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(54) MIXING CONTAINER FOR HETEROGENEOUS CONTENT

(57) The present disclosure relates to a mixing container for heterogeneous contents, more specifically a mixing container for heterogeneous contents, independently formed with a main container where first contents are stored and a supplementary container where second contents are stored, being separated from each other, and configured in that when pressing an upper portion of the supplementary container after coupling the supplementary container to an upper portion of the main container, the second contents stored in the supplementary container move to the main container, and thereby the first and the second contents are mixed, therefore making it easy to fill contents in and to assemble the container, and also making it possible to select the second contents stored in the supplementary container as needed and mix with the first contents.

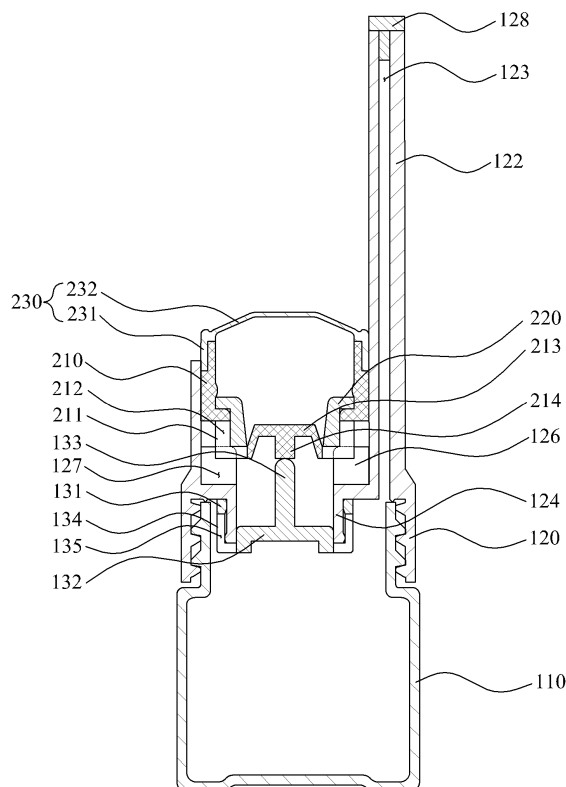


Fig. 3

Description

BACKGROUND

[0001] The present disclosure relates to a mixing container for heterogeneous contents, more specifically a mixing container for heterogeneous contents, independently formed with a main container where first contents are stored and a supplementary container where second contents are stored, being separated from each other, and configured in that when pressing an upper portion of the supplementary container after coupling the supplementary container to an upper portion of the main container, the second contents stored in the supplementary container move to the main container, and thereby the first and the second contents are mixed, therefore making it easy to fill contents in and to assemble the container, and also making it possible to select the second contents stored in the supplementary container as needed and mix with the first contents.

[0002] Generally, among cosmetic contents, there are some contents that may have a synergy effect when used after being mixed, but there are other contents that, when mixed and received in one container from the beginning, coagulation and precipitation due to physical and chemical reactions can cause a poor discharging of contents, or even discoloration or decomposition of contents can occur. Therefore, it is recommended to store contents into an individual container respectively and then to mix when they are used. For example, prescribed liquid cosmetics, vitamins effective for whitening, skin reproduction, removing wrinkles and the like, ordinary sol-type toothpastes, sol or gel types toothpastes having good penetration effect or good scents, or shampoos and rinses belong to this category.

[0003] However, those contents listed in the above are usually held in a separate container and sold. Therefore, a user should discharge each content stored in a separate container onto a hand from a plurality of containers when using them, thereby causing annoyingness and inconvenience to users.

[0004] To solve these problems, "a mixing container for heterogeneous contents", which can mix two heterogeneous contents when they are used after storing in separate containers, is disclosed in the registered patent no. 10-1192603. (Hereafter it is called "the registered patent".)

[0005] The registered patent, equipped with a storage chamber (110) where contents are stored, comprises: a housing (100) provided with a piston (120) at an interior of the storage chamber (110); a guide bracket (200), coupled to an upper end of the housing (100), and formed with a protrusion protruding toward an inner side of the storage chamber and formed with a guide piece (220) extending to an upper side at the upper portion thereof; a button part (300) operating fitted into the guide piece (220), and equipped with a pumping member (320) such that contents can be discharged to a discharge hole (310)

by user's manipulation; a sealing ring (400) installed between the guide bracket (200) and the button part (300) so as to be selectively separated: a receiving member (510) installed to the button part (300) at an interior thereof in a state that the contents stored in the storage chamber (110) and other contents are stored, and formed with the lower end thereof being supported by the protrusion (210); and a storage container sealing a lower portion of the receiving member (510) selectively and coupled with a lower portion of the pumping member (510), wherein a sealing member (520) equipped with a communication hole (521) such that the pumping member (510) and the storage chamber (110) can be communicated when the pumping member (510) is pumping.

[0006] The registered patent in the above is configured in that when pressing the button part in a downward direction after removing the sealing member (400), the sealing member (520) moves to a downward direction by the pumping member (320) and thereby opens a lower end of the receiving member (510). Due to this, contents stored inside the receiving member (510) flows into the storage chamber (110), such that heterogeneous contents get mixed.

[0007] However, the registered patent in the above has a structure wherein contents should be filled in a receiving member (510) and then a storage container should be assembled at an inner side of a guide bracket (200), and a sealing member (520), which closes an open lower end of the receiving member (510), should be coupled such that contents can be prevented from freely falling through an open lower end part of the receiving member (510). Accordingly, its complicated structure leads to problems of the increase in assembling time and manufacturing cost.

[0008] Furthermore, since the container is sold in a state of first contents and second contents being stored inside, it is not possible for user to select contents as needed and then mix them when using.

SUMMARY OF THE INVENTION

[0009] The present invention is devised to solve the said problems above, and its goal is to provide a mixing container for heterogeneous contents, independently formed with a main container where first contents are stored and a supplementary container where second contents are stored, being separated each other, and configured in that when pressing an upper portion of the supplementary container after coupling the supplementary container to an upper portion of the main container, the second contents stored in the supplementary container move to the main container, and thereby the first and the second contents are mixed, therefore making it easy to fill contents in and to assemble the container, and also making it possible to select the second contents stored in the supplementary container as needed and to mix with the first contents.

