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(54) Applicator device for a cosmetic product

(57) An applicator device (5) for a cosmetic product comprising a stem (6) surmounted by a one piece applicator body (7), said body comprising a proximal part associated with the stem (6) and a distal part (15) opposite from said proximal part in a longitudinal direction, said distal and proximal parts being linked by a bridge (17) formed in recess in the applicator body (7), wherein the distal part (15) comprises a rounded geometry having an outer diameter, the proximal part comprising at least a protruding zone having an outer dimension which is bigger than the outer diameter of the distal part (15).

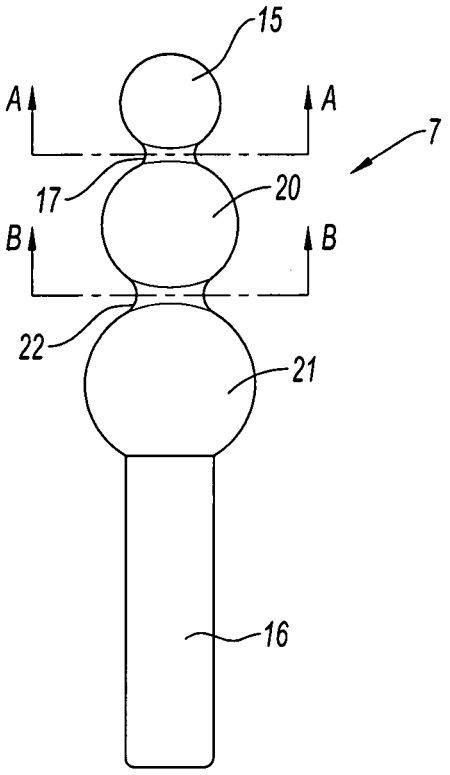

Fig. 2

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Description

FIELD OF THE INVENTION

[0001] The invention relates to an applicator device for a cosmetic product as well as an applicator unit comprising such applicator device. In particular, the product is a cosmetic for the lips, notably a lip colored pasty product, or a cosmetic for the eyes or another body part.

BACKGROUND OF THE INVENTION

[0002] For the application of a product on the lips, it is known to use an applicator unit comprising a receptacle for the product and an applicator device comprising a stem surmounted by a one piece applicator body. The applicator device is removably mounted onto the receptacle to put the applicator body in contact with the product into said receptacle. Thus, it is possible to sample the product onto the applicator body and to apply said sample by brushing said applicator body onto the lips.

[0003] In addition, the applicator unit can comprise a wiper to wipe off excess product when removing the applicator device from the receptacle. In particular, the wiper can have a soft wiping rim defining therein a central opening in which the applicator device is able to slide.

SUMMARY OF THE INVENTION

[0004] It is an object of the invention to propose an applicator device able to sample a quantity of product which is sufficient to put make-up on the whole lips, said applicator device being also configured so as to improve the precision of the application of said sample on the lips. In addition, the application device according to the invention provides a very satisfactory massage effect of the lips upon the application of the sample.

[0005] To that end, according to a first aspect, the invention proposes an applicator device for a cosmetic product comprising a stem surmounted by a one piece applicator body, said body comprising a proximal part associated with the stem and a distal part opposite from said proximal part in a longitudinal direction, said distal and proximal parts being linked by a bridge formed in recess in the applicator body, wherein the distal part comprises a rounded geometry having an outer diameter, the proximal part comprising at least a protruding zone having an outer dimension which is bigger than the outer diameter of the distal part.

[0006] It is a further object of the invention to propose an applicator unit to wipe off excess product when removing the above presented applicator device from the receptacle.

[0007] To that end, according to a second aspect, the invention proposes an applicator unit for a cosmetic product comprising a receptacle for said product and an applicator device comprising a stem surmounted by an one piece applicator body, said body comprising a proximal part associated with the stem and a distal part opposite from said proximal part in a longitudinal direction, said distal and proximal parts being linked by a bridge formed in recess in the applicator body, wherein the distal part comprises a rounded geometry having an outer diameter, the proximal part comprising at least a protruding zone having an outer dimension which is bigger than the outer diameter of the distal part, wherein the applicator device is removably mounted onto the receptacle to put the applicator body in contact with the product into said receptacle, the applicator unit further comprising a wiper to wipe off excess product when removing the applicator device from the receptacle, said wiper having a soft wiping rim defining therein a central opening in which the applicator device is able to slide, wherein the dimension of said central opening is comprised between the outer diameter of the distal part and the outer dimension of the protruding zone in order to wipe off said protruding zone but not said distal part.

