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(54) COSMETIC CONTAINER

(57) Disclosed herein is a cosmetic container. The cosmetic container includes: a dial configured to receive rotating force; a container part configured such that cosmetics are accommodated in the lower side thereof and the dial is relatively rotatably disposed in the upper side thereof; a piston arm disposed inside the container part, and configured to be selectively lifted and lowered by the rotation of the dial; a piston disposed to come into tight contact with the inner wall of the container part, and configured to be coupled to the lower portion of the piston arm and to be selectively lifted and lowered; and a transfer tube disposed inside the container part, and configured such that a transfer flow path is formed therein; wherein when the piston arm and the piston are lowered and press the cosmetics, the cosmetics enter into the lower portion of the transfer tube and are discharged.

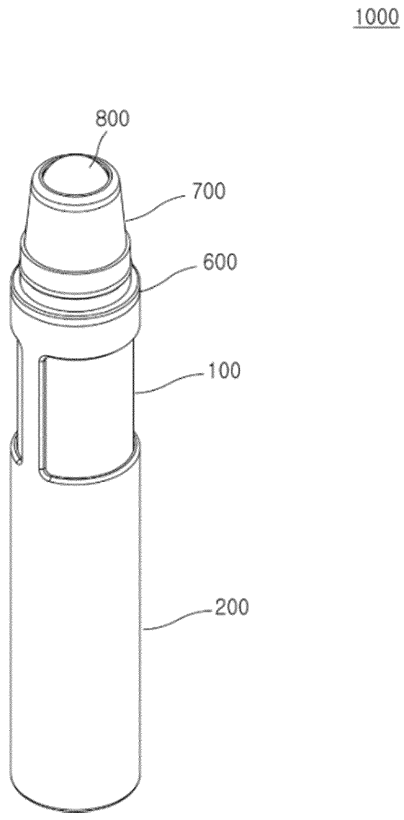

Fig. 1

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Description

CROSS-REFERENCE TO RELATED APPLICATION

[0001] This application claims the benefit of Korean Patent Application No. 10-2018-0133238 filed on November 2, 2018, which is hereby incorporated by reference herein in its entirety.

BACKGROUND

1. Technical Field

[0002] The present invention relates generally to a cosmetic container, and more specifically to a cosmetic container that enables the discharge of cosmetics to be more easily controlled through the rotation of a dial.

2. Description of the Related Art

[0003] Generally, cosmetics are basically classified into solid, powder, and liquid forms. Various containers are used depending on the form of cosmetics. In recent years, cosmetics, such as foundations and lipsticks, have been supplied in a gel or liquid form, rather than a powder or solid form. Conventionally, tube- and pump-type containers have been widely used to accommodate such liquid cosmetics.

[0004] The tube- or pump-type containers are disadvantageous in that when a tube or pump is pressed or pushed to discharge cosmetics, it is difficult to perform control so that a desired quantity of cosmetics can be discharged and in that it is also difficult to completely use cosmetics because cosmetics remain in a container.

[0005] In order to overcome the above-described disadvantages, rotational discharge-type cosmetic containers have been developed and used. When a user rotates such a rotational discharge-type cosmetic container, a piston is selectively lifted and lowered, and thus accommodated cosmetics are pressed and discharged. However, the rotational discharge-type cosmetic containers are also disadvantageous in that when a user performs rotational manipulation, it is difficult to determine the distance over which the piston has moved, and thus it is difficult to perform control so that a desired quantity of cosmetics can be discharged.

[0006] Furthermore, in the rotational discharge-type cosmetic containers, a rotational manipulation part is generally located at the lower end of a container. In order to discharge cosmetics, it is necessary to rotate the rotational manipulation part with one hand while holding a container body part with the other hand. Accordingly, the rotational discharge-type cosmetic containers are disadvantageous in that it is inconvenient to use cosmetics while holding a hand mirror with one hand.

[0007] Therefore, there is a need for a cosmetic container that is capable of overcoming the above-described problems.

SUMMARY

[0008] The present invention has been conceived to overcome the above-described problems, and an object of the present invention is to provide a cosmetic container that enables the discharge of cosmetics to be more easily controlled through the rotation of a dial.

[0009] Objects of the present invention are not limited to the above-described object, and other unmentioned objects will be clearly understood from the following description by those having ordinary knowledge in the art to which the present invention pertains.

[0010] According to an aspect of the present invention, there is provided a cosmetic container, including: a dial configured to receive rotating force from a user; a container part configured such that cosmetics are accommodated in the lower side thereof and the dial is relatively rotatably disposed in the upper side thereof; a piston arm disposed inside the container part, and configured to be selectively lifted and lowered by the rotation of the dial relative to the container part; a piston disposed to come into tight contact with the inner wall of the container part, and configured to be coupled to the lower portion of the piston arm and to be selectively lifted and lowered along with the piston arm; and a transfer tube disposed inside the container part, and configured such that a transfer flow path through which the cosmetics are transferred is formed therein in the longitudinal direction of the container part; wherein when the piston arm and the piston are lowered and press the cosmetics by the relative rotation of the dial, the cosmetics enter into the lower portion of the transfer tube and are discharged through the transfer flow path.

[0011] A lifting and lowering guide portion having a non-circular section may be formed in one area of the transfer tube, and a through portion corresponding to the lifting and lowering guide portion may be formed inside the piston arm; and the piston arm may be guided through selective lift and lowering in such a manner that the lifting and lowering guide portion is inserted into the through portion and the piston arm is prevented from being rotated during the relative rotation of the dial.

[0012] Corresponding threads may be formed on the inner circumferential surface of the dial and the outer circumferential surface of the piston arm, and the dial and the piston arm may be screwed to each other.

[0013] At least one opening may be formed through the upper portion of the container part in a longitudinal direction, and the dial may be disposed inside the upper portion of the container part through which the opening is formed, thereby exposing at least part of the dial to an outside.

[0014] The cosmetic container may further include a connection part configured such that a stop protrusion configured to protrude in a circumferential direction and to be seated on the upper end surface of the container part and a coupling portion configured to extend downward from one area of the bottom surface of the stop

protrusion and to come into tight contact with and be coupled to the inside of the upper end of the container part are formed and at least part of the transfer tube is inserted into and disposed in the connection part.

[0015] A first stepped portion is formed on the outer circumferential surface of the lower portion of the dial in a circumferential direction, a second stepped portion corresponding to the first stepped portion may be formed on the inner circumferential surface of the upper portion of the container part, and the first stepped portion may be placed on the second stepped portion, thereby enabling the dial to be disposed inside the upper portion of the container part.

[0016] The upper end of the dial may be supported by the bottom surface of the coupling portion, and the lower end of the dial may be supported by the second stepped portion of the container part, thereby preventing the dial from being selectively lifted and lowered.

[0017] A guide groove may be formed on the inner circumferential surface of the container part, at least one elastic piece configured to be bent inward may be formed on the outer circumferential surface of the lower end portion of the dial, and a guide protrusion corresponding to the guide groove may protrude from one area of the elastic piece in an outward direction; and the guide groove and the guide protrusion may be formed such that inclined surfaces and slopes that come into contact with each other according to the rotation direction of the dial are different, so that the dial is guided through rotation in a forward direction and prevented from being rotated in a reverse direction.

[0018] The guide groove may have first and second inclined surfaces formed in opposite directions, the guide protrusion may have third and fourth inclined surfaces formed in opposite directions, and each of the first and third inclined surfaces has a gentler slope than each of the second and fourth inclined surfaces.

[0019] When the forward rotation is applied to the dial, the first and third inclined surfaces may come into contact with each other, the elastic piece is bent inward, and the dial may perform forward rotation; and, when the reverse rotation is applied to the dial, the second and fourth inclined surfaces may come into contact with each other, and the dial may be prevented from performing the reverse rotation.

[0020] The cosmetic container may further include a discharge unit including: a discharge head coupled to the connection part and the transfer tube and configured such that a discharge passage through which the cosmetics are discharged is formed therein; and a discharge control unit configured to selectively open and close a communication hole through which the cosmetics enter into the discharge head.

[0021] The discharge control unit may include an elastic member configured to be supported by the bottom surface of the inside of the discharge head and to exert elastic force downward, and an opening/closing member configured to be pressed by the elastic member downward and to seal the communication hole; and the opening/closing member may open the communication hole due to the discharge pressure of the cosmetics attributable to the rotation of the dial.

[0022] The cosmetic container may further include an application part configured such that at least part thereof is accommodated in the upper side of the discharge head and the application part applies cosmetics, discharged through the discharge passage, to the skin of the user.

BRIEF DESCRIPTION OF THE DRAWINGS

[0023] The above and other objects, features, and advantages of the present invention will be more clearly understood from the following detailed description taken in conjunction with the accompanying drawings, in which:

FIG. 1 is a perspective view of a cosmetic container according to an embodiment of the present invention;

FIG. 2 is an exploded view of the cosmetic container according to the embodiment of the present invention;

FIG. 3 is a sectional view of the cosmetic container according to the embodiment of the present invention;

FIG. 4 shows the dial of the cosmetic container according to the embodiment of the present invention;

FIG. 5 shows the container part of the cosmetic container according to the embodiment of the present invention;

FIG. 6 shows the piston arm of the cosmetic container according to the embodiment of the present invention;

FIG. 7 shows the transfer tube of the cosmetic container according to the embodiment of the present invention;

FIG. 8 shows the connection part of the cosmetic container according to the embodiment of the present invention;

FIG. 9 shows the discharge part and application part of the cosmetic container according to the embodiment of the present invention;

FIG. 10 shows the operation of the cosmetic container according to the embodiment of the present invention; and

FIG. 11 shows a cosmetic container according to an embodiment of the present invention.

