists of top connection section (5) and bottom connection section (6). The screw thread of bottom connection section (6) is designed to
20 be suitable for the big container neck (101). It is shown in the figure 1.

[23] Also, the screw thread of top connection section (5) forming a part of bottle cap (1) is designed to be suitable for the narrow container neck (201). It is shown in the figure 2.

[24] Above this invention is explained based on the container necks of 26.78MM and 28.0MM as follows: Top connection section (5) consists of screw thread designed to be caught and fixed by the screw thread of container neck (202) of 26.78MM. Top connection section is positioned at the top. Bottom connection section (6) consists of screw thread designed to be caught and fixed by the screw thread of container neck (202) of 28.00MM without influencing the operation of screw thread of container neck of 26.78mm.

[25] The bottle cap (1), this invention, is to be explained in detail as follows: If you combine the bottle cap (1), this invention, into the container (100) with container neck of 28.0MM, top connection section (5) will be positioned in the place to partially wrap the screw thread of top container neck (102) as shown in the figure 1 and bottom connection section (6) will keep the sealing force by being strongly combined into the screw thread of bottom container neck (102).

[26] The bottom section (7) positioned in the bottom of body (3) is assembled to wrap the round frame (104) together with skirt (200)

remaining in the skirt catching jaw (103) of container (100).

[27] If the bottle cap (1), this invention, is combined after removing the cap of bottle containing the portable water, skirt intended to prevent the fabrication (200) remains in the skirt catching jaw (103) of container (100). The bottom section of this invention is combined to
5 wrap the skirt (200) and round frame (104).

[28] Also, above bottom section (7) plays the role as a guide so that the bottle cap (1) may be correctly assembled in the container neck (101), so if the bottom section (7) is long, it is recommended. The
10 bottom section may select or wrap the skirt (200) or round frame (104).

[29] As other operation example, the figure 2 shows that the top connection section (5) is combined into the screw thread of narrow container neck (202). It is recommended that the bottom connection
15 section (6) is positioned in the bottom space without touching the screw thread of container neck (202). Also, the bottom section (7) is assembled to wrap the skirt (200) or round frame (204).

[30] In this regard, structure of above top connection section (5) and bottom connection section (6) is changeable according to size of
20 container necks (101, 201). For an example, it is possible to position

the top connection section (5) and bottom connection section (6) in the interior side (4) even if the size and shape are different as shown in the figure 3, or it is available to transform the connection sections. As a recommended example, accessory connection section (8), which is
5 bigger than top connection section and bottom connection section, is positioned to be combined into the container neck of different size in the bottom as shown in the figure 4.

[31] It is recommended to design the accessory connection section (8) in the size and shape to be combined without influencing the
10 container necks (101, 102).

[32] The figure 5 shows that the accessory connection section (58) is positioned to be assembled in other container neck (510) in the bottom section (7).

[33] The figures 6 and 7 show that two accessory connection
15 sections (8 and 9) are positioned in the bottom of body (3). These figures also show that two assembling type accessory connection sections are positioned in the bottom.

[34] Thus, the bottle cap, this invention, guarantees the diverse transformations. The figure 8 or 9 shows an example of transformation.
20 The bottle cap guarantees other transformations. The figure 1 shows

that the bottle cap is designed to mix and drop the contents contained in the storage space (2) in the container (100) when the top cap (10) is opened. The figure 8 also shows that the bottle cap is designed to mix and drop the contents contained in the storage space (2) in the container (100) when the top cap (11) is opened. The figure 9 shows that the content contained in the storage space (2) is dropped when the top cap is lifted (12).

INDUSTRIAL APPLICABILITY

[35] This invention is on the bottle cap used for effectively mixing the concentrate and water or concentrate and general beverage or granule and water or powder and water. The bottle cap consists of three connection sections such as top connection section, bottom connection section and accessory connection section suitable for beverage or water container sold in the market, so its users may drink the beverage or water by dropping the contents in the container after removing the bottle cap connected to the container neck and then assembling the bottle cap, this invention.

CLAIMS

[1] The bottle cap is characterized by its feature of removing the bottle cap connected to above container and then assembling the bottle cap, this invention, in the container. The bottle cap is characterized by
5 its three connection sections suitable for the container necks of different size.

[2] The bottle cap stated in above clause 1 is characterized by its top connection section and bottom connection section.