BRIEF DESCRIPTION OF THE DRAWINGS

[0008]

Figure 1 is a longitudinal section view of an applicator unit according to an embodiment of the invention, wherein the applicator device is mounted onto the receptacle with the applicator body in contact with the product into said receptacle.

Figure 2 is a perspective view of the applicator body represented on figure 1, figures 2a and 2b being respectively AA and BB transversal section views of figure 2.

Figure 3 is a longitudinal section view of the wiper represented on figure 1, figure 3a being an elevated view of said wiper.

Figures 4a to 4d represent four sequences for the removing of the applicator device from the receptacle.

Figure 5 represents the applicator body with the sample, figures 5b to 5g being respectively BB, CC, DD, EE, FF and GG transversal section views of figure 5.

Figures 6a to 6e represent five other embodiments for the applicator device according to the invention.

DETAILED DESCRIPTION OF THE INVENTION

[0009] Figure 1 represents an applicator unit 1 for a lip product 2 comprising a receptacle 3 for said product, notably for a cosmetic for the lips such as a more or less viscous lip colored pasty product. The receptacle 3 comprises a neck 4 on which an applicator device 5 is removably mounted.

[0010] In the represented embodiment, the applicator device 5 comprises a stem 6 carrying on both sides an applicator body 7 and a cap 8 for the receptacle 3 which is disposed opposite to said applicator body. Both the cap 8 and the neck 4 are threaded in order to permit the mounting of the applicator device 5 onto the receptacle 3 to put the applicator body 7 in contact with the product 2 into said receptacle.

[0011] The applicator unit 1 further comprises a wiper 9 which is mounted in the neck 4, said wiper being able to wipe off excess product when removing the applicator device 5 from the receptacle 3. The wiper 9 has a body 10 presenting a outer surface fitted in the neck 4, said body being surmounted by a annular exterior edge 11 adjacent to a sealing ring 12 which cooperates within the neck 4 for the mounting of said wiper onto the recipient 3.

[0012] At the bottom of its body 10, the wiper 9 has a soft wiping rim 13 extending inwardly, said rim defining therein a central opening 14 in which the applicator device 5 is able to slide upon removing. In one example, the wiper 9 is manufactured by molding of a soft plastic material such silicon, butyl or nitrile rubber material.

[0013] Thus, after removing the applicator device 5, a sample of product is disposed onto the applicator body 7, said sample being then possibly applied on the lips by brushing said body onto them. To improve the comfort of said brushing, the applicator body 7 can be manufactured by molding of a soft plastic material. According to embodiments, at least a portion of the outer surface of the applicator body 7 can be coated with fibers and/or longitudinal ribs can be formed on at least a portion of said outer surface.

[0014] As represented, the stem 6 is surmounted by a one piece applicator body 7 comprising a proximal part associated with the stem 6 and a distal part 15 opposite from said proximal part in a longitudinal direction. Each one of the distal 15 and proximal part presents an outer surface to brush on the lips in order to apply the sample. In the represented embodiment, the proximal part presents a base 16 which is inserted in the stem 6 to associate the applicator body 7 to said stem.

[0015] In the application body 7, the distal 15 and proximal parts are linked by a bridge 17 formed in recess in said applicator body, the outer dimension of said bridge being then smaller than both the outer dimensions of the distal 15 and proximal parts. In particular, the bridge 17 forms a groove around it, said groove being disposed between the distal 15 and the proximal part.

[0016] The distal part 15 comprises a rounded geometry having an outer diameter, notably the geometry of said distal part can be spherical, eventually slightly deformed. The proximal part comprises at least a protruding zone having an outer diameter which is bigger than the outer diameter of the distal part 15. Furthermore, the dimension of the central opening 14 of the wiper 9 is comprised between the outer diameter of the distal part 15 and the outer dimension of the protruding zone in order to wipe off said protruding zone but not said distal part.

[0017] Thus, due to its small diameter, the rounded distal part 15 permits to provide a great precision for the application of the sample disposed on it and the difference between the outer dimensions of the distal 15 and proximal parts permits to improve the volume of the sample. It is then possible to combine the disposition of a great quantity of product on the lips with the finesse of the outlines of the application of said product onto the lips.

[0018] Product is also sampled around the bridge 17 to form a kind of reservoir for the sample. In addition, the bridge 17 permits elastic displacements of the distal part 15 as regards the proximal part to improve the comfort and provide a very satisfactory massage effect of the lips. In particular, the elastic displacements provide a bending of the distal part 15 upon leaning it on the lips.

