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(71) Applicant: **Yonwoo Co., Ltd.**
Incheon 22824 (KR)

(72) Inventor: **JUNG, Hyo-Sun**
Incheon 22824 (KR)

(74) Representative: **Nordic Patent Service A/S**
Bredgade 30
1260 Copenhagen K (DK)

(54) MIXING CONTAINER FOR HETEROGENEOUS CONTENT

(57) The present invention relates to a mixing container for heterogeneous contents, more particularly, a mixing container for heterogeneous contents configured to be provided with a container body storing first contents and a pipette part storing second content separately from each other, wherein after the a pipette part is coupled to a lower portion of the container body, second contents stored in the pipette part when a rotation body is rotated move to the container body and then first and second contents are mixed, which not only makes it easy to fill contents to the container body and to assemble the container, but also makes it possible to select second contents stored in the pipette part as needed and to mix with the first contents for using.

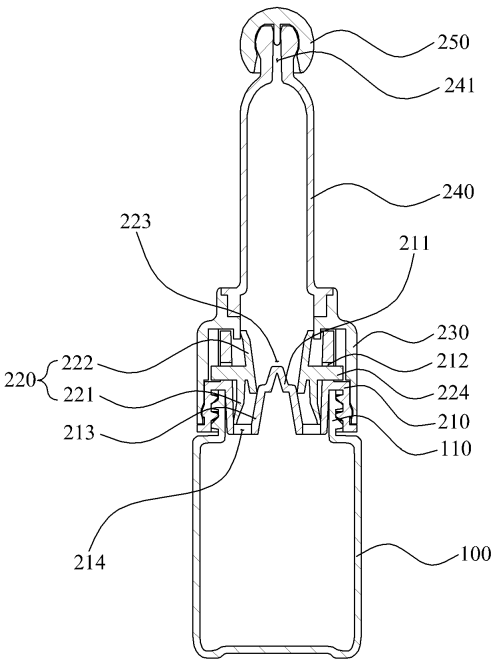

Fig. 3

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Description

BACKGROUND

[0001] The present invention relates to a mixing container for heterogeneous contents, more particularly, a mixing container for heterogeneous contents configured to include a container body storing first contents and a pipette part storing second content separately from each other, wherein after the a pipette part is coupled to a lower portion of the container body, second contents stored in the pipette part move to the container body when a rotation body is rotated and then first and second contents are mixed, which not only makes it easy to fill contents into the container body and to assemble the container but also makes it possible for a user to select second contents stored in the pipette part as needed and to mix with the first contents for using.

[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 contents 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 being 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 (210) protruding toward an inner side of the storage chamber (110) 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 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 configured to include a container body storing first contents and a pipette part storing second content separately from each other, wherein after the a pipette part is coupled to a lower portion of the container body, second contents stored in the pipette part move to the container body when a rotation body is rotated and then first and second contents are mixed, which not only makes it easy to fill contents into the container body and to assemble the container, but also makes it possible for a user to select second contents stored in the pipette part as needed and to mix with the first contents for using.

[0010] To solve the above problems, a mixing container for heterogeneous contents according to the present invention includes: a container body which stores first contents and is provided with a discharge part at an upper

portion thereof for contents being discharged; and a pipette part which is separately formed from the container body and coupled to an upper portion of the container body when being used, further including a finishing cap which is screw-coupled to an upper portion of the discharge part, provided with an opening/closing rod protruding upwards at a center portion thereof and further provided with a pair of rotation guide grooves formed at both sides, an ascending/descending member, which is coupled to be able to ascend/descend as encasing the opening/closing rod at an inner side of the finishing cap, further provided with a hollow which is opened/closed by the opening/closing rod and provided with a pair of guide protrusions coupled to the rotation guide grooves at both sides thereof, a rotation body which is rotatably coupled encasing the finishing cap and forms a perpendicular guide groove guiding the perpendicular movement of the guide protrusion at an inner circumferential surface, and a pipette pipe which forms a space where second contents are stored and provided with a contents discharge outlet at an upper portion,
characterized in that as the ascending/descending member ascends by rotation of the rotation body, second contents stored in the pipette pipe move to the container body and are mixed with first contents. Thereby, mixture of the first and the second contents is discharged in a shape of droplets the contents discharge outlet.

[0011] Furthermore, it is characterized in that a movement groove is provided as encasing the opening/closing rod at the finishing cap such that the ascending/descending member can be inserted and move, and a plurality of contents movement holes are provided at a lower end of the movement groove such that second contents stored in the pipette part can move to the container body, or the mixture of the first and the second contents stored in the container body can move to the contents discharge outlet.

[0012] Furthermore, it is characterized in that the ascending/descending member includes a sealing tube which is inserted to the movement groove and ascends/descends along a wall of the movement groove, and an opening/closing tube which is closely contacted to an outer circumferential surface of the opening/closing rod and blocks the second contents stored in the pipette pipe from moving to the container body and then is separated from an outer circumferential surface of the opening/closing rod such that the second contents stored in the pipette pipe when ascending by rotation of the rotation body can move to the container body.

[0013] Furthermore, it is characterized in that the pipette pipe is formed with an upper portion bigger than the upper portion such that the mixture of the first and the second contents can be discharged in shape of droplets.