[3] The bottle cap stated in above clause 2 is characterized by its
10 top connection section with screw thread suitable for the narrow container neck.

[4] The bottle cap stated in above clause 2 is characterized by its bottom connection section with screw thread suitable for the wide container neck.

[5] The bottle cap stated in above clause 3 is characterized by its
15 top connection section with screw thread suitable for the screw thread of container neck of 26.78MM.

[6] The bottle cap stated in above clause 4 is characterized by its top connection section with screw thread suitable for the screw thread
20 of container neck of 28.0MM.

[7] The bottle cap stated in above clause 2 is characterized by its bottom connection section positioned in the bottom space without influencing the screw thread of container neck operating together with the top connection section.

5 [8] The bottle cap stated in above clause 1 or 2 is characterized by its bottom section positioned in the bottom.

[9] The bottle cap stated in above clause 8 is characterized by its bottom section assembled to wrap the skirt remaining in the skirt catching jaw of container neck.

10 [10] The bottle cap stated in above clause 8 is characterized by its bottom section assembled to wrap the skirt remaining in the skirt catching jaw of container neck and round frame of container neck.

[11] The bottle cap stated in above clause 1 is characterized by its accessory connection section to be assembled in the container neck of
15 different size in the bottom.

[12] The bottle cap stated in above clause 11 is characterized by its accessory connection section to be additionally assembled in the bottom.

[13] The bottle cap is characterized by its container and container
20 necks of 26.78MM and 28.0MM. Also, the bottle cap is characterized

by its design to enable the bottle cap connected to the container to be removed and then assemble the bottle cap, this invention. Also, the bottle cap is characterized by its connection sections, positioned inside the body, suitable for the container necks of 26.78MM and 28.0MM.

5 The bottle cap is characterized by its top connection section, positioned at the top, suitable for the container neck of 26.78MM and bottom connection section, positioned at the bottom, suitable for the container neck of 28.0MM.

[14] The bottle cap stated in above clause 13 is characterized by its
10 bottom space to wrap the skirt remaining in the skirt catching jaw of container neck.

[15] The bottle cap stated in above clause 13 is characterized by its bottom space to wrap the skirt remaining in the skirt catching jaw of container neck and round frame of container neck.

15 [16] The bottle cap is characterized by its function to contain the secondary materials such as powder or liquid and design to mix and drop the secondary materials in the container when opened or touched, or if applying the pressure against the container after being combined into the container neck. Above bottle cap, positioned inside the body,
20 is characterized by its connection sections suitable for the container

