(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization
International Bureau

(43) International Publication Date
16 October 2008 (16.10.2008)

PCT

(10) International Publication Number
WO 2008/123750 A2

(51) International Patent Classification:
B65D 51/28 (2006.01)

(21) International Application Number:
PCT/KR2008/002012

(22) International Filing Date: 10 April 2008 (10.04.2008)

(25) Filing Language: Korean

(26) Publication Language: English

(30) Priority Data:

10-2007-0035849	9 April 2007 (09.04.2007)	KR
10-2007-0037736	16 April 2007 (16.04.2007)	KR
10-2008-0008822	25 January 2008 (25.01.2008)	KR

(71) Applicants and
(72) Inventors: **LEE, Jeong-Min** [KR/KR]; 1119-56, Sanggye-Dong, Nowon-Gu, Seoul 139-837 (KR). **LEE, Seong-Jae** [KR/KR]; 436, Pyeongchang-Dong, Jongno-Gu, Seoul 135-080 (KR).

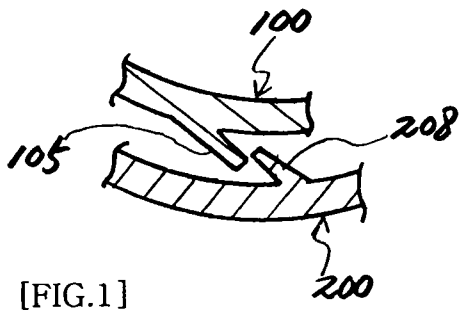
(81) Designated States *(unless otherwise indicated, for every kind of national protection available)*: AE, AG, AL, AM, AO, AT, AU, AZ, BA, BB, BG, BH, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KZ, LA, LC, LK, LR, LS, LT, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, SV, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW.

(84) Designated States *(unless otherwise indicated, for every kind of regional protection available)*: ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HR, HU, IE, IS, IT, LT, LU, LV, MC, MT, NL, NO, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:
— *without international search report and to be republished upon receipt of that report*

WO 2008/123750 A2

(54) Title: SECURITY CLOSURE



[FIG.1]

(57) Abstract: The safety cap mentioned in this invention prevents the distinct materials contained in a cap from being mixed with the contents of the container when the container is dropped from a height and it keeps children or the mentally handicapped who lack the intellectual abilities from using the container on their own.

TITLE

SECURITY CLOSURE

TECHNICAL FIELD

[1] This invention is about a safety cap for a bottle. In details, it is about a container with a safety part that prevents the distinct materials contained in a cap from being mixed with the contents of the container when the container is dropped from a height. Especially, the objective of this invention is to keep children or the mentally handicapped who lack the intellectual abilities from using the container on their own.

[2] And, the other objective is to prevent the cap from being separated from the container after the contents in the cap are mixed.

Background Art

[3] In general, the content of a container is discharged by tilting the container after opening the cap in the upper area of the container.

[4] There exist other types of safety caps- upper area pressurization types or side pressurization types that prevents the mentally handicapped from opening the cap on their own. However, they are rather descriptions of simple caps with safety devices.

Disclosure of invention

Technical Problems

[5] The objective of this invention is to prevent people from opening the cap of the container on their own and to prevent the distinct materials in the cap from being mixed with the contents of the container.

[6] Other objective of this invention is to successfully separate the contents of the cap and the container and to enhance the safety of the product(quality, flavor).

Technical solution

[7] In order to achieve the abovementioned objectives, the cap described in this invention includes an operating unit or fixing unit or a main operating unit whose both sides are equipped with a sub operating unit that prevents the distinct material in the cap from falling and it is open only if the both sides of the cap are squeezed to touch each other.

Advantageous effects

[8] This invention is desirable for a container with vitamin or children's cough pills. Especially, it offers great advantages as a safety cap for children since it can prevent them from opening the cap due to the lack of senses or the negligence of the elders.

BRIEF DESCRIPTION OF THE DRAWINGS

[9] Diagram 1 or 10 represents the sample configuration 1 of this invention,

[10] Diagram 1 illustrates the fixing unit and the operating unit in details

[11] Diagram 2 is a vertical cross sectional view of the desirable sample configuration

[12] Diagram 3 illustrates a case where the operating unit is separated from the fixing unit

[13] Diagram 4 illustrates the assembly condition of the fixing unit and the operating unit

[14] Diagram 1 illustrates the lower key parts of the fixing unit

[15] Diagram 6 illustrates the cutting protrusion area in the fixing unit

[16] Diagram 7 or 10 is a vertical cross sectional view of the cutting area of the fixing unit

BEST MODE FOR CARRYING OUT THE INVENTION

[17] Hereinafter, the descriptions of the desirable sample configuration based on the diagrams are given as follows.

[18] Diagram 1 represents a desirable sample configuration of this invention. The cap containing the distinct materials(1) is made of the fixing unit(100) assembled with the opening of the container(300) and the operating unit(200) assembled into the fixing unit.