[0014] As described in the above, a mixing container for heterogeneous contents according to the present invention is configured to include a container body storing first contents and a pipette part storing second content separately from each other, wherein after the a pipette part is coupled to a lower portion of the container body, second contents stored in the pipette part when a rotation body is rotated move to the container body and then first and second contents are mixed, which not only makes it easy to fill contents to the container body and to assemble the container, but also makes it possible to select second contents stored in the pipette part as needed and to mix with the first contents for using.

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 using methods of a mixing container for heterogeneous contents according to an exemplary embodiment of the present invention.
Figs. 6 to 7 are explanatory drawings illustrating a 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 container body 100 and a pipette part 200.

[0019] The container body 100 wherein first contents

are stored and forms a discharge part 110 at an upper portion thereof such that mixture of the first and the second contents can be discharged, wherein a screw thread is formed at an outer circumferential surface of the discharge part 110 for screw-coupling with the finishing cap 210.

[0020] The container body 100 is preferably made of plastic material which can be deformed by user's pressurization such that a pipette part 200, to be described later, can be coupled and the mixture of the contents can be discharged in a state of the first and the second contents through the discharge outlet 241 of the pipette pipe 240 in a shape of droplets.

[0021] Furthermore, the container body 100 is preferably made of transparent material such that it is possible to check a process in which the second contents stored in the pipette part 200 move to a lower portion and is mixed with the first contents.

[0022] The pipette part 200, storing the second contents and disposed in a state of separated from the container body 100 and then coupled to an upper portion of the container body when being used, includes a finishing cap 210, an ascending/descending member 220, a rotation body 230, and a pipette pipe 240.

[0023] The finishing cap 210 is screw-coupled to the discharge part 110 and closes an open upper portion of the container body 100, wherein an opening/closing rod 211, which opens/closes a hollow 223 while being closely contacted to or detached from an inner circumferential surface of the opening/closing tube 222 when a ascending/descending member 220, to be described later, ascends/descends at a center portion thereof, is protrusively formed upwards.

[0024] The present invention is characterized in that a rotation guide groove 212 is formed at an outer circumferential surface of the finishing cap 210 for ascending/descending the ascending/descending member 220 when the rotation body 230 rotates. A guide protrusion 224 of the ascending/descending member 220 is coupled and moves at the rotation guide groove 212, wherein a pair of the rotation guide groove 212 are preferably formed to correspond to each other at both sides such that a guide protrusion 224 can be moved.

[0025] Meanwhile, a fixation groove is preferably formed at both ends of the rotation guide groove 212 such that a guide protrusion 224 can ascend or descend along the rotation guide groove 212 and be fixed at an upper end or at a lower end thereof.

[0026] Furthermore, a movement groove 213 is formed as encasing an opening/closing rod 211 at finishing cap 210 such that an ascending/descending member 220 can be inserted and move, wherein a plurality of contents movement hole 214 are formed at a lower end of the movement groove 213 such that the second contents stored in the pipette part 200 can move to the container body 100 or the mixture of the first and the second contents stored in the container body 100 can move to the contents discharge outlet 241.

[0027] The ascending/descending member 220 is configured to be coupled as encasing the opening/closing rod 211 at an inner side of the finishing cap 210 and to be ascended by rotation of the rotation body 230, further forming a hollow 223 which is opened/closed by the opening/closing rod 211.

[0028] The present invention is characterized in that a guide protrusion 224, which is inserted to a rotation guide groove 212 of the finishing cap 210 and a perpendicular guide groove 231 of the rotation body 230 for guiding the ascent/descent of the ascending/descending member 220, is formed at both sides of an outer circumferential surface of the ascending/descending member 220.

[0029] The guide protrusion 224 is configured to ascend along the rotation guide groove 212 when the rotation body 230 rotates and the perpendicular guide groove 231, and make the ascending/descending member 220 ascend.

[0030] Meanwhile, the ascending/descending member 220 includes an opening/closing tube 222 which controls a sealing tube 221, which is inserted to the movement groove 213 and ascends/descends along the wall of the movement groove 213, and regulates movement of the second contents stored in a pipette pipe 240.

[0031] The sealing tube 221, wherein an outer circumferential surface of a lower portion thereof is composed of a piston shape that is closely contacted to an inner circumferential surface of the movement groove 213, prevents contents from being leaked between an inner circumferential surface of the movement groove 213 and an outer circumferential surface of the sealing tube 221 when the ascending/descending member 220 ascends by rotation of the rotation body 230.

[0032] The opening/closing tube 222, configured to be closely contacted to an outer circumferential surface of the opening/closing rod 211 and to prevent the second contents stored in the pipette pipe 240 from moving to the container body 100, gets separated from an outer circumferential surface of the opening/closing rod 211 when the ascending/descending member 220 ascends by rotation of the rotation body 230, thereby making it possible to move the second contents stored in the pipette pipe 240 to the container body 100.

[0033] The rotation body 230, which is rotatably coupled as encasing the finishing cap 210, is characterized in the present invention to form a perpendicular guide groove 231 which is coupled to a guide protrusion 224 of the ascending/descending member 220 longitudinally along from an upper portion to a lower portion at an inner circumferential surface of the rotation body 230.