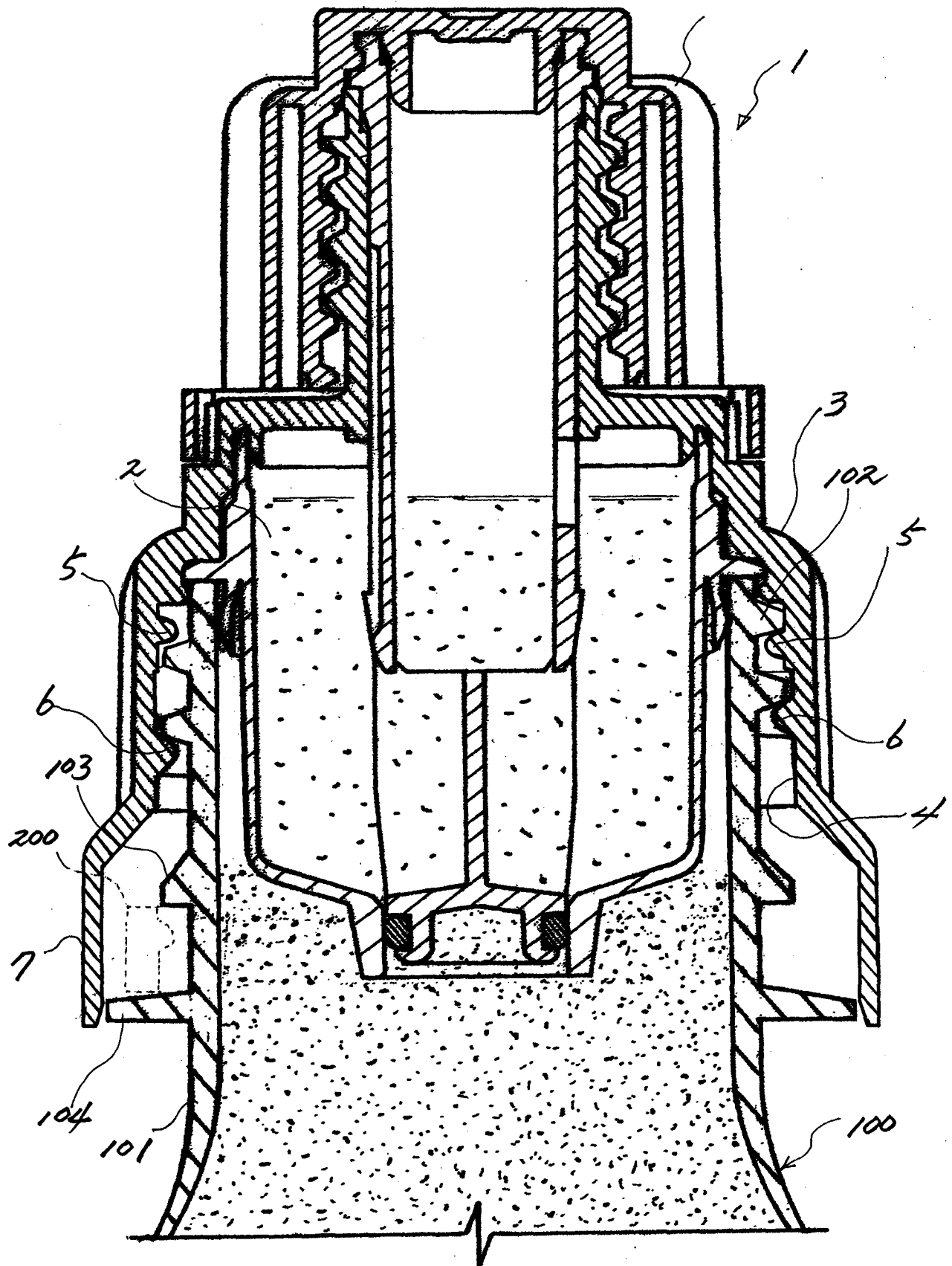
necks of 26.78MM and 28.0MM. In detail, above bottle cap is characterized by its top connection section suitable for the container neck of 26.78MM and bottom connection section suitable for the container neck of 28.0MM.

5 [17] The bottle cap is characterized by its function to contain the secondary materials such as powder or liquid and design to mix and drop the secondary materials in the container when opened or touched, or if applying the pressure against the container after being combined into the container neck. Above bottle cap is characterized by its
10 connection sections suitable for the containers of different size and shape. Above bottle cap, positioned inside the body, is characterized by its top connection section, positioned at the top, suitable for the narrow container neck and bottom connection section, positioned at the bottom, suitable for the wide container neck.

15 [18] The bottle cap stated in above clause 17 is characterized by its bottom space to wrap the skirt remaining in the skirt catching jaw of container neck.

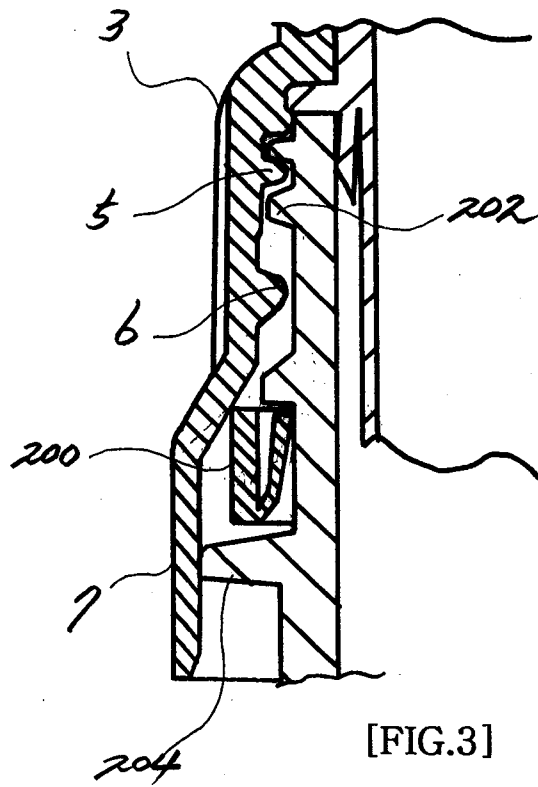
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[FIG.1]