[0010] To solve the above problems, a mixing contain-

er for heterogeneous contents according to the present invention includes: a main container which comprises a container body where first contents are stored, a finishing cap coupled to an upper portion of the container body and provided with a supplementary container insertion hole at an upper portion wherein a nozzle having a contents discharge hole formed from one side of the supplementary container insertion hole extends to an upward direction and a coupling part is formed with a hollow at an inner side lower portion and extending to a lower portion thereof, and an opening/closing member coupled to the coupling part and closes the hollow, thereby opening the hollow; and a supplementary container separately formed from the container body and inserted to the supplementary container insertion hole when used, further comprising a storage part storing second contents and provided with a sealing plate having a contents outflow hole such that the second contents stored at a lower end portion thereof can flow out, a sealing member inserted into an inner side of the storage part and closing the contents outflow hole with an inner circumferential surface closely contacted to an outer circumferential surface of the sealing board, and a button part made of elastic material, coupled encasing an upper portion of the storage part, and moving downwards by its own elastic force and then being restored, thereby inducing a pumping operation by changing the inner pressure of the container body, characterized in that the storage part and the button part descend and the sealing member stops descending in a process of inserting the supplementary container to the supplementary container insertion hole, in that an inner circumferential surface of the sealing member and an outer circumferential surface closely contacted get separated and the contents outflow hole gets to open, the opening/closing member descends and causes the hollow to open, and the second contents stored in the storage part to move to the container body and to mix with the first contents, and in that the mixture of the first and the second contents, when pressing the button part, can be discharged through the contents discharge hole of the nozzle in a shape of droplets.

[0011] Furthermore, it is characterized in that the sealing plate is connected as forming the contents outflow hole from a lower end of the storage part by a multitude of connection pins, wherein an outer circumferential surface is closely contacted to an inner circumferential surface and prevents the second contents stored in the storage part from moving in a downward direction, further comprising a pressurization protrusion at a lower portion thereof such that the supplementary container presses the opening/closing member to a downward direction in a process of being inserted to the supplementary container insertion hole and moves to a downward direction.

[0012] Furthermore, it is characterized in that the opening/closing member includes a coupling ring coupled and encasing the coupling part; and a sealing board coupled as forming a contents movement hole by a multitude of connection bridges from the coupling ring, and contacted

to an inner circumferential surface of the coupling part and thus closing a hollow, further having an opening/closing protrusion protruding at an upper end thereof such that the supplementary container can be pressed by the pressurization protrusion in a process of being inserted to the supplementary container insertion hole.

[0013] Furthermore, it is characterized in that a limitation protrusion contacted to a lower end of the sealing member and limiting the descent of the sealing member is equipped at an inner side of the finishing cap in a process that the supplementary container is being inserted to the supplementary container insertion hole, and in that an insertion groove where the connection pin is inserted is formed at the limitation protrusion.

[0014] As described in the above, a mixing container for heterogeneous contents according to the present invention is configured in that a main container wherein first contents are stored and a supplementary container where second contents are stored are independently formed, being separated from each other, and configured in that when pressing an upper portion of the supplementary container after coupling the supplementary container to an upper portion of the main container, the second contents stored in the supplementary container move to the main container, and thereby the first and the second contents are mixed, therefore making it easy to fill contents in and to assemble the container, and also making it possible to select the second contents stored in the supplementary container as needed and to mix with the first contents.

BRIEF DESCRIPTION OF THE DRAWINGS

[0015]

Fig. 1 is an exploded perspective view illustrating a configuration of a mixing container for heterogeneous contents according to an exemplary embodiment of the present invention.

Fig. 2 is a perspective view illustrating a configuration of a mixing container for heterogeneous contents according to an exemplary embodiment of the present invention.

Fig. 3 is an assembled cross-sectional view illustrating a mixing container for heterogeneous contents according to an exemplary embodiment of the present invention.

Figs. 4 to 5 are explanatory drawings illustrating the using method of a mixing container for heterogeneous contents according to an exemplary embodiment of the present invention.

Figs. 6 to 7 are explanatory drawings illustrating the contents filling process of a mixing container for heterogeneous contents according to an exemplary embodiment of the present invention.

DETAILED DESCRIPTION OF PREFERRED EMBODIMENTS

[0016] Hereinafter, exemplary embodiments of the present invention will be described in detail with reference to the accompanying drawings. The same reference numerals provided in the drawings indicate the same members.

[0017] Fig. 1 is an exploded perspective view illustrating a configuration of a mixing container for heterogeneous contents according to an exemplary embodiment of the present invention. Fig. 2 is a perspective view illustrating a configuration of a mixing container for heterogeneous contents according to an exemplary embodiment of the present invention. Fig. 3 is an assembled cross-sectional view illustrating a mixing container for heterogeneous contents according to an exemplary embodiment of the present invention.

[0018] Referring to Figs. 1 to 3, a mixing container for heterogeneous contents according to an exemplary embodiment of the present invention includes a main container 100 and a supplementary container 200.

[0019] The main container 100 which stores first contents and forms a nozzle for discharging the mixture of the first and the second contents comprises a container body 110, a finishing cap 120, and an opening/closing member 130.

[0020] The container body 110 is preferably made of a transparent material, thereby making it possible to check from the outside the process wherein second contents stored in a supplementary container 200 to be described later move to a lower portion thereof and are mixed with the first contents.

[0021] The finishing cap 120 screw-coupled to an upper portion of the container body 110 and closing an open upper portion of the container body 110, in the present invention, is characterized to be provided with a supplementary container insertion hole 121 at an upper portion of the finishing cap 120 such that the supplementary container 200 can be inserted.

[0022] In case a user wants to mix the second contents stored in the supplementary container 200 with the first contents stored in the container body 110, the supplementary container insertion hole 121 forms a space in which the user can simply insert the supplementary container 200 separately equipped. At the finishing cap 120 is provided with a limitation protrusion 126 which meets a lower end of the sealing member 220 and limits the descent of the sealing member 220 in a process of the supplementary container 200 being inserted into the supplementary container insertion hole 121.

[0023] At the limitation protrusion 126 is installed an insertion groove 127 where a connection pin 211 is inserted so as not to be interfered with the connection pin 211 of the supplementary container 200 when a user inserts the supplementary container 200 to the supplementary container insertion hole 121. Due to this, as the connection pin 211 descends along an insertion groove

127, it is possible that the storage part 210 and the button part 230 keep descending in a state of the descent of the sealing member 220 is stopped by the limitation protrusion 126.