DETAILED DESCRIPTION

[0024] Embodiments of the present invention will be described in detail below with reference to the accompanying drawings. It should be noted that when reference symbols are assigned to components, the same reference symbols will be assigned to the same components as much as possible even when the components are shown in different drawings. Furthermore, in the following description of the embodiments of the present invention, when it is determined that a detailed description of a related well-known configuration or function disturbs the understanding an embodiment of the present invention, the detailed description will be omitted. Furthermore, although the embodiments of the present invention will be described below, the technical spirit of the present invention is not limited to the embodiments, various modifications may be made by those skilled in the art, and the present invention may be practiced in various forms. Meanwhile, upward, downward, left, and right directions are based on the drawings for the sake of convenience, and the scope of the present invention is not necessarily limited to the corresponding directions.

[0025] Throughout the specification and the claims, when any portion is described as being "connected" to another portion, this includes both a case where the former portion is "directly connected" to the latter portion and a case where the former portion is "indirectly connected" to the latter portion through a third portion. Throughout the specification and the claims, when any component is described as including another component, this is not intended to exclude a third component, but is intended to include a third component, unless particularly described to the contrary. Furthermore, in the description of the components of an embodiment of the present invention, the terms "first," "second," "A," "B," "a," "b," etc. may be used. These terms are each used merely to distinguish a corresponding component from another component, but are not used to limit the natures or sequential positions of corresponding components.

[0026] FIG. 1 is a perspective view of a cosmetic container according to an embodiment of the present invention, FIG. 2 is an exploded view of the cosmetic container according to the embodiment of the present invention, FIG. 3 is a sectional view of the cosmetic container according to the embodiment of the present invention, FIG. 4 shows the dial of the cosmetic container according to the embodiment of the present invention, FIG. 5 shows the container part of the cosmetic container according to the embodiment of the present invention, FIG. 6 shows the piston arm of the cosmetic container according to the embodiment of the present invention, FIG. 7 shows the transfer tube of the cosmetic container according to the embodiment of the present invention, FIG. 8 shows the connection part of the cosmetic container according to the embodiment of the present invention, and FIG. 9 shows the discharge part and application part of the cosmetic container according to the embodiment of the present invention.

[0027] In this case, FIG. 5(a) is a perspective view of the container part, FIG. 5(b) is a plan view of the container part, FIG. 6(a) is a perspective view of the piston arm, FIG. 6(b) is a plan view of the piston arm, FIG. 7(a) is a perspective view of the transfer tube, FIG. 7(b) is a sectional view of the transfer tube, FIG. 8(a) is a perspective view of the connection part, and FIG. 8(b) is a plan view of the connection part.

[0028] Referring to FIGS. 1 to 8, a cosmetic container 1000 includes a dial 100, a container part 200, a piston arm 300, a piston 400, a transfer tube 500, a connection part 600, a discharge part 700, an application part 800, and a cover part 900.

[0029] The dial 100 is disposed in the upper side of the container part 200, and is configured to receive rotating force from a user and to be rotated relative to the container part 200. More specifically, a first stepped portion 110 is formed on the outer circumferential surface of the lower portion of the dial 100 in a circumferential direction, a second stepped portion 220 is formed on the inner circumferential surface of the upper portion of the container part 200 correspondingly, and the first stepped portion 110 of the dial 100 is placed on the second stepped portion 220 of the container part 200. Via this configuration, the dial 100 is disposed inside the upper portion of the container part 200.

[0030] Furthermore, the dial 100 is disposed inside the upper portion of the container part 200 with at least part of the dial 100 exposed to the outside through an opening 210 formed in the container part 200. In other words, a user may rotate the dial 100 while holding the lower end of the container part 200 with one hand, and thus cosmetics contained in the container part 200 may be discharged through the discharge part 700.

[0031] In particular, the dial 100 is stably rotated relative to the container part 200 in that the dial 100 is not fitted over the container part 200 outside the container part 200 but the dial 100 is rotated in the state of having been disposed inside the container part 200.

[0032] Meanwhile, first threads are formed on at least part of the inner circumferential surface of the lower end portion of the dial 100, and second threads corresponding to the first threads are formed on at least part of the outer circumferential surface of the piston arm 300 that is inserted into the lower end portion of the dial 100. Via this configuration, the dial 100 and the piston arm 300 are screwed to each other, and thus the piston arm 300 is selectively lifted and lowered in response to the rotation of the dial 100. This will be descried in greater detail later.

[0033] Cosmetics are accommodated inside the container part 200. In this case, the cosmetics are substances that can be applied to and absorbed into the skin of a user for a cosmetic purpose or the like. Although the cosmetics may be preferably liquid cosmetics, they are not limited thereto.

[0034] Furthermore, the container part 200 functions as a basis for the rotation of the dial 100, and is relatively

rotatably provided with the dial 100 in the upper side thereof. More specifically, the dial 100 is relatively rotatably disposed inside the upper portion of the container part 200 with at least part of the dial 100 exposed to the outside through the opening 210, thereby enabling the rotating force of a user to be transferred to dial 100 disposed inside the container part 200. In this case, the opening 210 may be formed by cutting out at least a partial area of the upper portion of the container part 200 in the longitudinal direction of the container part 200, and may include at least one opening

[0035] Meanwhile, the dial 100 is disposed to be rotated relative to the container part 200, and the dial 100 and the container part 200 guide the dial 100 through its rotation direction in conjunction with each other. More specifically, the dial 100 is rotated only in a forward direction, and the piston arm 300 and the piston 400 are lowered in response to the rotation. In other words, the piston arm 300 and the piston 400 are prevented from being lifted by preventing the dial 100 from being rotated in a reverse direction.

[0036] For this purpose, at least one guide groove 230 is continuously formed on the inner circumferential surface of the container part 200. The guide groove 230 is continuously formed in the longitudinal direction of the container part 200 from the second stepped portion 220, and has a first inclined surface 232 and a second inclined surface 234. Correspondingly, at least one elastic piece 120 that is bendable inward is formed on the outer circumferential surface of the lower end portion of the dial 100. A guide protrusion 130 corresponding to the guide groove 230 protrudes from one area of the elastic piece 120 in a longitudinal direction, and has a third inclined surface 132 and a fourth inclined surface 134.

[0037] On the guide groove 230, the first inclined surface 232 and the second inclined surface 234 are formed in opposite directions, and have different slopes. For example, the first inclined surface 232 has a gentler slope than the second inclined surface 234. In the same manner, the third inclined surface 132 and the fourth inclined surface 134 are formed in opposite directions, and have different slopes. For example, the third inclined surface 132 has a gentler slope than the fourth inclined surface 134. Preferably, the second inclined surface 234 and the fourth inclined surface 134 may be perpendicular to the inner circumferential surface of the container part 200 and the outer circumferential surface of the dial 100, respectively. In this case, the slope of each of the inclined surfaces is defined as being gentle when it is close to a tangent of a circumference, whereas the slope of the inclined surface is defined as being steep when it is close to a normal of a circumference.

[0038] Meanwhile, the elastic piece 120 of the dial 100 is formed by cutting out at least a partial area of the lower end portion of the dial 100 so that the elastic piece 120 is bent toward the inside of the dial 100. Although the elastic piece 120 is shown as being formed in the longitudinal direction of the dial 100 in such a manner that the upper end of the elastic piece 120 is integrated with the dial 100 and the left, right, and lower ends of the elastic piece 120 are cut off in FIG. 4, this is illustrative, and various configurations may be applied according to embodiments of the present invention. For example, the elastic piece 120 may be formed in the circumferential direction of the dial 100 in such a manner that right end of the elastic piece 120 is integrated with the dial 100 and the upper, bottom, and left ends thereof are cut off or in such a manner that the left end of the elastic piece 120 is integrated with the dial 100 and the upper, bottom, and right ends thereof are cut off.

[0039] When the dial 100 is disposed inside the upper inside of the container part 200, the guide protrusion 130 of the dial 100 is fitted into the guide groove 230 of the container part 200. In this state, when the dial 100 is rotated in the forward direction, the third inclined surface 132 of the elastic piece 120 comes into contact with the first inclined surface 232 of the container part 200 having a gentle slope in the same manner as the third inclined surface 132, and thus part of rotating force in the forward direction is converted into force used to press the elastic piece 120 inward by the first inclined surface 232 and the third inclined surface 132. Accordingly, the elastic piece 120 is bent toward the inside of the dial 100, and thus the third inclined surface 132 of the elastic piece 120 is moved over the first inclined surface 232 of the container part 200, thereby enabling the dial 100 to be rotated in the forward direction.

[0040] In contrast, when the dial 100 is rotated in the reverse direction, the fourth inclined surface 134 of the elastic piece 120 comes into contact with the second inclined surface 234 of the container part 200. Since the second inclined surface 234 and the fourth inclined surface 134 have a relatively steep slope, rotating force in the reverse direction is not converted into force used to press the elastic piece 120 inward by the second inclined surface 234 and the fourth inclined surface 134, and thus the fourth inclined surface 134 of the elastic piece 120 cannot be moved over the second inclined surface 234 of the container part 200, thereby preventing the dial 100 from being rotated in the reverse direction.

[0041] In particular, when the dial 100 is rotated in the forward direction, a user senses a rotational load because he or she needs to apply force in order to elastically deform the elastic piece 120, and the first inclined surface 232 of the guide groove 230 and the third inclined surface 132 of the guide protrusion 130 generate a "click" sound during a process in which the elastic piece 120 is restored to its original shape after being elastically deformed because the first inclined surface 232 and the third inclined surface 132 collide with each other. Accordingly, a user may become aware of and control rotational operation by means of the rotational load and the click sound.

[0042] Meanwhile, the guide groove 230 of the container part 200 includes at least one guide groove and at least one inwardly depressed area that does not directly come into contact with the dial 100 (particularly the area

of the dial 100 below the first stepped portion 110) is included, and thus friction that may be generated during the rotation of the dial 100 is reduced or removed, thereby enabling the rotation of the dial 100 to be smoothly rotated.