[19] And, the upper operating unit(200) forms the accepting unit(201) with storage space(202) and below the upper operating unit, there is the cutting protrusion area(203) and in the fixing unit(100) corresponding to the abovementioned accepting unit(201). There exist the cutting protrusion space (103) made of the cutting layer(101) and the cutting protrusion area(203) partitioned by the cutting line(102)

[20] In addition, in the fixing unit(100) mentioned above, there exists the elastic pin(203) forming a certain angle away from the fixing protrusion(103) and the operating protrusion(204) that is combined with the fixing protrusion when it loses elasticity. The abovementioned fixing protrusion(104) and the operating protrusion(205) are separated from each other as shown in Diagram 3. In Diagram 4, and these two

protrusions are combined together after the user presses the operating unit(200) and the upper area(206).

[21] And between the fixing unit(100) and the operating unit(200), desirably, there exists the operating elastic pin(208) and it is located on the inner wall of the side area(207). When the cap it closed, the operating elastic pin(208) is hooked in the fixing elastic pin(105) and when the cap is opened, the operating elastic pin(208) is moved over the fixing elastic pin(105). However, various types of different designs can be implemented as well.

[22] As shown in Diagram 2, the cap(1) described in this invention allows entry of distinct materials and when the operating unit(200) is opened in the abovementioned condition, the cutting protrusion(203) is forced to remove the cutting layer(101) and at the same time, the distinct material in the storage space(202) falls to the bottom and then it is mixed with the contents of the container.

[23] In addition, if you want to discharge the mixture of the distinct material and the content of the container, you should press the operating unit(200) and hook the operating protrusion(205) in the fixing protrusion(104). Then, the operating unit(200) and the fixing unit(100) are successfully released.

[24] And, the storage space(202) and the accepting unit(201) can be substituted by various types of implementation including insertion of distinct material or adding a cutting layer(101).

[25] Therefore, if the structure of this invention does not allow the abovementioned cap(1) to be easily removed from the container(300), various methods can be applied to implementation of the cap(1) containing the distinct material and also the storage space for distinct material in the cap(1) can be implemented in various ways.

[26] Diagram 7 is another sample configuration of the invention. To prevent the cutting line(102) from being destroyed easily, the protection materials(106, 107) are added to the upper and lower area of the cutting line(102).

[27] As another sample configuration, Diagram 8 represents a case where an additional cutting layer(101) is implemented. Diagram 9 represents a case where the cutting layer(101) maintains a constant angle. Diagram 10 represents an assembly condition of the cutting layer(101).

[28] As another example, Diagram 11 represents a variant of the cap(1). As the operating unit(200) is opened, the guide(108) helps its vertical movement, so that the closed area(109) moves away from the

hole(110) and the distinct material in the storage space(202) falls to the bottom of the container(300).

[29] The symbol(111) not explained refers to the closed area, while (112), (113), (209) and (217) refer to the skirt, the extension, the operating tool and the cover, respectively.

[30] As another example(Diagram 12), the rubber(210) having the protection layer(211) is formed in order to allow you to extract the content using a syringe while the cap(1) with the distinct material is not peeled off.

[31] As another example(Diagram 13), Diagram 13 represents an additional way to discharge the content mixed with the distinct materials. In order to prevent the sealed cap(213) formed on the operating hole(212) from being opened easily, we have installed the fixing protrusion(216) in the fixing groove(215) in the lower area of the guidance groove(214). When this type of product is used, you should align the fixing protrusion(216) with the guidance groove(214) along the external marking and lift it up to discharge the distinct materials.

[32] As another example(Diagram 14), it represents another shape of cap(1) where the mixture of distinct material can be discharged.

[33] As another example(Diagram 15), it represents another shape of cap(1) where the external area of the main operating unit(218) is combined with the sub operating unit(219).

[34] As another example(Diagram 16), it represents another type of cap(1) where distinct materials are mixed together. As the main operating unit(218) is lifted up by the sub operating unit(219), the storage space is opened.

[35] As another example(Diagram 17), it represents another structure of cap(1) where distinct materials are mixed together. It is made of the inner wall area(114) that does not include a screw that is fixed to the neck of the container. In any case, the cap(1) can't be removed from the container(300) and it is applicable to various types of structure.

INDUSTRIAL APPLICABILITY

[36] This invention can be widely applied to vitamins, alcohols, chemical products or pharmaceutical products as a safety measure.

CLAIMS

[1] The abovementioned cap that contains distinct materials discharged in the direction of discharge of the container is a safety cap that only operates when certain units are combined together and it can prevent the mentally handicapped or children from opening it on their own.

[2] Regarding Article 1, the abovementioned safety cap that only operates when the operating unit or the sub operating unit is pressed toward the bottom.

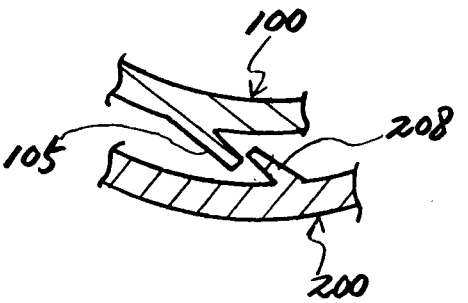
[3] Regarding Article 1, the abovementioned safety cap that is equipped with an additional means to discharge the content

[4] Regarding Article 1, the safety cap that discharges the content through the abovementioned means after the distinct materials are mixed in the cap

