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(71) Applicant and
(72) Inventor: **BAE, Myung-Hak** [KR/KR]; 344-23, Mangu1-dong, Jungnang-gu, Seoul 131-231 (KR).

(74) Agent: **LEE, Ji-Yeon**; 3F, Maru Bldg, 942-20 Daichi3-dong, Gangnam-gu, Seoul 135-845 (KR).

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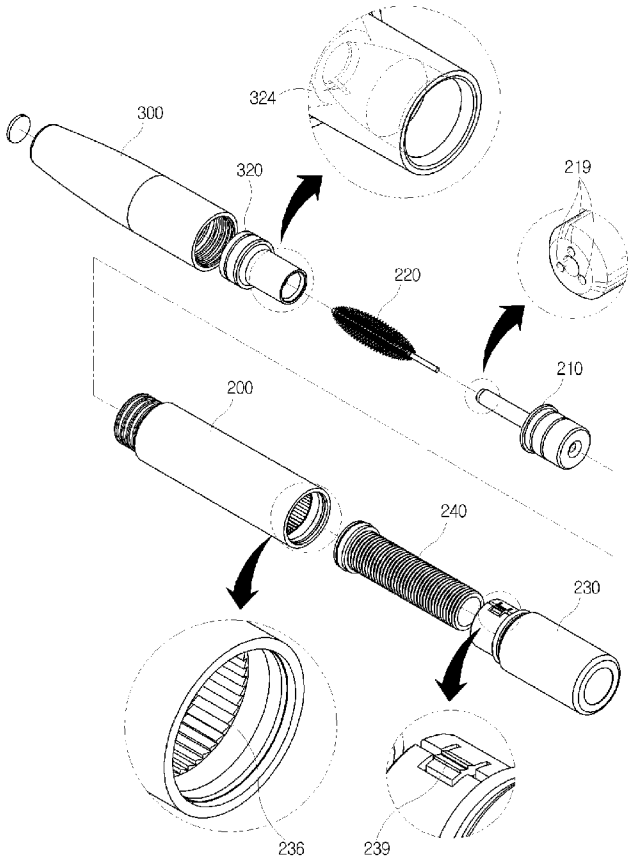
(54) **Title:** MASCARA CONTAINER



(57) **Abstract:** Disclosed herein is a mascara container having a cap and a main body integrated with a brush and a mascara holding part. The main body includes the mascara holding part filled with mascara liquid, a stem hermetically secured to one end of the mascara holding part, a brush coupled to an end of the stem, a handle hermetically coupled to the other end of the mascara holding part, and a piston disposed in the handle and moved toward the mascara holding part by the rotation of the handle. The cap defines space for accommodating the brush and part of the stem. Thus, the mascara holding part integrated with the brush provides mascara liquid to the brush when the handle is rotated. According to the present invention, the mascara holding part always remains sealed, thus preventing mascara liquid from leaking out of the container and being hardened by air.

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For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

Description

MASCARA CONTAINER

Technical Field

[1] The present invention relates, in general, to mascara containers and, more particularly, to a mascara container, which is constructed so that a small amount of mascara liquid charged in a sealed space in the container flows out of the container, thus being convenient to use, and preventing mascara liquid from excessively covering a brush.

Background Art

[2] FIG. 1 is an exploded perspective view schematically showing a conventional mascara container. As shown in FIG. 1, the conventional mascara container includes a handle 100, a brush 120, a stem 110, and a mascara holding barrel 130. The handle 100, the brush 120, and the stem 110 are integrated with each other into a single structure. The mascara is mainly used to darken or thicken the eyelashes. The mascara liquid is applied to the eyelashes using the brush 120.

[3] Typically, when a user desires to apply mascara to the eyelashes, the brush 120 is dipped into the mascara liquid held in the mascara holding barrel 130. Thereafter, the brush is used after being removed from the mascara holding barrel 130.

[4] However, such a mascara container is problematic in that it is impossible to adjust the amount of mascara liquid that is applied to the brush. As a result, if an excessive amount of mascara liquid is applied to the brush, when a user separates the brush from the mascara holding barrel so as to apply mascara to the eyelashes, the mascara liquid may flow down the brush. Meanwhile, when a small amount of mascara liquid is applied to the brush, the brush must be inserted into the mascara holding barrel again, thus inconveniencing a user.

[5] Further, when the brush is separated from the mascara holding barrel, the mascara holding barrel is exposed to the atmosphere. Therefore, the mascara liquid of the mascara holding barrel may be easily hardened, so that it becomes impossible to use the mascara.

[6] The brush of the mascara container must uniformly apply the mascara liquid to the eyelashes, and must have an excellent combing effect so that the eyelashes covered by the mascara liquid do not become tangled with each other. In order to realize these characteristics, conventionally, the part of the brush having a lot of contact with the eyelashes is made of bristles, and opposite ends of the brush having relatively little contact with the eyelashes are made of soft hair. According to another conventional method, the shape of the brush is changed to an elliptical shape or a trapezoidal shape

so as to prevent the mascara liquid from being applied only to part of the eyelashes.

