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(54) **Liquid cosmetic applicator having a brush holding structure**

Applikator mit Bürstenhaltestruktur für ein flüssiges Kosmetikum

Applicateur de cosmétique liquide avec une structure de support de brosse

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(56) References cited:
EP-A- 0 553 441
FR-A- 2 601 266
US-A- 4 960 340
US-A- 5 454 658

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Description

[0001] The present invention relates to a liquid cosmetic applicator for applying a liquid cosmetic such as an eyeliner liquid.

[0002] There is a liquid cosmetic applicator having a structure as shown in Figs. 12 and 13. This liquid cosmetic applicator 1 has a tubular applicator body 2, a cotton pad 3 retained inside the applicator body 2, a nosepiece 4 to be fitted in a tip portion 2a of the applicator body 2, a brush tip 5 which is securely inserted in the nosepiece 4, a cap 6 covering the tip portion 2a of the applicator body 2, and a tail stopper 7 which closes a rear end portion 2b of the applicator body 2 (see JP-A-2006-296936).

[0003] A base portion 5b of the brush tip 5 is provided with a relaying pad 9 inserted therein. The relaying pad 9 is inserted in a tip portion 3a of the cotton pad 3. The intervention of the relaying pad 9 between the brush tip 5 and the cotton pad 3 allows a liquid cosmetic impregnated in the cotton pad 3 to flow to the brush tip 5.

[0004] That is, the liquid cosmetic applicator 1 is used to discharge the liquid cosmetic impregnated in the cotton pad 3 from the brush tip 5. Because the conventional liquid cosmetic applicator 1 has the relaying pad 9 provided in the center position of the brush tip 5, however, it is necessary to pull off the longest hair (so-called life hair) positioned in the center portion of the brush tip 5. As a result, the brush tip 5 cannot be formed into a sharp and fine shape.

[0005] A further liquid cosmetic applicator is disclosed in

[0006] FR-A-2 601 266.

[0007] Accordingly, it is an object of the present invention to provide a liquid cosmetic applicator that overcomes the problem of the conventional liquid cosmetic applicator and has a brush member tapered to have a sharp shape to make it easier to draw a thin line.

[0008] The present invention provides a liquid cosmetic applicator according to claim 1.

[0009] It is preferable that the brush-hold member should closely contact an entire outer surface of the brush member excluding the tip portion thereof, and have a cross-sectional area larger than that of the brush member. The through hole can have a circular or elliptical cross section. The through hole preferably has an inside diameter of 0.8 to 3.5 mm.

[0010] The brush-holding structure of a liquid cosmetic applicator according to the present invention is configured so that a through hole extending in the lengthwise direction is formed in the center position of a pervious brush-hold member securely inserted in a nosepiece, a brush member is securely inserted in the through hole, and the tip portion of the brush member protrudes from the tip of the brush-hold member. This can make the brush member formed into a tapered sharp shape, so that a thin line can be drawn.

[0011] As the brush-hold member closely contacts the entire outer surface of the brush member excluding the tip portion thereof, and has a cross-sectional area larger than that of the brush member, thus ensuring the smooth use of the liquid cosmetic applicator without interrupting the supply of the liquid cosmetic to the tip portion of the brush member. Further, the circular or elliptical cross section of the through hole can permit the shape of the brush member to be formed to fit a portion where the liquid cosmetic is to be applied.

Fig. 1 is a longitudinal cross-sectional view showing a brush-holding structure of a liquid cosmetic applicator according to a first embodiment of the present invention;

Fig. 2 is a plan view showing the structures of a nosepiece, a brush-hold member and a brush member in the brush-holding structure;

Fig. 3 is a longitudinal cross-sectional view showing the structures of the nosepiece, brush-hold member and brush member in the brush-holding structure;

Fig. 4 is a plan view showing the brush-hold member;

Fig. 5 is a longitudinal cross-sectional view showing the brush-hold member;

Fig. 6 is a plan view showing the brush member;