[0043] In an embodiment, at least part of the container part 200 may be made of transparent or translucent material. Via this configuration, a user may manipulate the dial 100 while checking the movement of the piston 400 or the remaining amount of cosmetics inside the container part 200.

[0044] At least part of the piston arm 300 is disposed inside the dial 100, and the piston arm 300 is selectively lifted and lowered in response to the rotation of the dial 100. More specifically, the second threads corresponding to the first threads formed on the inner circumferential surface of the lower end portion of the dial 100 are formed on at least part of the outer circumferential surface of the piston arm 300, and thus the dial 100 and the piston arm 300 are screwed to each other. In this case, when the dial 100 is rotated, the piston arm 300 is fixed without being rotated along with the dial 100, and thus the piston arm 300 is selectively lifted and lowered by the rotation of the dial 100. As will be described in greater detail below, the transfer tube 500 is inserted into the piston arm 300 in order to prevent the rotation of the piston arm 300 synchronous with that of the dial 100.

[0045] The piston 400 is disposed inside the container part 200 with the outer circumferential surface thereof brought into tight contact with the inner surface of the container part 200 and the inner circumferential surface thereof brought into tight contact with the outer surface of the transfer tube 500. The piston 400 is coupled to the lower portion of the piston arm 300, and is selectively lifted and lowered along with the piston arm 300. In other words, when the piston arm 300 is lowered by the rotation of the dial 100, the piston arm 300 is lowered along with the piston 400, and presses cosmetics contained in the lower side. The pressed cosmetics are moved through the transfer tube 500, and are discharged to the outside. The piston 400 is made of elastic material, such as rubber, silicon, or the like, in order to improve the contact force between the inner surface of the container part 200 and the outer surface of the transfer tube 500. However, this is illustrative, and the piston 400 may be made of various materials according to embodiments of the present invention.

[0046] The transfer tube 500 is disposed inside the container part 200, and is configured to transfer cosmetics, contained in the lower side of the container part 200, to the upper side thereof. The transfer tube 500 includes a transfer flow path 510 formed in the transfer tube 500 and configured such that cosmetics can move therethrough, a lifting and lowering guide portion 520 formed in at least one area of the outer surface of the transfer tube 500, and a support portion 530 formed in the upper end portion of the transfer tube 500.

[0047] The transfer flow path 510 is formed across in the inside of the transfer tube 500 in the longitudinal direction of the container part 200, and may define a transfer path for cosmetics. The transfer flow path 510 includes a first communication hole 512 configured such that cosmetics contained in the container part 200 enter thereinto on the lower side thereof and a second communication hole 514 configured such that cosmetics are discharged therethrough on the upper side thereof. The first communication hole 512 of the transfer flow path 510 is formed to be located adjacent to the bottom surface of the container part 200 so that cosmetics do not remain after being discharged. Furthermore, as shown in the drawings, the lower end of the transfer tube 500 is open in a lateral direction, thereby enabling cosmetics to enter into the first communication hole 512 in the lateral direction.

[0048] The lifting and lowering guide portion 520 guides the piston arm 300 through selective lifting and lowering by preventing the relative rotation of the piston arm 300. In other words, even when the dial 100 is rotated, the piston arm 300 is prevented from being rotated, and thus the piston arm 300 is enabled to be selectively lifted and lowered.

[0049] More specifically, the lifting and lowering guide portion 520 is formed in one area of the outer surface of the transfer tube 500 in a longitudinal direction, and the section of the outer surface of the lifting and lowering guide portion 520 is formed in a non-circular shape. A through portion 310 configured such that the lifting and lowering guide portion 520 can be inserted thereinto is formed inside the piston arm 300 correspondingly. The through portion 310 is also formed in a non-circular shape in the same manner as the lifting and lowering guide portion 520.

[0050] As described above, the piston arm 300 and the transfer tube 500 are prevented from being rotated relative to each other by the through portion 310 and the lifting and lowering guide portion 520 formed in non-circular shapes (in other words, the piston arm 300 is prevented from being rotated in synchronization with the transfer tube 500). Accordingly, the piston arm 300 is separated from the rotation of the dial 100. Furthermore, the dial 100 is screwed to the piston arm 300 inserted into the dial 100, and also the vertical movement of the dial 100 is prevented by the connection part 600 and the container part 200. Accordingly, the dial 100 is not selectively lifted and lowered based on the piston arm 300, but the piston arm 300 is selectively lifted and lowered along the lifting and lowering guide portion 520 in response to the rotation of the dial 100.

[0051] In other words, when a user rotates the dial 100 while holding the container part 200, the dial 100 is rotated in the state in which the dial 100 has been prevented from being moved vertically. The piston arm 300 screwed to the dial 100 is separated from the rotation of the dial 100 by the lifting and lowering guide portion 520 of the transfer tube 500, and thus the rotational movement of the dial 100 is converted into the vertical movement of the piston arm 300, with the result that the piston arm

300 is selectively lifted and lowered.

[0052] Meanwhile, the through portion 310 of the piston arm 300 is formed in a non-circular shape in the same manner as the lifting and lowering guide portion 520, and includes areas 312 configured to come into contact with the lifting and lowering guide portion 520 and areas 314 configured to be separated from the lifting and lowering guide portion 520. The reason for this is to enable the piston arm 300 to be selectively lifted and lowered more smoothly by reducing a contact surface that comes into contact with the transfer tube 500 that is disposed inside the through portion 310.

[0053] The support portion 530 is formed in the upper end of the transfer tube 500 (particularly a side above the second communication hole 514). The upper side of the support portion 530 is coupled to the discharge part 700 and the lower side of the support portion 530 is supported by the connection part 600, thereby stably disposing the transfer tube 500 inside the cosmetic container 1000.

[0054] More specifically, the support portion 530 includes a stop protrusion 532 configured to protrude in a circumferential direction, an accommodation portion 534 configured to be depressed from the inside of the stop protrusion 532 in a concave form to communicate with the transfer flow path 510 and to accommodate a discharge control unit 720, and a coupling portion 536 configured to extend above the stop protrusion 532 and to be fitted into the inside of the discharge head 710 so that the transfer tube 500 can be placed at the upper end of the connection part 600.

[0055] The accommodation portion 534 communicates with the second communication hole 514, and thus cosmetics are introduced thereinto. A space having a size sufficient to allow the discharge control unit 720 to be disposed and operate therein is formed in the accommodation portion 534. Furthermore, the transfer tube 500 is disposed inside the connection part 600. In order to prevent the transfer tube 500 from being shaken or separated, the accommodation portion 534 has an outer diameter corresponding to the diameter of the through hole of the connection part 600. Furthermore, the coupling portion 536 protrudes upward, and comes into tight contact with the inner surface of the discharge head 710 of the discharge part 700. A stop groove is formed on the coupling portion 536 in a circumferential direction, and a stop projection formed on the inner surface of the discharge head 710 is fitted into the stop groove.

[0056] The lower side of the connection part 600 is coupled to the upper end of the container part 200, and the upper side of the connection part 600 is coupled to the discharge part 700. The transfer tube 500 is inserted into and disposed inside the connection part 600.

[0057] More specifically, a stop protrusion 610 configured to protrude in a circumferential direction is formed on the outer circumferential surface of the connection part 600, and is placed at the upper end of the container part 200. Furthermore, a coupling portion 620 configured to extend downward is formed in one area of the bottom surface of the stop protrusion 610. When the stop protrusion 610 is seated on the upper end surface of the container part 200, the coupling portion 620 comes into tight contact with the inside of the upper end of the container part 200. In this case, at least one stop projection is formed on the outer circumferential surface of the coupling portion 620, and a stop groove corresponding to the stop protrusion is formed on the inner circumferential surface of the upper end of the container part 200. Accordingly, the connection part 600 is coupled to the container part 200 in such a manner that the stop projection is fitted into the stop groove.

[0058] As described above, when the connection part 600 is coupled to the upper end of the container part 200, the bottom surface of the coupling portion 620 and the upper end surface of the dial 100 come into contact with each other or come close to each other. In other words, the upper side of the dial 100 is supported by the connection part 600, and the lower side of the dial 100 is supported by the container part 200, as described above. Accordingly, the dial 100 is stably rotated relative to the container part 200 without vertical movement.

[0059] A through hole configured extend vertically is formed in the connection part 600. The transfer tube 500 is inserted into and disposed in the connection part 600 through the through hole. In particular, at least part (i.e., the outside of the accommodation portion 534) of the transfer tube 500 has an inner diameter corresponding to the diameter of the through hole, and thus the transfer tube 500 is stably placed through the connection part 600. Furthermore, a stop groove is formed on the upper side of the connection part 600 in a circumferential direction, and thus the discharge head 710 is coupled to the connection part 600 via the stop groove.

[0060] Although the connection part 600 and the transfer tube 500 are shown as separate components, this is illustrative. The connection part 600 and the transfer tube 500 may be implemented as a single component in an embodiment of the present invention.

[0061] The discharge part 700 is disposed at the upper end of the connection part 600, and discharges cosmetics transferred along the transfer flow path 510 in response to the lowering of the piston 400. The discharge part 700 includes the discharge head 710 and the discharge control unit 720.

[0062] The discharge head 710 communicates with the transfer tube 500, and discharges cosmetics. The inside of the lower end of the discharge head 710 is coupled to the upper end of the connection part 600, and the inside of the upper end of the discharge head 710 is coupled to the transfer tube 500. For this purpose, a discharge passage 712 configured to communicate with the second communication hole 514 and to provide a path through which cosmetics move is formed inside the discharge head 710.

[0063] Furthermore, two stop projections protrude from the inner surface of the discharge head 710 in a

circumferential direction. In this case, the stop projection located on an upper side is fitted into the stop groove of the coupling portion 536 of the support portion 530, and the stop projection located on a lower side is fitted into a stop groove located on the upper side of the connection part 600.