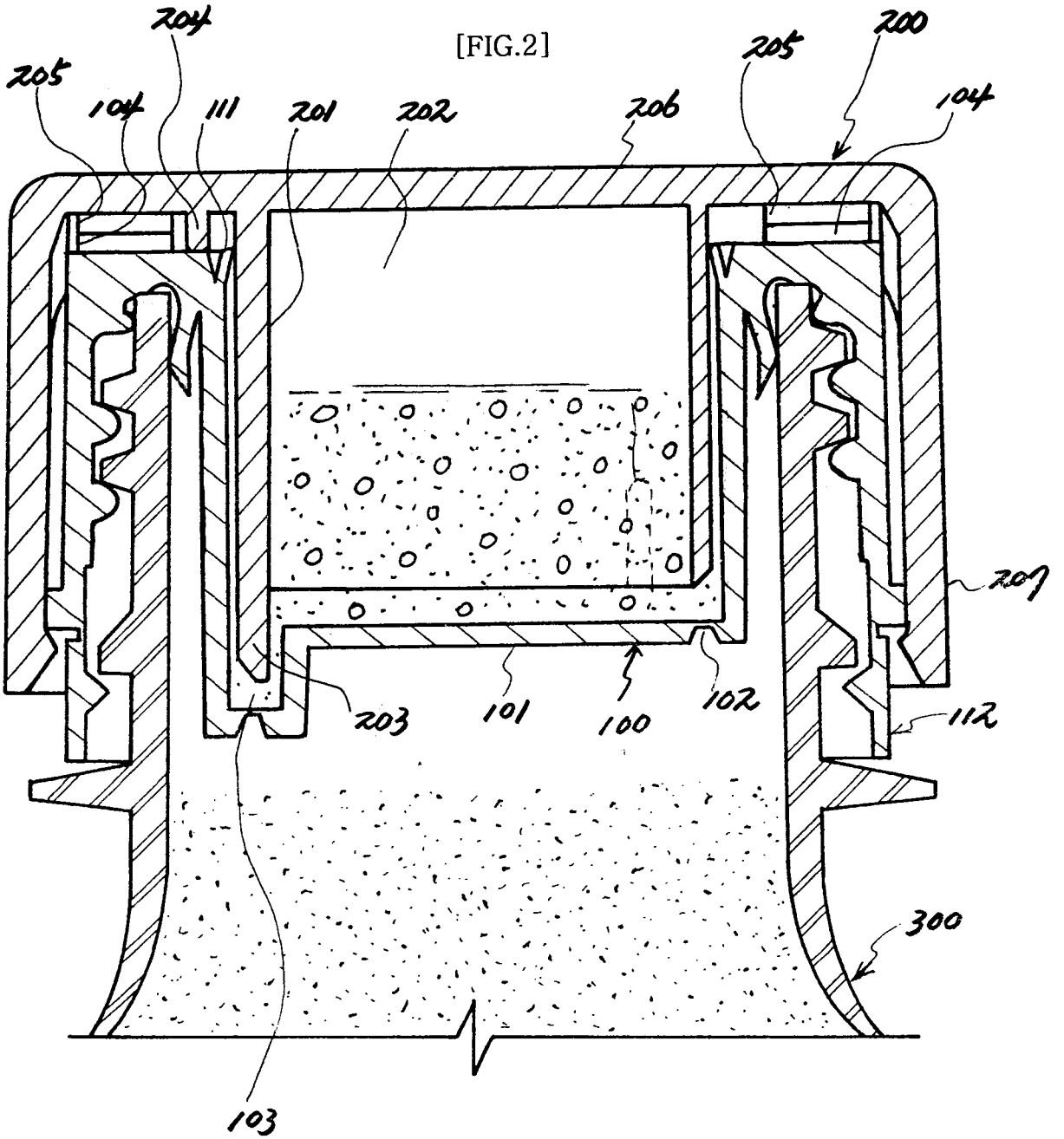
[5] Regarding Article 3, the safety cap with a rubber to enable you to use the syringe as a means to discharge the content

[6] Regarding Article 1, the safety cap with the inner wall to prevent you from separating the abovementioned cap from the container

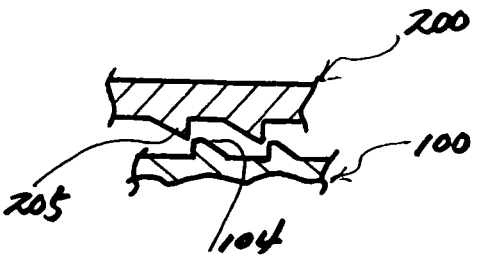
[FIG.1]


100
208
105
200

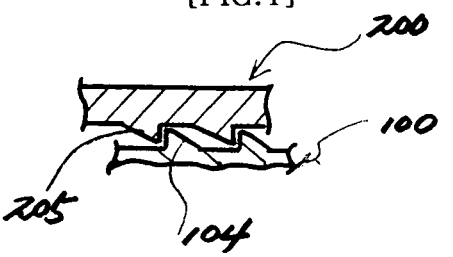
[FIG.2]


