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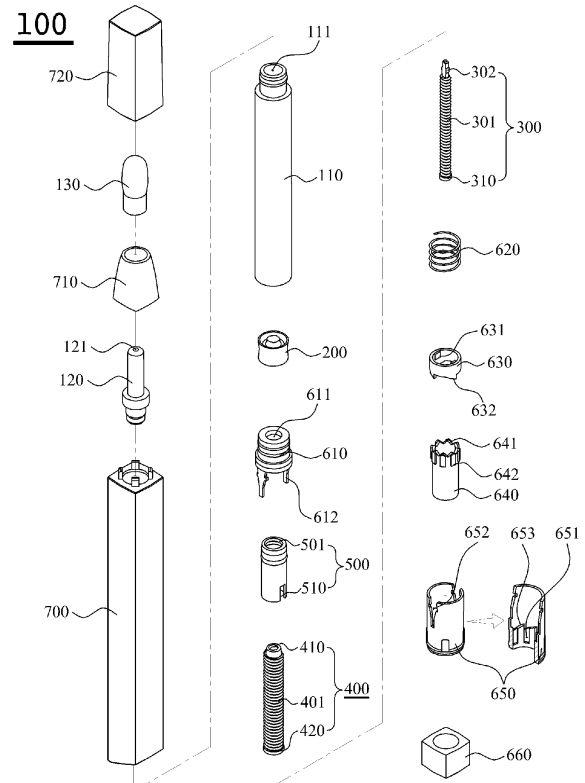
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(54) **BUTTON-TYPE PENCIL COSMETIC DISPENSER**

(57) Disclosed herein is a button-type pencil cosmetic dispenser, in which the structure of raising a piston is made compact, thereby allowing a greater amount of contents to be stored in the body of the dispenser, and in which a button type is adopted for discharging the contents, thereby allowing the contents to be discharged conveniently with one hand.

Fig. 2



Description

BACKGROUND

[0001] The present invention relates to a button-type pencil cosmetic dispenser, the button-type pencil cosmetic dispenser including a container body (110) forming a discharging hole (111), through which contents is discharged, at an upper portion thereof; a piston (200) discharging contents to the discharging hole (111) while ascending/descending inside the container body (110); a first rotation member (300) coupled at a bottom surface of the piston (200), forming a first screw thread (301) at an outer circumferential surface thereof, a flat surface (302) vertically cut flat at an upper end part thereof, and a protrusion (310) at a lower end part; a second rotation member (400) screw-coupled with the first screw thread (301) of the first rotation member (300), comprising an engaging screw protrusion part (410) which controls an upward movement of the first rotation member (300) when meeting the protrusion (310), and further comprising a second screw thread (401) at an outer circumferential surface thereof; a third rotation member (500), screw-coupled with the second rotation member (400) and provided with a third screw thread (501) which is screw-coupled with the second screw thread (401); and a rotation conversion means (600) coupled to the third rotation member (500), and rotating the third rotation member (500) to one side direction according to a vertical motion of a button (660).

[0002] Generally, a pencil-type cosmetic dispenser is used by discharging contents stored inside a dispenser through a discharging hole by rotating a handle to one side direction, and mostly, contents stored in the dispenser are liquid type.

[0003] Conventional pencil-type cosmetic dispensers as in the above are usually screw types, and in case of a screw type, a screw which raises a piston is equipped at a lower portion of a dispenser.

[0004] Due to this, there should be an enough height to hold the length of a screw which raises the piston, and thus an unnecessary space is needed. Therefore, there arises a difficulty in storing a lot of amount of contents inside the dispenser.

[0005] Additionally, a user should hold a dispenser with one hand and rotate a handle with the other hand in order to discharge contents, causing a problem of using both hands.

SUMMARY

[0006] The present invention is devised to solve such problems described in the above and to provide a button-type pencil cosmetic dispenser manufactured by adopting a compact structure of raising a piston, such that the dispenser can not only hold more contents inside the container body, but also a user can easily discharge contents with one hand.

[0007] To solve such problems in the above, the present invention relates to a button-type pencil cosmetic dispenser, the dispenser characterized to include a button-type pencil cosmetic dispenser; the button-type pencil cosmetic dispenser includes: a container body 110 forming a discharging hole 111, through which contents is discharged, at an upper portion thereof; a piston 200 discharging contents to the discharging hole 111 while ascending/descending inside the container body 110; a first rotation member 300 coupled at a bottom surface of the piston 200, forming a first screw thread 301 at an outer circumferential surface thereof, a flat surface 302 vertically cut flat at an upper end part thereof, and a protrusion (310) at a lower end part; a second rotation member 400 screw-coupled with the first screw thread 301 of the first rotation member 300, comprising an engaging screw protrusion part 410 which controls an upward movement of the first rotation member 300 when meeting the protrusion 310, and further comprising a second screw thread 401 at an outer circumferential surface thereof; a third rotation member 500, screw-coupled with the second rotation member 400 and provided with a third screw thread which is screw-coupled with the second screw thread 401; and a rotation conversion means 600 coupled to the third rotation member 500, and rotating the third rotation member 500 to one side direction according to a vertical motion of a button 660.