[0064] A seat portion 714 is formed on the bottom surface of the inside of the discharge head 710. The seat portion 714 is formed by depressing one area outside the discharge passage 712. As will be described in greater detail below, the elastic member 724 of the discharge control unit 720 is seated in the seat portion 714 and the seat portion 714 supports the elastic member 724. Accordingly, the seat portion 714 functions as a base point based on which the elastic member 724 generates elastic force.

[0065] An accommodation space 716 is depressed inside the upper end of the discharge head 710, and the application part 800 is accommodated and disposed in the accommodation space 716. However, this is illustrative. Accordingly, in an embodiment, the application part 800 and the accommodation space 716 may not be applied to the present invention.

[0066] The discharge control unit 720 is disposed inside the discharge head 710, and controls the discharge of cosmetics while selectively opening and closing the second communication hole 514 of the transfer flow path 510. More specifically, while the dial 100 is being rotated, the discharge control unit 720 opens the second communication hole 514 to thus allow cosmetics to be discharged to the outside through the discharge passage 712. In contrast, when the dial 100 is not rotated, i.e., in a common storage state, the discharge control unit 720 closes the second communication hole 514 to thus prevent cosmetics from leaking.

[0067] For this purpose, the discharge control unit 720 has an inner diameter larger than the diameter of the second communication hole 514, and includes an opening/closing member 722 formed in a ball shape and an elastic member 724 configured to press the opening/closing member 722.

[0068] The elastic member 724 is fitted into the seat portion 714 outside the discharge passage 712, and exerts elastic force downward. Accordingly, the opening/closing member 722 that is pressed downward by the elastic member 724 seals the second communication hole 514.

[0069] Furthermore, when cosmetics are raised along the transfer flow path 510 by the lowering of the piston 400 as the dial 100 is rotated, the opening/closing member 722 is lifted by the discharge pressure of the cosmetics and the second communication hole 514 is opened, thereby moving the cosmetics to the discharge passage 712. When the rotation of the dial 100 is stopped, the opening/closing member 722 is pressed by the elastic member 724 again, and thus closes the second communication hole 514. Via this operation, when rotating force is not applied to the dial 100, cosmetics are prevented from leaking.

[0070] Meanwhile, when a user attempts to rotate the dial 100 in the reverse direction in the case where the opening/closing member 722 has been disposed in the upper portion of the second communication hole 514 and has sealed the second communication hole 514, negative pressure is generated inside the accommodation space of the transfer tube 500 by the lifting of the piston 400, thereby making it difficult to rotate the dial 100 in the reverse direction. The reason for this is that stronger resistance is generated when rotation is performed in the reverse direction. Furthermore, even when the dial 100 is rotated in the reverse direction and the piston 400 is lifted by a predetermined length, forward rotation is generated during a process in which negative pressure is removed, and the piston 400 is lowered.

[0071] The application part 800 comes into contact with the skin of a user, and applies discharged cosmetics to the skin through the discharge passage 712. As shown in FIG. 9, the application part 800 is formed in a ball shape. In this case, the accommodation space 716 having a shape corresponding to that of the application part 800 is formed in the upper portion of the discharge head 710, the application part 800 is accommodated inside the accommodation space 716, and at least part of the application part 800 is exposed to the outside. Furthermore, the discharge passage 712 of the discharge head 710 is formed to pass through at least part of the accommodation space 716, and cosmetics discharged through the discharge passage 712 are applied via the application part 800.

[0072] More specifically, the application part 800 is accommodated inside the accommodation space 716 up to a predetermined height of the application part 800 above the center line of the application part 800, via which part of the application part 800 is not only exposed to the outside but is also prevented from being separated from the accommodation space 716.

[0073] In particular, the application part 800 is spaced apart from the inner surface of the accommodation space 716 by a predetermined distance, via which the application part 800 is rotated inside the accommodation space 716, thereby enabling cosmetics to be smoothly applied to the skin.

[0074] Although the ball-shaped application part 800 is shown in FIG. 9, the application part 800 may be formed in various configurations to according to embodiments of the present invention. For example, a brush-shaped application part may be applied. Furthermore, in an embodiment, the application part may not be applied to the cosmetic container according to the present invention.

[0075] The cover part 900 is configured to seal the discharge part 700 and the application part 800, and is detachably coupled to the discharge part 700, particularly the discharge head 710. For such coupling, various configurations may be applied to the cover part 900 and the discharge head 710. For example, corresponding threads may be formed on the inner surface of the lower

end of the cover part 900 and the outer surface of the lower end of the discharge head 710, and accordingly the cover part 900 may be coupled to the discharge head 710 through screw coupling. Furthermore, for example, a stop groove may be formed in the inner surface of the lower end of the cover part 900 in a circumferential direction, and a stop projection corresponding to the stop groove of the cover part 900 may be formed on the outer surface of the lower end of the discharge head 710. Accordingly, the cover part 900 may be fitted to the discharge head 710.

[0076] FIG. 10 shows the operation of the cosmetic container according to the embodiment of the present invention.

[0077] Referring to FIG. 10, in the state in which the cover part 900 of the cosmetic container 1000 in which cosmetics are accommodated in the container part 200 has been removed, when a user holds the lower end of the container part 200 (i.e., without rotating the container part 200) and then rotates the dial 100 with fingers in the forward direction, the piston arm 300 and the piston 400 are lowered inside the container part 200 by the rotation of the dial 100.

[0078] More specifically, the piston arm 300 is separated from the rotation of the dial 100 by the lifting and lowering guide portion 520 of the transfer tube 500, and thus the rotation of the dial 100 causes the piston arm 300 screwed to the dial 100 to be lowered without rotation. Via this operation, cosmetics are pressed downward by the lowering of the piston 400, cosmetics are transferred upward through the transfer flow path 510 of the transfer tube 500, and the second communication hole 514 is opened by the opening/closing member 722 of the discharge control unit 720 due to the discharge pressure of the raised cosmetics, thereby enabling discharge through the discharge part 700.

[0079] In this case, the elastic piece 120 and guide protrusion 130 of the dial 100 and the guide groove 230 of the container part 200 control the rotation direction of the dial 100. In other words, they allow the dial 100 to be rotated only in the forward direction and prevent the dial 100 to be rotated in the reverse direction. Accordingly, they prevent cosmetics discharged by the lifting of the piston 400 and/or cosmetics accommodated in transfer flow path 510 from entering back into the container part 200, and prevent air or negative pressure from entering into or being generated inside the container part 200 and the transfer tube 500.

[0080] FIG. 11 shows a cosmetic container according to an embodiment of the present invention.

[0081] In this case, FIG. 11(a) is a front view of the cosmetic container, and FIG. 11(b) is a sectional view of the cosmetic container.

[0082] The cosmetic container 1000' of FIG. 11 is described in the same manner as the cosmetic container 1000 of FIGS. 1 to 10, and redundant descriptions will be omitted below.

[0083] Referring to FIG. 11, a dial 100' is disposed on a container part 200,' and an opening is not formed in the container part 200.' Accordingly, the dial 100' is relatively rotatably disposed at the upper end of the container part 200.'

[0084] More specifically, the dial 100' is relatively rotatably disposed at the upper end of the container part 200' in such a manner that at least part of the dial 100' is inserted into the container part 200' and a first stepped portion 110' formed on the outer circumferential surface of the dial 100' is seated on the end surface of the upper side of the container part 200.' In this case, in order to enable the rotatable coupling between the dial 100' and the container part 200,' a coupling protrusion protrudes from the outer circumferential surface of the dial 100' (particularly, below a first stepped portion) in a circumferential direction, and a coupling groove is formed by being depressed into the inside of the container part 200,' although not shown in FIG. 11. The dial 100' is prevented from being separated from the container part 200' in such a manner that the coupling protrusion of the dial 100' is fitted into the coupling groove of the container part 200.' Furthermore, the dial 100' may be rotated relative to the container part 200' in such a manner that the coupling protrusion and the coupling groove are formed in a circumferential direction.

[0085] Furthermore, the connection part 600' is coupled to the upper end of the dial 100' rather than being coupled to the upper end of the container part 200' downward. More specifically, the stop protrusion 610' of the connection part 600' is seated on the upper end surface of the dial 100,' and the coupling portion 620' of the connection part 600' comes into tight contact with the inside of the upper end of the dial 100.' In this case, at least one stop projection is formed on the outer circumferential surface of the coupling portion 620,' and a stop groove corresponding to the stop projection is formed on the inner circumferential surface of the upper end of dial 100.' Accordingly, the stop projection is fitted into the stop groove, and thus the connection part 600' is coupled to the dial 100.'

[0086] According to the present invention, when the dial is rotated, the piston is lowered, presses cosmetics contained in the container, and then discharges the cosmetics, and thus the discharge of cosmetics and the quantity of cosmetics to be discharged can be minutely and easily controlled by rotational manipulation, and also the piston is lowered while remaining in close contact with the inner wall of the container, and thus the cosmetics contained in the container can be completely used.

[0087] Furthermore, according to the present invention, the dial is disposed in the upper side of the cosmetic container, and thus cosmetics can be discharged by rotating the dial with fingers while holding the cosmetic container with one hand without a need to manipulate the cosmetic container with both hands, thereby improving the convenience of manipulation.

[0088] Furthermore, according to the present invention, the dial is configured to be rotated only in one direc-

tion, and thus manipulation is facilitated, and also rotational load and a specific sound are generated, and thus a user can easily determine the degree of rotation (i.e., the degree of lowering of the piston).

[0089] Furthermore, according to the present invention, the configuration required for the rotation and vertical movement of the piston also has the function of preventing reverse rotation, and thus a separate configuration for regulating a rotational direction is not required, thereby reducing the manufacturing cost of the container through the simplification of constituent components.