[7] However, although various methods have been proposed, the above-mentioned problems have not been completely solved.

Disclosure of Invention

Technical Problem

[8] Accordingly, the present invention has been made keeping in mind the above problems occurring in the prior art, and an object of the present invention is to provide a mascara container, which prevents mascara liquid stored in the container from being exposed to the atmosphere, thus preventing the mascara liquid from being hardened, therefore allowing mascara to be used for a lengthy period of time.

[9] Another object of the present invention is to provide a mascara container, which prevents mascara liquid, remaining on a brush inserted into the container after the application of makeup has been completed, from flowing out of the container.

Technical Solution

[10] In order to accomplish the objects, the present invention provides a mascara container having a main body and a cap, wherein the main body includes a mascara holding part having hollow space therein, and having on both ends thereof a first opening and a second opening, an interior of the mascara holding part being filled with mascara liquid, a stem secured to the first opening of the mascara holding part, a brush coupled to an end of the stem, a handle rotatably coupled to the second opening of the mascara holding part, and a piston having a cylindrical shape and disposed in the handle, the piston being moved toward the mascara holding part by rotation of the handle, and the cap defines a space for accommodating the brush therein, and is detachably coupled at an end thereof to the first opening of the mascara holding part, the brush and the stem of the main body being inserted into the cap.

[11] The stem of the mascara container is provided with a discharge passage and at least one liquid discharge hole, the discharge passage is a path that passes through an interior of the stem in a longitudinal direction thereof, a first end of the discharge passage being coupled to the mascara holding part, and the brush being secured to a second end of the discharge passage, and the liquid discharge hole is formed around the second end of the discharge passage to which the brush is secured, and is coupled to the discharge passage, the mascara liquid being discharged from the discharge passage through the liquid discharge hole to an area surrounding the brush.

[12] Further, the mascara container is operated such that as the handle is rotated, the piston moves toward the mascara holding part, and the mascara liquid is discharged from the mascara holding part to the liquid discharge hole of the stem due to pressure generated by movement of the piston.

[13] Preferably, a rotating-direction adjusting member comprising threads and a thread groove are provided along respective surfaces of coupling portions of the mascara holding part with the handle, and a first surface and a second surface of each of the threads constituting the rotating-direction adjusting member are formed to have different inclinations, thus allowing the handle to rotate only in one direction.

Advantageous Effects

[14] According to the present invention, a brush and a mascara holding part are integrally manufactured, so that it is convenient to use.

[15] Further, according to the present invention, a mascara holding part filled with mascara liquid is completely sealed, thus preventing mascara liquid from leaking out, and contact between the mascara liquid and the air is completely prevented, thus preventing the mascara liquid from being hardened. As a result, mascara cosmetics can be used for a longer period of time.

Brief Description of the Drawings

[16] FIG. 1 is an exploded perspective view showing a conventional mascara container;

[17] FIG. 2 is a perspective view showing a mascara container, according to a preferred embodiment of the present invention, in which a cap is separated from a main body of the mascara container;

[18] FIG. 3 is a vertical sectional view of FIG. 2;

[19] FIG. 4 is an exploded perspective view showing the mascara container, according to the preferred embodiment of the present invention;

[20] FIG. 5 is a sectional view showing respective parts of the mascara container, according to the preferred embodiment of the present invention;

[21] FIG. 6 is a vertical sectional view of the mascara container, according to the preferred embodiment of the present invention;

[22] FIG. 7 is a sectional view taken along line A-A of FIG. 6;

[23] FIG. 8 is a sectional view illustrating the operation of the mascara container, according to the preferred embodiment of the present invention, in which the cap is separated from the main body; and

[24] FIG. 9 is a sectional view showing the process of discharging mascara liquid from a mascara holding part, so as to illustrate the operation of the mascara container, according to the preferred embodiment of the present invention.

Best Mode for Carrying Out the Invention

[25] Hereinafter, the construction and operation of a mascara container, according to the preferred embodiment of the present invention, will be described in detail with reference to the accompanying drawings. FIG. 2 is a perspective view showing the mascara container, according to the preferred embodiment of the present invention, in

which a cap is separated from a main body of the mascara container, and FIG. 3 is a vertical sectional view of FIG. 2. Referring to FIGS. 2 and 3, the mascara container, according to the preferred embodiment of the present invention, includes a main body 20 and a cap 300. The main body 20 includes a mascara holding part 200 filled with mascara liquid, a stem 210, a brush 220, a handle 230, and a piston 240, which are coupled with each other to form a single structure. The cap 300 has a brush holding space into which the brush and the stem are inserted, with an opening formed in the end of the cap. A packing 320 is mounted to the opening. Thus, the brush and the stem of the main body 20 are constructed to be retracted into or extended from the brush holding space of the cap 300.