[0024] Meanwhile, at an upper end of the finishing cap 120, a nozzle 122 which is slanted to one side of the supplementary container insertion hole 121 extends to an upward direction, wherein when the button part 230 is pressed in a state of the first contents and the second contents being mixed inside the container body, the mixture of the first and the second contents is discharged through a contents discharge hole 123 formed at end of the nozzle 122 having a tube shape. At an end of the nozzle 122 is detachably coupled a cover part 128 which opens/closes the contents discharge hole 123.

[0025] Furthermore, at an inner lower portion of the finishing cap 120 is equipped a coupling part 124 which, forming a hollow 125 and extending in a downward direction, is coupled with an opening/closing member 130, wherein at a lower portion of an outer circumferential surface of the coupling part 124, a separation preventing protrusion 129 is equipped such that the opening/closing member 130 can be prevented from being separated from the coupling part 124 when descending.

[0026] The opening/closing member 130, which is configured to be coupled to the coupling part 124, disposed in a state of closing the hollow 125, and then descend when inserting the supplementary container 200 into the supplementary container insertion hole 121 and thereby open the hollow 125, further comprises a coupling ring 131 coupled as encasing the coupling part 124, and a sealing board 132 connected as forming contents movement hole 135 by a multitude of connection bridges 134 from the coupling ring 131 and closely contacted to an inner circumferential surface of the coupling part 124, thereby closing the hollow 125.

[0027] At an upper end of the sealing member 132 is protrusively formed an opening/closing protrusion 133 which is pressurized by a pressurization protrusion 214 such that the sealing board 132 can descend in a process of the supplementary container 200 being inserted to the supplementary container insertion hole 121 and open the hollow 125.

[0028] Meanwhile, at an inner side of the coupling ring 131 is equipped a protrusion 136 which is supported by the separation preventing protrusion 129 such that the opening/closing member 130 can be prevented from being separated when the opening/closing member 130 is descending by pressurization of the pressurization protrusion 214.

[0029] The supplementary container 200, storing the second contents, is disposed in a state of being separated from the main container 100, and is inserted to the supplementary container insertion hole 121 of the main container 100 when used, further comprising a storage part 210, a sealing member 220 and a button part 230.

[0030] The storage part 210 forms a space where the second contents are stored, wherein a contents outflow

hole 212 is formed and connected by a multitude of connection pins at a lower end thereof, wherein a sealing plate 213 which is closely contacted to an outer circumferential surface of the sealing member 220 and thus prevents contents stored in the storage part 210 from moving to a downward direction is provided. A pressurization protrusion 214 is provided at a lower portion of the sealing plate 213 such that the supplementary container 200 pressurizes the opening/closing protrusion 133 in a process of being inserted to the supplementary container insertion hole 121 and moves the opening/closing member 130 to a downward direction.

[0031] The sealing member 220 is inserted to an inner side of the storage part 210, wherein an inner circumferential surface thereof is closely contacted to an outer circumferential surface of the sealing plate 213 and closes a content outflow hole 212. Due to this, it is possible to store the second contents to the storage part 210.

[0032] The present invention is characterized to have a structure wherein the sealing member 220 is secured on an upper end of the limitation protrusion 126 and limited to move downwards in a process that the supplementary container 200 is inserted to the supplementary container insertion hole 121. Therefore, as being separated from the sealing plate 213, the sealing member 220 opens the contents outflow hole 212. Due to this, through the contents outflow hole 212, the second contents flow out and move to the container body 100, finally mixing with the first contents.

[0033] The button part 230, which is coupled as enclosing an upper portion of the storage part 210 and closes the upper portion of the storage part 210, is provided with a coupling part 231 for being coupled to the upper portion of the storage part 210.

[0034] The present invention is characterized in that at an upper portion of the coupling part 231 is provided an elasticity deformation part 232 which is made of elastic material and moves to a downward direction by own elasticity according to user's pressurization and then is restored. The elasticity deformation part 232, protrudingly formed to an upward direction from an upper end of the coupling part 231, has an entire top surface moving downwards when a user pressurizes an upper end part of the elasticity deformation part 232 and restored when the user releases the pressurization. Due to this, by changing inner pressure of the container body 110 and thereby inducing a pumping operation, it is possible to discharge the mixture of the first and the second contents stored in the container body 110 to the outside.

[0035] Meanwhile, the elasticity deformation part 232 can be manufactured to have the same color as the second contents which is stored in the storage part 210, such that the color of the second contents can be recognized by the color of the elasticity deformation part 232.

[0036] Hereafter, referring Figs. 4 to 5, a using method of a mixing container for heterogeneous contents according to an exemplary embodiment of the present invention will be explained. Figs. 4 to 5 are explanatory drawings

illustrating the using method of a mixing container for heterogeneous contents according to an exemplary embodiment of the present invention.

[0037] Firstly, as illustrated in Fig. 4, in a state that a main container 100 storing first contents (M1) and a supplementary container storing second contents (M2) are separated, the supplementary container 200 is inserted to a supplementary container insertion hole 121 of the main container 100.

[0038] As in the above, when inserting the supplementary container 200 to the supplementary container insertion hole 121, a sealing member 220, as illustrated in Fig. 5, will be secured on an upper end of a limitation protrusion 126 in a process of the supplementary container 200 moving downwards. As a connection pin 211 moves along an insertion groove 127, a storage part 210 and a button part 230 can keep descending while a sealing member 220 stops descending.

[0039] As in the above, if the storage part 210 and the button part 230 keep descending while the sealing member 220 stops descending, an inner circumferential surface of the sealing member 220 and an outer circumferential surface of the sealing plate 213 which were closely contacted each other get separated from each other. Due to this, second contents stored in the storage part 210 through this separated space fall. Then, as a pressurization protrusion 214 presses an opening/closing protrusion 133 while the storage part 210 is descending, and makes an opening/closing member 130 descend, and thereby the storage part 210 descends, a sealing board 132 gets separated from the inner circumferential surface of the coupling part 124 and then opens a hollow 125, such that the second contents move to the container body 110 and then are mixed with the first contents.

[0040] As in the above, if an elasticity deformation part 232 is pressurized after the container body 110 is made upside down in a state of completing mixing of the first and the second contents, an inner pressure of the container body 110 will be changed and thereby the mixture (M3) of the first and the second contents stored in the container body 110 move along a nozzle 122, and therefore, predetermined amount is discharged in a shape of droplets through the discharge hole 123.