[0008] Furthermore, it is characterized that the rotation conversion means 600 further includes a rotation conversion cap 610 provided with a through hole 611 where the second rotation member 400 is formed, and having the third rotation member 500 disposed at an inner portion; a rotation operating member 630 provided for being elastically supported downwards by an elastic member 620 provided at the rotation conversion cap 610, having a coupling protrusion 631 engaged at a coupling groove 510 further formed at the third rotation member 500, and having an inclined surface 632 and a flat part 634 formed in order and in repetition to one side direction at a lower surface thereof; an vertical motion member 640 installed at a lower portion of the rotation operating member 630, having bilateral inclined surfaces 641 at a upper dead end thereof and a rotation preventing protrusion 642 extending along an outer circumferential surface thereof to a downward direction of the bilateral inclined surfaces 641; and an vertical guide 650 engaged at a lower portion of the rotation conversion cap 610, receiving the elastic member 620, the rotation operating member 630 and the vertical motion member 640 at an interior thereof in a state of being engaged with the rotation conversion cap 610, having an unilateral inclined protrusion part 653 formed repeatedly at an upper end thereof along an lower inner circumferential surface thereof, and having an vertical guide groove 651 where each of the rotation preventing protrusions 642 is respectively inserted and guided at a lower end of each of the unilateral inclined protrusion 653.

[0009] Furthermore, it is characterized that the button-

type pencil cosmetic dispenser further includes a discharging member 120 with a movement passage 121 vertically formed; and an application member 130 coupled at the movement passage 121.

[0010] Furthermore, it is characterized that the button-type pencil cosmetic dispenser further includes an outer container 700 with a lower portion open for the button 660 to be exposed; a finishing member 710 coupled at an upper portion of the outer container 700 and fixing and covering a lower portion of the application member 130; and a cover cap 720 detachably coupled to an upper portion of the outer container 700.

[0011] Furthermore, it is characterized that the button-type pencil cosmetic dispenser further includes a separation preventing member 420 provided at a lower end of the second rotation member 400 for preventing the second rotation member 400 from being separated from a third rotation member 500.

[0012] Furthermore, it is characterized that the cross-sectional shape of a piston 200 which corresponds to the cross-sectional shape of an inner wall of the container body 110 may be manufactured into a shape, either an oval or a polygon, which cannot be mutually rotated.

[0013] Since manufactured into a compact structure of ascending a piston 200, the present invention can not only accommodate more contents inside the container body 110 but also discharge the contents easily with one hand by adopting a button type for the content discharge.

BRIEF DESCRIPTION OF THE DRAWINGS

[0014]

FIG. 1 is an exploded perspective view illustrating a configuration of a button-type pencil cosmetic dispenser according to an exemplary embodiment of the present invention.

FIG. 2 is a cross-sectional perspective view illustrating a configuration of a button-type pencil cosmetic dispenser according to an exemplary embodiment of the present invention.

FIGS. 3 is a cross-sectional view illustrating a state of a button-type pencil cosmetic dispenser being descending according to an exemplary embodiment of the present invention.

FIGS. 4 is a cross-sectional view illustrating a state of a button-type pencil cosmetic dispenser being ascending according to an exemplary embodiment of the present invention.

FIGS. 5 is a perspective view illustrating major operational parts of a button-type pencil cosmetic dispenser according to another exemplary embodiment of the present invention.

FIGS. 6 is an operational mimetic diagram illustrating major operational parts of a button-type pencil cosmetic dispenser according to another exemplary embodiment of the present invention.

DETAILED DESCRIPTION OF PREFERRED EMBODIMENTS

[0015] Hereinafter, specific characteristics and advantages 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. Moreover, detailed descriptions related to well-known functions or configurations will be ruled out in order not to unnecessarily obscure subject matters of the present invention.

[0016] A button-type pencil cosmetic dispenser 100 of the present invention, as illustrated in FIGS. 1 and 2 in a large scale, includes a container body 110, a piston 200, a first rotation member 300, a second rotation member 400, a third rotation member 500, and a rotation conversion means 600.

[0017] Firstly, a container body 110 will be described. The container body, as illustrated in FIGS. 2 and 3, stores contents at an interior thereof, and has a discharging hole 111, where contents is discharged, at an upper portion thereof.

