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(54) **Container capable of mixing multiple materials**

(57) A container (3) capable of mixing multiple materials comprises a body (31) and a controlling device (32) movably disposed inside the body (31). An accommodating area (311) for storing a main material (M0) and a storage area (312) adjacent to the accommodating area (311) are formed in the body (31). A partitioning wall (313) is disposed to divide the storage area (312) into a plurality of rooms (S) for storing multiple additive materials (M1, M2, M3). The controlling device (32) includes a baffle (321) which blocks the storage area (312) off whereby the main material (M0) and additive materials (M1, M2, M3) are separated without mixing. By a movement of the controlling device (32), the storage area (312) is not blocked by the baffle (321), which allows the rooms (S) to communicate with the accommodating area (311) and allows multiple materials in the two areas (311, 312) to mix together. Therefore, the mixture with a variety of materials is provided, and the convenience in the use is increased.

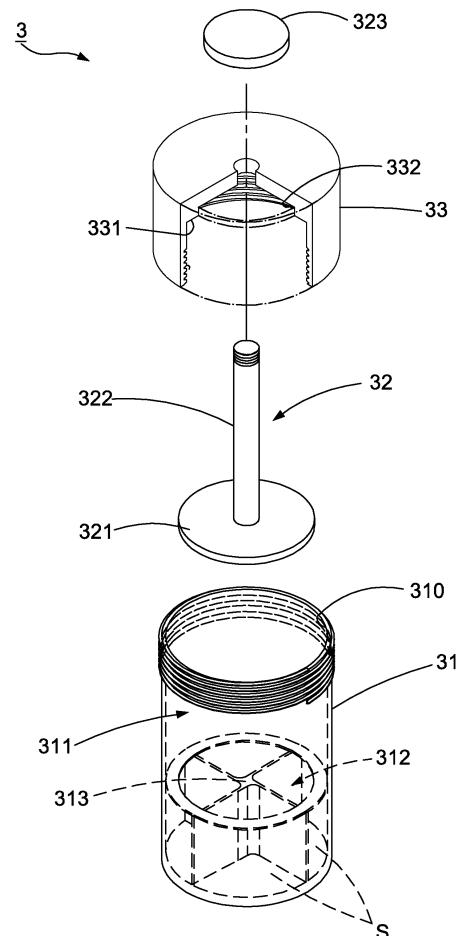


FIG. 3

Description

BACKGROUND OF THE INVENTION

1. Field of the Invention

[0001] This invention relates to a container, particularly to a container capable of mixing multiple materials.

2. Description of the Related Art

[0002] Generally, a prior container can merely store one kind of beverages. If a user wants to make an exclusive beverage, he should mix different beverages in different containers together. Therefore, there is a container capable of mixing materials invented to meet the demand.

[0003] Referring to Fig. 1, a US published application no. US20060076353 disclosing a cap structure for a container outlet comprises a bottle 11, a cap 12 disposed on the bottle 11 and a block 13 disposed on the cap 12. An accommodating space 111 is formed in the bottle 11 and filled with a first liquid beverage a, a mouth 112 is formed on a top of the bottle 11 for communicating the accommodating space 111 with an outside, and a connecting portion 113 is formed on an outer periphery of the mouth 112. A top surface 121 of the cap 12 is a closed end, and a bottom surface 122 thereof is an open end. The top surface 121 and the bottom surface 122 are integrally connected by a side surface 123. A hollow space 124 is enclosed by an upper interior of the cap 12, and a hollow communication channel 125 in the proximity of the bottom surface 122 is enclosed by a lower interior of the cap 12. The block 13 is located between the hollow space 124 and the communication channel 125. Consequently, another solid or liquid material b is placed into the hollow space 124. The block 13 blocks the space 124 off to prevent the leakage of the material b. The communication channel 125 of the cap 12 is then coupled to the connecting portion 113 of the bottle 11 to complete a combination. Referring to Fig. 2, while mixing, the user imparts a downward rotating force to the cap 12 and the block 13 is pushed away from the cap 12 by an upward pushing force of the mouth 112 and the connecting portion 113 of the bottle 11. Therefore, the hollow space 124 communicates with the accommodating space 111 to allow the material b in the cap 12 to flow into the bottle 11 and mix with the first liquid beverage a, thereby completing a mixed beverage.

[0004] However, there is only one material b (solid or liquid) to fill the cap 12, so a mixture made by mixing three or more materials cannot be attained. Therefore, the variety of beverages caused by the prior cap 1 is restricted. Further, the cap 12 and the bottle 11 are usually coupled with each other in advance before being sold, with a gap formed between the cap 12 and the bottle 11. To do the mixing action, only a downward force imparted to the cap 12 is sufficient to make the mouth 112 push

the block 13 upwardly. Since the cap 12 is always naked during the conveyance or the naked cap 12 is on view at the shop shelves, the material b in the cap 12 may flow into the bottle 11 unexpectedly and mix with the first liquid beverage a beforehand when there is a downward external force imparting to the cap 12 improperly. Thus, the first liquid beverage a may lose the freshness of sensation in the mouth before the user drinks it and the consumer's purchase desire may also be decreased.

SUMMARY OF THE INVENTION

[0005] The object of this invention is to provide a container capable of mixing multiple materials which isolates different materials before the mixing action and allows a quick mixing effect of various materials, thereby providing a mixture with a variety of materials and increasing the convenience in the use.

[0006] Accordingly, the container capable of mixing multiple materials in accordance with this invention comprises a body and a controlling device movably disposed in the body. An interior of the body forms an accommodating area for storing a main material and a storage area adjacent to the accommodating area. A partitioning wall is disposed in the interior of the body for dividing the storage area into a plurality of rooms where multiple additive materials are respectively stored. The controlling device includes a baffle in contact with the partitioning wall for blocking the storage area, a shank connected to the baffle and extending out of the body, and a press plate connected to the shank. By using the baffle, the main material and additive materials are separated before mixing. When a movement of the shank is activated, the baffle stops blocking the storage area off whereby the additive materials in the rooms mix with the main material in the accommodating area to increase the convenience in the use and attain a variety of beverages by adding different substances into the main material.

[0007] Preferably, the body can be covered with a cap, thereby preventing the occurrence of an unexpected mixing action caused by the improper external force.

[0008] Preferably, the body forms an opening communicating with the accommodating area. The cap comprises a bottom surface for covering the opening of the body and a recess formed on the bottom surface for accommodating the baffle of the controlling device.

[0009] Preferably, a neck portion adjacent to the baffle is recessedly formed on the shank.

[0010] Preferably, the body comprises an accommodating part whose interior forms the accommodating area and a storage part whose interior forms the storage area. The accommodating part and the storage part are combined together. The accommodating part forms an opening communicating with the accommodating area. The partitioning wall is disposed inside the storage part for dividing the storage area into the rooms.