204
205
104
111
201
202
206
205
200
104
207
203
101
100
102
112
300
103

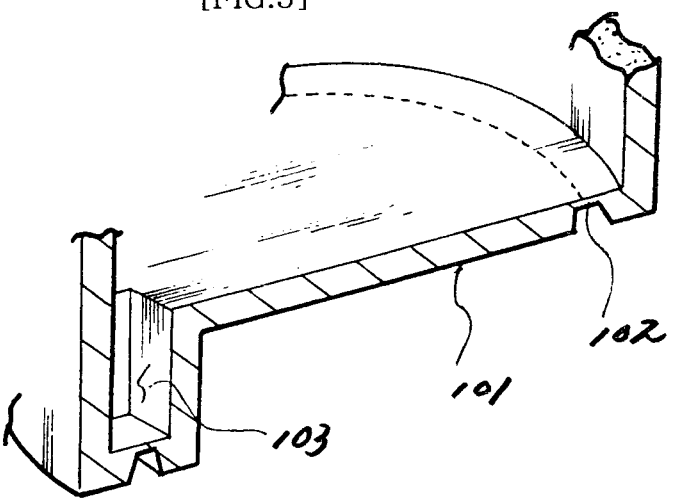
[FIG.3]



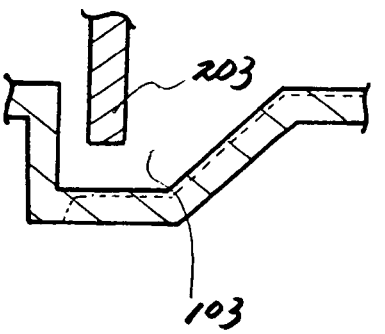
[FIG.4]



[FIG.5]

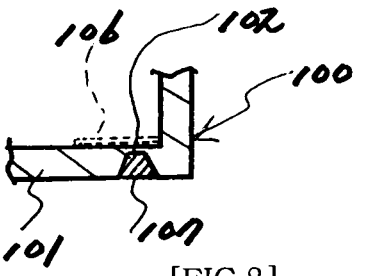


[FIG.6]

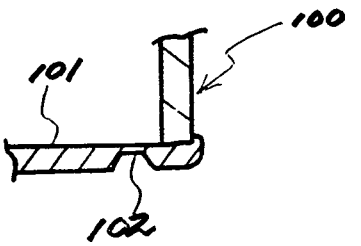


]

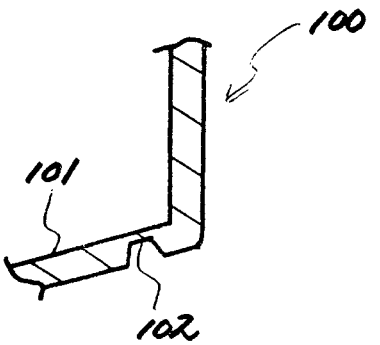
[FIG.7]



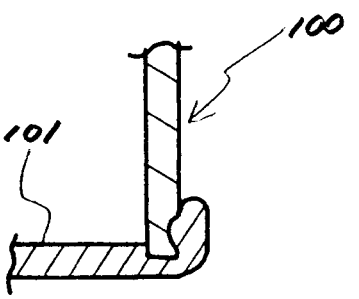
[FIG.8]



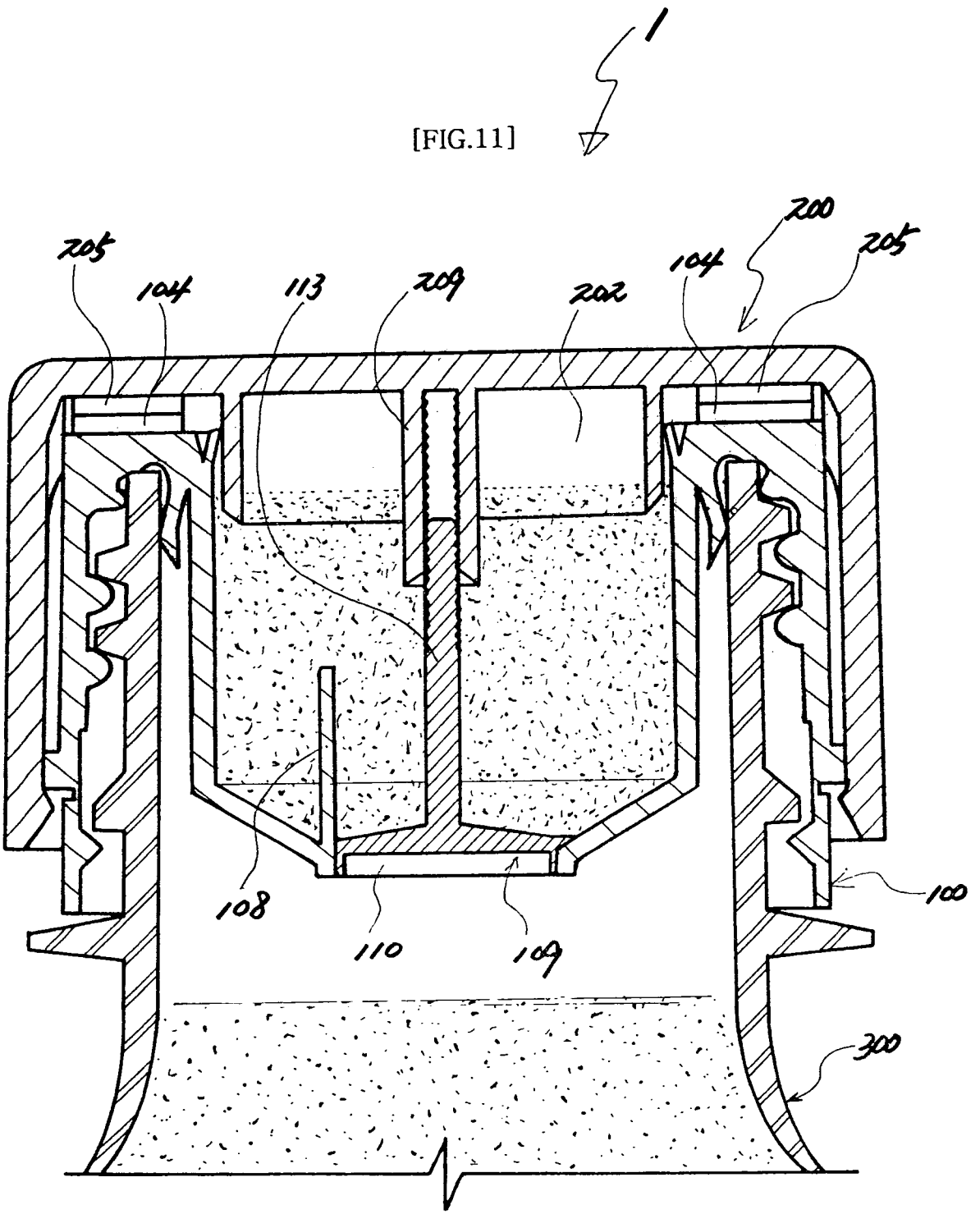
[FIG.9]