[0018] Next, a piston 200 will be described. The piston 200, as illustrated in FIGS. 2 and 3, discharges contents through the discharging hole 111 as ascending/descending inside of the container body 110.

[0019] Next, the first rotation member 300, coupled to a lower surface of the piston, as illustrated in FIG. 2, is coupled to a lower surface of the piston 200, and has a first screw thread 301 provided at an outer circumferential surface thereof, a flat surface 302 cut flat vertically provided at an upper end thereof, and a protrusion 310 provided at a lower end thereof.

[0020] Next, a second rotation member 400 will be described. The second rotation member 400, as illustrated in FIGS. 2 and 3, is provided with an engaging screw protrusion part 410 which is screw-coupled, fitted with the first screw thread 301 of the first rotation member 300, and controls an upward movement of the first rotation member 300 when meeting the protrusion 310, further comprising a second screw thread 401 at an outer circumferential surface thereof.

[0021] The protrusion 310 in the above controls the upward movement by the engaging screw protrusion part 410 formed at an upper end of the second rotation member 400 and thereby prevents the first rotation member 300 from being separated from the second rotation member 400.

[0022] Furthermore, the protrusion 310 induces the second rotation member 400 to ascend after the first rotation member 300 reaches a top dead point.

[0023] Meanwhile, it is preferred that a separation preventing member 420 is provided at a lower end of the second rotation member 400 for preventing the second rotation member 400 from being separated from a third rotation member 500.

[0024] Meanwhile, it is preferred that the piston 200 is made to have only a vertical movement inside the con-

tainer body 110, but not to have a rotational movement. At this time, the rotational force delivered to the piston 200 through the first rotation member 300 and the second rotation member 400 is far smaller than the operational force delivered for the piston 200 to ascend/descend by the first rotation member 300. Therefore, an ascending distance while the first rotation member 300 or the second rotation member 400 is making one rotation becomes a pitch of the first screw thread 301 or the second screw thread 401. Since a torque applied during one rotation, assuming there is no work loss, is converted into a force applied while ascending as much as the ascending distance, a rotational force by the torque is much smaller than the operational force delivered for ascending/descending. Accordingly, whereas the rotational force is much smaller than a frictional force received when the piston 200 contacts an inner wall of the container body 110, the operational force received for ascending/descending is larger than the frictional force received when the piston 200 contacts an inner wall of the container body 110, such that the piston 200 can be maintained not to be rotated on the container body 110, simultaneously making an ascending movement.

[0025] This principle can be summarized as the followings: 'the rotational force < the frictional force received when the piston 200 contacts an inner wall of the container body 110 < the operational force delivered for ascending/descending'. Accordingly, it is preferred that a shape and a material should be determined for the piston 200 so as to satisfy such conditions.

[0026] Meanwhile, in another exemplary embodiment of the present invention, just by making the cross-sectional shape of the piston 200 to a shape, which corresponds to the cross-sectional shape of an inner wall of the container body 110, into a shape, such as an oval or a polygon, it is possible that the piston 200 can make only a vertical movement inside the container body 110, but not a rotational movement.

[0027] Next, a third rotation member 500 will be described. The third rotation member 500, as illustrated in FIGS. 2 and 3, is screw-coupled, fitted with the second rotation member 400, further comprising a third screw thread 501 coupled to a second screw thread 401.

[0028] Next, a rotation conversion means 600 will be described. The rotation conversion means 600, as illustrated in FIGS. 2 and 3, is coupled to the third rotation member 500 and rotates the third rotation member 500 to one side direction according to vertical movement of a button 660.

[0029] As exemplary embodiments of the present invention embodying the rotation conversion means 600, a variety of exemplary embodiments can be possible. As one of the exemplary embodiments, as illustrated in FIGS. 2, 5 and 6, the rotation conversion means 600 is preferred to further comprise a rotation conversion part cap 610, an elastic member 620, a rotation operating member 630, a vertical motion member 640, and a vertical guide 650.

[0030] In this case, the rotation conversion part cap 610, as illustrated in FIGS. 2 and 6, has a through hole 611 formed at an upper portion thereof for the second rotation member 400 to pass through, and is configured to have the third rotation member 500 disposed at an inner portion thereof. Meanwhile, for the vertical guide 650 and the rotation conversion part cap 610 to be engaged, an engagement protrusion 612, as illustrated in FIGS. 2, is preferably provided at a lower portion of the rotation conversion part cap 610, and an engagement groove 652 is provided at an upper portion of the vertical guide 650 for the engagement protrusion 612 to be inserted and coupled.