[0011] Preferably, the body comprises an accommodating part whose interior forms the accommodating area

and a storage part whose interior forms the storage area. Two ends of the storage part are connected to the accommodating part and the cap respectively. The accommodating part forms an opening communicating with the accommodating area. The partitioning wall is disposed inside the storage part for dividing the storage area into the rooms.

[0012] The advantages of this invention over the known prior arts are more apparent to those of ordinary skilled in the art upon reading following descriptions in conjunction with the accompanying drawings.

BRIEF DESCRIPTION OF THE DRAWINGS

[0013]

Fig. 1 is a schematic view showing a US published application no. 20060076353;
 Fig. 2 is a schematic view of Fig.1 in use;
 Fig. 3 is an exploded view showing a first preferred embodiment of this invention;
 Fig. 4 is a schematic view showing the first preferred embodiment in use;
 Fig. 5 is an exploded view showing a second preferred embodiment of this invention;
 Fig. 6 is a schematic view showing the second preferred embodiment in use;
 Fig. 7 is an exploded view showing a third preferred embodiment of this invention;
 Fig. 8 is an exploded view showing a fourth preferred embodiment of this invention;
 Figs. 9-10 are schematic views showing the operation of the fourth preferred embodiment of this invention before the mixing action; and
 Fig. 11 is a schematic view of the fourth preferred embodiment in use.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

[0014] Referring to Fig. 3 and Fig. 4, a container 3 of a first preferred embodiment of this invention comprises a body 31 and a controlling device 32 movably disposed in an interior of the body 31. In this preferred embodiment, the body 31 can be covered with a cap 33 whereby the covering effect of the cap 33 prevents the controlling device 32 from being actuated by an improper external force and prevents different materials from mixing beforehand. Furthermore, the body 31 can be designed by a single-tube structure as shown in Fig. 3 and Fig. 5 or designed by a combination structure as shown in Fig. 7 and Fig. 8. In this preferred embodiment, the body 31 with a single tube structure is described as an example, wherein the body 31 forms an opening 310 so that the opening 310 of the body 31 can be covered with the cap 33 directly. The opening 310 communicates with an accommodating part 311 in the body 31. An interior of the body 31 forms an accommodating area 311 for storing a main material

M0 and a storage area 312 adjacent to the accommodating area 311. A partitioning wall 311 is disposed inside the body 31 for dividing the storage area 312 into a plurality of rooms S where a plurality of additive materials M1, M2, M3 are stored. For example, the storage area 312 is divided into four rooms S in all embodiments of this invention. When the controlling device 32 stops blocking the storage area 312, the rooms S communicate with the accommodating area 311.

[0015] With respect to the controlling device 32, it can control the communication relationship between the storage area 312 and the accommodating area 311. The controlling device 32 includes a baffle 321 in contact with the partitioning wall 313 for blocking the storage area 312 off, a shank 322 connected to the baffle 321 and extending out of the body 31, and a press plate 323 connected to the shank 322. A movement of the shank 322 drives the baffle 321 to move, and the baffle 321 is separated from the partitioning wall 313 whereby the storage area 312 communicates with the accommodating area 311 and the additive materials M1, M2, M3 in the rooms S mix with the main material M0 in the accommodating area 311. In addition, the cap 33 can comprise a bottom surface 331 for covering the opening 310 of the body 31 and a recess 332 formed on the bottom surface 331 for accommodating the baffle 321 of the controlling device 32, as shown in Fig. 4.

[0016] Referring to Fig. 4, to prepare a mixed beverage with multiple materials, a user puts multiple solid or liquid additive materials M1, M2, M3 into the rooms S respectively and rests the baffle 321 against the partitioning wall 313 closely to block off the rooms S of the storage area 312, thereby isolating the storage area 312 from the accommodating area 311 under the blocking effect of the baffle 321. A main material M0, e.g. a main liquid beverage, is then put into the accommodating area 311. Therefore, the separation of different solid or liquid materials without mixing is achieved to maintain the freshness of the materials. Finally, the shank 322 penetrates through and extends out of the cap 33 whereby the cap 33 covers the body 31 and closes the opening 310. After the penetration, the press plate 323 is fitly in close contact with the top surface of the cap 33 to prevent the press plate 323 from being subjected to any improper external force and prevent the main material M0 from mixing with the additive materials M1, M2, M3 before a formal mixing action. From above, the preparation of the mixed beverage is done, and the container 3 for mixing different beverages can be in a mass production and be on view at the shop shelves for selling.

[0017] When the user wants to drink the beverage, he needs to pull the press plate 323 outwards, as arrowed in Fig. 4, in order to emerge the shank 322 from the cap 33. The baffle 321 synchronizes with the movement of the shank 322, leaves the partitioning wall 313 and then enters the recess 332 of the cap 33. Once the baffle 321 moves away from the partitioning wall 313, the rooms S communicate with the accommodating area 311 to allow

the main material **M0** in the accommodating area **311** to enter the storage area **312** and mix with the additive materials **M1**, **M2**, **M3** in the rooms **S**. Thereafter, the user can hold the body **31** and shake it up and down to mix the materials evenly and form a mixed beverage. The user opens the cap **33** and pours the mixed beverage of the body **31** into a cup for drinking. The user can also put his mouth on the opening **310** of the body **31** to drink the mixed beverage directly. Consequently, the present container **3** attains a quick and even mixing effect of multiple materials, thereby providing a mixture with a variety of materials and increasing the convenience in the use.

[0018] Referring to Fig. 5 and Fig. 6, a second preferred embodiment of this invention still comprises a body **31**, a cap **33** and a controlling device **32**. The concatenation of correlated elements, operations and effects of the second embodiment are the same as those of the first embodiment. Particularly, in the embodiment, a neck portion **324** adjacent to the baffle **321** is recessedly formed on the shank **322** of the controlling device **32**. When the baffle **321** driven by the shank **322** moves into the recess **322**, the user snaps off the shank **322** at the neck portion **324** to shorten the length of the shank **322** emerging from the cap **33**. Thus, the action of shaking the body **31** to mix the beverage evenly is not affected. The convenience in the use is also increased.