[0041] Namely, the present invention is configured in that in a process of inserting a main container 100 and a supplementary container 200 separately formed into a supplementary container insertion hole 121 of the main container 100, second content (M2) stored in a storage part 210 moves to the container body 110 for being mixed with first contents (M1), and it is configured in that when pressurizing an elasticity deformation part 232 in a state of the container body 110 being upside down, the mixture (M3) of the first and the second contents is discharged in a shape of droplets. any of second contents is chosen by a user as needed among a plurality of supplementary containers 200 which contain each different second contents, and inserted into the main container 100 for being mixed with the first contents, thereby providing user con-

veniences.

[0042] Meanwhile, as illustrated in Fig. 6, it is possible to simply constitute the main container by filling the first contents (M1) into the main container 100 and coupling a finishing cap 120 which is coupled with an opening/closing member 130 to an upper portion of the main container 100. As illustrated in Fig. 7, it is possible to constitute the supplementary container 200 with ease by coupling a sealing member 220 to an inner side of a storage part 210, and filling the second contents through an open upper portion of the storage part 210 in a state that an inner circumferential surface of the sealing member 210 is closely contacted to an outer circumferential surface of the sealing plate 213, and then coupling the button part 230 to the upper portion of the storage part 210.

[0043] That is, the present invention has a main container 100 and a supplementary container 200 separately formed, such that it is easy to fill the first contents and the second contents respectively, thereby providing manufacturing advantage and also providing user conveniences as the main container 100 and the supplementary container 200 can be easily assembled by simply inserting the supplementary container 200 to a supplementary container insertion hole 121 of the main container 100 for mixing heterogeneous contents.

[0044] As described above, optimal embodiments have been disclosed in the drawings and the specification. Although specific terms have been used herein, these are only intended to describe the present invention and are not intended to limit the meanings of the terms or to restrict the scope of the present invention as disclosed in the accompanying claims. Accordingly, those skilled in the art will appreciate that various modifications and other equivalent embodiments are possible from the above embodiments. Therefore, the scope of the present invention should be defined by the technical spirit of the accompanying claims.

Claims

1. A mixing container for heterogeneous contents, comprising:

a main container (100) including a container body (110) where first contents are stored, a finishing cap (120) coupled to an upper portion of the container body (110) and provided with a supplementary container insertion hole (121) at an upper portion wherein a nozzle (122) having a contents discharge hole (123) formed from one side of the supplementary container insertion hole (121) extends to an upward direction and a coupling part (124) is formed with a hollow (125) at an inner side lower portion and extending to a lower portion thereof, and an opening/closing member (130) coupled to the coupling part (124) and closes the hollow (125),

thereby opening the hollow (125); and a supplementary container (200) separately formed from the container body (110) and inserted to the supplementary container insertion hole (121) when used, further comprising a storage part (210) storing second contents and provided with a sealing plate (213) having a contents outflow hole (212) such that the second contents stored at a lower end portion thereof can flow out, a sealing member (220) inserted into an inner side of the storage part (210) and closing the contents outflow hole (212) with an inner circumferential surface closely contacted to an outer circumferential surface of the sealing plate (213), and a button part (230) made of elastic material, coupled encasing an upper portion of the storage part (210), and moving downwards by its own elastic force and then being restored, thereby inducing a pumping operation by changing the inner pressure of the container body (110),

characterized in that the storage part (210) and the button part (230) descend and the sealing member (220) stops descending in a process of inserting the supplementary container (200) to the supplementary container insertion hole (121), **in that** an inner circumferential surface of the sealing member (220) and an outer circumferential surface closely contacted get separated and the contents outflow hole (212) gets to open, the opening/closing member (130) descends and causes the hollow (125) to open, and the second contents stored in the storage part (210) to move to the container body (110) and to mix with the first contents, and **in that** the mixture of the first and the second contents, when pressing the button part (230), can be discharged through the contents discharge hole (123) of the nozzle (122) in a shape of droplets.

2. The mixing container for heterogeneous contents of claim 1,

characterized in that the sealing plate (213) is connected as forming the contents outflow hole (212) from a lower end of the storage part (210) by a multitude of connection pins (211), wherein an outer circumferential surface is closely contacted to an inner circumferential surface and prevents the second contents stored in the storage part (210) from moving in a downward direction, further comprising a pressurization protrusion (214) at a lower portion thereof such that the supplementary container (200) presses the opening/closing member (130) to a downward direction in a process of being inserted to the supplementary container insertion hole (121) and moves to a downward direction.

3. The mixing container for heterogeneous contents of

claim 2,

characterized in that the opening/closing member (130) includes a coupling ring (131) coupled and encasing the coupling part (124); and a sealing board (132) coupled as forming a contents movement hole (135) by a multitude of connection bridges (134) from the coupling ring (131), and contacted to an inner circumferential surface of the coupling part (124) and thus closing the hollow (125), further having an opening/closing protrusion (133) protruding at an upper end thereof such that the supplementary container (200) can be pressed by the pressurization protrusion (214) in a process of being inserted to the supplementary container insertion hole (121).

4. The mixing container for heterogeneous contents of claim 2,

characterized in that a limitation protrusion (126) contacted to a lower end of the sealing member (220) and limiting the descent of the sealing member (220) is equipped at an inner side of the finishing cap (120) in a process that the supplementary container (200) is being inserted to the supplementary container insertion hole (121), and **in that** an insertion groove (127) where the connection pin (211) is inserted is formed at the limitation protrusion (126).