[0031] The rotation operating member 630, as illustrated in FIGS. 2 and 5, is provided for being supported in a downward direction by the elastic member 620 installed at the rotation conversion part cap 610, with a coupling protrusion 631 engaged at a coupling groove 510 which is formed at the third rotation member 500, and with an inclined surface 632 and a flat part 633 provided in order and in repetition, as illustrated in FIGS. 2, 5 and 6.

[0032] The vertical motion member 640, as illustrated in FIGS. 2 and 6, is provided at a lower portion of the rotation operating member 630, a bilateral inclined surface 641 is provided repeatedly at an upper end thereof, and a rotation preventing protrusion 642 is provided extending in a downward direction of the bilateral inclined surface 641 along an outer circumferential surface.

[0033] Adding to a configuration illustrated in FIGS. 2 and 6, the vertical guide 650, as illustrated in a dotted line in FIG. 5 for indicating along with elements inside, is engaged to a lower portion of the rotation conversion part cap 610, receives the elastic member 620, the rotation operating member 630, and the vertical motion member 640 at an interior thereof at a state of being engaged with the rotation conversion part cap 610, is provided with a unilateral inclined protrusion part 653 repeatedly at an upper end along an lower inner circumferential surface thereof, and is provided with a vertical guide groove 651 wherein each of the rotation preventing protrusion 642 is inserted and guided at each of an unilateral inclined protrusion part 653.

[0034] The operation of the rotation conversion means 600 having a configuration in the above, referring FIG. 6, is described as the followings.

[0035] Firstly, in an early state as illustrated in FIG. 6(a), while the rotation operating member 630 is elastically being supported to a downward direction by the elastic member 620, most portion of the inclined surface 632 is touched with the unilateral inclined protrusion part 653 in a state of the rotation operating member 630 descending, and the rotation preventing protrusion 642 connected with the button 660 is disposed inside the vertical guide groove 651 in a state of the rotation preventing protrusion 642 descending.

[0036] When the button is pressurized in the state above, the vertical motion member 640 starts to ascend accordingly as illustrated in FIG. 6(a). In this case, a ver-

tical side surface 632a connected to the inclined surface 632 and a vertical surface 632b connected to the unilateral inclined protrusion part meet each other and prevent a rotational motion to one side direction, such that the rotation operating member 630 gets to ascend along with the vertical motion member 640 while an upper apex of the bilateral inclined surface 641 of the rotation preventing protrusion 642 is pushing up the inclined surface 632.

[0037] After that, when the button 660 is pressurized to the end as illustrated in FIG. 6c, the bilateral inclined surface 641 and the unilateral inclined protrusion part 653 are connected each other. At this time, the rotation operating member 630 elastically supported to a downward direction by the elastic member 620 descends along the bilateral inclined surface 641 and the unilateral inclined protrusion part 653 which are connected with the inclined surface 632, being rotated by an elastic force of the elastic member 620.

[0038] Lastly, even after the button 660 descends and goes back to the original position, as illustrated in FIG. 6d, the rotation operating member 630, by an elastic force of the elastic member 620, keeps on rotating and descending along the bilateral inclined surface 641 and the unilateral inclined protrusion part 653, and then goes back to an initial state, completing one operational cycle.

[0039] Meanwhile, an ascent/descent and its rotational operation according to the rotation operating member 630 as in the above delivers only the rotational operation to the third rotation member 500 through a coupling protrusion 631 connected to a coupling groove 510 further provided at the third rotation member 500. Through this, thus, the pressurizing the button 660, in general, is converted to a rotational operation of the third rotation member 500. Accordingly, it is possible to discharge contents easily with one hand by employing a button type for the contents discharge.

[0040] Furthermore, for improving user convenience, a button-type pencil cosmetic dispenser of the present invention, as illustrated in FIG. 2, is preferred to further include a discharging member 120 coupled to the discharging hole 111 and vertically provided with a movement passage 121, and an application member 130 coupled to the movement passage 121.

[0041] Meanwhile, for user convenience, as illustrated in FIGS. 1 and 2, it is possible that a button-type pencil cosmetic dispenser of the present invention further includes an outer container 700 which imbeds the container body 110 therein and a lower portion thereof open for the button 660 to be exposed; a finishing member 710 coupled to an upper portion of the outer container 700 and covering and fixing a lower portion of the application member 130; and a cover cap 720 detachably coupled to an upper portion of the outer container 700. In this case, it is possible that the outer container 700 and the cover cap 720 can have the cross-section thereof embodied into a variety of designs such as a circle, a triangle, and a square.

[0042] As described in the above, a button-type pencil

cosmetic dispenser 100 of the present invention, as illustrated in FIGS. 3 and 4, can be manufactured in a compact structure wherein a piston can be raised by adopting a configuration wherein a first rotation member 300 and a second rotation member 400 can be raised in order, such that it is possible to store more contents inside a container body.