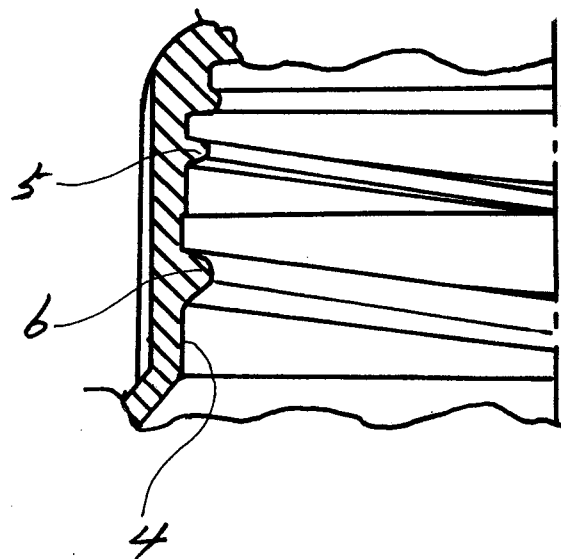


2/6

[FIG.2]

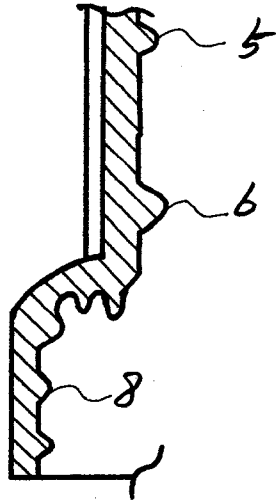


[FIG.3]

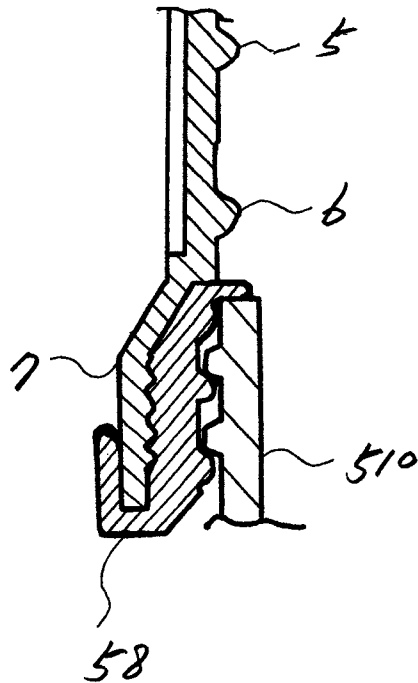


3/6

[FIG.4]

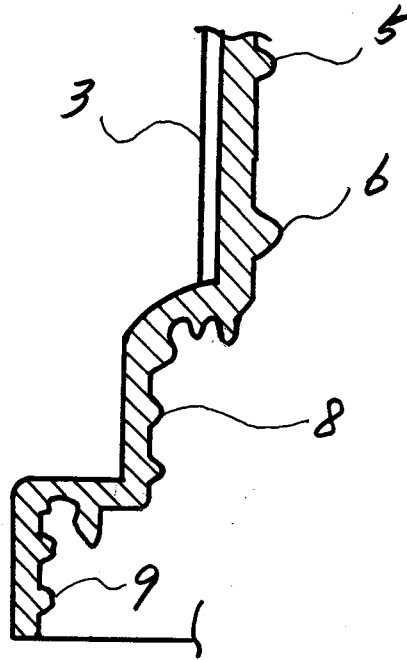


[FIG.5]

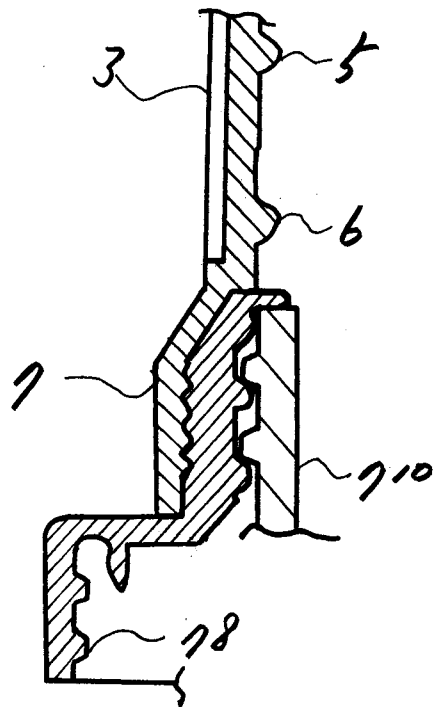


4/6

[FIG.6]