[0034] The perpendicular guide groove 231 guides a perpendicular movement of the guide protrusion 224 when the rotation body 230 rotates, thereby guiding the ascending/descending member 220 to move only upwards and downwards without being rotated.

[0035] The pipette pipe 240, forming a space where the second contents are stored, is provided with a contents discharge outlet 241 at an upper portion thereof

such that the mixture of the first and the second contents is discharged, wherein an over cap 250 which opens/closes the contents discharge outlet 241 is detachably coupled at an upper portion of the pipette pipe 240.

[0036] The present invention is characterized in that the pipette pipe 240 has a predetermined length and a tubular shape with a narrow upper portion than a lower portion. Due to this, it is possible to discharge the mixture of the first and the second contents in a shape of droplets through the contents discharge outlet 241 of the pipette pipe 240.

[0037] Meanwhile, the pipette pipe 240 is preferably made of transparent material such that the color of second contents stored in the interior thereof can be checked from the outside.

[0038] 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.

[0039] Firstly, as illustrated in Fig. 4, in a state that a main container 100 storing first contents (M1) and a pipette part 200 storing second contents (M2) are separated, the pipette part 200 is screw-coupled to a discharge part 110 of the container body 100 after a cover part 120 of the container body 100 is removed.

[0040] A guide protrusion 224 is disposed at a bottom dead point of the rotation guide groove 212 in a state of the pipette part 200 being firstly coupled to the container body 100 as in the above. This time, a lower inner circumferential surface of the opening/closing tube 222 is closely contacted to an upper outer circumferential surface of the opening/closing rod 211 and thereby prevents the second contents (M2) stored in the pipette pipe 240 from moving to a downward direction.

[0041] Next, when the rotation body 230 is rotated in a state of a lower portion of the opening/closing tube 222 being closed by the opening/closing rod 211, the guide protrusion 224 of the ascending/closing member 220 moves along the rotation guide groove 212 and the perpendicular guide groove 231, which leads the ascending/descending member 220 to ascend. As the ascending/descending member 220 ascends, and thereby a lower portion of the opening/closing tube 222 is separated from the opening/closing rod 211, the second contents (M2) stored in the pipette pipe 240 descend and flow into the container body 100 and then are mixed with the first contents (M1).

[0042] This time, the second contents (M2) stored in the pipette pipe 240 pass through the hollow 223 and flow into the interior of the container body 100 through the contents movement hole 214.

[0043] As in the above, if the first content (M1) and the second contents (M2) completes mixing, it is possible to discharge a fixed amount of the mixture (M3) of the first and the second contents stored in the container body 100 in a shape of droplets by pressurization of the container body 100 in a state of the container body 100 being upside down.

[0044] That is, the present invention is configured in that, as the ascending/descending member 220 ascends by rotation of the rotation body 230 after the container body 100 and the pipette part 200, which are separately formed, are screw-coupled, the second contents (M2) stored in the pipette pipe 240 move to the container body 100 and are mixed with first contents (M1). In addition, it is configured in that when the container body 100 is pressurized in a state of being upside down, the mixture (M3) of the first and the second contents is discharged in a shape of droplets through the contents discharge outlet 241. It is configured in that a user can use heterogeneous contents by selecting any of the second contents as needed among a plurality of the pipette parts 200 respectively storing each of the second contents by type, coupling the pipette part 200 to the container body 100, and then mixing with the first contents.

[0045] Meanwhile, as illustrated in Fig. 6, it is possible to simply constitute the container body 100 by filling the first contents (M1) into the container body 100 and coupling a cover part 120 to the discharge part 110. As illustrated in Fig. 7, it is possible to constitute the pipette part 200 with ease by placing the contents discharge outlet 241 to face downwards in a state of the contents discharge outlet 241 being closed through the over cap 250 and then by filling the second contents (M2) through an open upper portion of the pipette pipe 240 and coupling the finishing cap 210, the ascending/descending member 220, and the rotation body 230 to an upper portion of the pipette pipe 240.

[0046] That is, the present invention is configured to include the container body 100 and the pipette part 200 separately installed, such that it is easy to fill the first contents and the second contents, thereby providing not only manufacturing advantage but also providing user conveniences because the main container 100 and the pipette part 200 can be easily assembled by means of screw-coupling of the container body 100 and the pipette part 200 for mixing heterogeneous contents.