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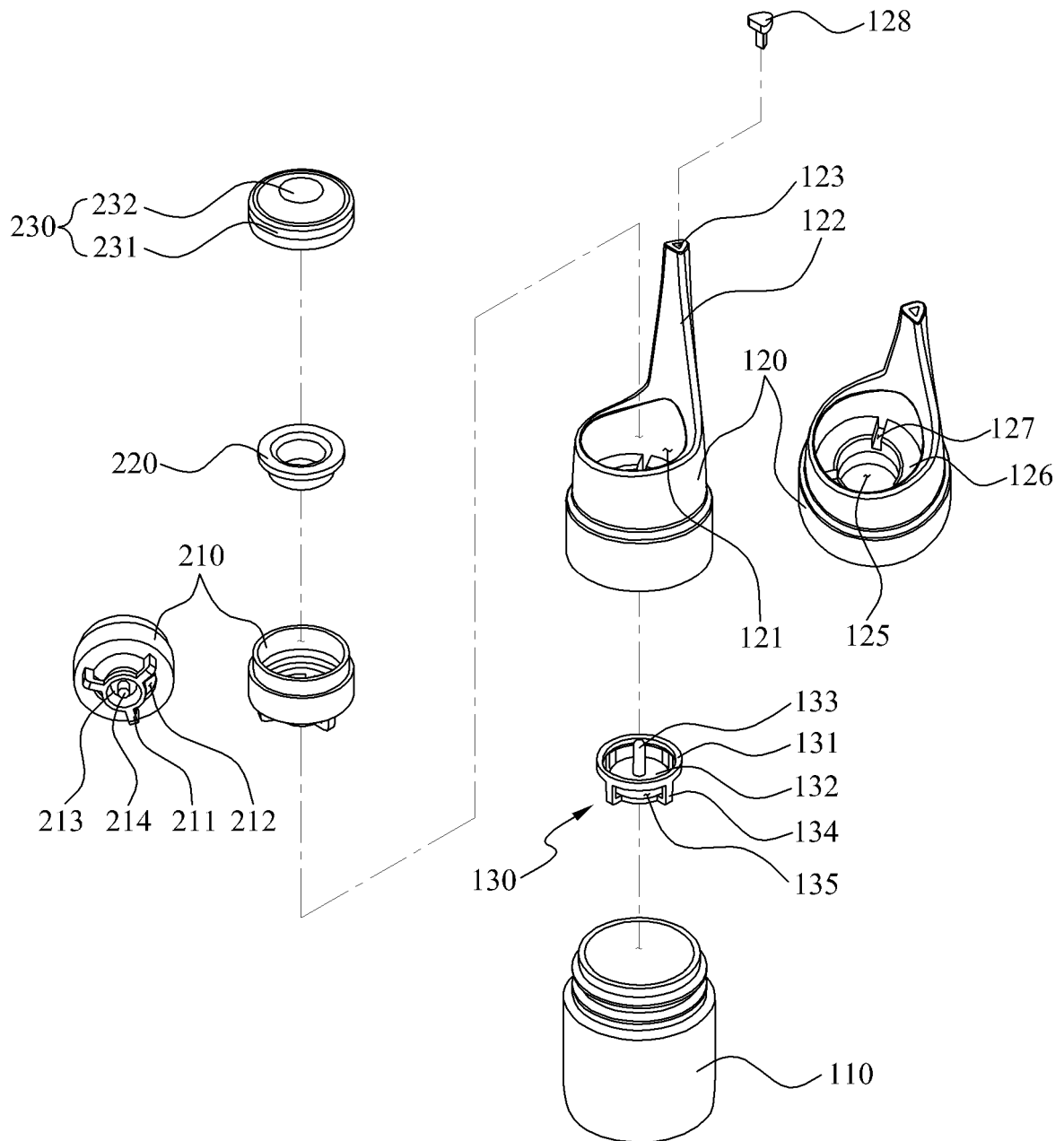