[0043] 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. Therefore, those skilled in the art will appreciate that various modifications and other equivalent embodiments are possible from the above embodiments. Accordingly, the scope of the present invention should be defined by the technical spirit of the accompanying claims.

Claims

1. A button-type pencil cosmetic dispenser, the container comprising:

a container body (110) forming a discharging hole (111), through which contents is discharged, at an upper portion thereof;
a piston (200) discharging contents to the discharging hole (111) while ascending/descending inside the container body (110);
a first rotation member (300) coupled at a bottom surface of the piston (200), provided with a first screw thread (301) at an outer circumferential surface thereof, a flat surface (302) vertically cut flat at an upper end part thereof, and a protrusion (310) at a lower end part;
a second rotation member (400) screw-coupled with the first screw thread (301) of the first rotation member (300), provided with an engaging screw protrusion part (310) which controls an upward movement of the first rotation member (300) when meeting the protrusion (410), and further with a second screw thread (401) at an outer circumferential surface thereof;
a third rotation member (500), screw-coupled with the second rotation member (400) and provided with a third screw thread (501) screw-coupled with the second screw thread (401); and
a rotation conversion means (600) coupled to the third rotation member (500), and rotating the third rotation member (500) to one side direction according to a vertical motion of a button (660).

2. The container of claim 1,

wherein the rotation conversion means 600 fur-

ther comprises a rotation conversion cap 610 provided with a through hole 611 where the second rotation member 400 is formed, and having the third rotation member 500 disposed at an inner portion;

a rotation operating member 630 provided for being elastically supported downwards by an elastic member 620 provided at the rotation conversion cap 610, having a coupling protrusion 631 engaged at a coupling groove 510 further formed at the third rotation member 500, and having an inclined surface 632 and a flat part 634 formed in order and in repetition to one side direction at a lower surface thereof;

an vertical motion member 640 installed at a lower portion of the rotation operating member 630, having bilateral inclined surfaces 641 at an upper dead end thereof and a rotation preventing protrusion 642 extending along an outer circumferential surface thereof to a downward direction of the bilateral inclined surfaces 641; and

an vertical guide 650 engaged at a lower portion of the rotation conversion cap 610, receiving the elastic member 620, the rotation operating member 630 and the vertical motion member 640 at an interior thereof in a state of being engaged with the rotation conversion cap 610, having an unilateral inclined protrusion part 653 formed repeatedly at an upper end thereof along an lower inner circumferential surface thereof, and having an vertical guide groove 651 where each of the rotation preventing protrusions 642 is respectively inserted and guided at a lower end of each of the unilateral inclined protrusion 653.

3. The container of claim 2, further comprising a discharging member (120) coupled to the discharging hole (111) and having a movement passage (121) formed vertically; and an application member (130) coupled to the movement passage (121).

4. The container of claim 3, further comprising:

an outer container (700) imbedding the container body (110), with a lower portion open for the button (660) to be exposed;

a finishing member (710) coupled to an upper portion of the outer container (700), and covering and fixing a lower portion of the application member (130); and

a cover cap (720) coupled to an upper portion of the outer container (700).

5. The container of claim 4, further comprising a separation preventing member (420) is provided at a lower end of the second rotation member (400) for

preventing the second rotation member (400) from being separated from a third rotation member (500).

6. The container of any of claim 1 to claim 5, wherein the button-type pencil cosmetic dispenser can be manufactured into a compact structure wherein a cross-sectional shape of a piston (200) corresponding to a cross-sectional shape of an inner wall of the container body (110) is any shape, an oval or a polygon, which cannot be mutually rotated.