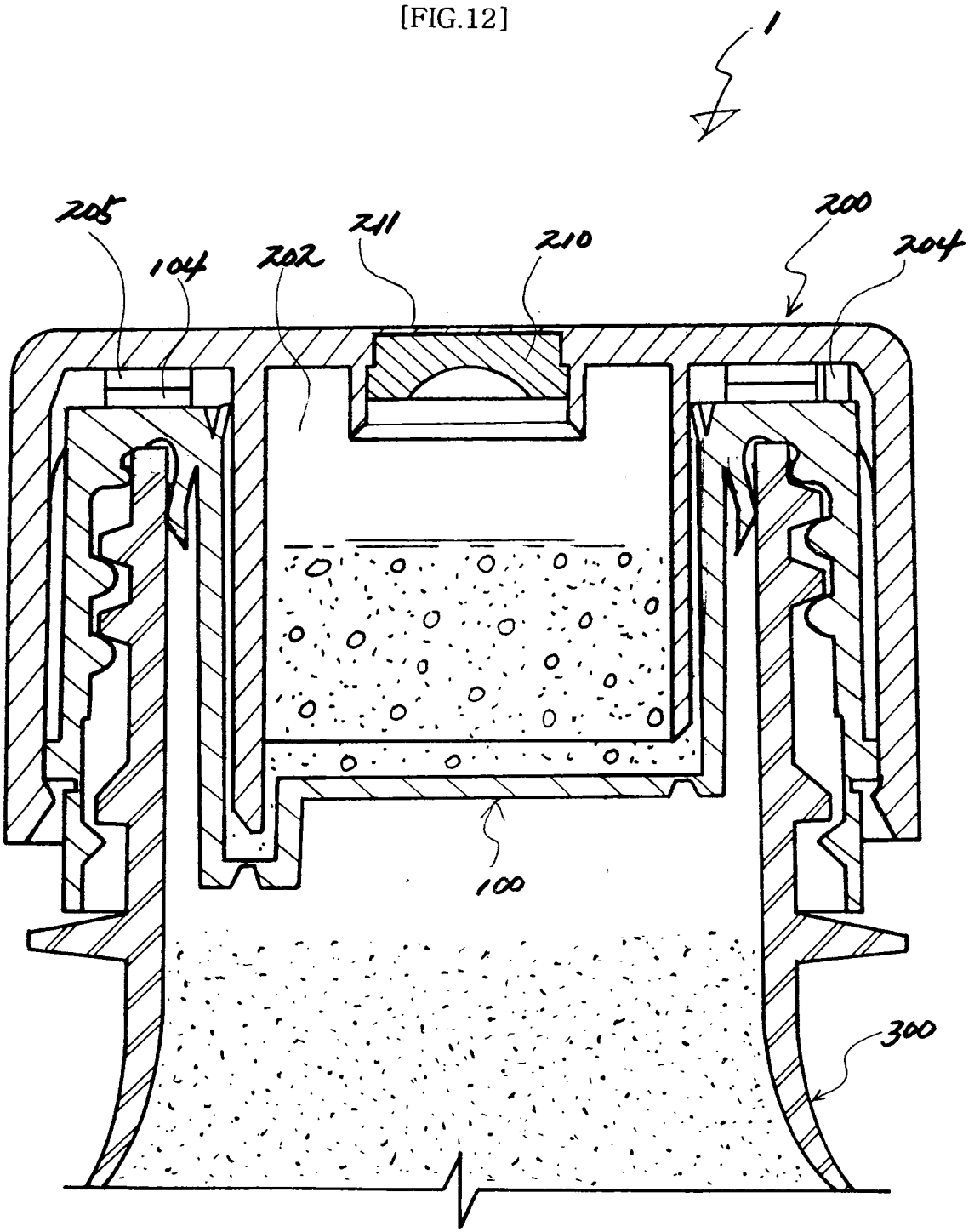
[FIG.10]