[26] Hereinafter, the construction and operation of respective parts of the mascara container, according to the preferred embodiment of the present invention, will be described in detail with reference to FIGS. 4 and 5. FIG. 4 is an exploded perspective view showing the mascara container, according to the preferred embodiment of the present invention, and FIG. 5 is a sectional view showing respective parts of FIG. 4.

[27] The mascara holding part 200 of the main body has a cylindrical shape. An internal space in the mascara holding part 200 is hollow. A first opening 204 and a second opening 206 are provided on opposite ends of the internal space. The first opening 204 of the mascara holding part 200 is sealed when the stem 210 is inserted into the first opening. The second opening 206 is sealed when the piston 240 is inserted into the second opening. The internal space 202, sealed at opposite ends thereof by the stem and the piston, is filled with the mascara liquid.

[28] A discharge passage 212 is defined in the stem 210 in such a way as to pass through the stem 210 in a longitudinal direction thereof. One end 214 of the stem is coupled to the first opening 204 of the mascara holding part 200, and the brush 220 is inserted into the discharge passage defined in the other end 216 of the stem. Further, at least one liquid discharge hole 219, coupled to the discharge passage, is formed at an area adjacent to the area into which the brush is inserted. Thus, when the piston 240 is moved, pressure is applied by the piston to the interior of the mascara holding space. Due to this pressure, the mascara liquid contained in the mascara holding part 200 flows into the end 214 of the stem, passes through the discharge passage 212, and is discharged from the liquid discharge hole 219. In this way, the mascara liquid is applied to the surface of the brush.

[29] According to the preferred embodiment of the present invention, the number of liquid discharge holes 219 is three. However, the shape and the number of the liquid discharge holes may be variously changed according to the concentration of the mascara liquid or the amount to be discharged.

[30] Meanwhile, the handle 230 and the piston 240 are coupled to the second opening

206 of the mascara holding part 200, and serve as a handle. As the piston 240 is moved upwards by rotating the handle 230, a predetermined pressure acts on the mascara holding part 200, so that mascara liquid charged in the mascara holding part 200 is discharged through the liquid discharge holes 219 of the stem 210.

[31] The handle 230 has a cylindrical shape which is hollow and is open at one end 232, with a thread groove 136 formed at a predetermined position on the inner circumferential surface of the handle. Preferably, the thread groove 136 is formed on the inner circumferential surface, which is adjacent to the open end 232. The handle 230 is rotatably coupled to the inner circumferential surface of the second opening 206 of the mascara holding part 200.

[32] The piston 240 has a cylindrical shape, and has on the outer circumferential surface thereof a thread 242 which corresponds to the thread groove provided on the inner circumferential surface of the handle. A first sealing member 244 is provided on one end of the piston. The piston 240 is disposed in the handle 230, and the first sealing member 244 is inserted into the second opening 206 of the mascara holding part 200. The size of this first sealing member 244 is the same as the sectional area of the second opening of the mascara holding part, so that the first sealing member 244 is fitted into the second opening 206.

[33] Meanwhile, the piston 240 is moved to the mascara holding part by rotating the handle.

[34] The piston 240 further includes a sealing-member locking groove 246 and a second sealing member 248 fitted into the sealing-member locking groove, thus preventing mascara liquid in the mascara holding part 200 from leaking to the handle 230. The sealing-member locking groove 246 is formed at a predetermined position on the outer circumferential surface of the piston in such a way as to be adjacent to the first sealing member 244. The second sealing member 248 may comprise an O-ring. Preferably, the sealing-member locking groove 246 has a shape and size suitable for locking the second sealing member 248.

[35] FIG. 7 is a sectional view showing the part of the mascara holding part 200 that is coupled with the handle 230. Referring to FIG. 7, one end of the handle 230 is secured to the inner circumferential surface of the second opening 206. A rotating-direction adjusting member 236 is provided on the inner circumferential surface of the mascara holding part, and a groove 239 is provided on the outer circumferential surface of the handle at a position corresponding to the rotating-direction adjusting member 236, and engages with the rotating-direction adjusting member 236. The rotating-direction adjusting member 236 is formed by continuously arranging threads, first and second surfaces of which have different inclination angles, in one row. In particular, the inclination angle of the first surface is preferably oriented at an angle of 90 degrees with

respect to the surface of the mascara holding part. As such, by providing different inclination angles to the first surface and the second surface defining each thread of the rotating-direction adjusting member 236, the handle is rotated only in a direction having a gentle inclination angle, so that the rotation of the handle in the reverse direction is prevented.

[36] Further, as the handle is rotated to discharge the mascara liquid from the mascara holding part to the brush, the rotating-direction adjusting member of the mascara holding part engages with the corresponding groove of the handle, which makes a clicking sound. As a result, a user can confirm the discharge of the mascara liquid.

[37] The packing 320 is mounted to the inner circumferential surface of one end 302 of the cap 300. The packing defines a brush holding space in the cap to hold the brush and the stem of the main body 20 therein. The interior of the cap 300 of the mascara container, according to the preferred embodiment of the present invention, is sealed by the stem and the packing when the brush and the stem are inserted into the cap. Further, a predetermined amount of mascara liquid can be filled in the cap.