Figs. 7A and 7B are a plan view and a left-side view showing the structures of a nosepiece, a brush-hold member and a brush member in a brush-holding structure of a liquid cosmetic applicator according to a second embodiment of the present invention;

Fig. 8 is a longitudinal cross-sectional view showing the structures of the nosepiece, brush-hold member and brush member in the brush-holding structure;

Fig. 9 is a plan view showing the brush-hold member;

Fig. 10 is a longitudinal cross-sectional view showing the brush-hold member;

Fig. 11 is a plan view showing the brush member;

Fig. 12 is a longitudinal cross-sectional view showing a liquid cosmetic applicator according to a related art with a part thereof broken away; and

Fig. 13 is a plan view showing the liquid cosmetic applicator with its cap removed therefrom.

[0012] Preferred embodiments of the present invention will be described in detail below with reference to the accompanying drawings. For easier understanding, same reference numerals are given to those components of the embodiments that are similar or same as the corresponding components of the related art.

[0013] Fig. 1 shows a liquid cosmetic applicator 11 according to an embodiment of the present invention. The liquid cosmetic applicator 11 includes a tubular applicator body 2, a cotton pad 3 retained inside the applicator body 2, a nosepiece 12 fitted in a tip portion 2a of the applicator body 2, a brush-hold member 13 securely inserted in the nosepiece 12, a brush member 20 securely inserted in the brush-hold member 13, a cap 6 covering the tip portion 2a of the applicator body 2 (see Fig. 13), and a tail stopper 7 that closes a rear end portion 2b of the appli-

cator body 2 (see Fig. 13).

[0014] The applicator body 2 is formed into a tubular shape with both the tip portion 2a and the rear end portion 2b being open. A step portion 14 is formed at the outer surface of the applicator body 2 on the tip portion 2a side along the circumferential direction, and an opened end portion 6b of the cap 6 abuts on the step portion 14. A diameter-reduced portion 15 is provided at the step portion 14, extending therefrom. The diameter-reduced portion 15 has an inside diameter corresponding to the outside diameter of the nosepiece 12.

[0015] The cotton pad 3 is formed into an approximately cylindrical shape and is retained in the applicator body 2. A liquid cosmetic, such as an eyeliner liquid, is impregnated in the cotton pad 3. As shown in Fig. 12 showing the related art, a ring-like adjuster 8 is retained in a rear end portion 3b of the cotton pad 3 to securely hold the cotton pad 3.

[0016] The applicator body 2 may be configured to directly contain a liquid cosmetic, not the cotton pad 3, therein.

[0017] As shown in Figs. 1 to 3, the nosepiece 12 is formed in a hollow shape with a tapered portion 16 provided at the tip side. A step portion 17 is formed at the rear portion of the tapered portion 16 along the circumferential direction, with a tubular portion 18 provided at the rear portion of the step portion 17 and extending therefrom. A groove-like air hole 19 is formed in the outer surface of the tubular portion 18 in the lengthwise direction. The tubular portion 18 is formed in such a way that its outside diameter is slightly smaller than or is approximately the same as the inside diameter of the diameter-reduced portion 15 of the applicator body 2, and is fitted tightly inside the diameter-reduced portion 15. With the tubular portion 18 fitted in the diameter-reduced portion 15, the step portion 17 abuts on the tip portion 2a of the applicator body 2.

[0018] A brush-hold member 13 is inserted and held in the nosepiece 12. The brush-hold member 13 is formed of polyester fibers or nylon fibers or the like hardened by polyurethane foam, and is superior in permeability of liquid cosmetics. As shown in Figs. 1 to 3, a tip portion 13a of the brush-hold member 13 protrudes from the tip of the nosepiece 12 by a predetermined length. A rear end portion 13b of the brush-hold member 13 protrudes from the rear end of the nosepiece 12 into the cotton pad 3 by a predetermined length.