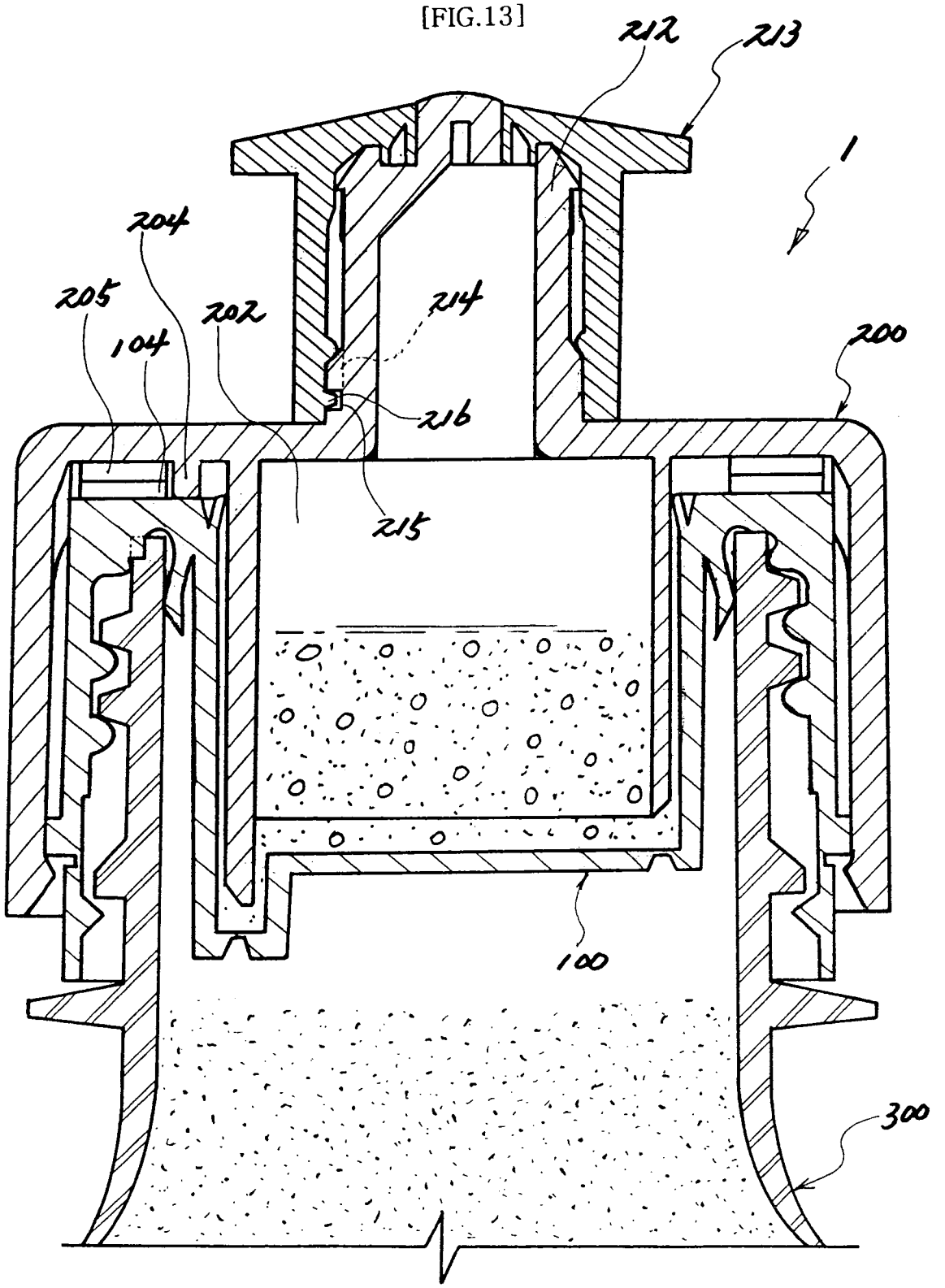
[FIG.11]