[38] Meanwhile, a thread is formed on the inner circumferential surface of the end 302 of the cap 300 and engages with the outer circumferential surface of the first opening 204 of the mascara holding part 200 through a screw-type fastening method. A thread groove is formed on the outer circumferential surface of the first opening of the mascara holding part 200. Thus, the cap is coupled to the main body through a screw-type fastening method.

[39] An air discharge groove 324, having a predetermined length, is provided on the inner circumferential surface of the packing 320. Thus, when the cap 300 is opened or the brush is inserted into the cap, air confined in the cap is discharged through the air discharge groove 324.

[40] Hereinafter, the operation of applying mascara liquid to the brush of the mascara container constructed as described above will be described in detail with reference to FIGS. 8 and 9.

[41] As shown in FIG. 8, to put on the mascara, the cap 300 is separated from the main body 20. Thereafter, the brush of the main body can be used.

[42] The operation of applying the mascara liquid to the brush will be described below with reference to FIG. 9.

[43] When a user rotates the handle 230 of the mascara container in the state in which the cap 300 is coupled to the main body 20, as shown in (a) of FIG. 9, the piston 240 moves in the direction shown by the arrow, as shown in (b) of FIG. 9.

[44] Referring to (b) of FIG. 9, as the handle is rotated, the piston 240 and the first sealing member 244 move up in the direction shown by the arrow. Due to the pressure resulting from the upward movement of the piston, the mascara liquid in the mascara

holding part 200 flows through the discharge passage 212 of the stem 210 and the liquid discharge holes 219 to the area surrounding the brush.

[45] When a user separates the main body 20 from the cap 300, the mascara liquid, discharged through the liquid discharge holes 219 to the area surrounding the brush, passes through the packing 320 of the cap 300, and is evenly applied to the entire surface of the brush.

[46] As such, the handle 230 of the main body 20 is rotated to discharge the mascara liquid to the area surrounding the brush 220. Thereafter, the cap 300 is separated from the main body 20. Thus, the mascara liquid is evenly applied to the entire surface of the brush 220 by the packing. Thereafter, a user applies the mascara to the eyelashes using the brush. Further, after the application of the makeup is finished, the cap 300 is coupled to the main body 20. In such a state, the mascara container is stored.

[47] According to the preferred embodiment of the present invention, the brush 220 and the stem 210 of the main body 20 are inserted into or separated from the cap 300.

[48] Although the preferred embodiment of the present invention has been disclosed for illustrative purposes, those skilled in the art will appreciate that various modifications, additions and substitutions are possible, without departing from the scope and spirit of the invention as disclosed in the accompanying claims.

Industrial Applicability

[49] As described above, the present invention provides a mascara container, which is convenient to use and can be used for a lengthy period of time, thus being widely applicable to the cosmetics field.

Claims

[1] A mascara container having a main body and a cap,
wherein the main body comprises:
a mascara holding part having hollow space therein, and having on both ends thereof a first opening and a second opening, an interior of the mascara holding part being filled with mascara liquid;
a stem secured to the first opening of the mascara holding part;
a brush coupled to an end of the stem;
a handle rotatably coupled to the second opening of the mascara holding part; and
a piston having a cylindrical shape and disposed in the handle, the piston being moved toward the mascara holding part by rotation of the handle, and
the cap defines a space for accommodating the brush therein, and is detachably coupled at an end thereof to the first opening of the mascara holding part, the brush and the stem of the main body being inserted into the cap.

[2] The mascara container according to claim 1, wherein:
the stem is provided with a discharge passage and at least one liquid discharge hole,
the discharge passage is a path that passes through an interior of the stem in a longitudinal direction thereof, a first end of the discharge passage being coupled to the mascara holding part, and the brush being secured to a second end of the discharge passage, and
the liquid discharge hole is formed around the second end of the discharge passage to which the brush is secured, and is coupled to the discharge passage, the mascara liquid being discharged from the discharge passage through the liquid discharge hole to an area surrounding the brush.

[3] The mascara container according to claim 2, wherein the mascara container is operated such that as the handle is rotated, the piston moves toward the mascara holding part, and the mascara liquid is discharged from the mascara holding part to the liquid discharge hole of the stem due to pressure generated by movement of the piston.

[4] The mascara container according to claim 1, wherein the piston further comprises:
a sealing-member locking groove provided on an outer circumference of the piston; and
a sealing member disposed along the sealing-member locking groove.