Fig. 1

100

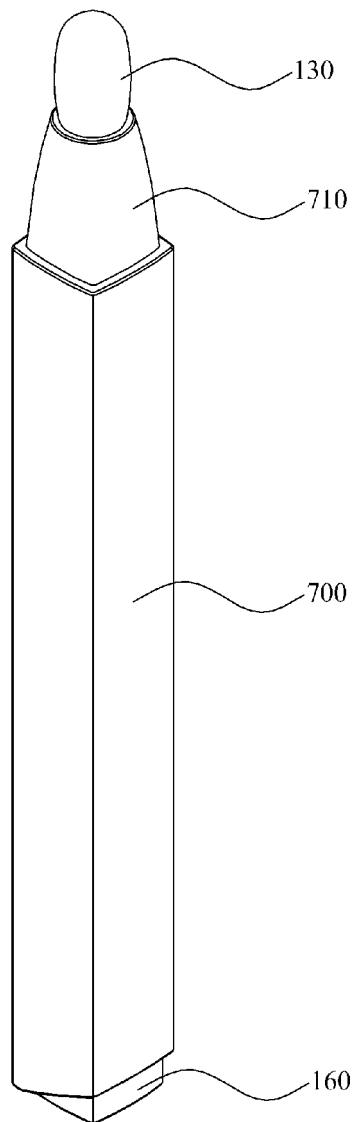


Fig. 2

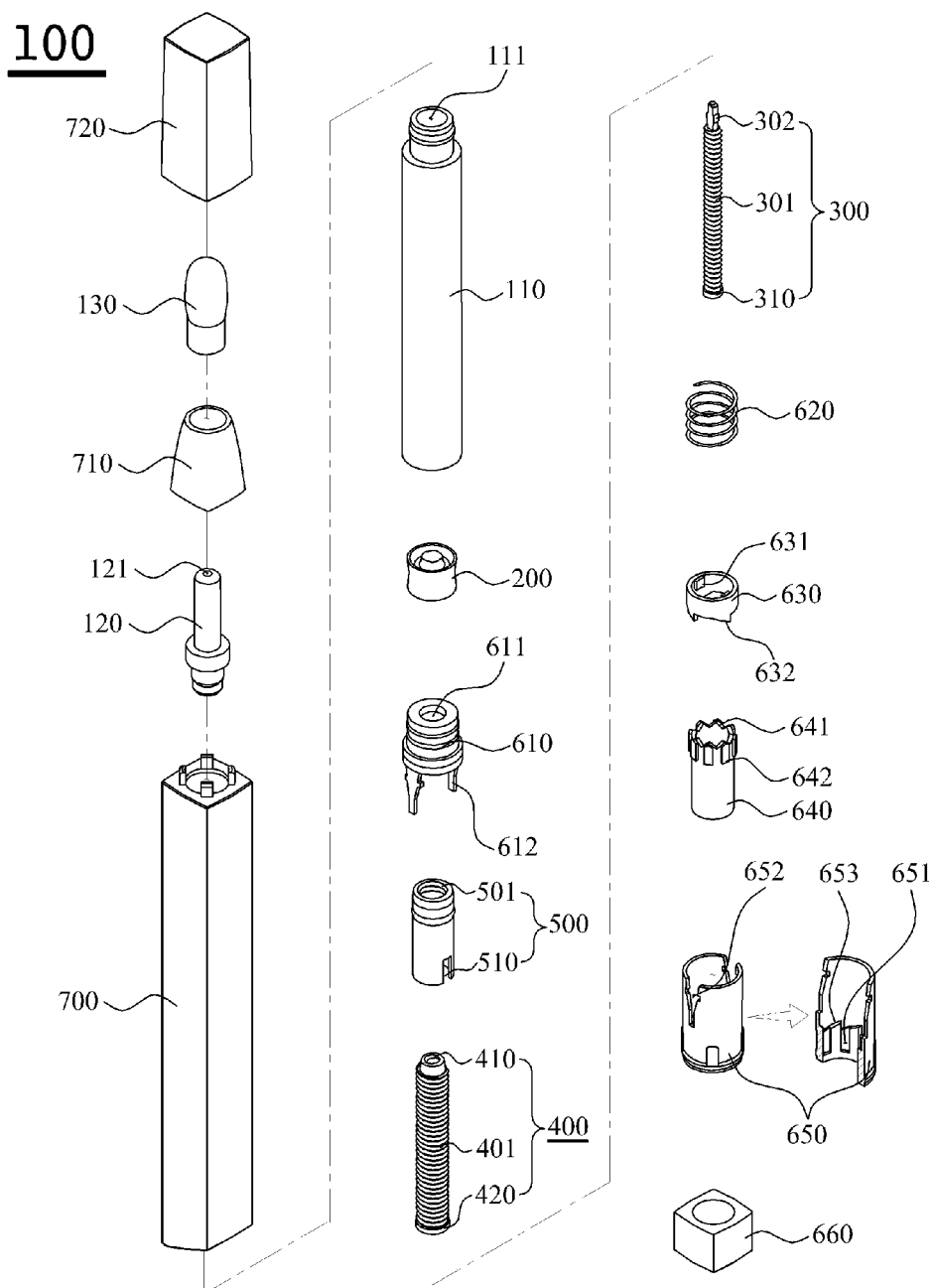


Fig. 3

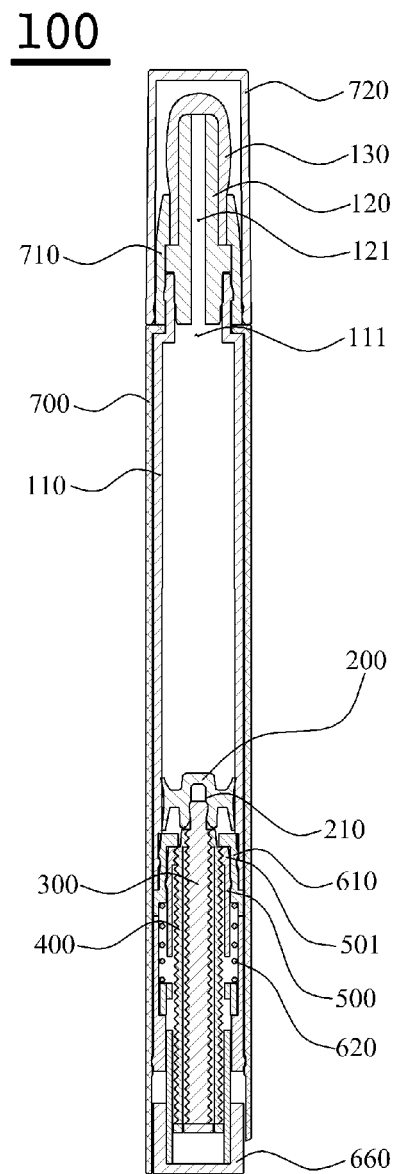


Fig. 4

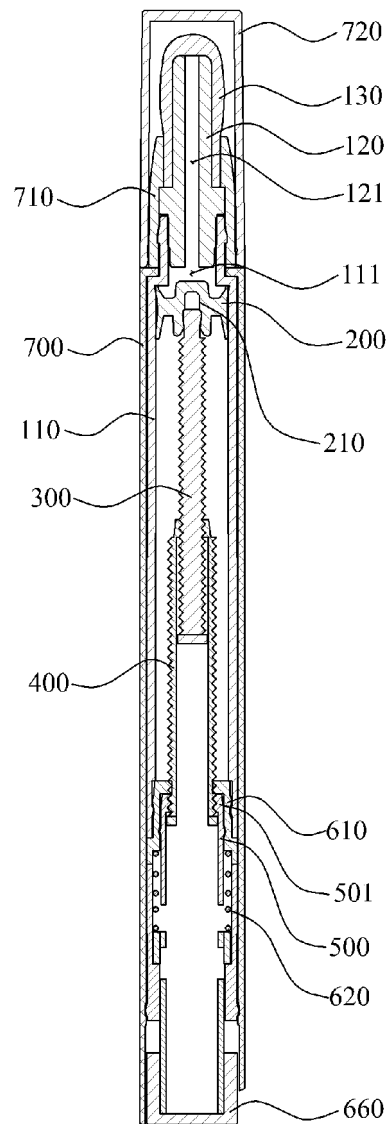


Fig. 5

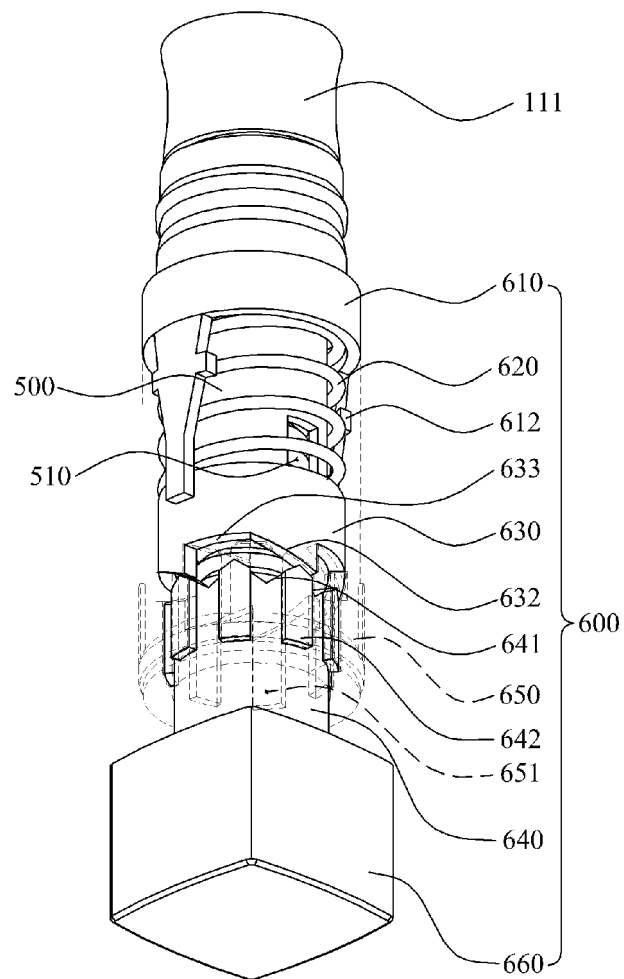
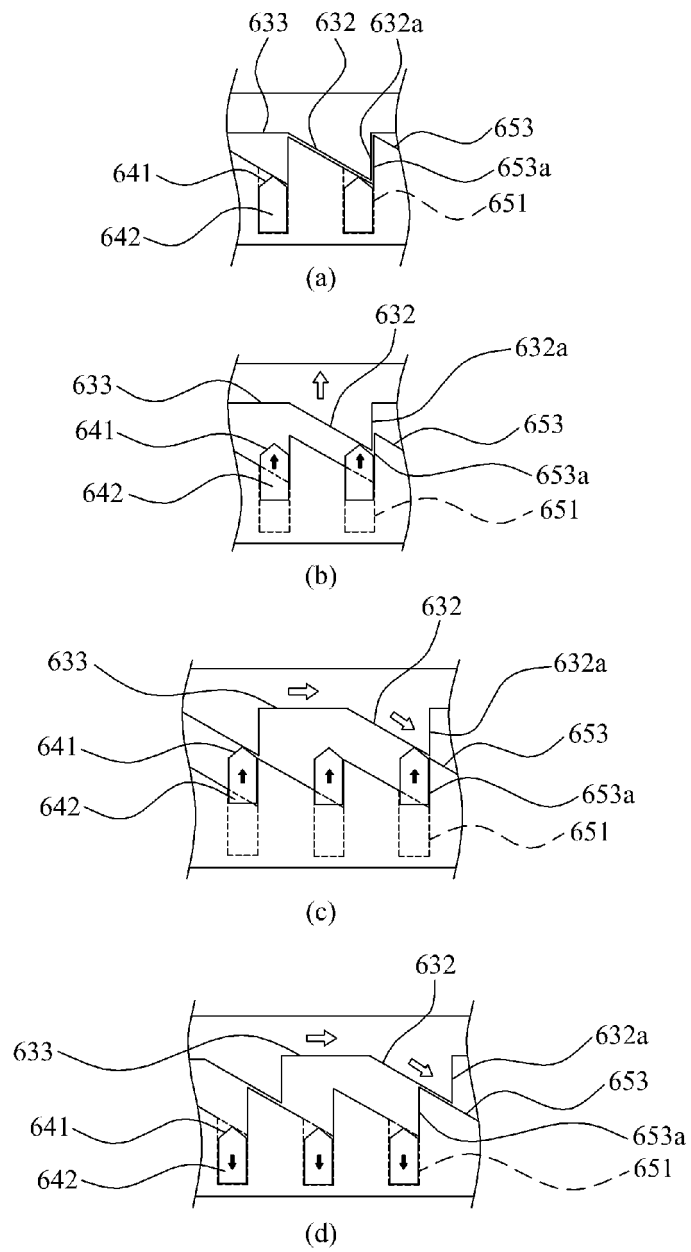


Fig. 6



INTERNATIONAL SEARCH REPORT

International application No.

PCT/KR2015/010636

A. CLASSIFICATION OF SUBJECT MATTER

A45D 34/04(2006.01)i, B65D 83/76(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)

A45D 34/04; A45D 40/26; A46B 11/04; A45D 40/00; A45D 40/20; A45D 40/04; A47L 13/22; B65D 83/76

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: pencil, type, push, button, cosmetics, discharge, piston