[0047] 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

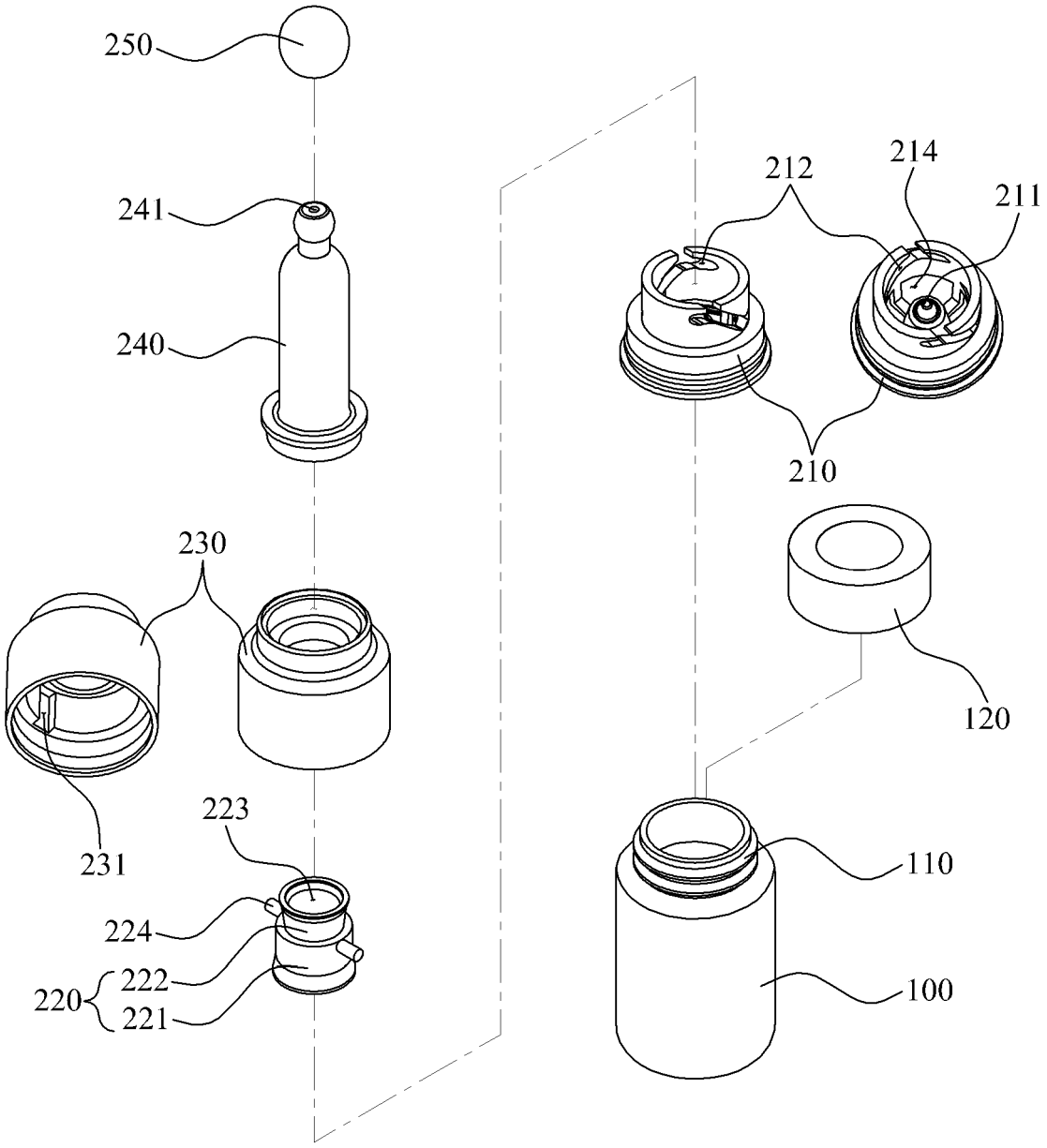
1. A mixing container for heterogeneous contents, comprising:

   a container body (100) storing first contents and provided with a discharge part (110) at an upper portion thereof for contents being discharged; and
   a pipette part (200) separately formed from the container body (100) and coupled to an upper portion of the container body (100) when being used, further comprising a finishing cap (210) which is screw-coupled to an upper portion of the discharge part (110), provided with an opening/closing rod (211) protruding upwards at a center portion thereof and further provided with a pair of rotation guide grooves (212) formed at both sides, an ascending/descending member (220) coupled to be able to ascend/descend as encasing the opening/closing rod (211) at an inner side of the finishing cap (210), further provided with a hollow (223) which is opened/closed by the opening/closing rod (211) and provided with a pair of guide protrusions (224) coupled to the rotation guide grooves (212) at both sides thereof, a rotation body (230) rotatably coupled encasing the finishing cap (210) and forms a perpendicular guide groove (231) guiding the perpendicular movement of the guide protrusion (224) at an inner circumferential surface, and a pipette pipe (240) forming a space where second contents are stored and provided with a contents discharge outlet (241) at an upper portion, wherein as the ascending/descending member (220) ascends by rotation of the rotation body (230), second contents stored in the pipette pipe (240) move to the container body (100) and are mixed with first contents, thereby, mixture of the first and the second contents being discharged in a shape of droplets the contents discharge outlet (241).

2. The mixing container for heterogeneous contents of claim 1,
   wherein a movement groove (213) is provided as encasing the opening/closing rod (211) at the finishing cap (210) such that the ascending/descending member (220) can be inserted and move, and a plurality of contents movement holes (214) are provided at a lower end of the movement groove (213) such that second contents stored in the pipette part (200) can move to the container body (100), or the mixture of the first and the second contents stored in the container body (100) can move to the contents discharge outlet (241).