[0090] Furthermore, according to the present invention, the discharge control unit including the sealing member is provided, and thus contained cosmetics can be prevented from leaking during the storage of the cosmetic container and rotational manipulation and the quantity of cosmetics to be discharged can be more easily controlled.

[0091] Moreover, according to the present invention, the message ball is provided in the application part, and thus cosmetics can be applied to the skin by means of the message ball.

[0092] As described above, the optimal embodiments have been disclosed in the drawings and the specification. In this case, although the specific terms have been used, they are intended merely to illustrate the present invention, but are not intended to limit the meanings thereof or to limit the scope of the present invention described in the attached claims. Accordingly, it will be appreciated by those having ordinary knowledge in the art to which the present invention pertains that various modifications and other equivalent embodiments may be made from the foregoing description. Therefore, the true scope of the present invention should be defined based on the technical spirit of the attached claims.

Claims

1. A cosmetic container, comprising:

a dial configured to receive rotating force from a user;
a container part configured such that cosmetics are accommodated in a lower side thereof and the dial is relatively rotatably disposed in an upper side thereof;
a piston arm disposed inside the container part, and configured to be selectively lifted and lowered by rotation of the dial relative to the container part;
a piston disposed to come into tight contact with an inner wall of the container part, and configured to be coupled to a lower portion of the piston arm and to be selectively lifted and lowered along with the piston arm; and
a transfer tube disposed inside the container part, and configured such that a transfer flow path through which the cosmetics are transferred is formed therein in a longitudinal direction of the container part;
wherein when the piston arm and the piston are lowered and press the cosmetics by the relative rotation of the dial, the cosmetics enter into a lower portion of the transfer tube and are discharged through the transfer flow path.

2. The cosmetic container of claim 1, wherein:

a lifting and lowering guide portion having a non-circular section is formed in one area of the transfer tube, and a through portion corresponding to the lifting and lowering guide portion is formed inside the piston arm; and
the piston arm is guided through selective lift and lowering in such a manner that the lifting and lowering guide portion is inserted into the through portion and the piston arm is prevented from being rotated during the relative rotation of the dial.

3. The cosmetic container of claim 1, wherein corresponding threads are formed on an inner circumferential surface of the dial and an outer circumferential surface of the piston arm, and the dial and the piston arm are screwed to each other.

4. The cosmetic container of claim 1, wherein at least one opening is formed through an upper portion of the container part in a longitudinal direction, and the dial is disposed inside the upper portion of the container part through which the opening is formed, thereby exposing at least part of the dial to an outside.

5. The cosmetic container of claim 4, further comprising a connection part configured such that a stop protrusion configured to protrude in a circumferential direction and to be seated on an upper end surface of the container part and a coupling portion configured to extend downward from one area of a bottom surface of the stop protrusion and to come into tight contact with and be coupled to an inside of an upper end of the container part are formed and at least part of the transfer tube is inserted into and disposed in the connection part.

6. The cosmetic container of claim 5, wherein a first stepped portion is formed on an outer circumferential surface of a lower portion of the dial in a circumferential direction, a second stepped portion corresponding to the first stepped portion is formed on an inner circumferential surface of an upper portion of the container part, and the first stepped portion is placed on the second stepped portion, thereby enabling the dial to be disposed inside the upper portion

of the container part.

7. The cosmetic container of claim 6, wherein an upper end of the dial is supported by a bottom surface of the coupling portion, and a lower end of the dial is supported by the second stepped portion of the container part, thereby preventing the dial from being selectively lifted and lowered.

8. The cosmetic container of claim 1, wherein:

a guide groove is formed on an inner circumferential surface of the container part, at least one elastic piece configured to be bent inward is formed on an outer circumferential surface of a lower end portion of the dial, and a guide protrusion corresponding to the guide groove protrudes from one area of the elastic piece in an outward direction; and
the guide groove and the guide protrusion are formed such that inclined surfaces and slopes that come into contact with each other according to a rotation direction of the dial are different, so that the dial is guided through rotation in a forward direction and prevented from being rotated in a reverse direction.

9. The cosmetic container of claim 8, wherein the guide groove has first and second inclined surfaces formed in opposite directions, the guide protrusion has third and fourth inclined surfaces formed in opposite directions, and each of the first and third inclined surfaces has a gentler slope than each of the second and fourth inclined surfaces.

10. The cosmetic container of claim 9, wherein:

when the forward rotation is applied to the dial, the first and third inclined surfaces come into contact with each other, the elastic piece is bent inward, and the dial performs the forward rotation; and
when the reverse rotation is applied to the dial, the second and fourth inclined surfaces come into contact with each other, and the dial is prevented from performing the reverse rotation.

11. The cosmetic container of claim 5, further comprising a discharge unit including:

a discharge head coupled to the connection part and the transfer tube and configured such that a discharge passage through which the cosmetics are discharged is formed therein; and
a discharge control unit configured to selectively open and close a communication hole through which the cosmetics enter into the discharge head.

12. The cosmetic container of claim 11, wherein:

the discharge control unit includes an elastic member configured to be supported by a bottom surface of an inside of the discharge head and to exert elastic force downward, and an opening/closing member configured to be pressed by the elastic member downward and to seal the communication hole; and
the opening/closing member opens the communication hole due to discharge pressure of the cosmetics attributable to the rotation of the dial.

13. The cosmetic container of claim 11, further comprising an application part configured such that at least part thereof is accommodated in an upper side of the discharge head and the application part applies cosmetics, discharged through the discharge passage, to a skin of the user.