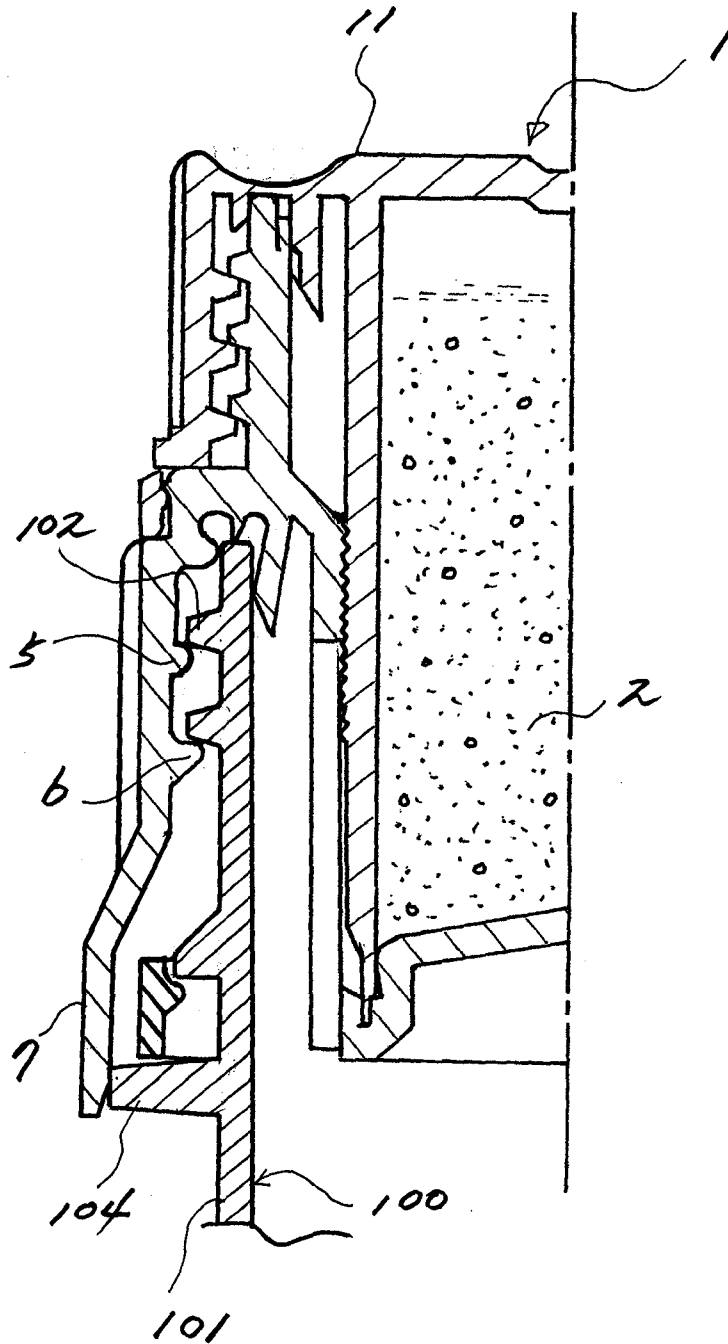


[FIG.7]