[0019] As shown in Figs. 1, 3 and 5, a through hole 21 extending in the lengthwise direction is formed in a center position of the brush-hold member 13, with the brush member 20 securely inserted into the through hole 21. The brush member 20 shown in Fig. 6 is formed by a bundle of filamentous fibers of a known synthetic resin material, and its tip portion 20a forms a tapered brush. The tip portion 20a of the brush member 20 protrudes from the tip portion 13a of the brush-hold member 13 by a predetermined length. A rear end portion 20b of the brush member 20 is positioned slightly inside the rear end portion 13b of the brush-hold member 13.

[0020] As the brush-hold member 13 closely contacts the entire outer surface of the brush member 20 excluding the tip portion 20a thereof, and has a cross-sectional area larger than that of the brush member 20. That is, the ability of the brush-hold member 13 to suck and feed a liquid cosmetic is set larger than that of the brush member 20, so that the amount of the liquid cosmetic to be supplied is larger than the amount of the liquid cosmetic consumed by the brush member 20. Accordingly, the liquid cosmetic can be supplemented to the tip portion 20a of the brush member 20 to be applied without interruption.

[0021] The diameter of the through hole 21 of the brush-hold member 13 is preferably about 0.8 to 3.5 mm. The through hole 21 may have an elliptical cross section as well as a circular cross section. The cross-sectional shape of the brush member 20 is formed to be circular or elliptical in accordance with the cross-sectional shape of the through hole 21. That is, the brush member 20 is formed to have an optimal shape for a portion to which the liquid cosmetic is to be applied.

[0022] Because the cap 6 and the tail stopper 7 have structures similar to those of the prior art, their descriptions will be given referring to Figs. 12 and 13 showing the prior art. The cap 6 is formed into a tubular shape with one end portion 6a blocked and the other end portion 6b is open and abuts on the step portion 14 of the applicator body 2. The tail stopper 7 is formed like a bung with one end portion 7a open and the other end portion 7b blocked, and is fitted into the rear end portion 2b of the applicator body 2 to cap the applicator body 2.

[0023] Figs. 7A, 7B and 8 to 11 show a brush-holding structure of a liquid cosmetic applicator 11 according to a second embodiment. Same reference numerals are given to those components of the brush-holding structure of the second embodiment that are the same as the corresponding components of the brush-holding structure of the first embodiment to avoid their detailed descriptions. As the materials for the individual members are the same as those of the first embodiment, their detailed descriptions will be omitted.

[0024] A projection 22 is formed circumferentially on the outer surface of a tubular portion 18 of a nosepiece 12 used in the brush-holding structure. The outside diameter of the projection 22 is set slightly larger than the inside diameter of a diameter-reduced portion 15 of an applicator body 2, so that as the tubular portion 18 of the nosepiece 12 is press-fitted into the diameter-reduced portion 15 of the applicator body 2, the nosepiece 12 is more surely held inside the tip portion 2a of the applicator body 2 in a tight state. A brush-hold member 23 is formed slightly thicker than the brush-hold member 13 of the first embodiment, and a through hole 21 extending in the lengthwise direction is formed in a center position of the brush-hold member 23. The brush-hold member 23 is formed into an elliptical shape as shown in Fig. 7B. Further, a rear end portion 23b of the brush-hold member 23 is at the same position as the rear end of the nosepiece

12. Making the brush-hold member 23 thicker increases the amount of sucking and feeding the liquid cosmetic per cross-sectional area.

[0025] Since, unlike the prior art, the liquid cosmetic applicator 11 with the foregoing structure does not need a relaying pad, it is not necessary to pull off the longest hair positioned in the center portion of the brush-hold member. That is, the brush-hold member 13, 23 can be formed into a sharp and fine shape, so that a thin line can be drawn well. In addition, the brush-holding structure of a liquid cosmetic applicator can ensure the use thereof without interrupting the supply of a liquid cosmetic to the tip portion 20a of the brush member 20.