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	KR 10-2013-0012841 A (YONWOO CO., LTD.) 05 February 2013 See claims 1-7; paragraphs [0017]-[0053]; figures 1-11.	1-6
Y	US 6688796 B1 (LIU, M. H.) 10 February 2004 See column 2, line 20-column 3, line 49; claims 1-6; figures 1-7.	1-6
A	KR 20-2012-0008059 U (OH, Se Man) 27 November 2012 See paragraphs [0019]-[0075]; figures 1-9.	1-6
A	KR 20-2010-0006433 U (HANA CO., LTD.) 24 June 2010 See the entire document.	1-6
A	KR 10-0735931 B1 (IM, Hyo Bin et al.) 06 July 2007 See the entire document.	1-6

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

* Special categories of cited documents:

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"E" earlier application or patent but published on or after the international filing date

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"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art

"&" document member of the same patent family

Date of the actual completion of the international search

15 JANUARY 2016 (15.01.2016)

Date of mailing of the international search report

02 FEBRUARY 2016 (02.02.2016)

Name and mailing address of the ISA/KR

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Government Complex-Daejeon, 189 Seonsa-ro, Daejeon 302-701,
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Authorized officer

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INTERNATIONAL SEARCH REPORT
Information on patent family members

International application No.

PCT/KR2015/010636

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