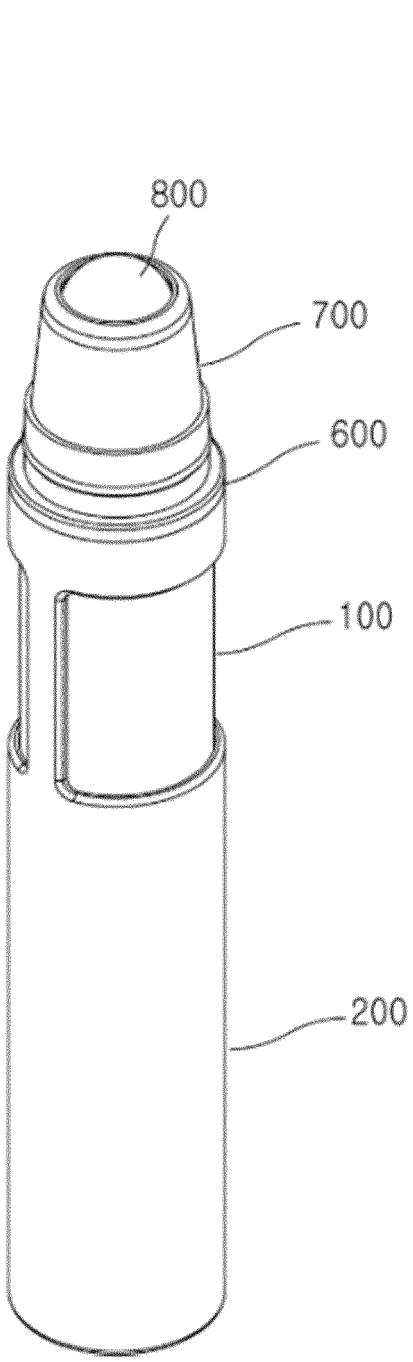


Fig. 1

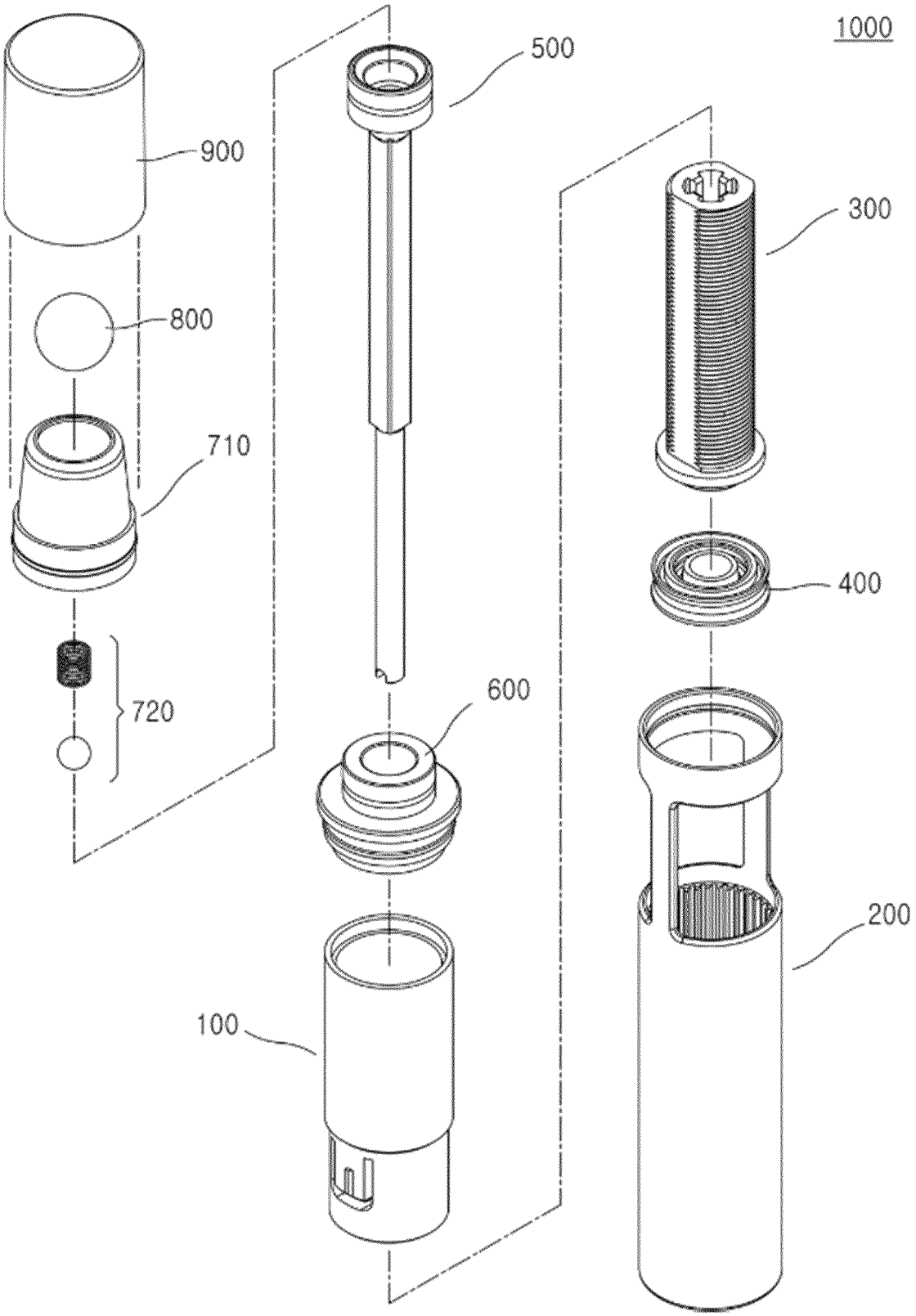


Fig. 2

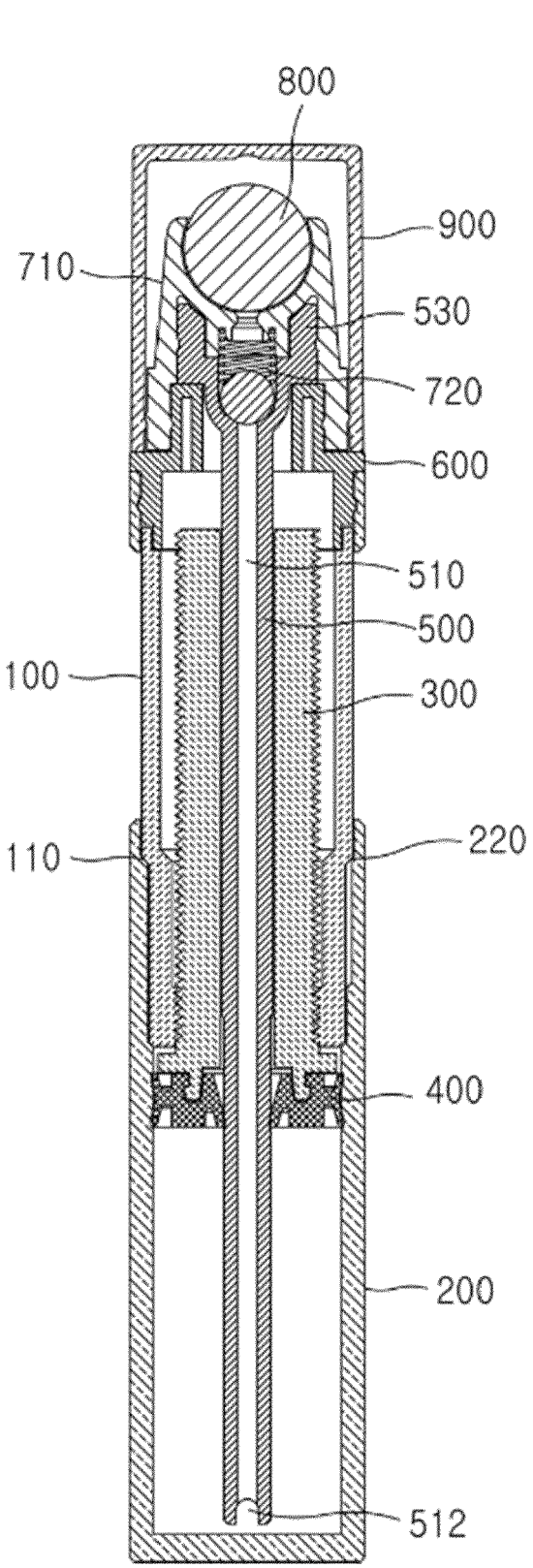
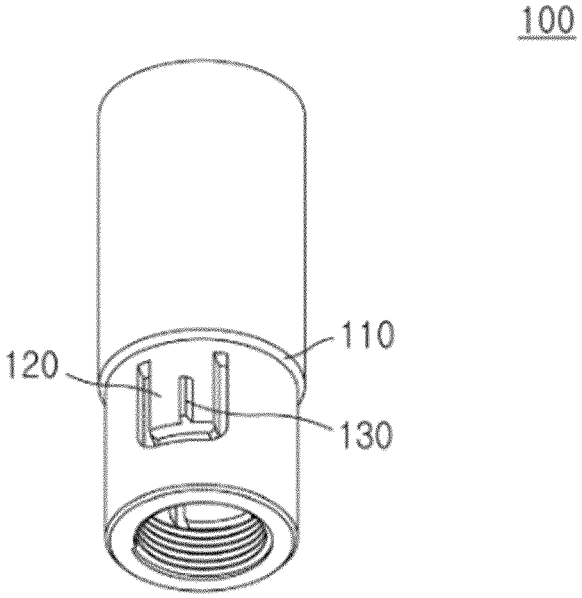


Fig. 3



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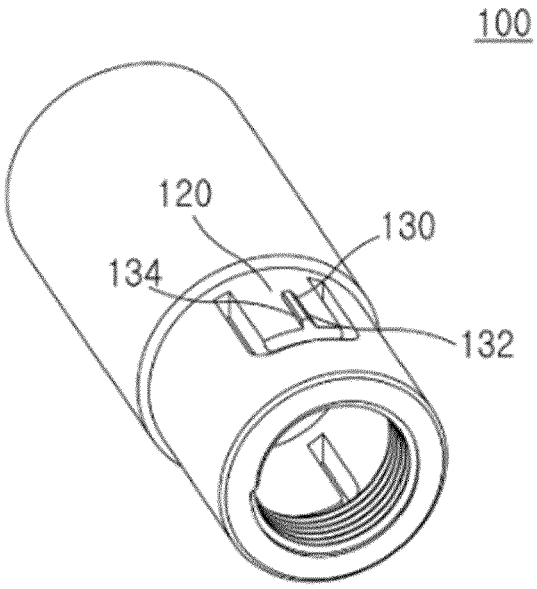
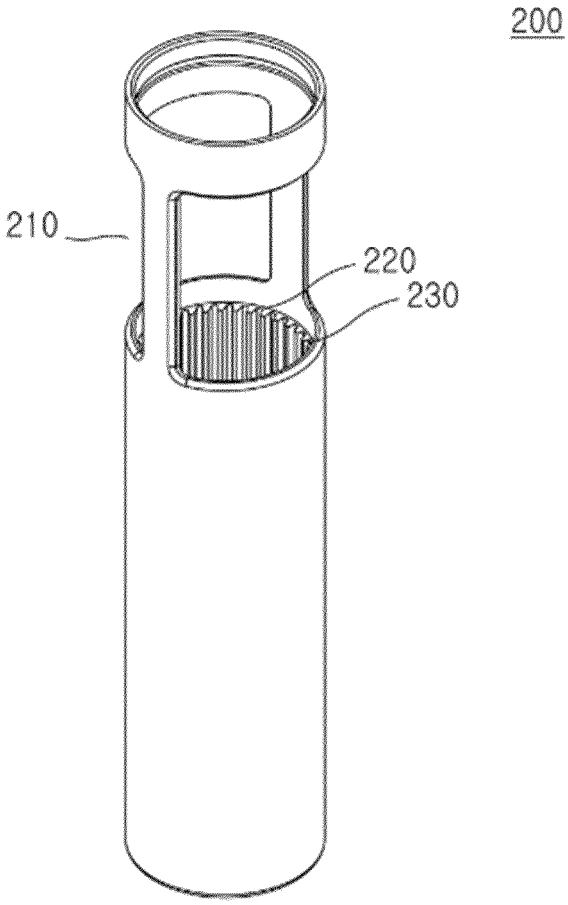


(b)

Fig. 4



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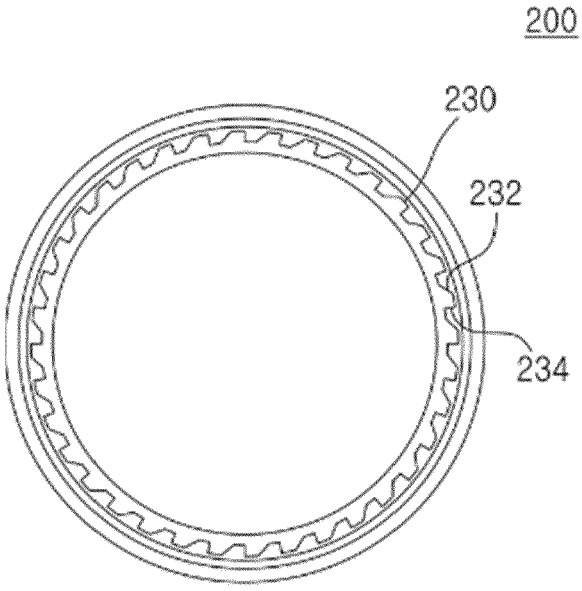
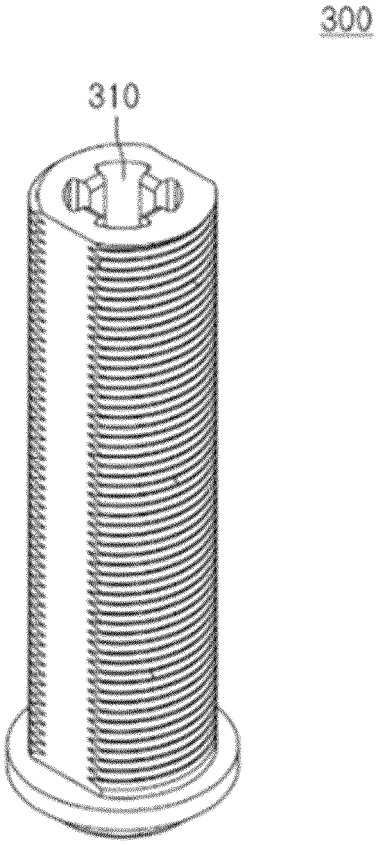