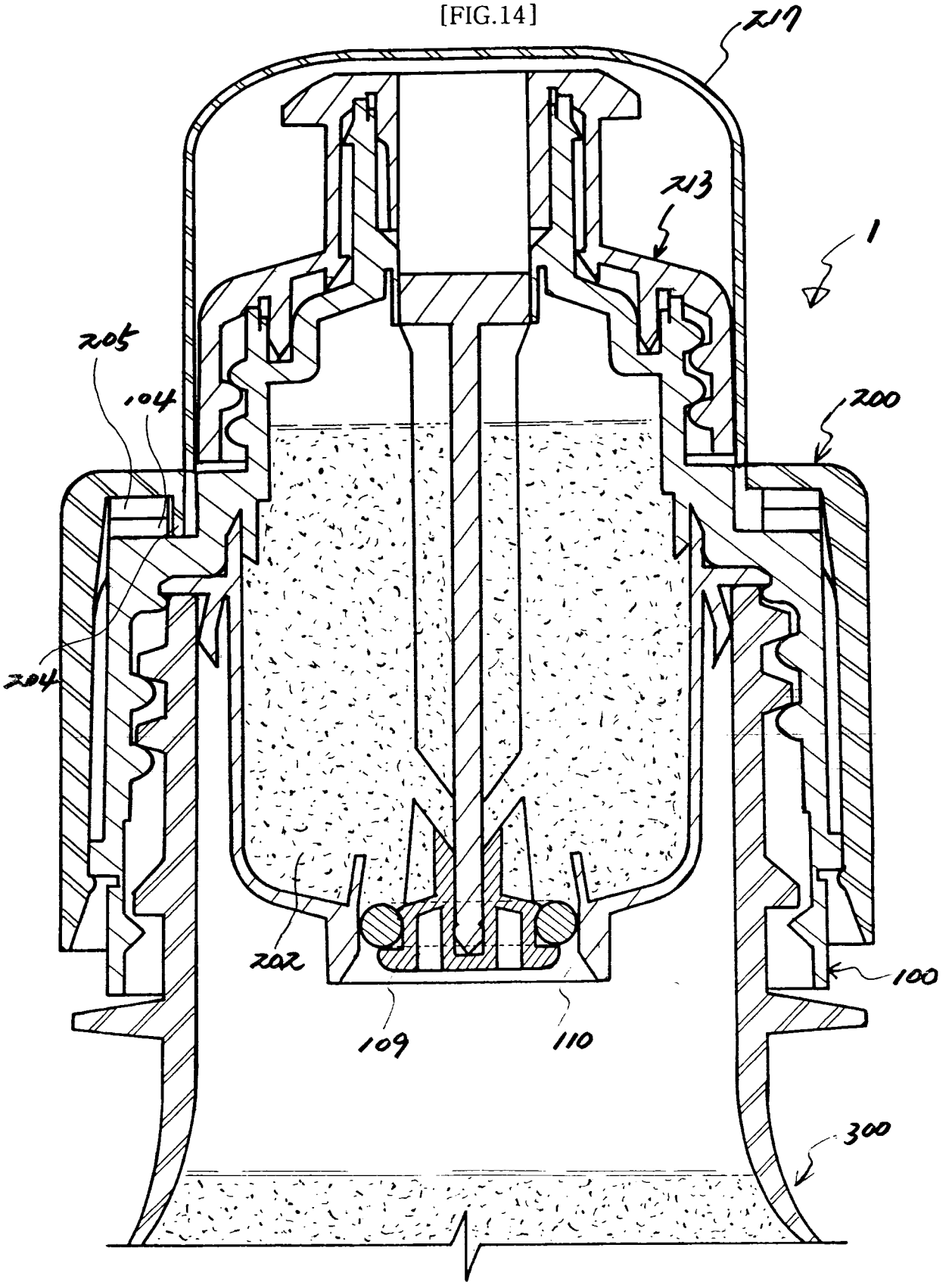
[FIG.12]



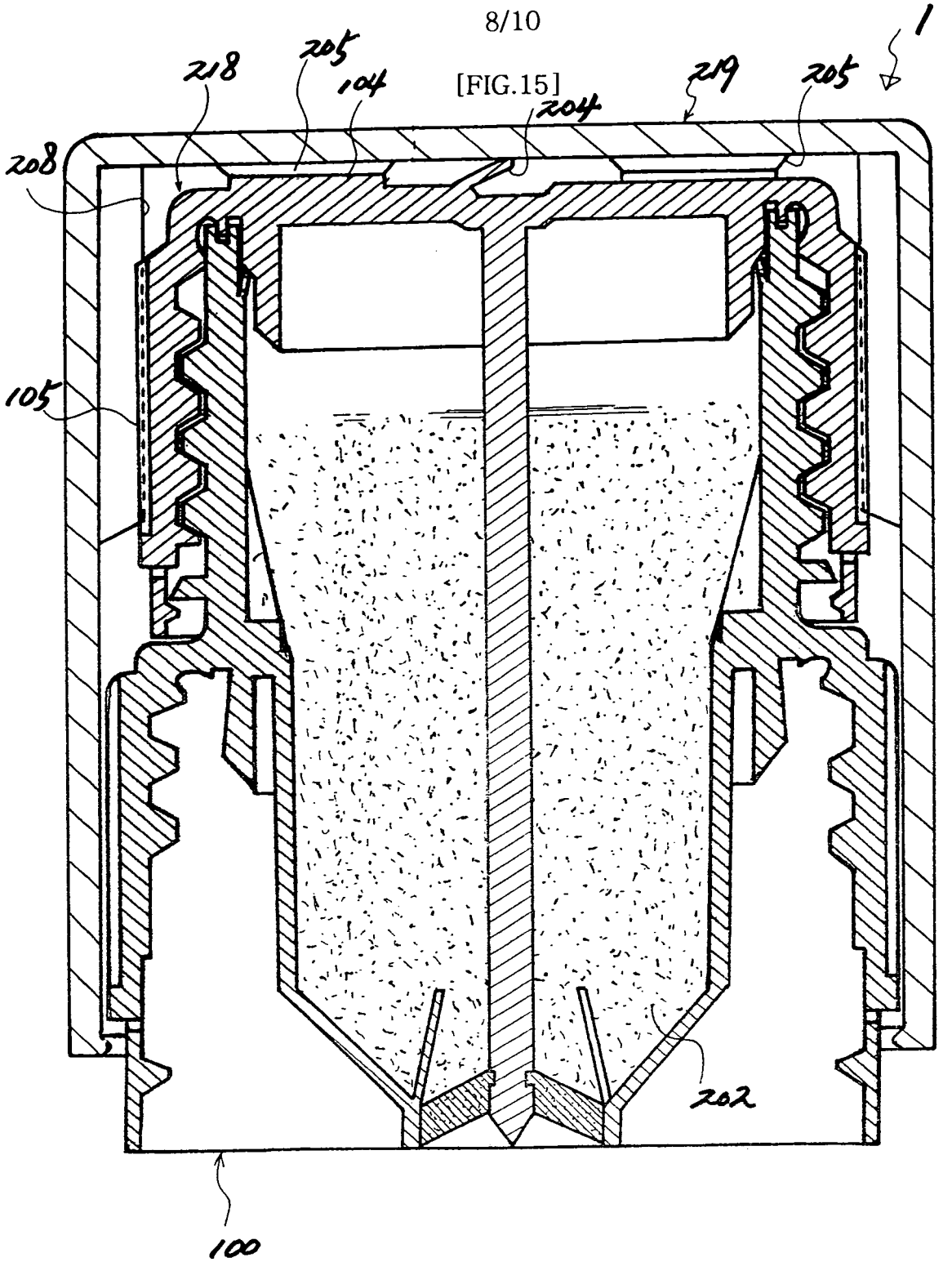
[FIG.13]