[0019] Those effects can be achieved with a bridge 17 presenting a longitudinal dimension which is bigger than 10% of the outer diameter of the distal part 15 and/or an outer dimension which is smaller than 60% of said outer diameter.

[0020] Furthermore, the bridge 17 can presents an elliptical transversal section to provide a differential effort to bend the distal part 15 in function of the position of the support of said distal part on the lips. Thus, the user can rotate the applicator device, by means of the cap 8, to obtain the desired bending effect, without changing the application surface since the distal part 15 is rounded.

[0021] In addition, the softness of the material of the applicator body 7 can be chosen according to the bending effect desired, as well as to conserve a sufficient longitudinal rigidity of said applicator body in order to keep the precision of the application, notably of the outlines by means of the distal part 15. As examples, thermoplastic polyester-polyurethane or thermoplastic ethylene-methacrylic acid copolymer are suitable to manufacture the applicator body 7.

[0022] The proximal part can comprise geometries, notably rounded geometries, linked by bridges formed in recess in the applicator body 7, the outer dimension of said geometries decreasing from the stem to the distal part. In this embodiment, each bridge forms a reservoir for the sample and a flexibility area between the geometries. In addition, the application of the sample can then be done by either one of said geometries according to the wishes of the user. According to figure 6a, the proximal part comprises two ovoid shaped geometries 18a, 18b linked by a bridge 19 formed in recess in the applicator body 7.

[0023] In relation with figures 1 and 2, we describe below an applicator body 7 comprising three successive spherical geometries 15, 20, 21 linked by two bridges 17, 22, the outer diameter of said geometries decreasing from the stem 6 to the distal part 15. As shown on figures 2a and 2b, each bridge 17, 22 presents an elliptical transversal section, the dimension of the proximal bridge 22 being bigger than the dimension of the distal bridge 17.

[0024] As a numerical example, the main dimensions of the represented application body can be:

- outer diameter of the proximal geometry 21: 5.0 mm;
- dimensions of the proximal bridge 22: 2.0 mm x 1.2 mm x 0.4 mm;
- outer diameter of the central geometry 20: 3.9 mm;
- dimensions of the distal bridge 17: 1.4 mm x 1.0 mm x 0.4 mm;
- outer diameter of the distal geometry 15: 2.9 mm.

[0025] This applicator body 7 can be used in combination with a wiper 9 as represented on figures 3, wherein the wiping rim 13 has a serrated geometry comprising teeth 23 spaced by holes 24. In this embodiment, the central opening 14 comprises two dimensions for the wiping: the outer dimension D of the teeth 23 and the inner dimension d of said teeth, said outer dimension being comprised between the outer diameter of the distal part 15 and the outer diameter of the proximal geometry 21 in order to wipe off said proximal geometry. In the above numerical example, the outer diameter D can be 4.4 mm and the inner diameter d 3.7 mm.

[0026] In relation with figures 4 and 5, the applicator body 7 first gets out the product 2 with a quantity of product around it (figure 4a). As the stem 6 also dips into the product 2, the dimension of the central opening 14 is smaller than the outer dimension of the stem 6 in order to completely wipe off the product 2 from said stem (figure 5g). In addition, the outer dimension of the stem 6 is bigger than the outer diameter of the distal part 15 and similar to the outer dimension of the proximal geometry 21.

[0027] On figure 4b, as for the stem 6, the proximal geometry 21 has been completely wiped off (figure 5f) since its outer diameter is greater than the outer dimension D of the teeth 23, notably said outer dimension and said outer diameter can be similar, that is to say different for less than 10%. A sample of product is not wiped off around the proximal bridge 22 (figure 5e) in order to provide a serrated layer 25 of product to apply on the lips.

[0028] In addition, the inner dimension d of the teeth 23 is similar to the outer diameter of the central geometry 20 in order to wipe off partially said central geometry (figure 5d). In particular, upon sliding of the central geometry 20 into the wiping rim 13, ribs 26 of product are disposed around the central geometry 20 through the spaces 24 formed between the teeth 23.

[0029] On figure 4c, a serrated layer 27 of product is disposed around the distal bridge 17 (figure 5c) and around the distal geometry 15 which is not wiped since its diameter is smaller than the inner diameter d of the teeth 23 (figure 5b). Thus, as shown on figures 4d and 5, a sample of product is disposed around the applicator body 7 in order to be applied onto the lips.

[0030] In relation with figures 6b to 6e, the application body 7 can have a proximal part comprising, from the stem 6 to the bridge 17, a diverging zone, a central zone and a converging zone, the protruding zone being formed on the central zone. Indeed, those embodiments also permit to combine the sampling of a great quantity of product with the precision of the application of said sample on the lips.