Claims

1. A liquid cosmetic applicator (11) comprising:

   at least a tubular applicator body (2) in which a cotton pad (3) or liquid cosmetic is contained,
   a nosepiece (12) having a permeable brush-hold member (13) securely inserted therein and fitted in a tip portion (2a) of the applicator body, and
   a brush-holding structure having a through hole (21) formed in a center position of the brush-hold member (13) and extending in a lengthwise direction and a brush member (20) formed of a bundle of filamentous fibers and securely inserted in the through hole (21), wherein a tip portion (20a) of the brush member (20) protrudes from a tip portion (13a) of the brush-hold member (13);
   characterized in that the tip portion (13a) of the brush-hold member (13) protrudes from the tip of the nosepiece (12) by a predetermined length.

2. The liquid cosmetic applicator (11) according to claim 1, wherein the brush-hold member (13) closely contacts an entire outer surface of the brush member (20) excluding the tip portion (20a) thereof, and has a cross-sectional area larger than that of the brush member.

3. The liquid cosmetic applicator (11) according to claim 2, wherein the through hole (21) has a circular or elliptical cross section.

4. The liquid cosmetic applicator (11) according to claims 1, 2 or 3, wherein the through hole (21) has an inside diameter of 0.8 to 3.5 mm.

Patentansprüche

1. Applikator (11) für ein flüssiges Kosmetikum mit:

   mindestens einem röhrenförmigen Applikatorkörper (2), in dem ein Baumwollbausch (3) oder ein flüssiges Kosmetikum enthalten ist,
   einem Mundstück (12) mit einem durchlässigen Bürstenhalteelement (13), das fest darin eingesetzt ist und in einen Spitzenabschnitt (2a) des Applikatorkörpers eingefügt ist,
   und
   einer Bürstenhaltestruktur, die ein Durchgangsloch (21), das in einer Mittenposition des Bürstenhalteelements (13) ausgebildet ist und sich in die Längsrichtung erstreckt, und
   ein Bürstenelement (20) aufweist, das aus einem Bündel von fadenförmigen Fasern ausgebildet ist und fest in das Durchgangsloch (21) eingesetzt ist, wobei ein Spitzenabschnitt (20a) des Bürstenelements (20) aus einem Spitzenabschnitt (13a) des Bürstenhalteelements (13) vorsteht;
   dadurch gekennzeichnet, dass der Spitzenabschnitt (13a) des Bürstenhalteelements (13) aus der Spitze des Mundstück (12) um eine vorgegebene Länge vorsteht.

2. Applikator (11) für ein flüssiges Kosmetikum nach Anspruch 1, wobei das Bürstenhalteelement (13) eine gesamte Außenfläche des Bürstenelements (20) mit der Ausnahme dessen Spitzenabschnitts (20a) eng berührt und eine Querschnittsfläche aufweist, die größer als die des Bürstenelements ist.

3. Applikator (11) für ein flüssiges Kosmetikum nach Anspruch 2, wobei das Durchgangsloch (21) einen kreisförmigen oder elliptischen Querschnitt aufweist.

4. Applikator (11) für ein flüssiges Kosmetikum nach Anspruch 1, 2 oder 3, wobei das Durchgangsloch (21) einen Innendurchmesser von 0,8 bis 3,5 mm aufweist.

Revendications

1. Applicateur de cosmétique liquide (11), comprenant :

   au moins un corps tubulaire d'applicateur (2) contenant un tampon de coton (3) ou un cométique liquide,
   un embout (12) comprenant un élément porte-brosse perméable (13) fixé à l'intérieur, et ajusté dans une partie d'extrémité (2a) du corps d'applicateur, et
   une structure de maintien de brosse avec un trou traversant (21) ménagé dans une partie centrale de l'élément porte-brosse (13) et s'étendant dans le sens de la longueur, et un

élément de brosse (20) constitué d'un faisceau de fibres filamenteuses et fixé à l'intérieur du trou traversant (21), une partie d'extrémité (20a) de l'élément de brosse (20) dépassant d'une partie d'extrémité (13a) de l'élément porte-brosse (13) ;
caractérisé en ce que la partie d'extrémité (13a) de l'élément porte-brosse (13) dépasse d'une longueur définie de l'extrémité de l'embout (12).