Fig. 1

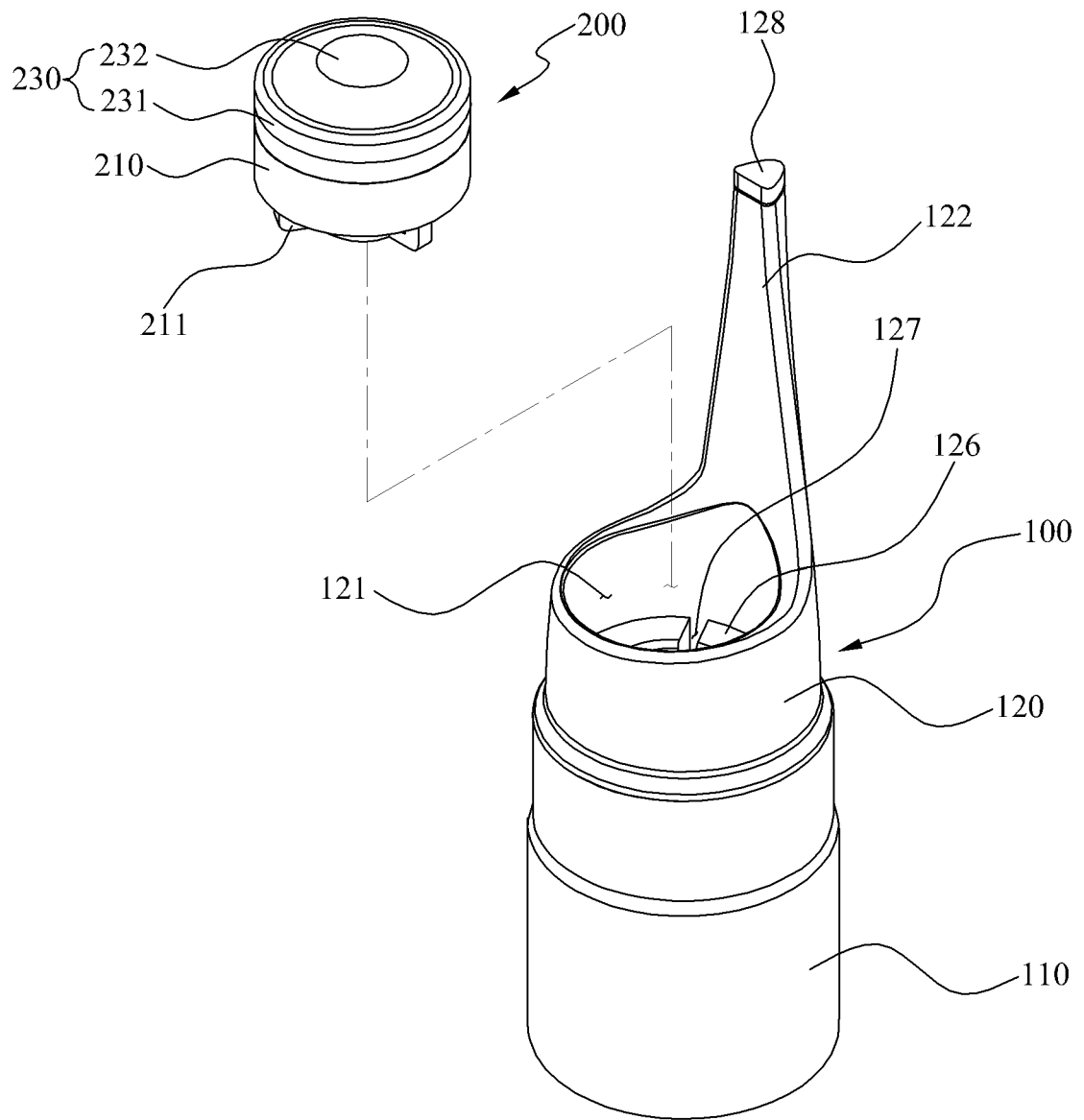


Fig. 2

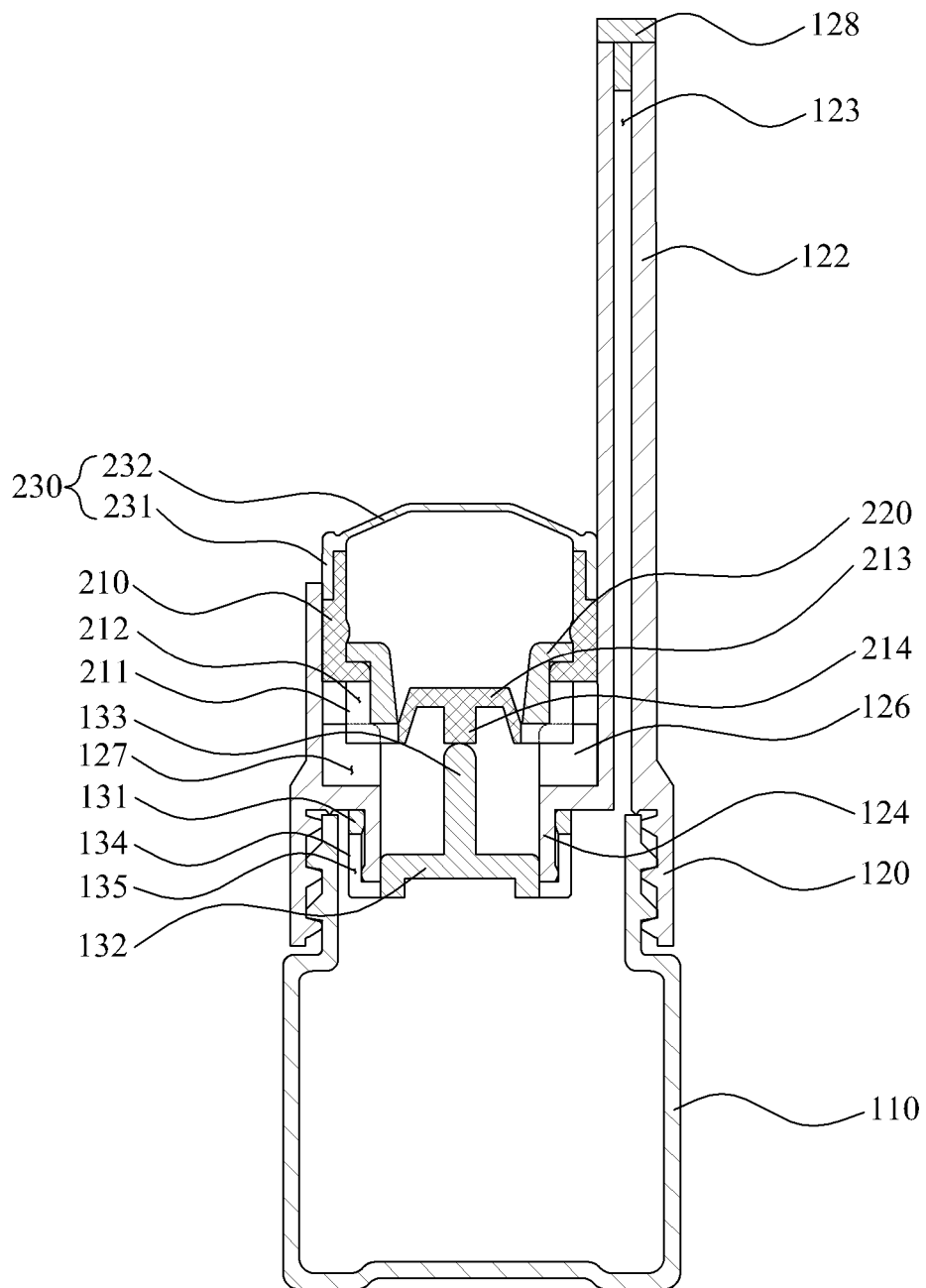


Fig. 3

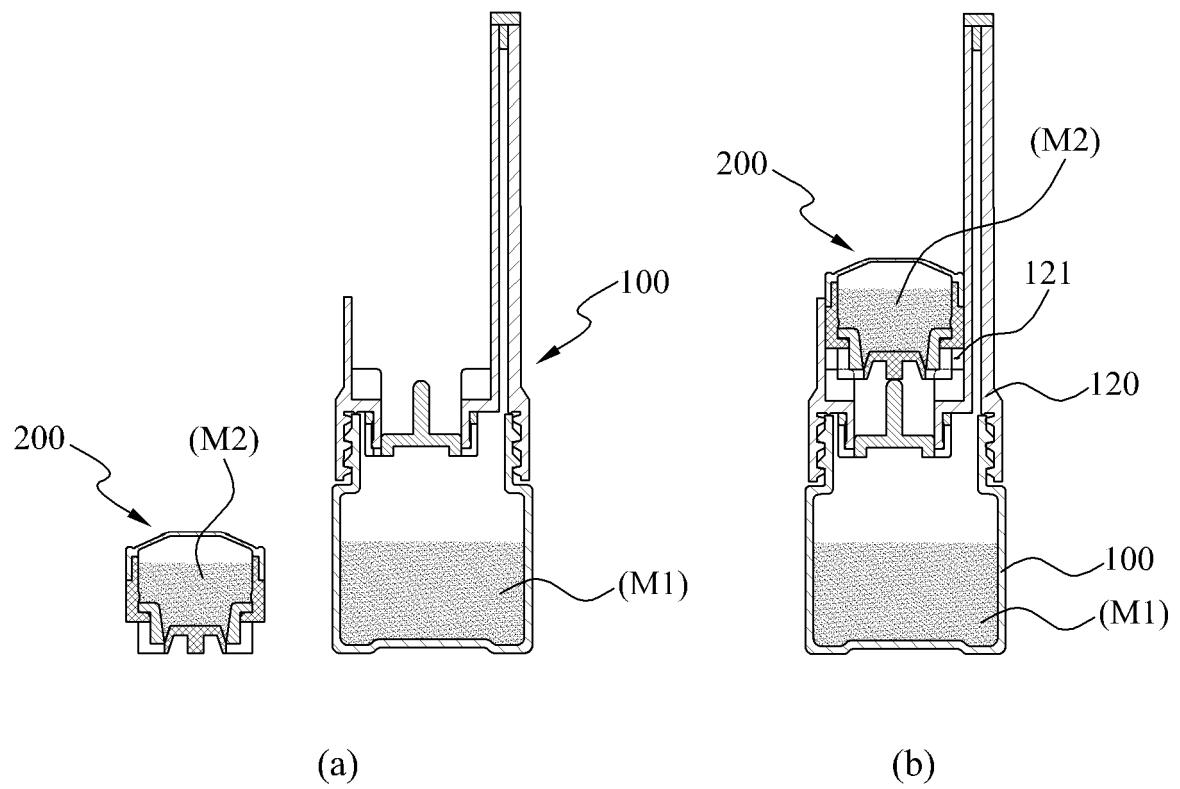


Fig. 4

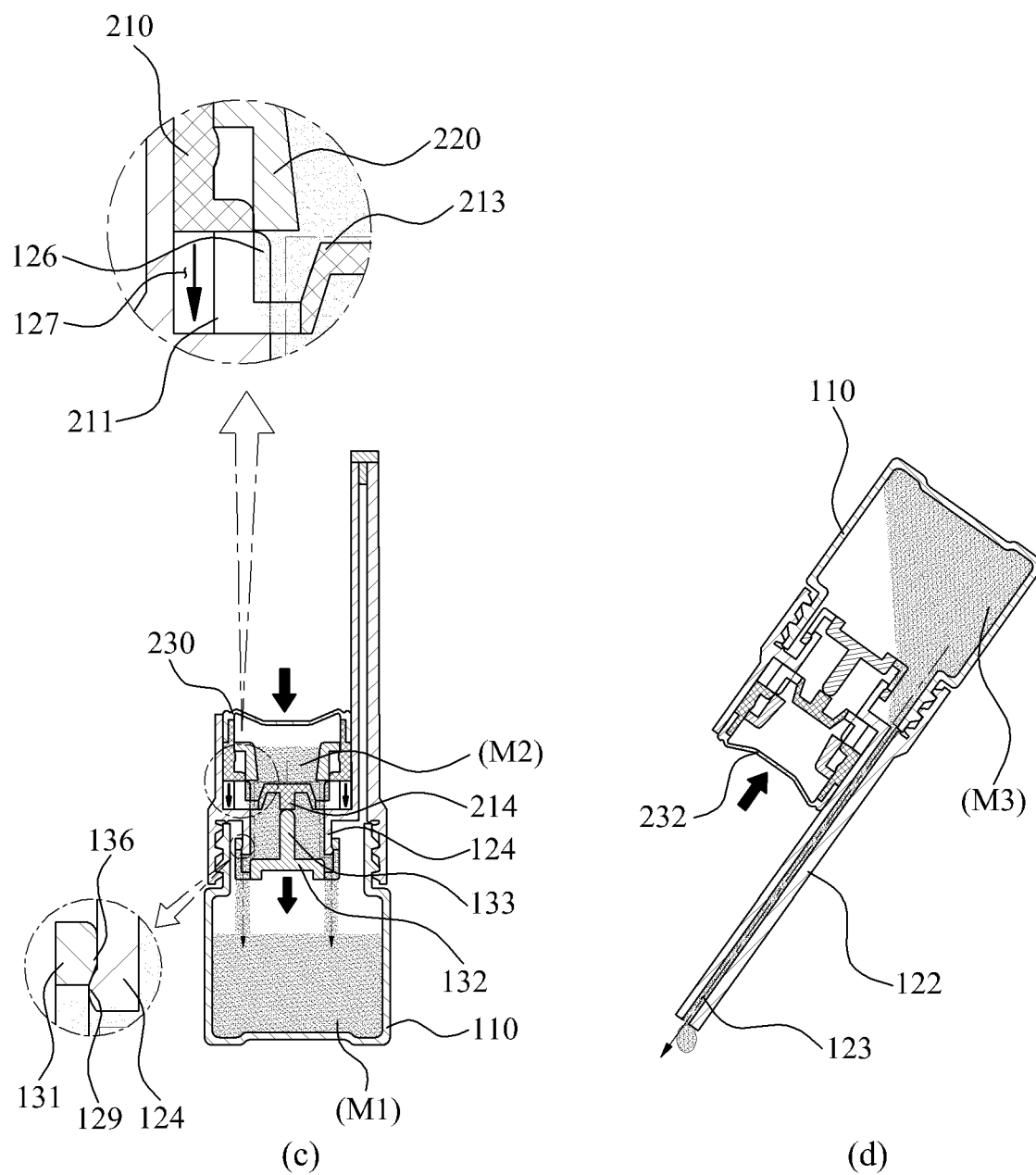


Fig. 5

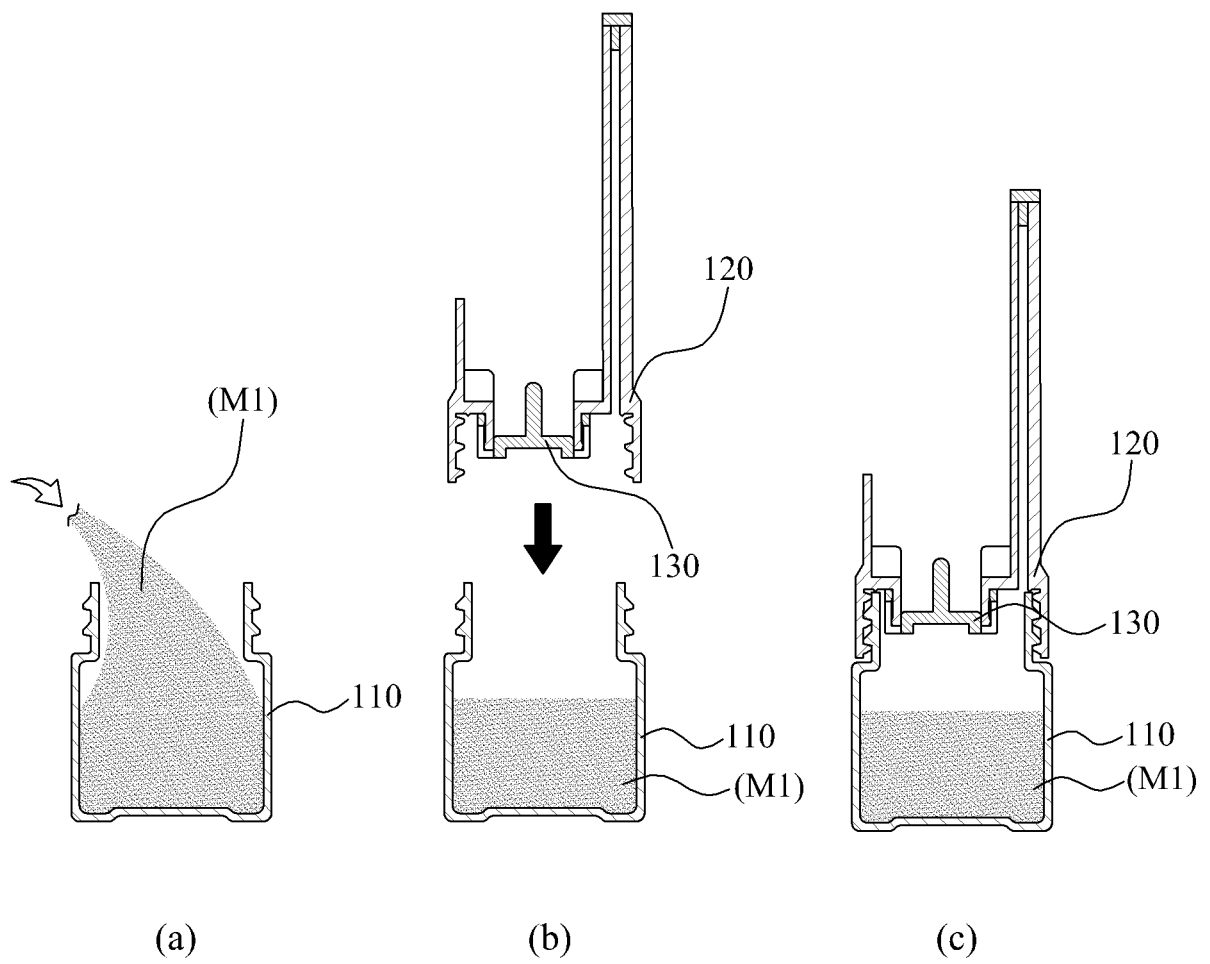


Fig. 6

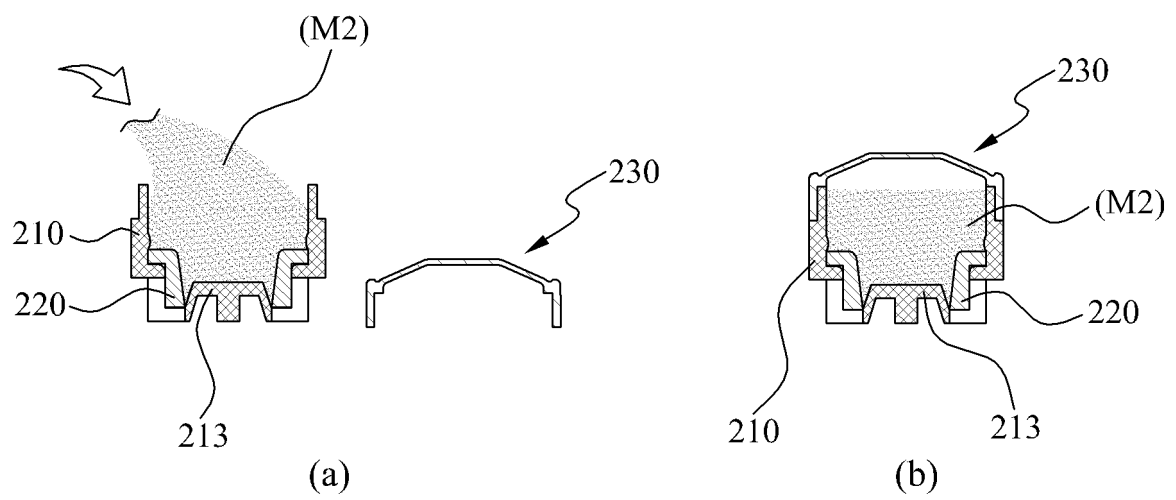


Fig. 7

INTERNATIONAL SEARCH REPORT

International application No.

PCT/KR2016/003724

A. CLASSIFICATION OF SUBJECT MATTER

B65D 51/28(2006.01)i, B65D 81/32(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)

B65D 51/28; B65D 83/76; B65D 47/20; B65D 81/32; B65D 47/06; A47J 31/00

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: heterogeneous, mixing, main container, auxiliary container, container main body, finishing cap, switch member, sealing plate, sealing member, button part

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	KR 10-2013-0115666 A (LEE, Tae Keun et al.) 22 October 2013 See abstract, claim 1 and figures 1, 3.	1-4
A	KR 10-2004-0053643 A (JANG, Myung - Kwan) 24 June 2004 See claims 1-2 and figures 1-3b.	1-4
A	KR 10-1192603 B1 (YONWOO CO., LTD.) 26 October 2012 See abstract, paragraphs [0021]-[0040] and figures 2-5.	1-4
A	JP 2520298 Y2 (ZOJIRUSHI CORP. et al.) 11 December 1996 See claims 1-2 and figures 2-3.	1-4
A	KR 10-2013-0107359 A (PEPSICO, INC.) 01 October 2013 See paragraphs [0103]-[0107] and figures 34a-34f.	1-4

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

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Date of the actual completion of the international search

12 AUGUST 2016 (12.08.2016)

Date of mailing of the international search report

12 AUGUST 2016 (12.08.2016)

Name and mailing address of the ISA/KR


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INTERNATIONAL SEARCH REPORT
Information on patent family members

International application No.

PCT/KR2016/003724

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