(b)

Fig. 5



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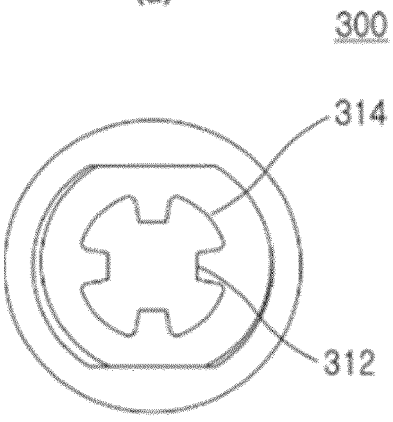

(b)

Fig. 6

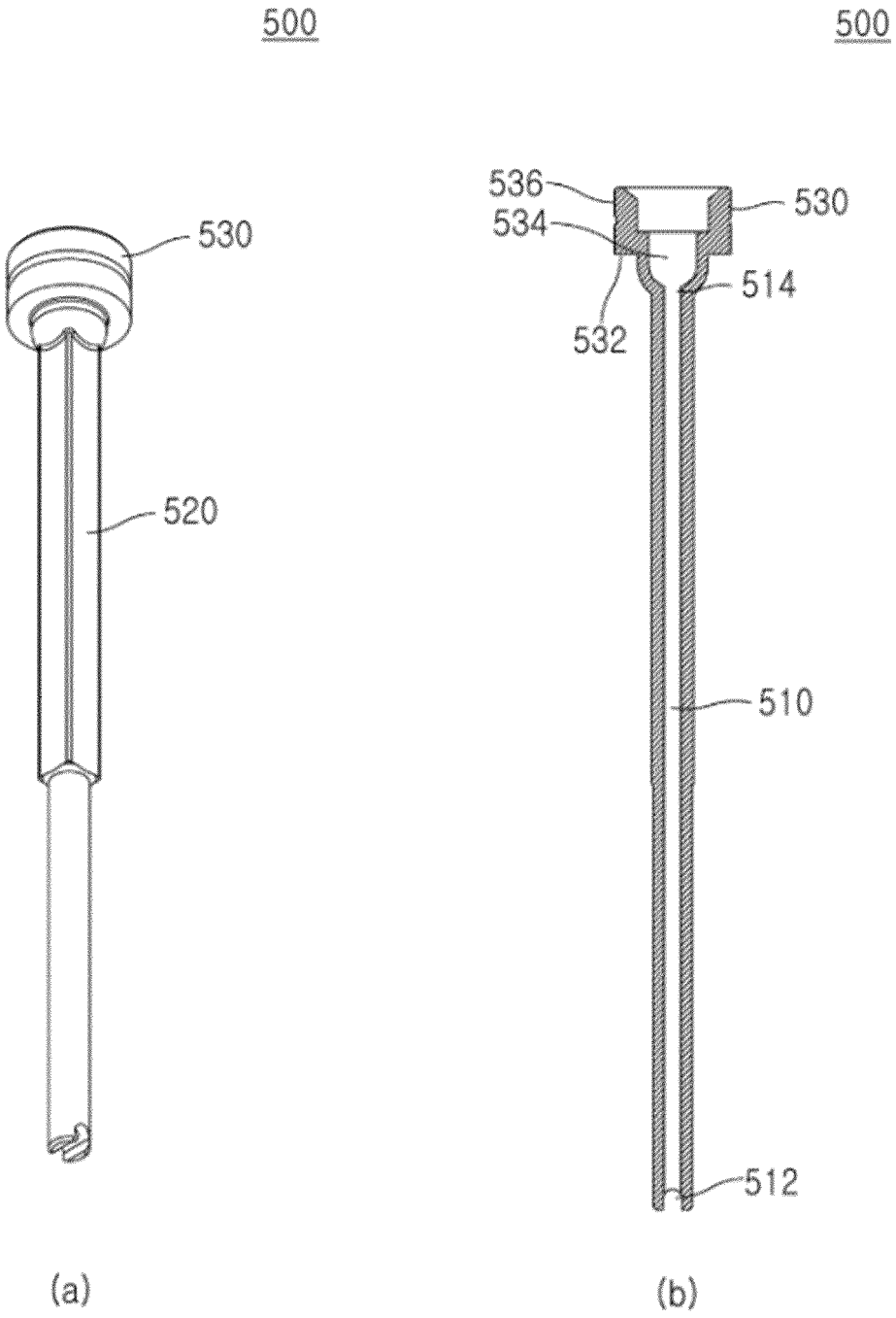

Fig. 7

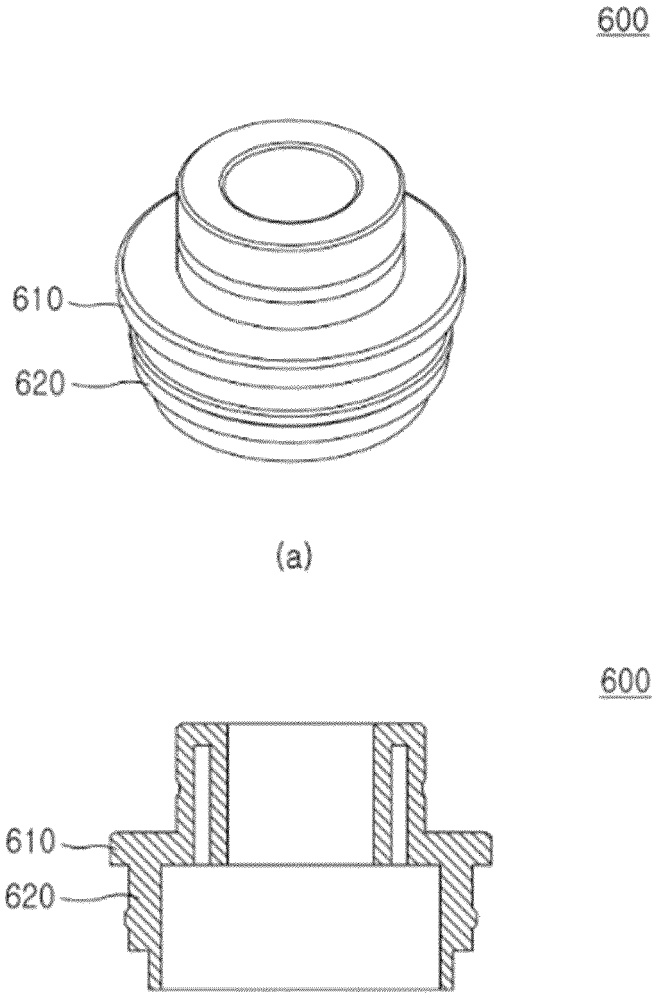

Fig. 8

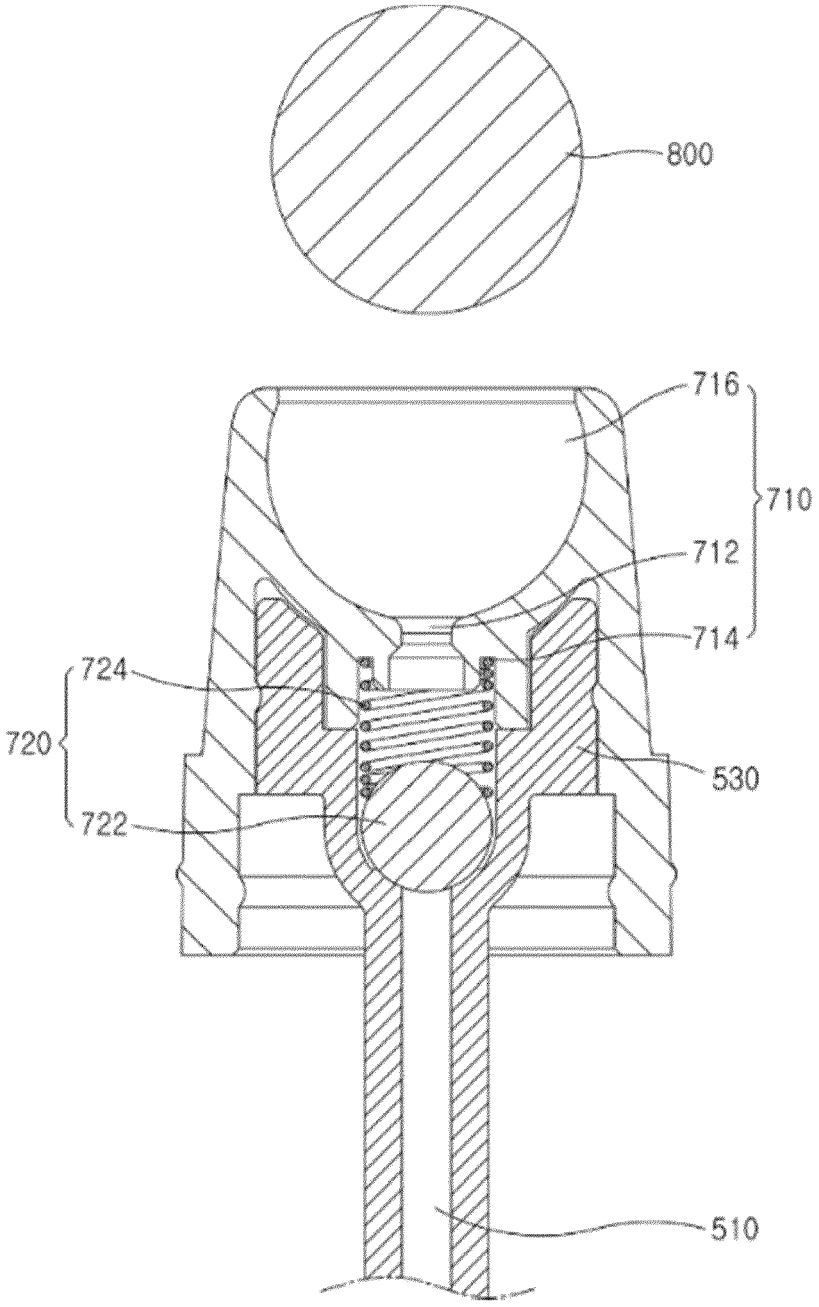

Fig. 9

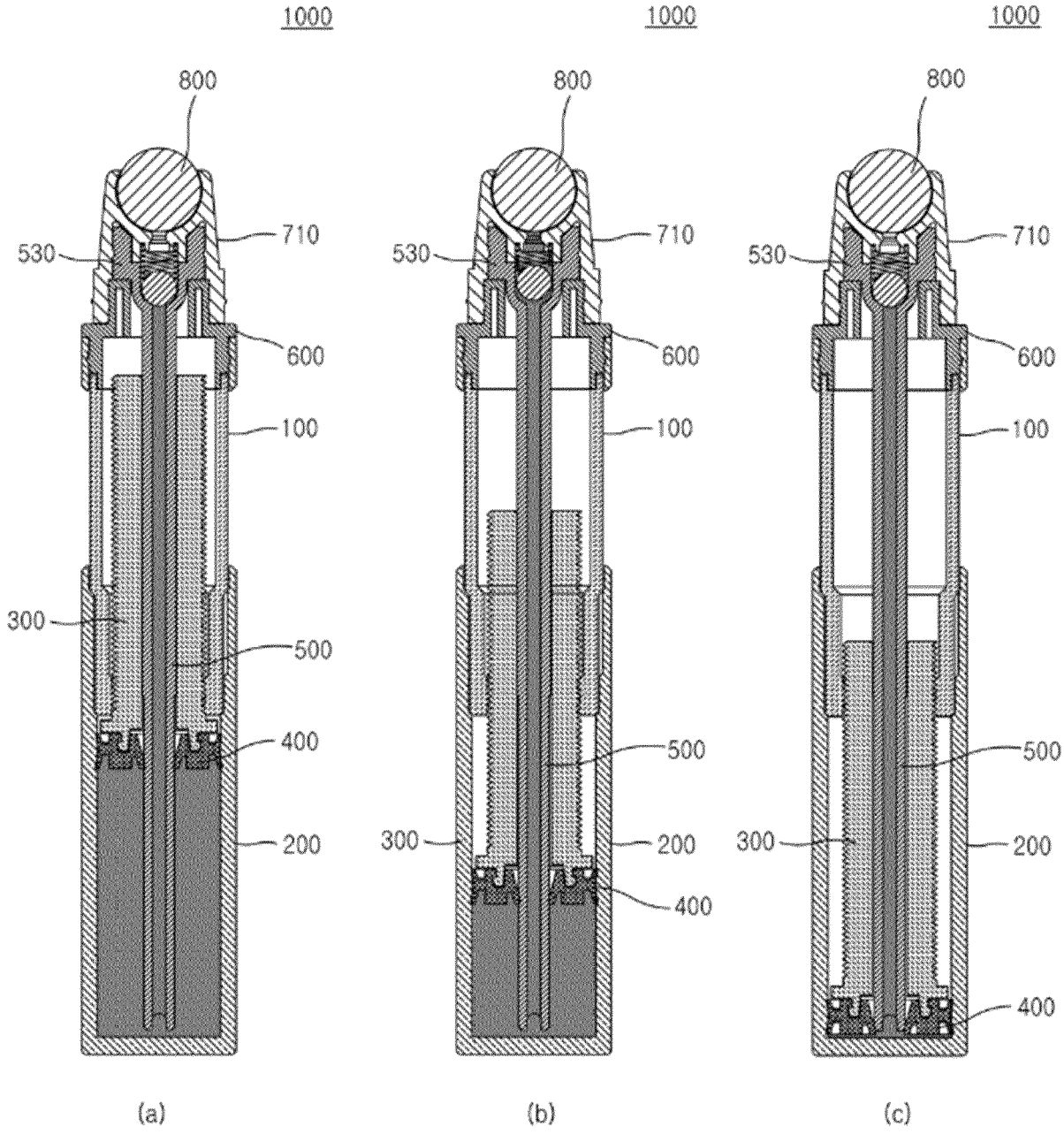
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Fig. 10

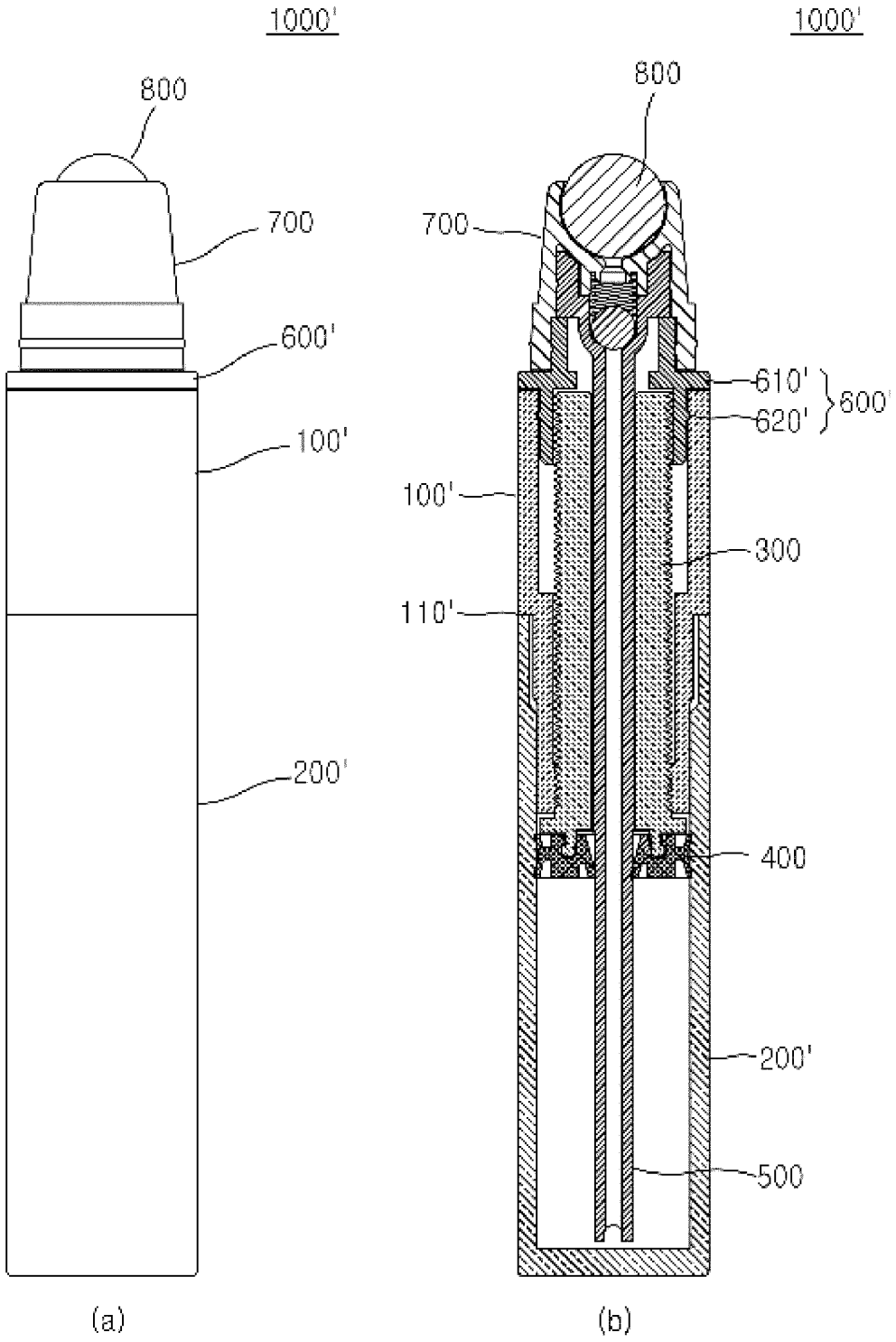
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Fig. 11

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EUROPEAN SEARCH REPORT

Application Number
EP 18 20 6537

DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
X	FR 2 983 047 A3 (ALLEN & THOMAS COSMETIC ACCESSORIES CO LTD [CN]) 31 May 2013 (2013-05-31)	1-7, 11-13	INV. A45D40/20 A45D40/26
A	* page 7, line 16 - page 16, line 20; figures 1-10 *	8-10	

X	KR 2012 0038066 A (SHIN KI BONG [KR]) 23 April 2012 (2012-04-23)	1-7, 11-13	
A	* paragraph [0002] - paragraph [0034]; figures 2-7 *	8-10	

X	WO 2012/102427 A1 (SHIN KI BONG [KR]) 2 August 2012 (2012-08-02)	1-7, 11-13	
A	* page 1, line 22 - page 7, line 16; figures 1-7 *	8-10	

TECHNICAL FIELDS SEARCHED (IPC)

A45D

The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
The Hague	25 March 2019	Ehrsam, Sabine

CATEGORY OF CITED DOCUMENTS

X : particularly relevant if taken alone
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EPO FORM 1503 03.82 (P04C01)

ANNEX TO THE EUROPEAN SEARCH REPORT ON EUROPEAN PATENT APPLICATION NO. EP 18 20 6537

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25-03-2019

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
FR 2983047 A3	31-05-2013	NONE	
KR 20120038066 A	23-04-2012	NONE	
WO 2012102427 A1	02-08-2012	NONE	

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For more details about this annex : see Official Journal of the European Patent Office, No. 12/82

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