2. Applicateur de cosmétique liquide (11) selon la revendication 1, où l'élément porte-brosse (13) est en contact étroit avec une surface extérieure de l'élément de brosse (20) sur la totalité de celle-ci, à l'exception de la partie d'extrémité (20a) de celui-ci, et a une surface de section transversale supérieure à celle de l'élément de brosse.

3. Applicateur de cosmétique liquide (11) selon la revendication 2, où le trou traversant (21) a une section transversale circulaire ou elliptique.

4. Applicateur de cosmétique liquide (11) selon la revendication 1, la revendication 2 ou la revendication 3, où le trou traversant (21) a un diamètre intérieur compris entre 0,8 et 3,5 mm.

Fig. 1

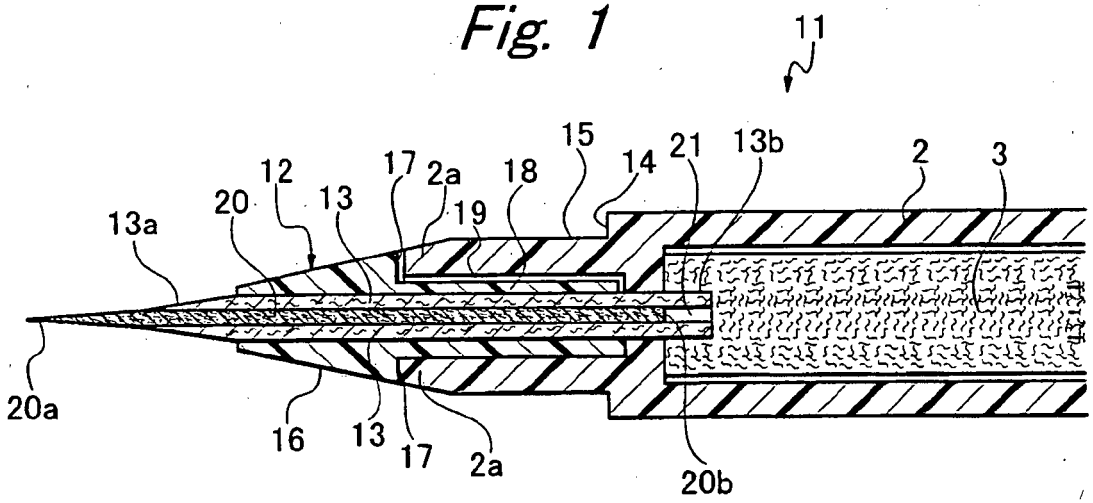


Fig. 2

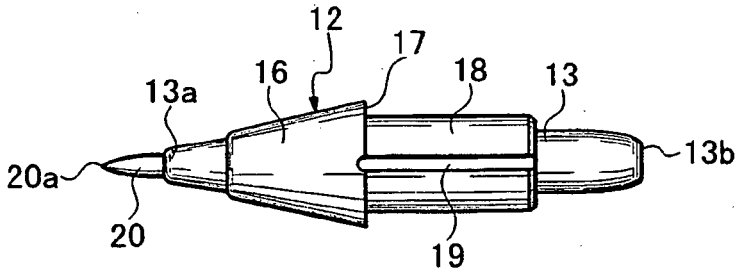


Fig. 3

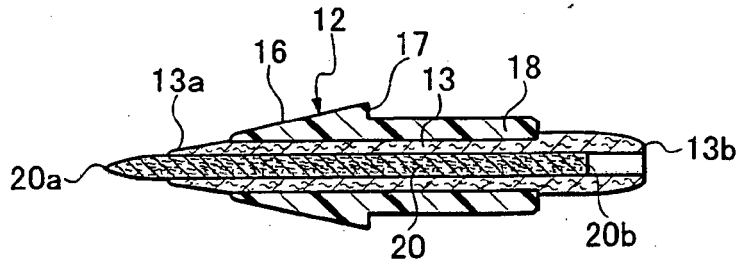


Fig. 4

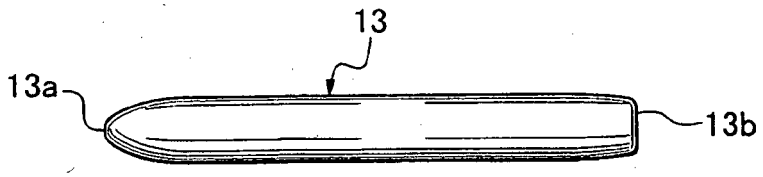


Fig. 5

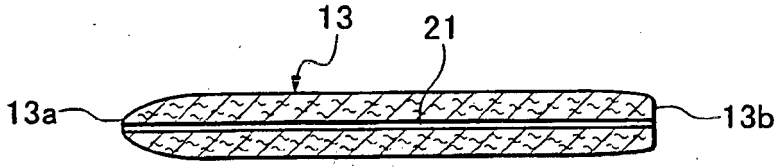


Fig. 6



Fig. 7A

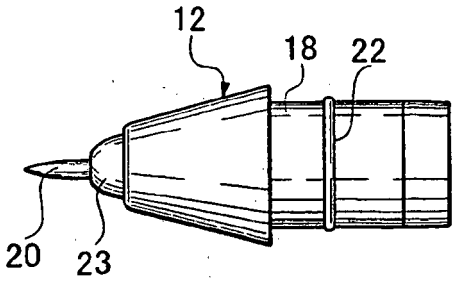


Fig. 7B

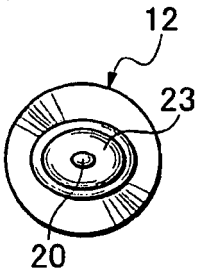