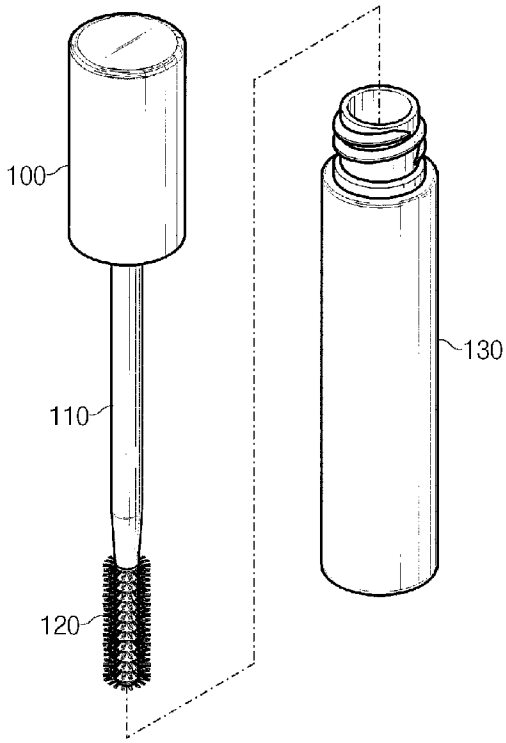
[5] The mascara container according to claim 1, wherein the cap further comprises a

packing to completely seal a gap between the cap and the brush inserted into the cap, an inner circumferential surface of the packing being cut to a predetermined length, thus providing an air discharge groove.

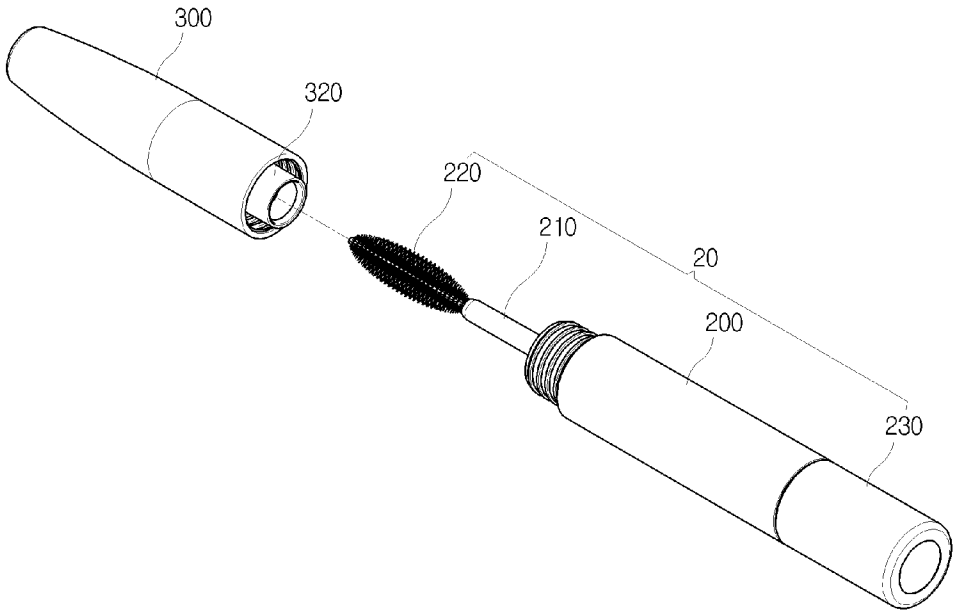
[6] The mascara container according to claim 1, wherein a rotating-direction adjusting member comprising threads and thread grooves are provided along respective surfaces of coupling portions of the mascara holding part with the handle, and a first surface and a second surface of each of the threads constituting the rotating-direction adjusting member are formed to have different inclinations, thus allowing the handle to rotate only in one direction.

[7] The mascara container according to claim 5, wherein the mascara liquid is injected into a brush holding space which is defined in the cap and is sealed by the packing.

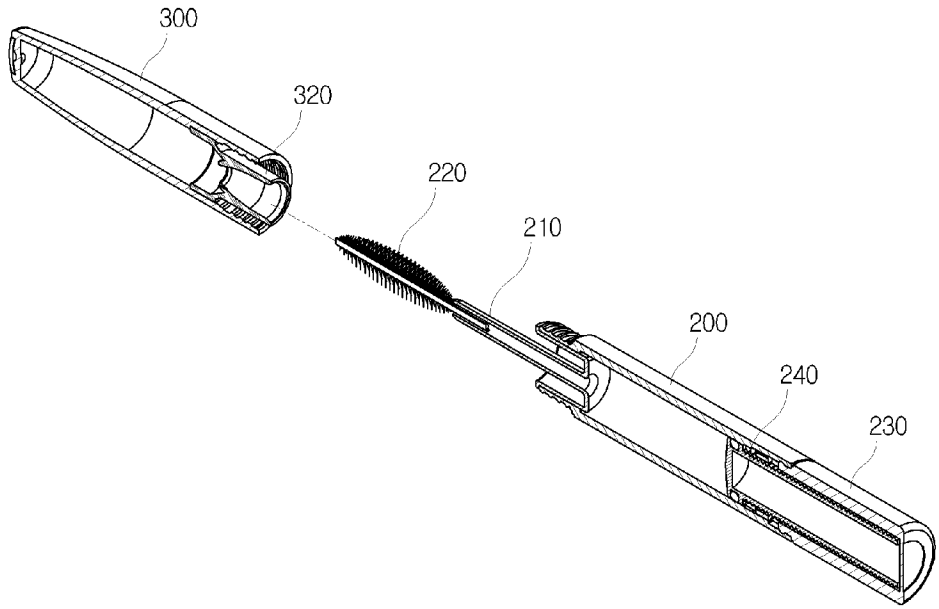
[Fig. 1]