[0019] Referring to Fig. 7, a third preferred embodiment of this invention still comprises a body **31** and a controlling device **32**. The concatenation of correlated elements is the same as the first embodiment, which is herein omitted. The third embodiment is disposed without cooperating with a cap **33**. Alternatively, the present container can also be disposed to cooperate with a cap **33**, as shown in Fig. 8 denoting the fourth preferred embodiment. The function of the cap **33** is to prevent the controlling device **32** from being subjected to any improper external force and prevent an unexpected mixing action before the practical use. Herein, only the structure with a cap **33** is described as an example. The third preferred embodiment and the fourth preferred embodiment are characterized in that the body **31** is formed in a combination configuration. The body **31** comprises an accommodating part **31A** whose interior forms the accommodating area **311** and a storage part **31B** whose interior forms the storage area **312**. The accommodating part **31A** and the storage part **31B** are combined together. When the cap **33** is applied, two ends of the storage part **31B** are connected to the accommodating part **31A** and the cap **33** respectively. The accommodating part **31A** forms an opening **310** communicating with the accommodating area **311**. The partitioning wall **313** is disposed inside the storage part **31B** for dividing the storage area **312** into a plurality of rooms **S**. To prepare a mixed beverage with multiple materials, the accommodating part **31A** and the storage part **31B** are separated first to begin their preparation steps. For the preparation step of the storage part **31B**, the user puts solid or liquid additive materials **M1**, **M2** (shown in Fig. 11) into the rooms **S** of

the storage part **31B** and pulls the press plate **323** outwards as arrowed in Fig. 9, whereby the baffle **321** is in close contact with the partitioning wall **313**. As shown in Fig. 10, the baffle **321** blocks the bottom of the storage area **312** to close the rooms **S** densely, which isolates the storage area **312** from the accommodating area **311**. For the preparation step of the accommodating part **31A**, a main material **M0**, e.g. a main liquid beverage shown in Fig. 11, is put into the accommodating area **311**. After completing the above preparation steps, one end of the storage part **31B** is connected to the accommodating part **31A**, and the other end of the storage part **31B** is covered with the cap **33**, whereby the press plate **323** of the controlling device **32** is not pressed by any improper external force and the materials do not mix unexpectedly or mix beforehand.

[0020] Referring to Fig. 11, when the user wants to drink the beverage, he needs to open the cap **33** to make the press plate **323** of the controlling device **32** expose to the outside. The user imparts a downward force to the press plate **323** and drives the baffle **321** to move downwards whereby the baffle **321** is not in contact with the partitioning wall **313**. Therefore, the additive materials **M1**, **M2** in the rooms **S** can enter the accommodating area **311** to mix with the main material **M0**. By the subsequent shaking action, the container **3** can also attain a quick and even mixing action with a variety of materials and increase the convenience in the use.

[0021] To sum up, the container capable of mixing multiple materials takes advantage of the controlling device movably disposed in the body to block and separate different materials in the body before the mixing action. When the mixing action starts, the movement of the baffle of the controlling device stops blocking the storage area off, thereby attaining a quick mixing effect of multiple materials, proving a mixture with different sorts of materials and increasing the convenience in the use.

[0022] While the embodiments in accordance with this invention are shown and described, it is understood that further variations and modifications may be made without departing from the scope of the invention.

Claims

1. A container (3) capable of mixing multiple materials comprising a body (31) in which a main material (M0) is stored;
characterized in that a controlling device (32) is movably disposed in an interior of said body (31), said interior of said body (31) forming an accommodating area (311) for storing said main material (M0) and a storage area (312) adjacent to said accommodating area (311), a partitioning wall (313) being disposed in said interior of said body (31) for dividing said storage area (312) into a plurality of rooms (S) where a plurality of additive materials (M1, M2, M3) are respectively stored, said controlling device (32)

including a baffle (321) in contact with said baffle (321) for blocking said storage area (312), a shank (322) connected to said baffle (321) and extending out of said body (31) and a press plate (323) connected to said shank (322), a movement of said shank (322) driving said baffle (321) to separate said baffle (321) from said partitioning wall (313) whereby said storage area (312) communicates with said accommodating area (311) and said additive materials (M1, M2, M3) in said rooms (S) mix with said main material (M0) in said accommodating area (311).

2. The container (3) capable of mixing multiple materials as claimed in claim 1, wherein said body (31) is covered with a cap (33).
3. The container (3) capable of mixing multiple materials as claimed in claim 2, wherein said body (31) forms an opening (310) communicating with said accommodating area (311), said cap (33) comprising a bottom surface (331) for covering said opening (310) of said body (31) and a recess (332) formed on said bottom surface (331) for accommodating said baffle (321) of said controlling device (32).
4. The container (3) capable of mixing multiple materials as claimed in claim 3, wherein a neck portion (324) adjacent to said baffle (321) is recessedly formed on said shank (322).
5. The container (3) capable of mixing multiple materials as claimed in claim 1, wherein said body (31) comprises an accommodating part (31A) whose interior forms said accommodating area (311) and a storage part (31B) whose interior forms said storage area (312), said accommodating part (31A) and said storage part (31B) being combined together, said accommodating part (31A) forming an opening (310) communicating with said accommodating area (311), said partitioning wall (313) being disposed inside said storage part (31B) for dividing said storage area (312) into said rooms (S).
6. The container (3) capable of mixing multiple materials as claimed in claim 2, wherein said body (31) comprises an accommodating part (31A) whose interior forms said accommodating area (311) and a storage part (31B) whose interior forms said storage area (312), two ends of said storage part (31B) being connected to said accommodating part (31A) and said cap (33) respectively, said accommodating part (31A) forming an opening (310) communicating with said accommodating area (311), said partitioning wall (313) being disposed inside said storage part (31B) for dividing said storage area (312) into said rooms (S).

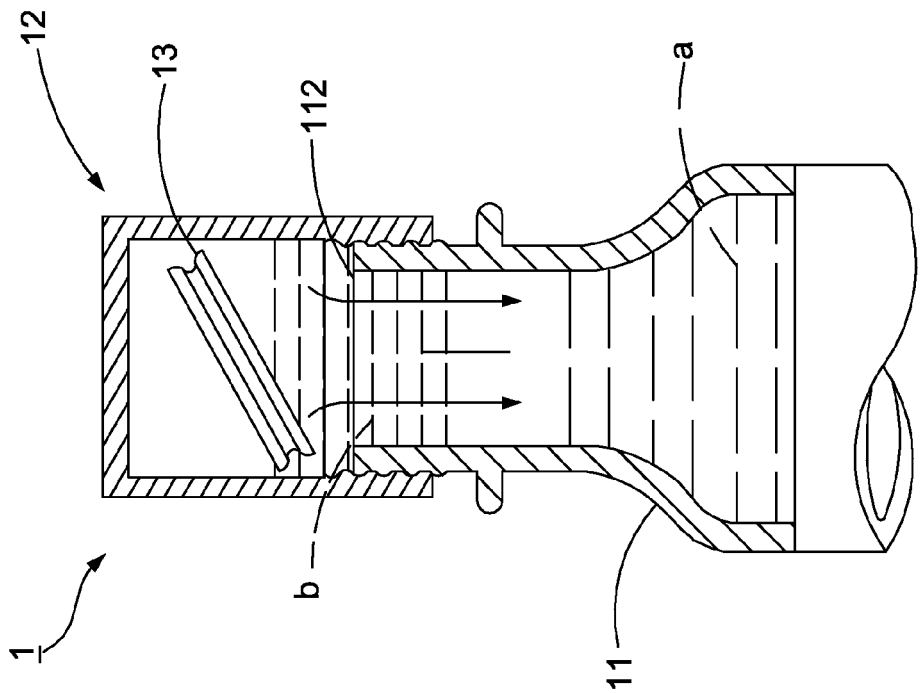


FIG. 2 (PRIOR ART)