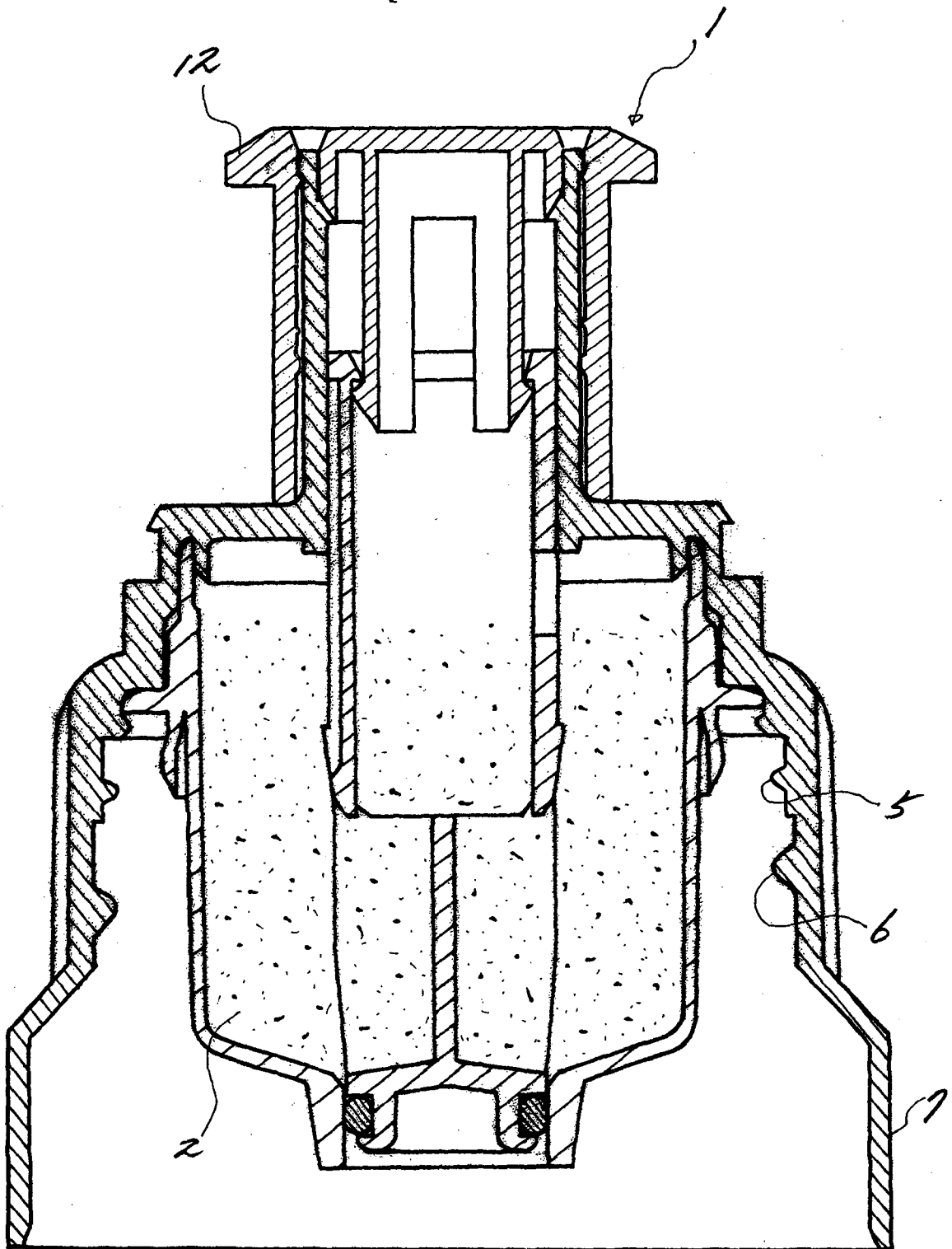
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[FIG.8]



6/6

[FIG.9]



A. CLASSIFICATION OF SUBJECT MATTER***B65D 51/28(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)

IPC 8 B65D 51/28

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 since 1975

Japanese Utility models and applications for Utility models since 1975

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

eKIPASS (KIPO internal)

keywords: "different size", "container neck", "cap" and similar terms.

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X A	KR 10-2007-0062377 A (JEONGMIN LEE; SEONGJAE LEE) 15 June 2007 See page 2 and fig. 1.	1-10, 13-18 11-12
A	US 5465835 A (SCHUMACHER; ZIEGLER) 14 November 1995 See column 4, lines 16-64 and figs. 1-2.	1-18
A	US 5340228 A (WILCOX; GEORGE; LICHFIELD) 23 August 1994 See column 6, line 18- column 7, line 50 and fig. 5.	1-18
A	JP 48-018551 U1 (HISAO NAITOWOO) 02 March 1973 See claim and fig. 1.	1-18



Further documents are listed in the continuation of Box C.



See patent family annex.

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INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No.

PCT/KR2008/004210

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US 5340228 A	23.08.1994	NONE	
JP 48-018551 U1	02.03.1973	NONE	