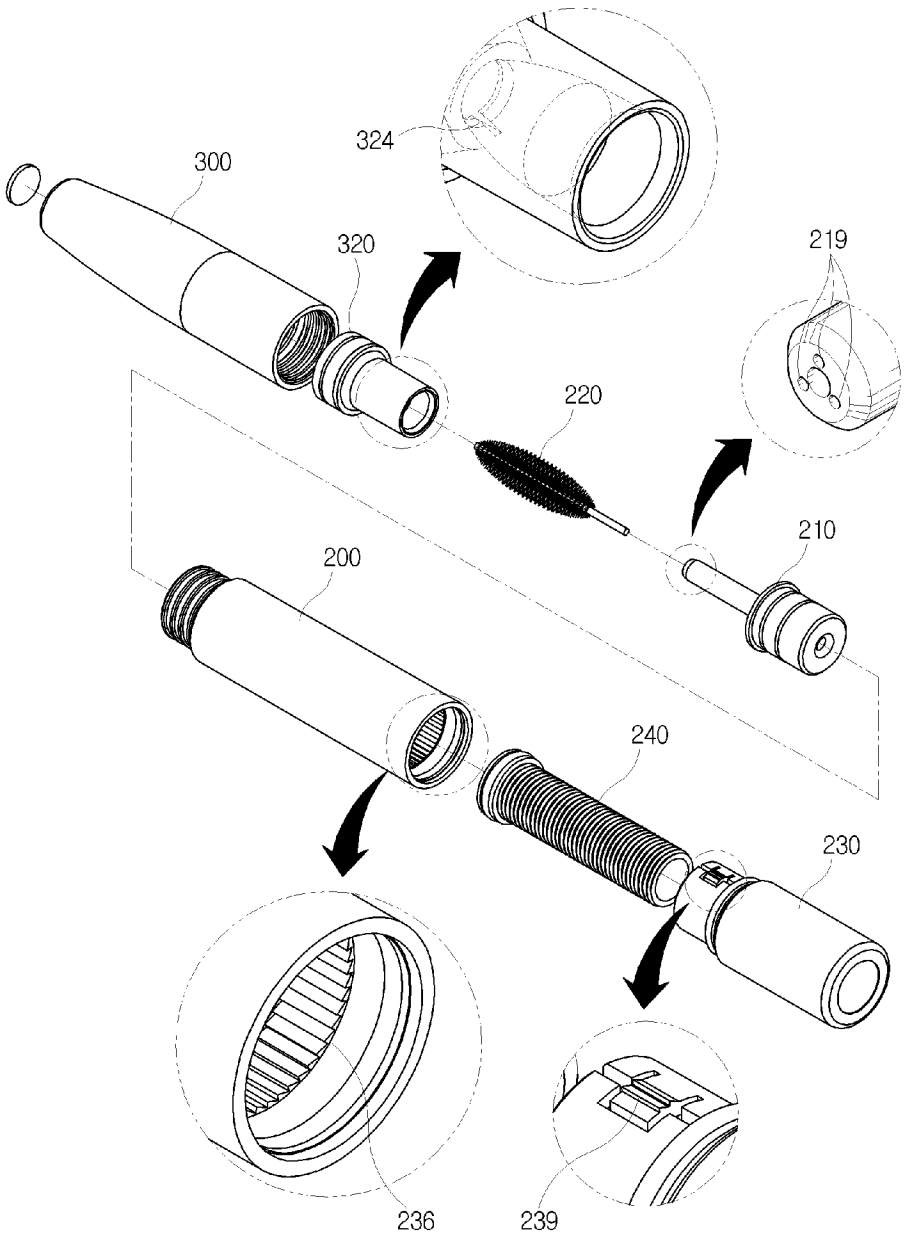
[Fig. 2]