Fig. 8

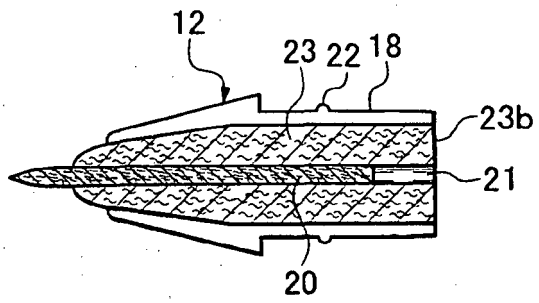


Fig. 9

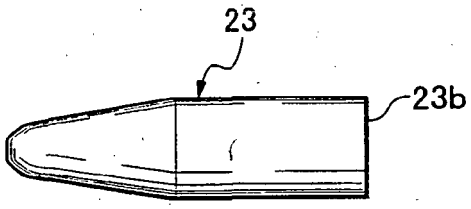


Fig. 10

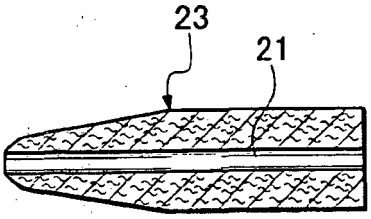


Fig. 11

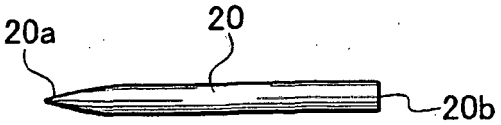


Fig. 12

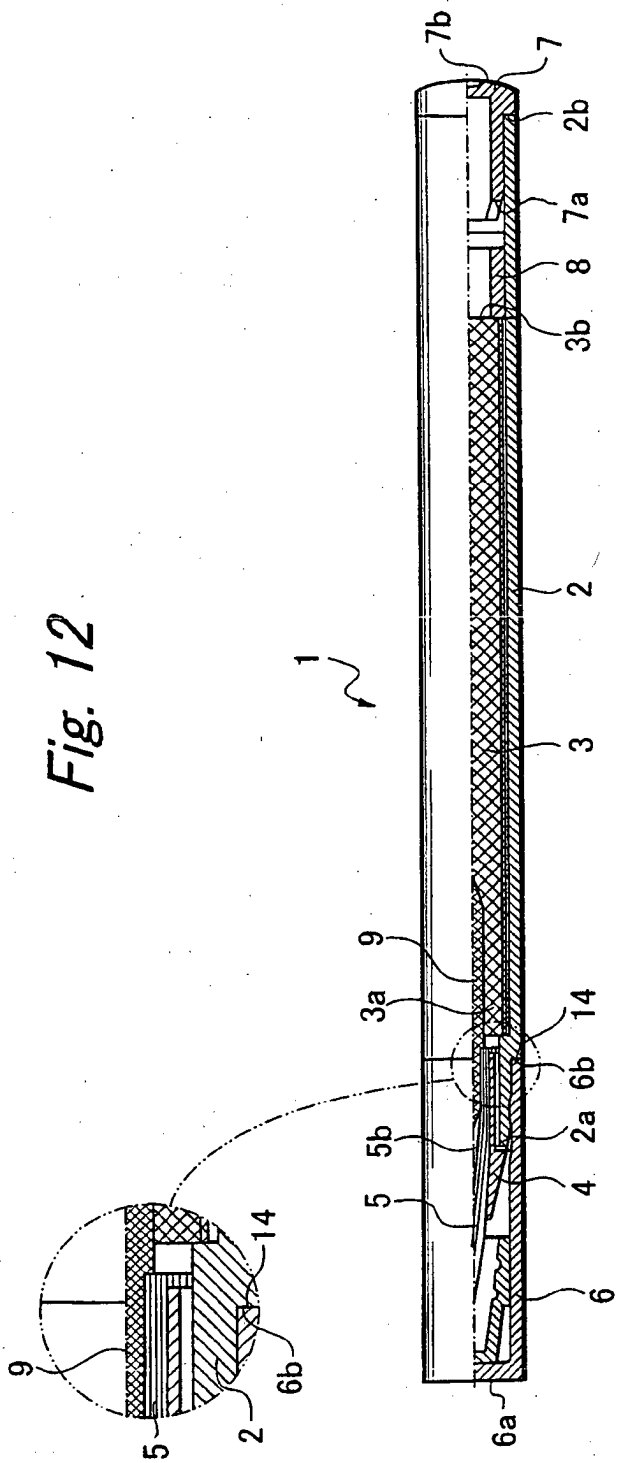
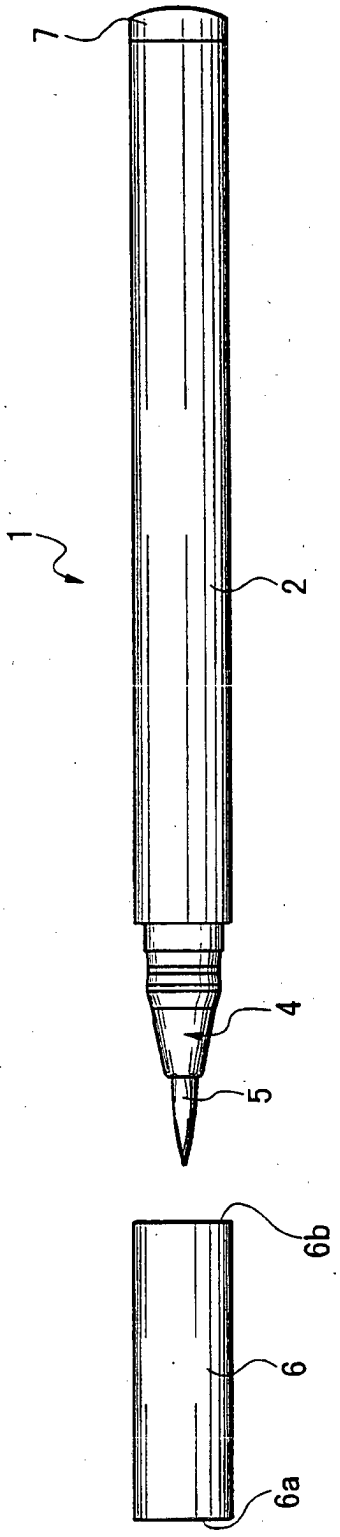


Fig. 13



REFERENCES CITED IN THE DESCRIPTION

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Patent documents cited in the description

- JP 2006296936 A **[0002]**
- FR 2601266 A **[0006]**