3. The mixing container for heterogeneous contents of claim 2,
   wherein the ascending/descending member (220) includes a sealing tube (221) which is inserted to the movement groove (213) and ascends/descends along a wall of the movement groove (213), and an opening/closing tube (222) which is closely contacted to an outer circumferential surface of the opening/closing rod (211) and blocks the second contents stored in the pipette pipe (200) from moving to the container body and then is separated from an outer circumferential surface of the opening/closing rod (211) such that the second contents stored in the pipette pipe (240) when ascending by rotation of the rotation body (230) can move to the container body (100).

4. The mixing container for heterogeneous contents of claim 1,
   wherein the pipette pipe (240) is formed with an upper portion bigger than the upper portion such that the mixture of the first and the second contents can be discharged in shape of droplets.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120
110
100

Fig. 1

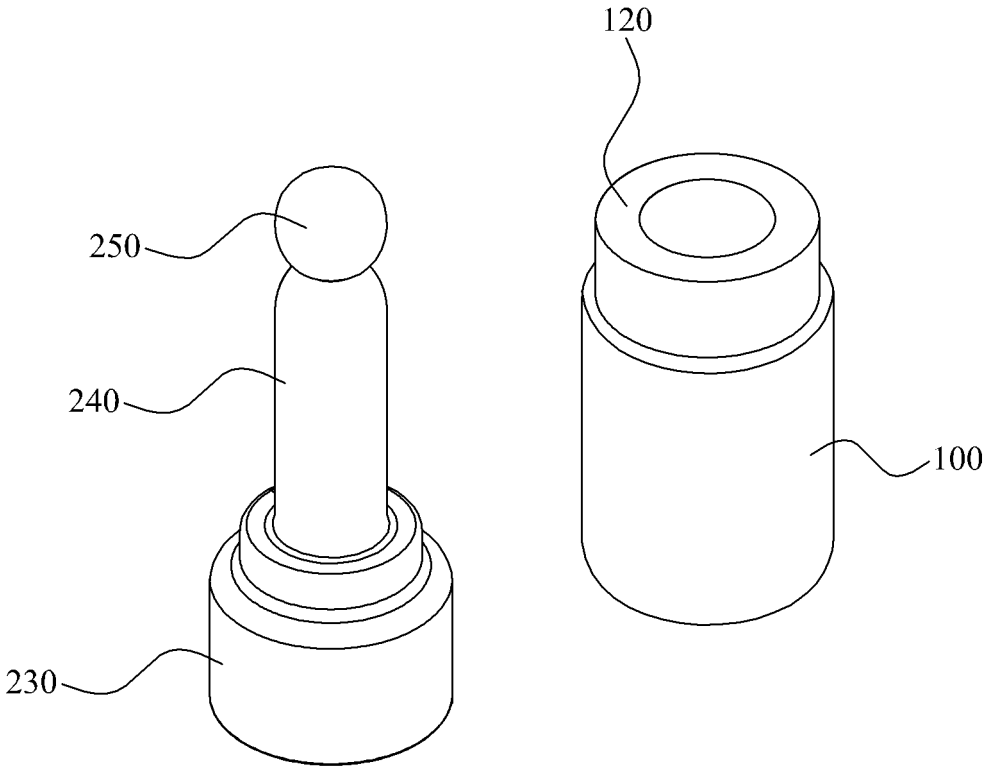

Fig. 2

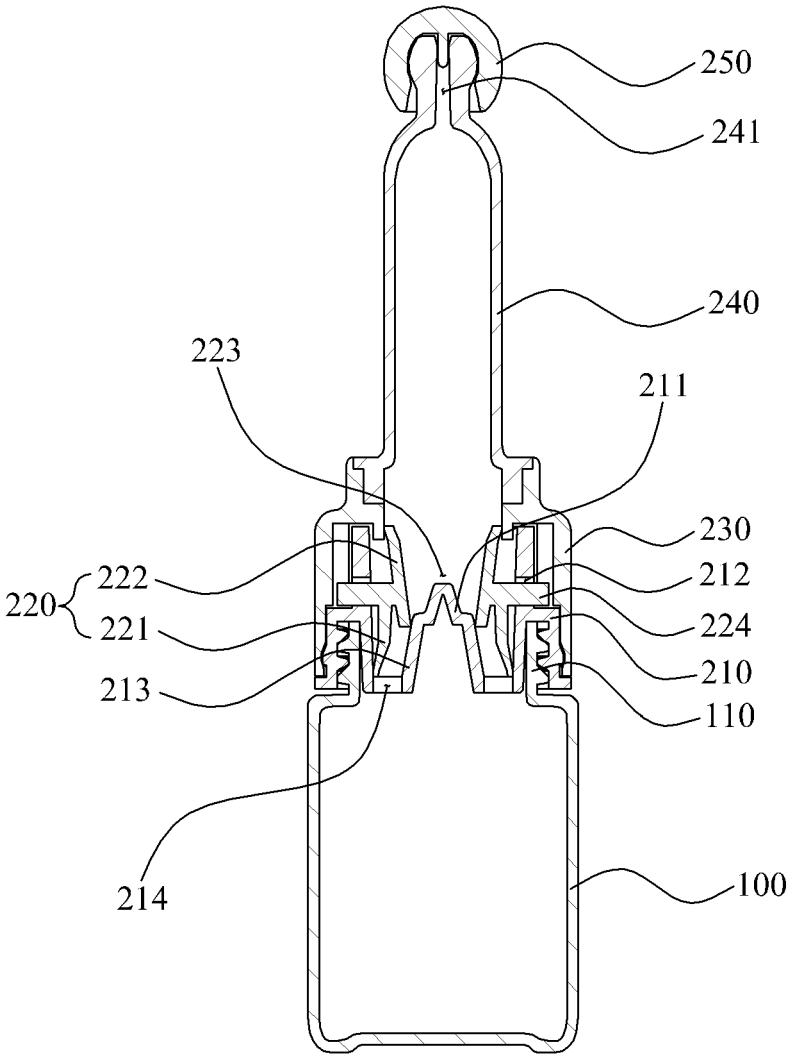

Fig. 3

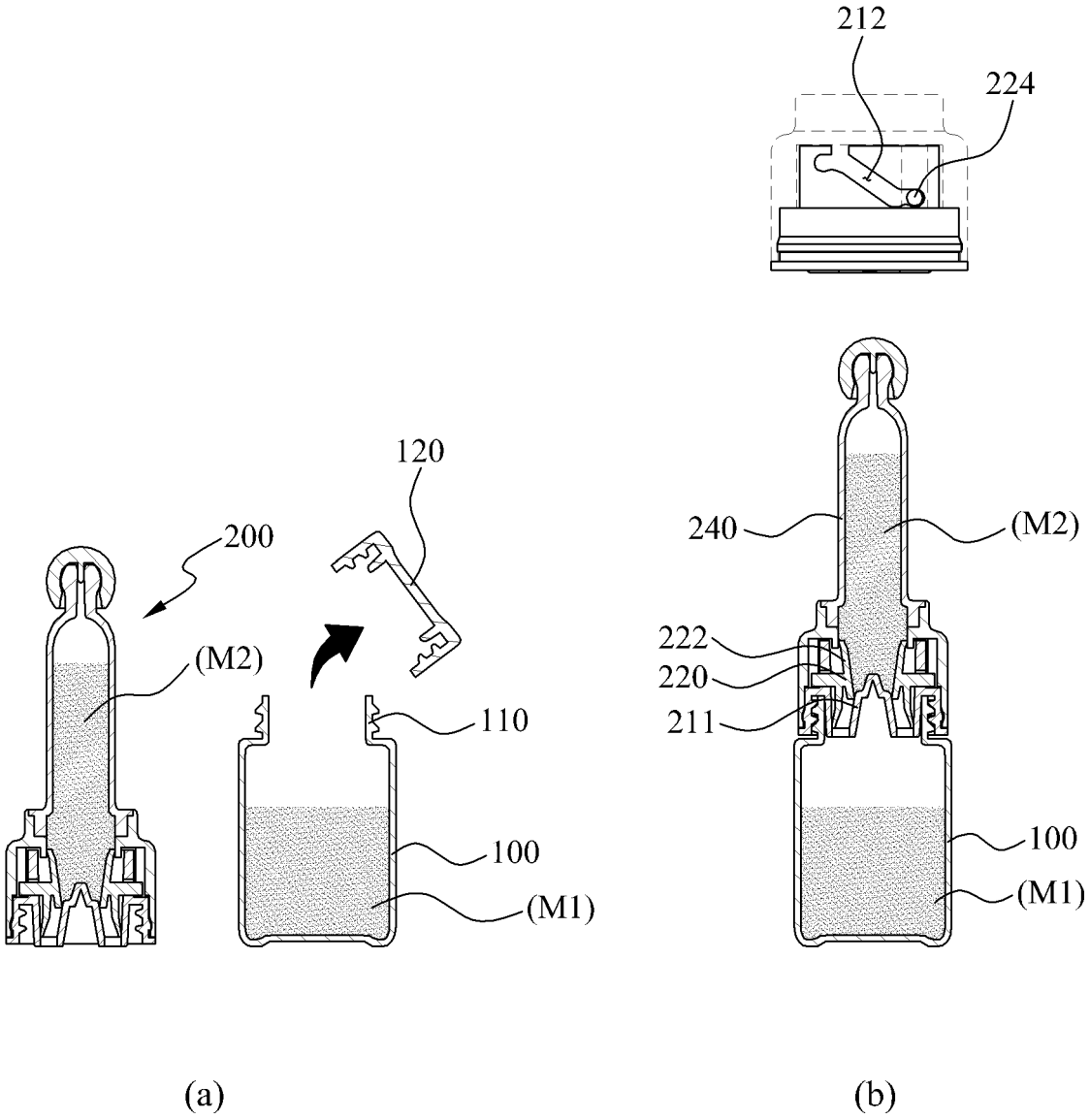

Fig. 4

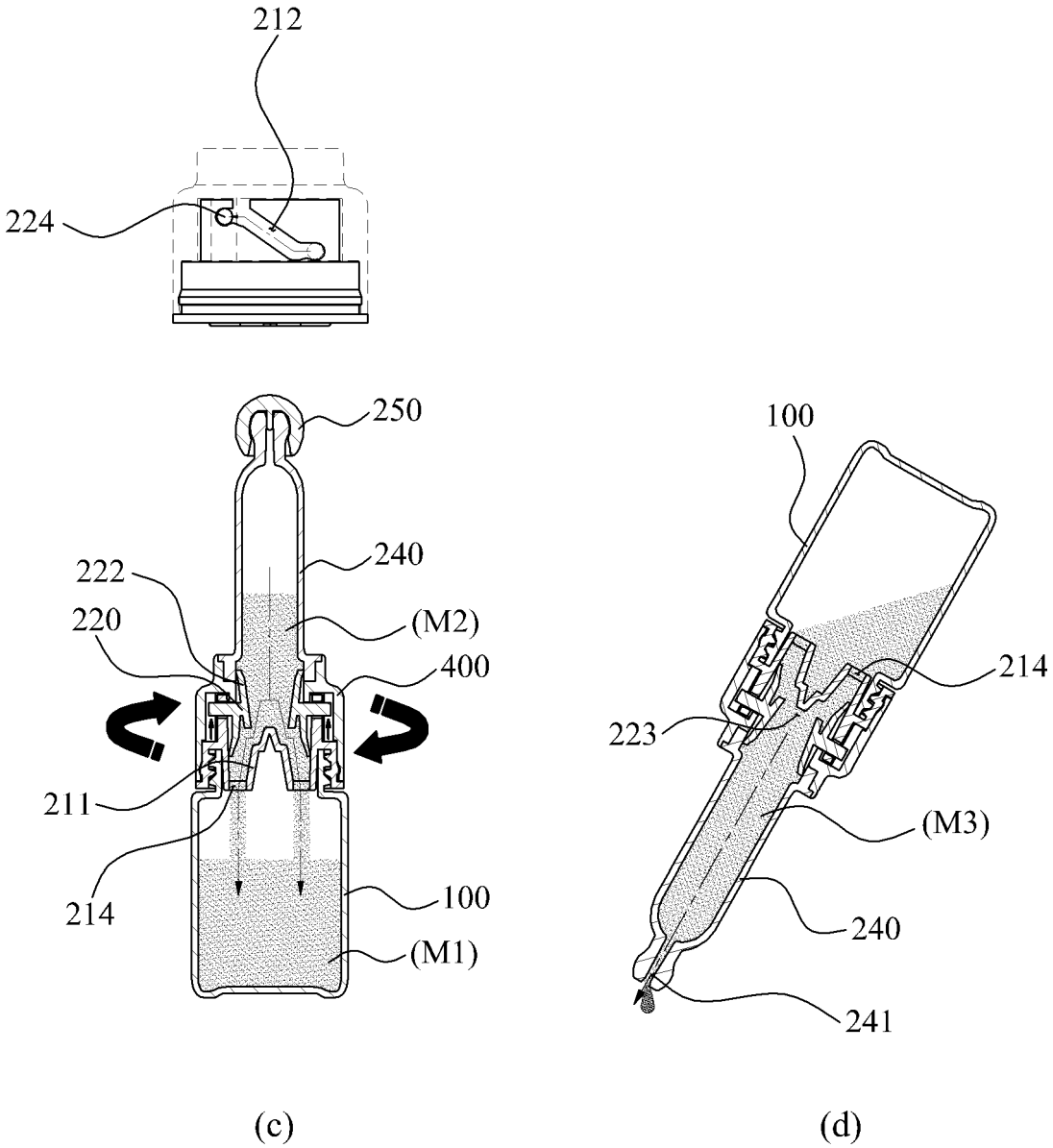
212
224
250
240
222
220
(M2)
400
211
214
100
(M1)
(c)
100
214
223
(M3)
240
241
(d)