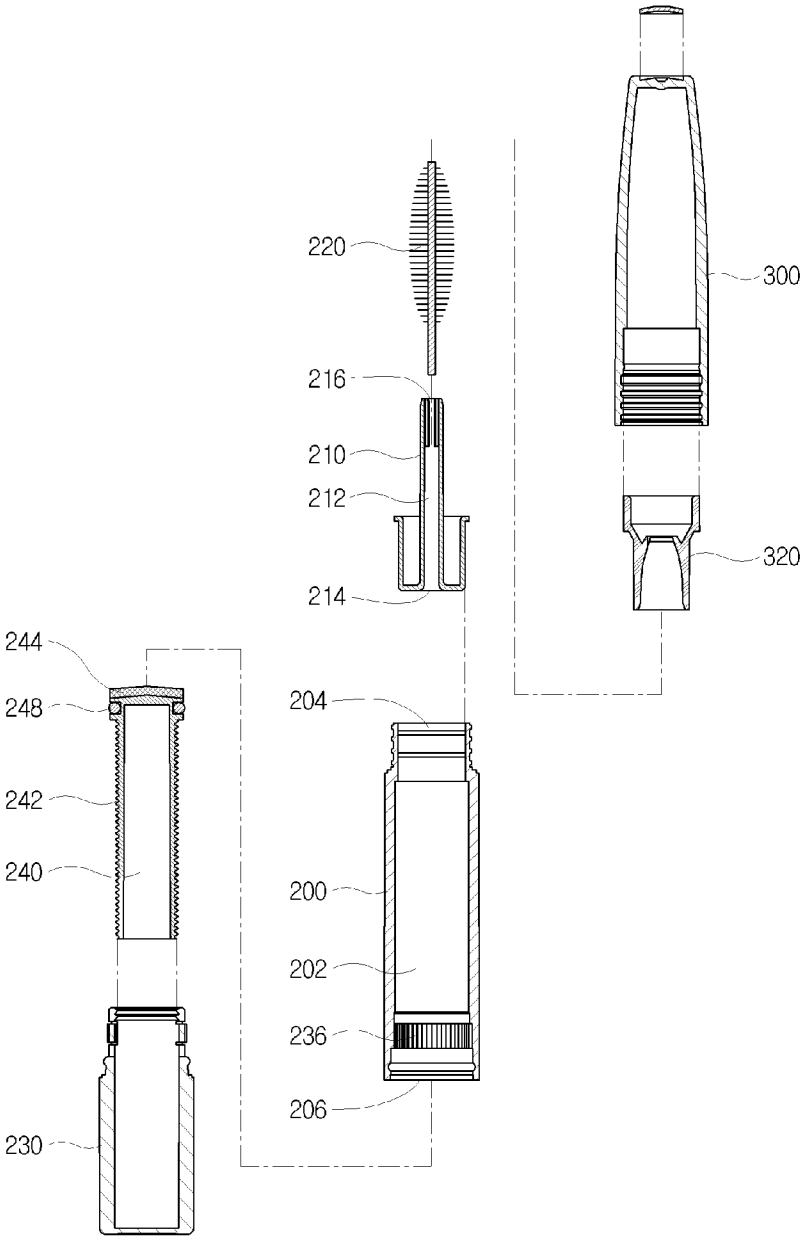
[Fig. 3]



[Fig. 4]



[Fig. 5]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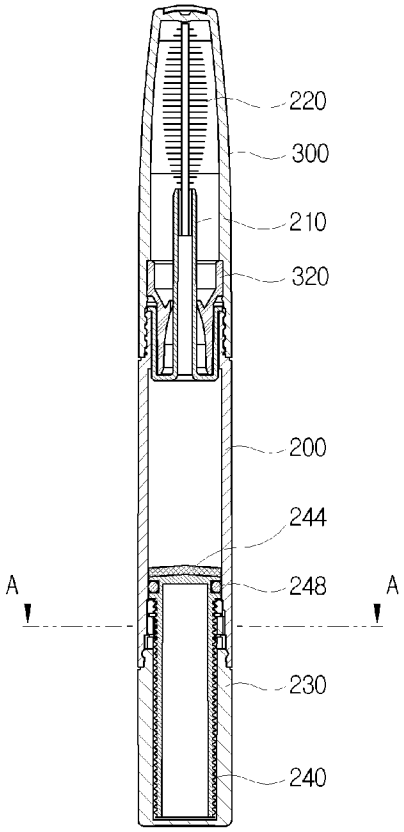
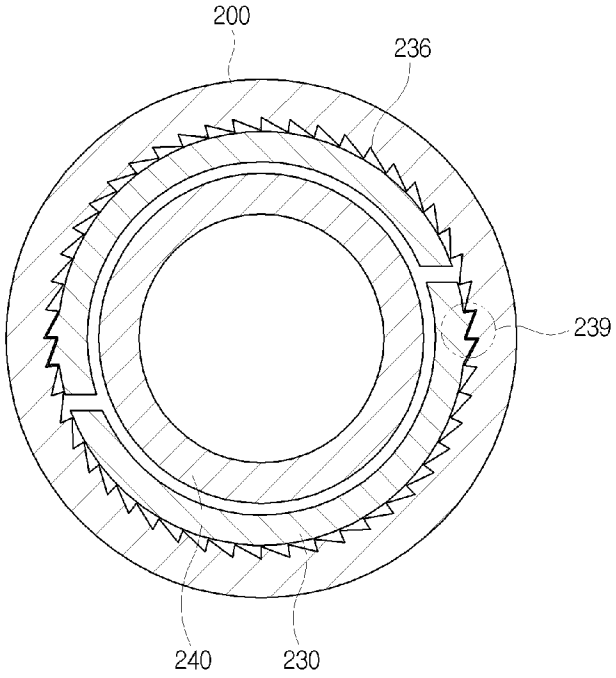
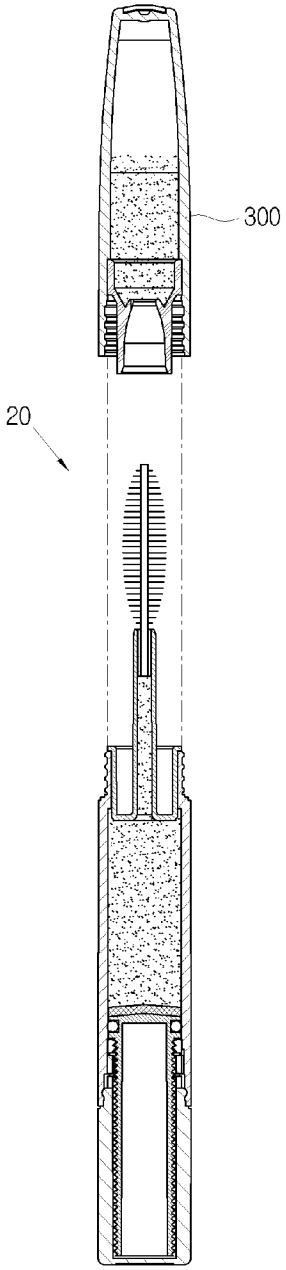
[Fig. 6]