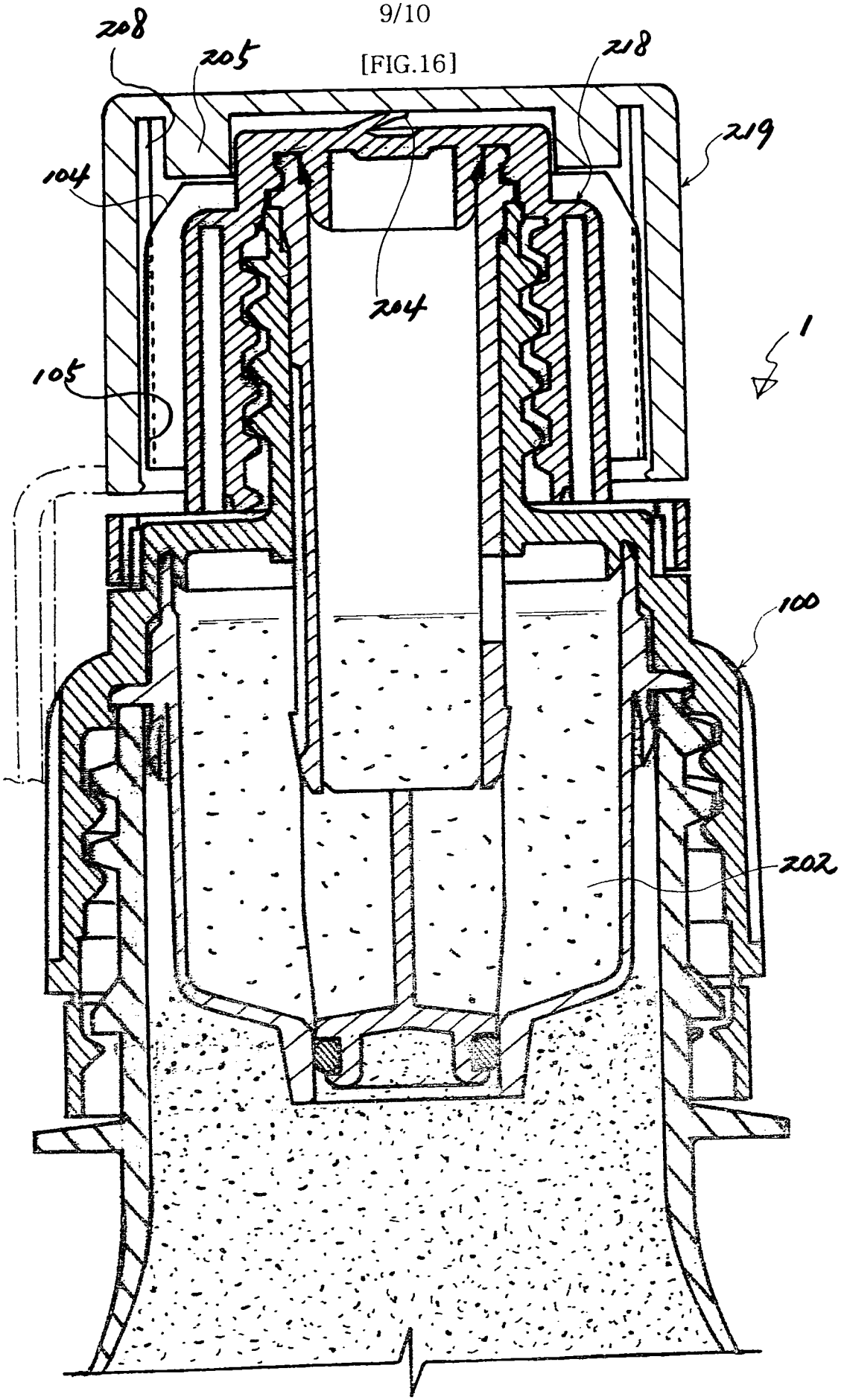
[FIG.14]



[FIG.15]



[FIG.16]



[FIG.17]