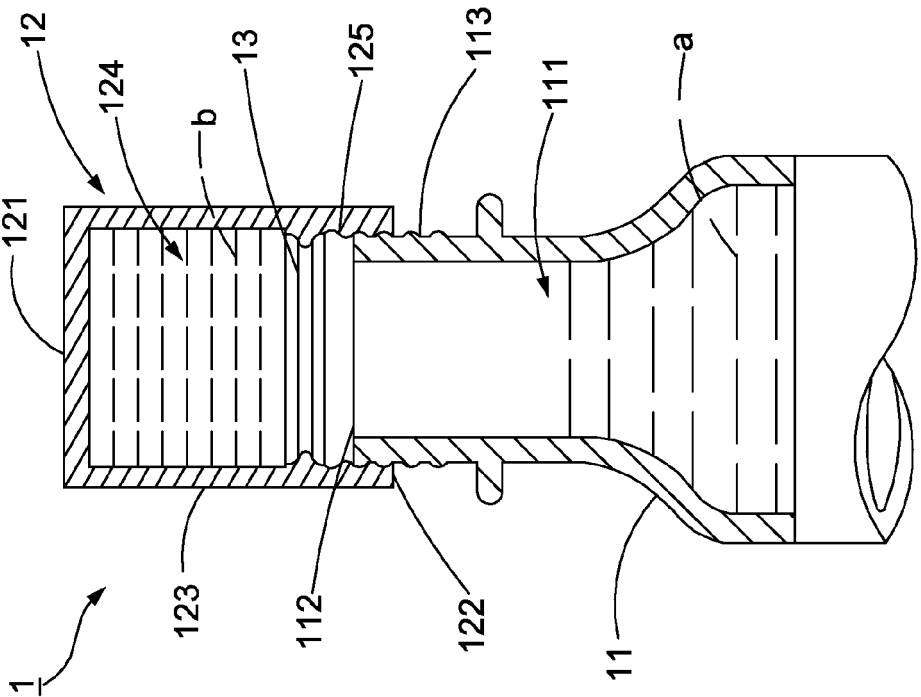


FIG. 1 (PRIOR ART)