Fig. 5

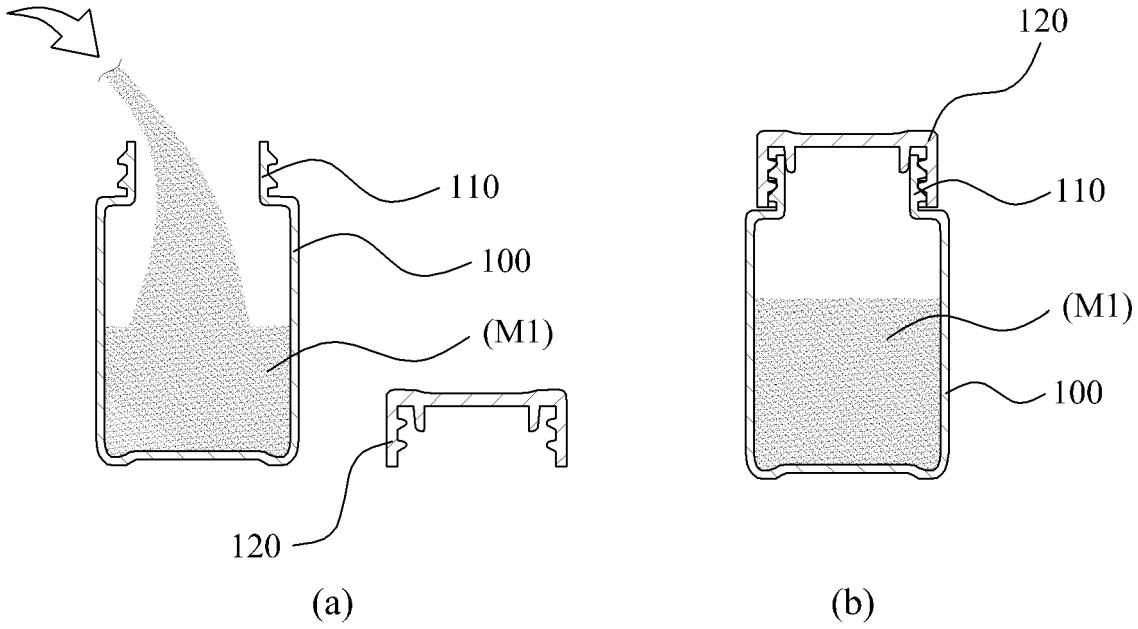

Fig. 6

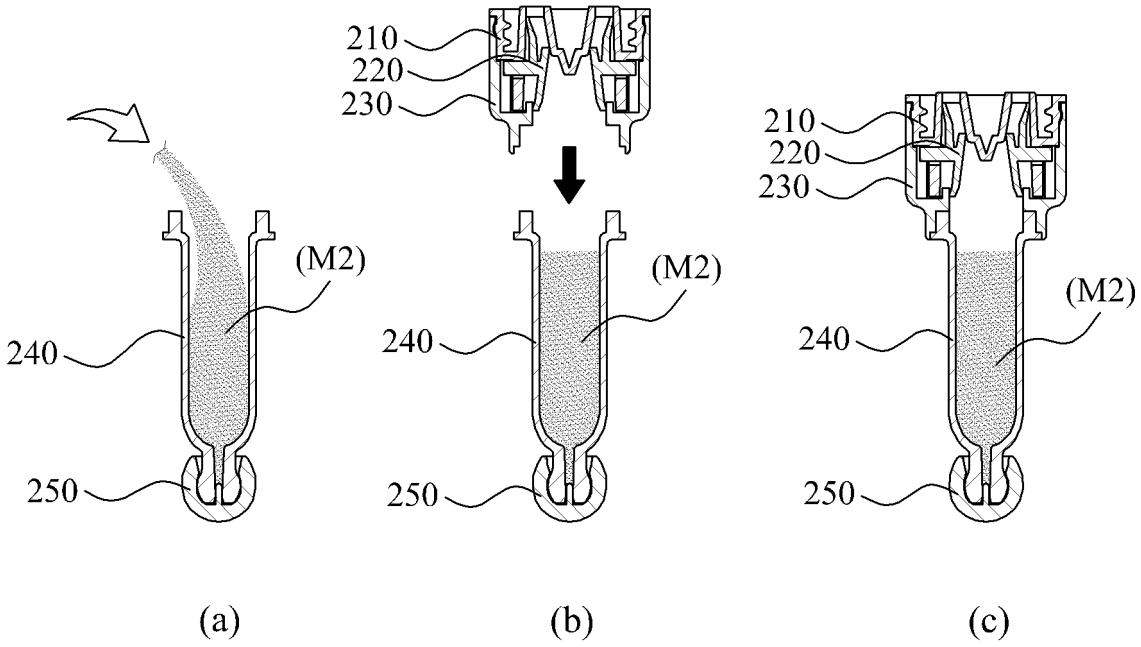

Fig. 7

INTERNATIONAL SEARCH REPORT

International application No.
PCT/KR2016/003722

A. CLASSIFICATION OF SUBJECT MATTER

B65D 51/28(2006.01)i, B65D 47/40(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 51/18; A61M 5/24; B65D 81/32; B65D 51/32; A45D 34/00; B65D 25/08; B65D 47/40

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, container main body, finishing cap, lifting member, rotation body, spoid part, opening and shutting pole, guide protrusion, vertical guide groove

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	KR 10-2013-0113548 A (YONWOO CO., LTD.) 16 October 2013 See paragraphs [0021]-[0022], [0029], [0035], [0040] and figures 1-9.	1-4
A	KR 20-0423697 Y1 (DAEWOONG CO., LTD.) 10 August 2006 See claims 1-2 and figures 1-2.	1-4
A	KR 10-2013-0000273 A (THREE APPLES COSMETICS CO., LTD.) 02 January 2013 See abstract, claim 1 and figures 1-4.	1-4
A	JP 5246792 B2 (JCR PHARMACEUTICALS CO., LTD. et al.) 24 July 2013 See claim 1 and figures 1-5.	1-4
A	KR 20-0476609 Y1 (AMOREPACIFIC CORPORATION) 18 March 2015 See abstract, claim 1 and figures 3-7.	1-4

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

* Special categories of cited documents:
"A" document defining the general state of the art which is not considered to be of particular relevance
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"&" document member of the same patent family

Date of the actual completion of the international search	Date of mailing of the international search report
12 AUGUST 2016 (12.08.2016)	**12 AUGUST 2016 (12.08.2016)**

Name and mailing address of the ISA/KR
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Facsimile No. 82-42-472-7140

Authorized officer

Telephone No.

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

INTERNATIONAL SEARCH REPORT
Information on patent family members

International application No.
PCT/KR2016/003722

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