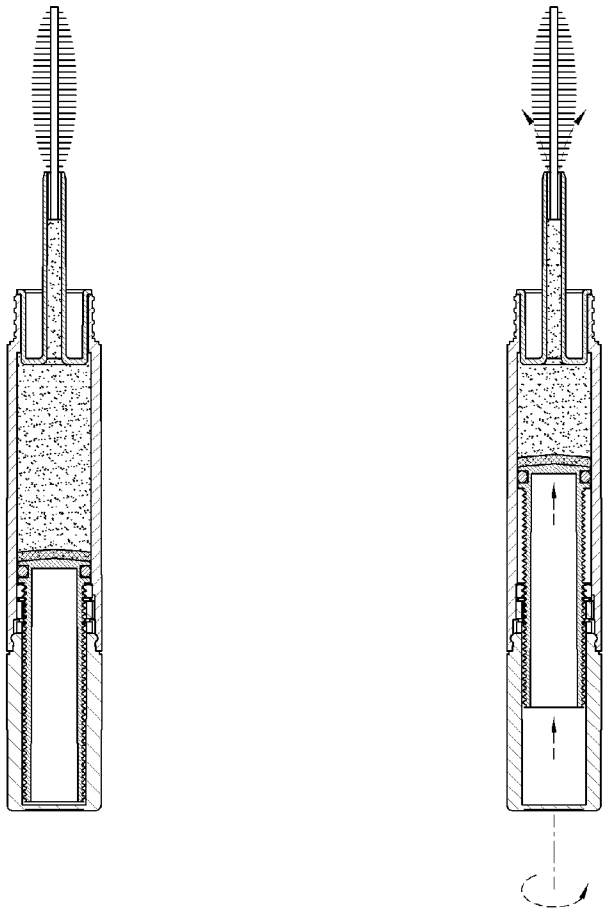
[Fig. 7]



[Fig. 8]



[Fig. 9]



(a) (b)

INTERNATIONAL SEARCH REPORT

International application No.
PCT/KR2006/003592

A. CLASSIFICATION OF SUBJECT MATTER

A45D 40/26(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)

IPC 8: A45D 40/26

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Korean Patents and applications for inventions since 1975
Korean Utility models and applications for Utility models since 1975
Japanese Utility models and applications for Utility models since 1975

Electronic data base consulted during the intertnational search (name of data base and, where practicable, search terms used)

eKIPASS (KIPO Internal) & Keywords: "mascara, applicator, dispenser"

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X Y	KR 20-0260204 Y1 (YOJINCOSMEPLAST, INC.) 10 January 2002 see the abstract, figures 1-5, and claims 1, 4.	1-3, 6 5, 7
Y	US 5339841 A (GUERET, J.-L.) 23 August 1994 see the abstract, figures 1-6, and column 1, line 55 - column 3, line 27.	5, 7
A	KR 20-0350245 Y1 (BYUN, J. S.) 13 May 2004 see the abstract and figures 1-8.	1-7
A	US 5096319 A (GUERET, J.-L.) 17 March 1992 see the abstract and figures 1-8.	1-7

☐ Further documents are listed in the continuation of Box C.

☒ See patent family annex.

* Special categories of cited documents:

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"&" document member of the same patent family

Date of the actual completion of the international search	Date of mailing of the international search report
19 DECEMBER 2006 (19.12.2006)	**19 DECEMBER 2006 (19.12.2006)**

Name and mailing address of the ISA/KR

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NA, SU YEON

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INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No.
PCT/KR2006/003592

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