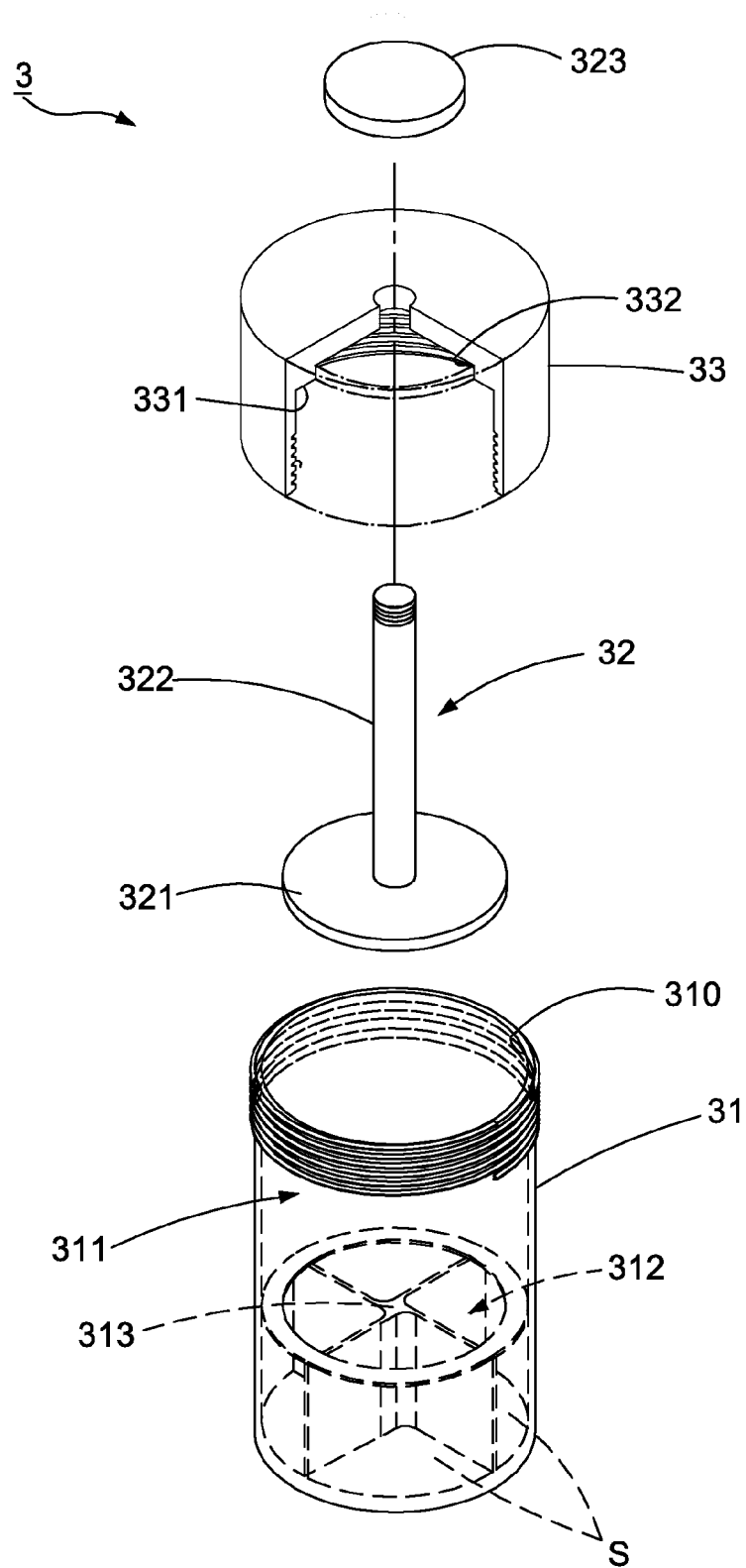


FIG. 3

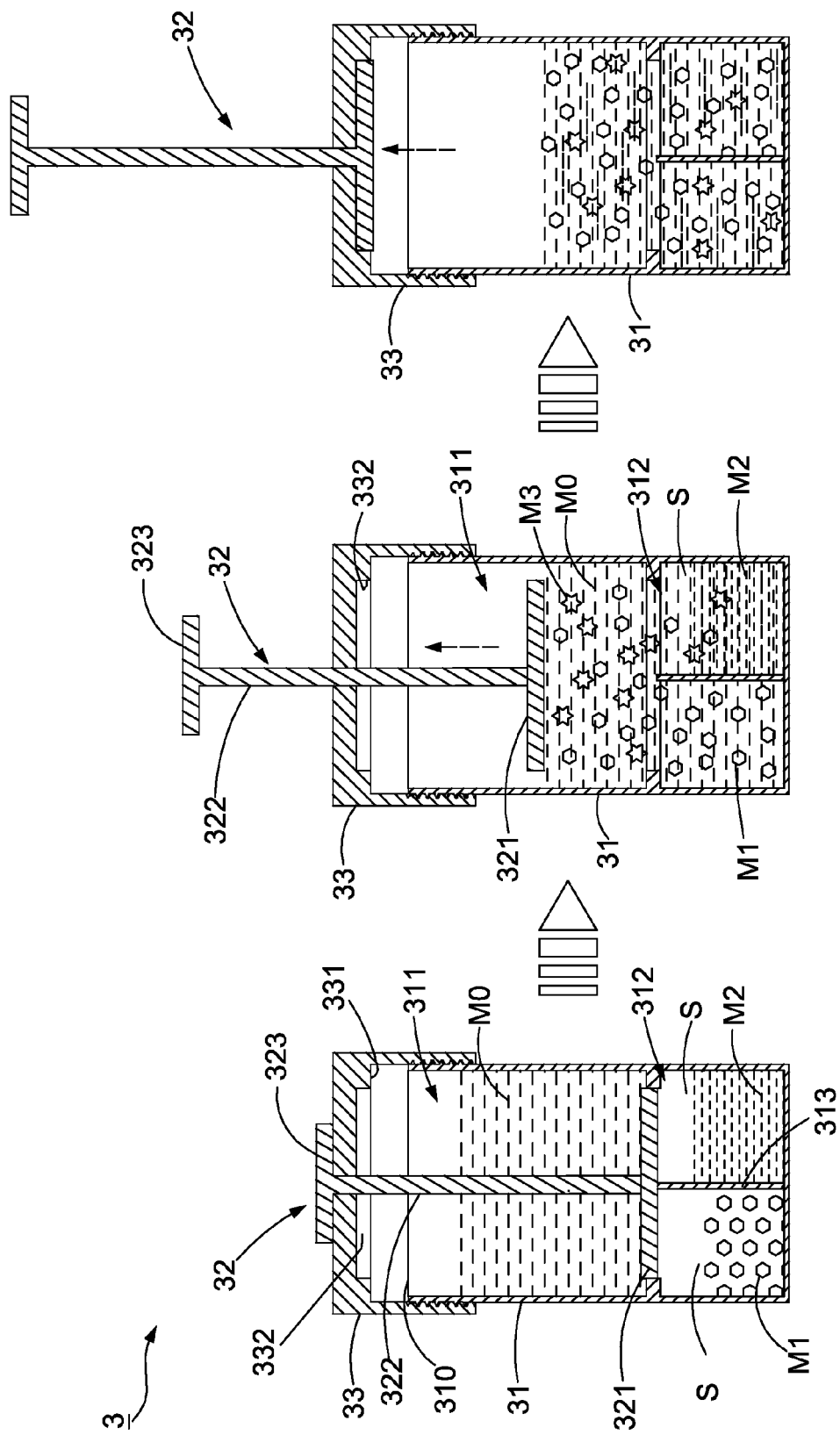


FIG. 4

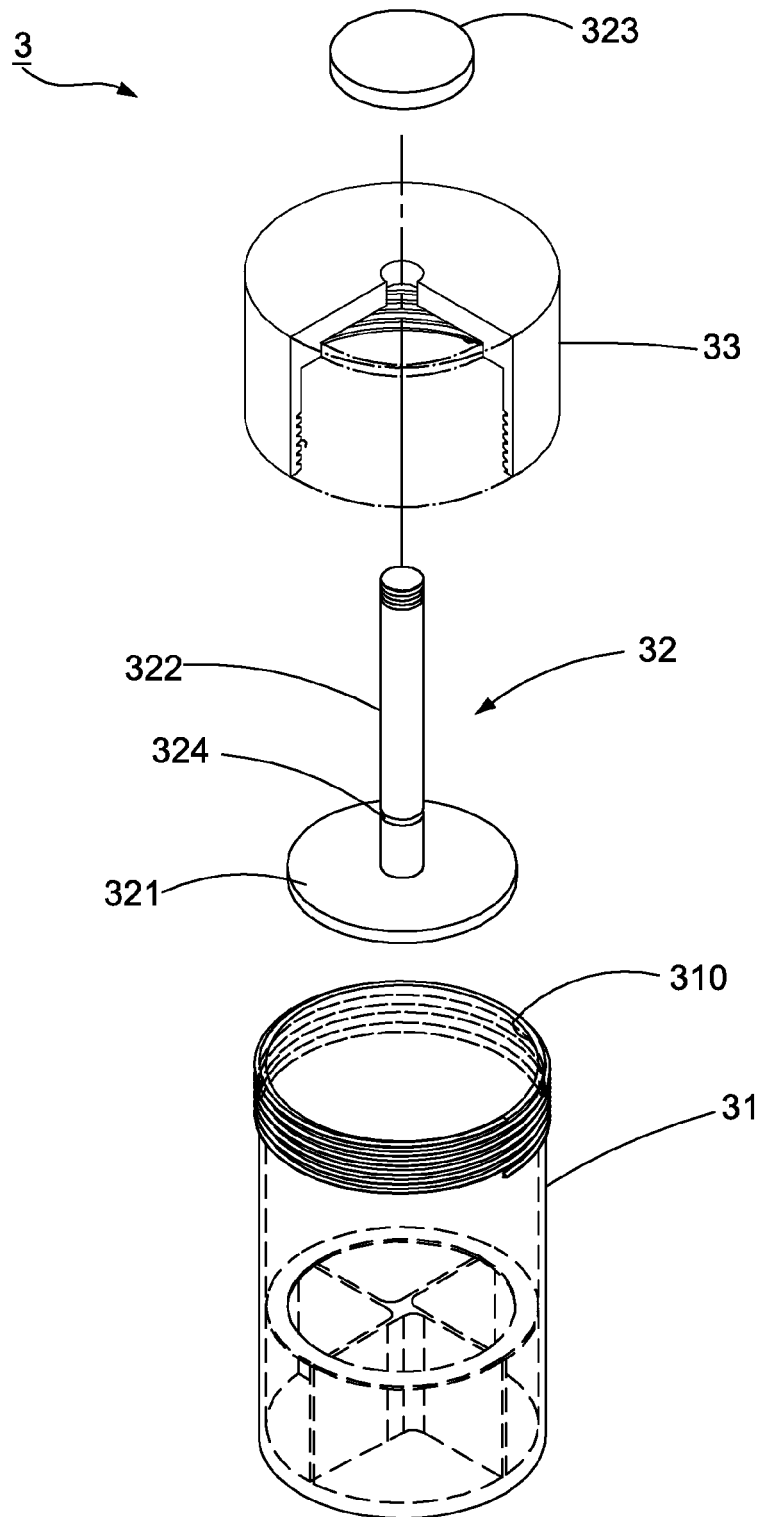


FIG. 5

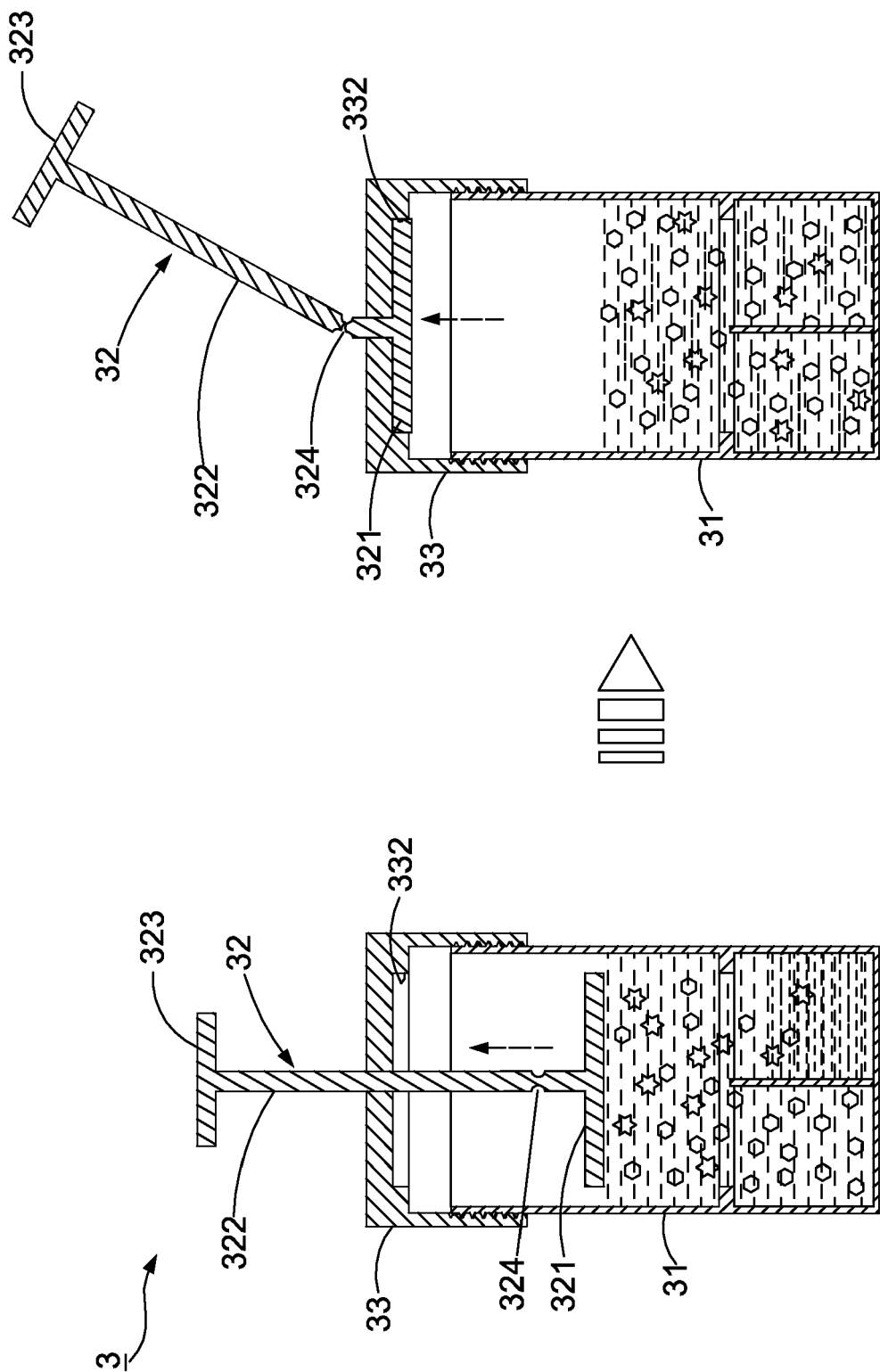


FIG. 6

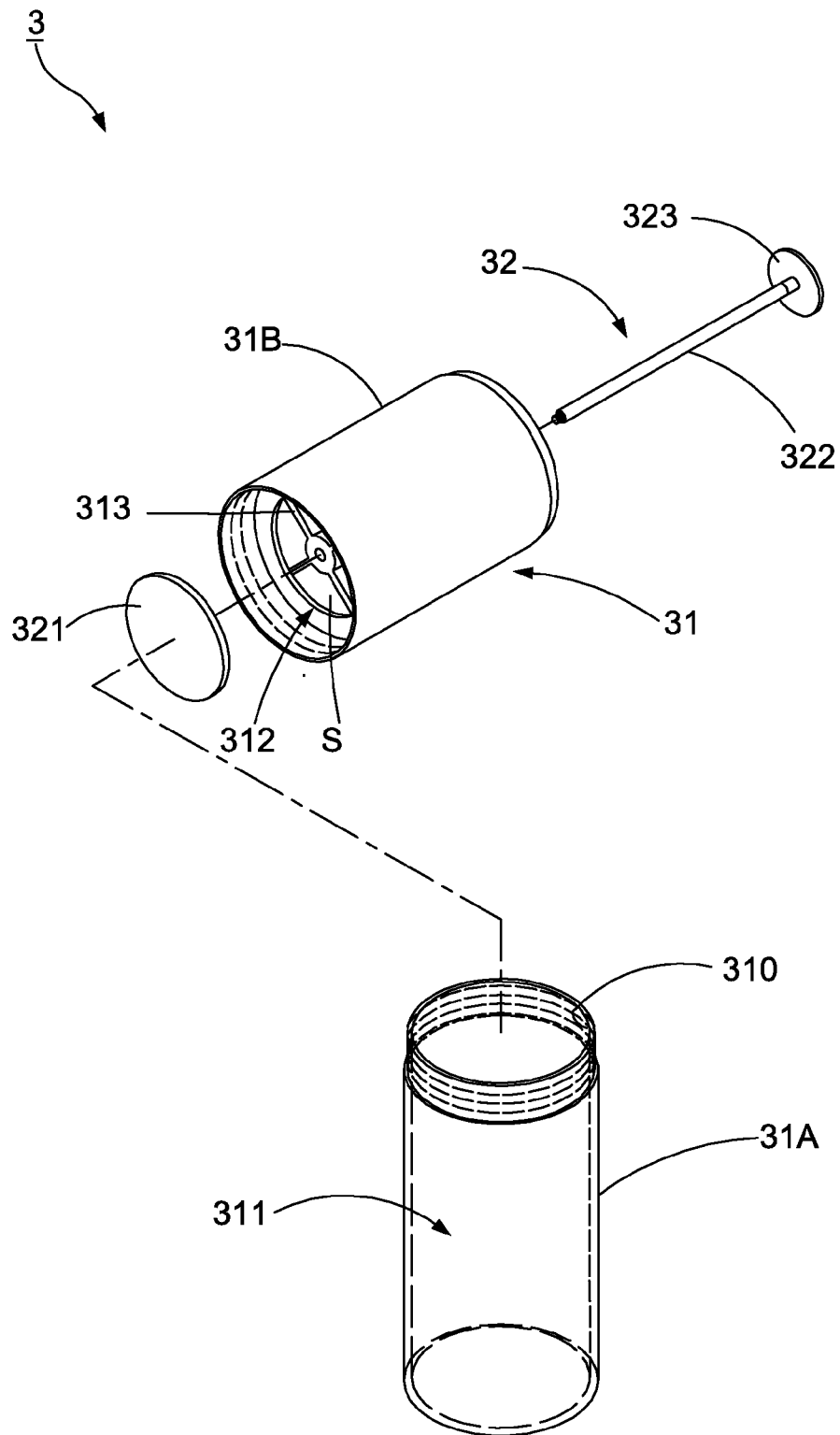


FIG. 7

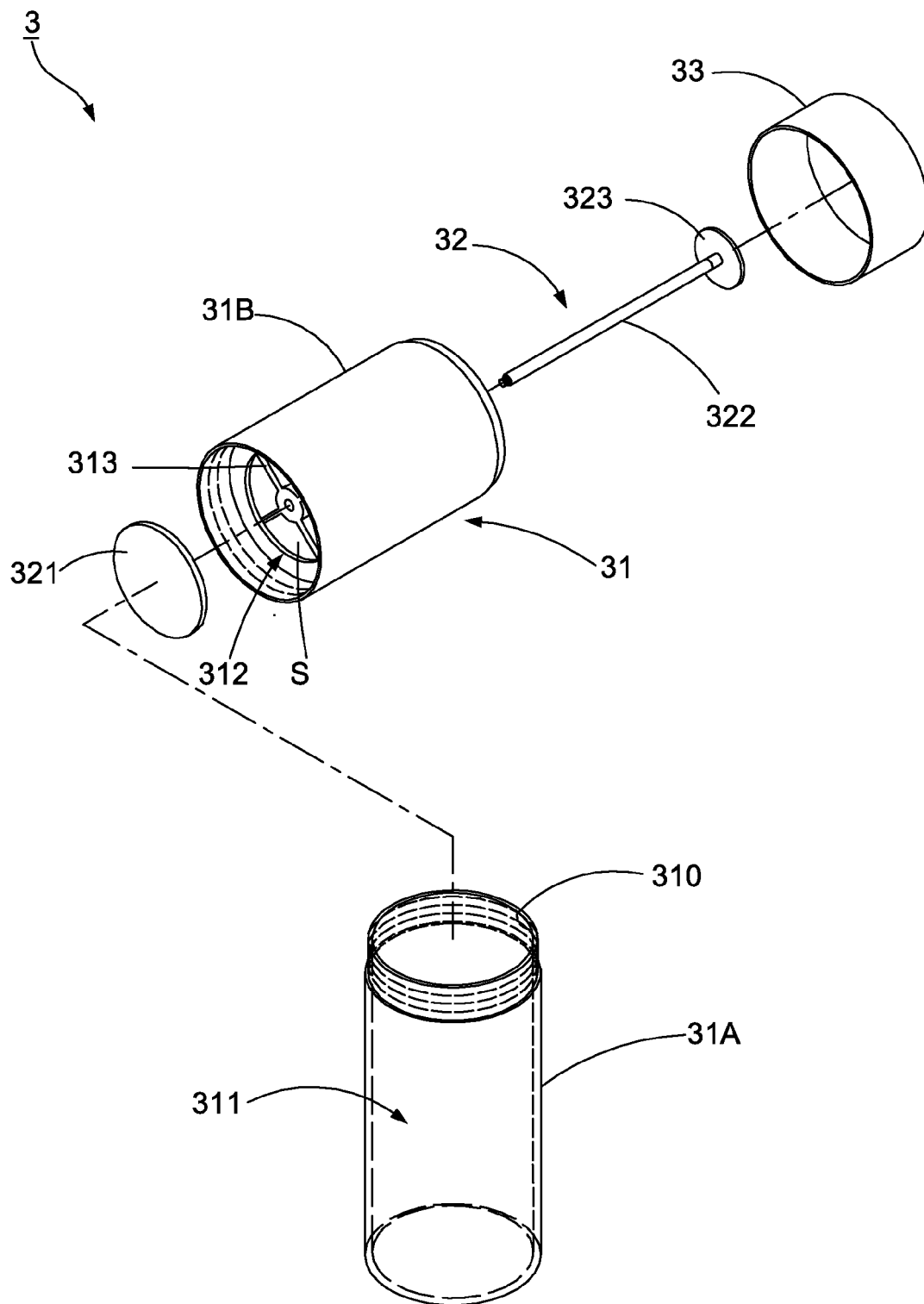


FIG. 8

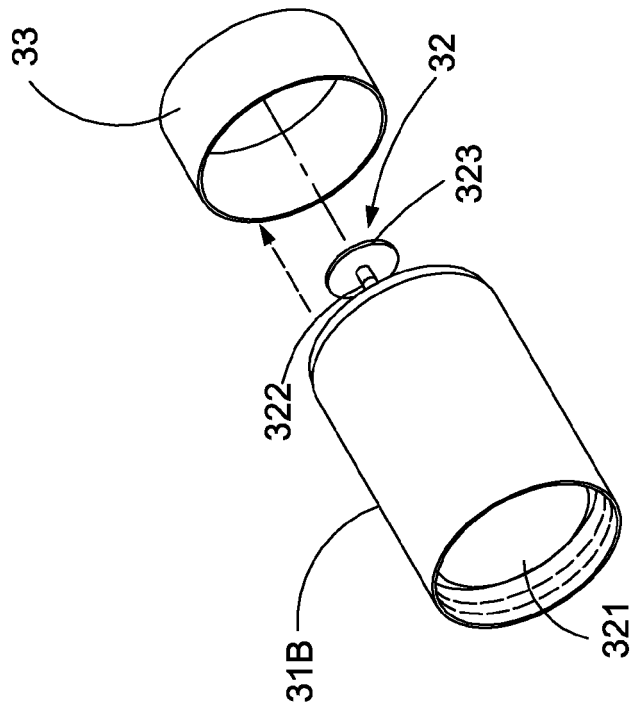


FIG. 10

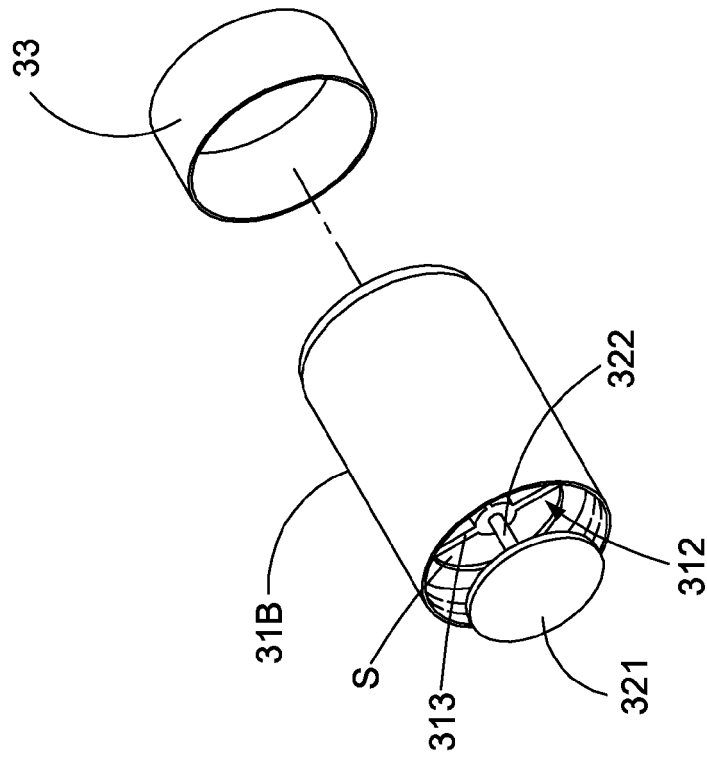


FIG. 9

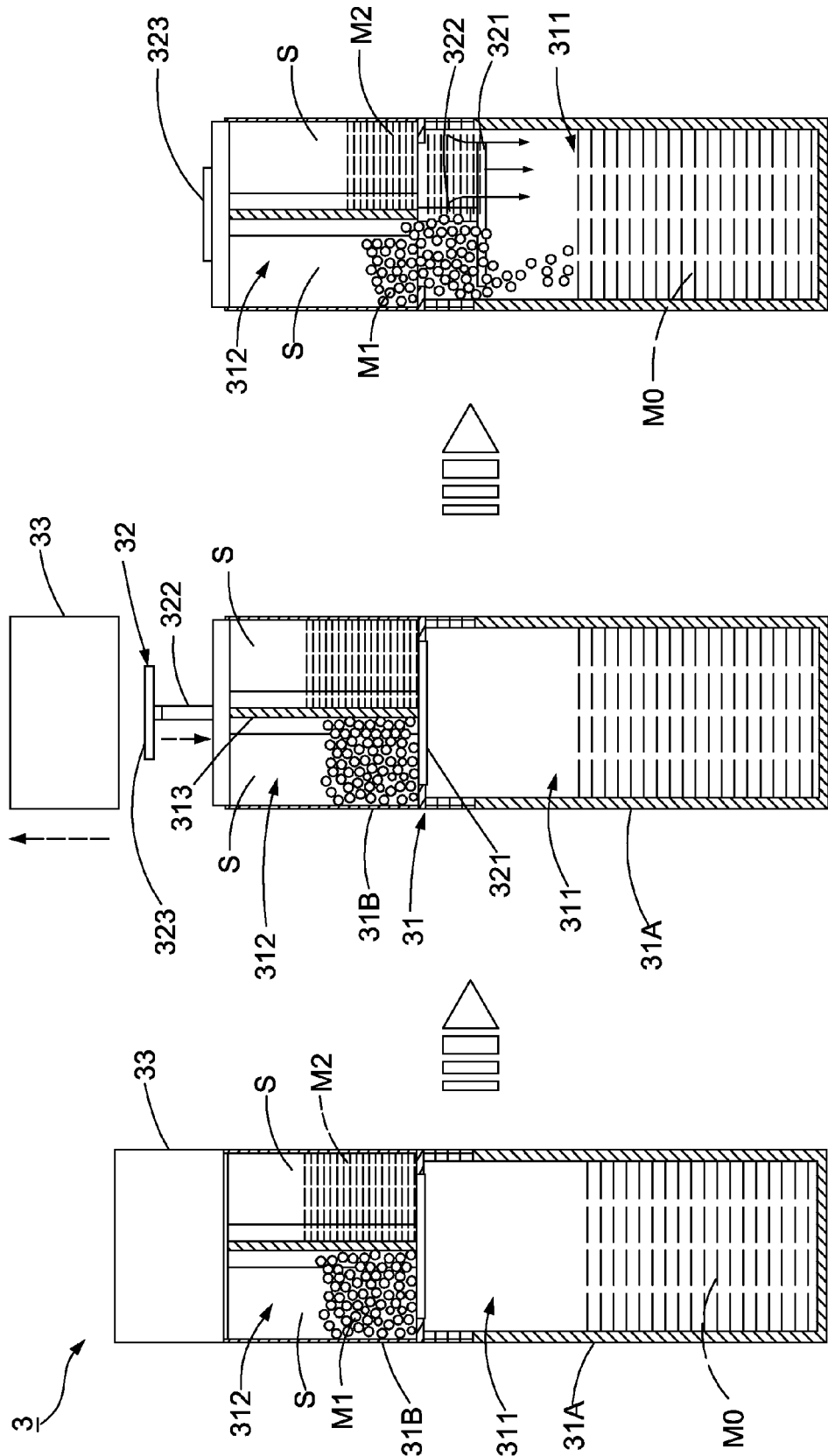


FIG. 11



EUROPEAN SEARCH REPORT

Application Number
EP 14 18 8912

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DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
A	FR 2 814 156 A1 (AVENIR PERFORMANCE EUROP ENGIN [FR]) 22 March 2002 (2002-03-22) * page 11; figure 3 *	1-6	INV. B65D81/32 B65D51/28
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A	US 2003/072850 A1 (BURNISKI EDWARD WILLIAM [US]) 17 April 2003 (2003-04-17) * figure 2 *	1-6	
A	DE 10 2007 017464 A1 (VIDOLOV KLIMENT [DE]) 24 July 2008 (2008-07-24) * paragraph [0055]; figure 12 *	1-6	
The present search report has been drawn up for all claims			TECHNICAL FIELDS SEARCHED (IPC)
			B65D
Place of search		Date of completion of the search	Examiner
Munich		10 March 2015	Jervelund, Niels
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ON EUROPEAN PATENT APPLICATION NO.

EP 14 18 8912

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10-03-2015

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DE 102007017464	A1	24-07-2008	NONE	

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REFERENCES CITED IN THE DESCRIPTION

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