[0031] On figures 6b, 6c and 6e, the proximal part presents an ovoid shaped geometry 28. The outer surface of this geometry can present edges as shown on figure 6b, can be slick as shown on figure 6e or can present longitudinal ribs as shown on figure 6c.

[0032] According to figure 6d, the proximal part can also present a diverging conical zone 29 and a converging conical zone 30, the central zone being formed on the junction base 31 of those conical zones which presents then the biggest outer dimension.

Claims

1. An applicator device (5) for a cosmetic product comprising a stem (6) surmounted by a one piece applicator body (7), said body comprising a proximal part associated with the stem (6) and a distal part (15) opposite from said proximal part in a longitudinal direction, said distal and proximal parts being linked by a bridge (17) formed in recess in the applicator body (7), wherein the distal part (15) comprises a rounded geometry having an outer diameter, the proximal part comprising at least a protruding zone having an outer dimension which is bigger than the outer diameter of the distal part (15).

2. The applicator device (5) according to claim 1, wherein the applicator body (7) is manufactured by molding of a soft plastic material.

3. The applicator device (5) according to claim 1, wherein the bridge (17) permits elastic displacements of the distal part (15) as regards the proximal part.

4. The applicator device (5) according to claim 3, wherein the bridge (17) presents an elliptical transversal section.

5. The applicator device (5) according to claim 1, wherein the geometry of the distal part (15) is spherical.

6. The applicator device (5) according to claim 1, wherein the proximal part comprises geometries linked by bridges (17) formed in recess in the applicator body (7), the outer dimension of said geometries decreasing from the stem (6) to the distal part (15).

7. The applicator device (5) according to claim 6, wherein the geometries of the proximal part are rounded.

8. The applicator device (5) according to claim 7, wherein the applicator body (7) comprises three

rounded geometries linked by two bridges (17, 22), the outer diameter of said geometries decreasing from the stem (6) to the distal part (15).

9. The applicator device (5) according to claim 1, wherein the proximal part comprises, from the stem (6) to the bridge (17), a diverging zone, a central zone and a converging zone, the protruding zone being formed on the central zone.

10. The applicator device (5) according to claim 1, wherein the stem (6) has an outer dimension which is bigger than the outer diameter of the distal part (15).

11. The applicator device (5) according to claim 1, wherein the stem (6) has an outer dimension which is similar to the outer dimension of the protruding zone.

12. The applicator device (5) according to claim 1, wherein the proximal part presents a base (16) which is inserted in the stem (6) to associate the applicator body (7) to said stem.

13. An applicator unit (1) for a cosmetic product comprising a receptacle (3) for said product and an applicator device (5) comprising a stem (6) surmounted by a one piece applicator body (7), said body comprising a proximal part associated with the stem (6) and a distal part (15) opposite from said proximal part in a longitudinal direction, said distal and proximal parts being linked by a bridge (17) formed in recess in the applicator body (7), wherein the distal part (15) comprises a rounded geometry having an outer diameter, the proximal part comprising at least a protruding zone having an outer dimension which is bigger than the outer diameter of the distal part, wherein the applicator device (5) is removably mounted onto the receptacle (3) to put the applicator body (7) in contact with the product into said receptacle, the applicator unit (1) further comprising a wiper (9) to wipe off excess product when removing the applicator device (5) from the receptacle (3), said wiper having a soft wiping rim (13) defining therein a central opening (14) in which the applicator device (5) is able to slide, wherein the wiping dimension of said central opening is comprised between the outer diameter of the distal part (15) and the outer dimension of the protruding zone in order to wipe off said protruding zone but not said distal part.

14. The applicator unit (1) according to claim 13, wherein the wiping dimension of the central opening (14) is similar to the outer dimension of the protruding zone.

15. The applicator unit (1) according to claim 13, wherein the stem (6) is associated to a cap (8) for the receptacle (3), said cap being disposed opposite to the applicator body (7).

16. The applicator unit (1) according to claim 13, wherein the wiper rim (13) has a serrated geometry comprising teeth (23) spaced by holes (24), the wiping dimension defined by the outer dimension of the teeth (23) being comprised between the outer diameter of the distal part (15) and the outer dimension of the protruding zone.

17. The applicator unit (1) according to claim 16, wherein the applicator body (7) comprises a zone having an outer dimension which is similar to the inner dimension of the teeth (23).

18. The applicator unit (1) according to claim 13, wherein the stem (6) has an outer dimension which is bigger than the dimension of the central opening (14).

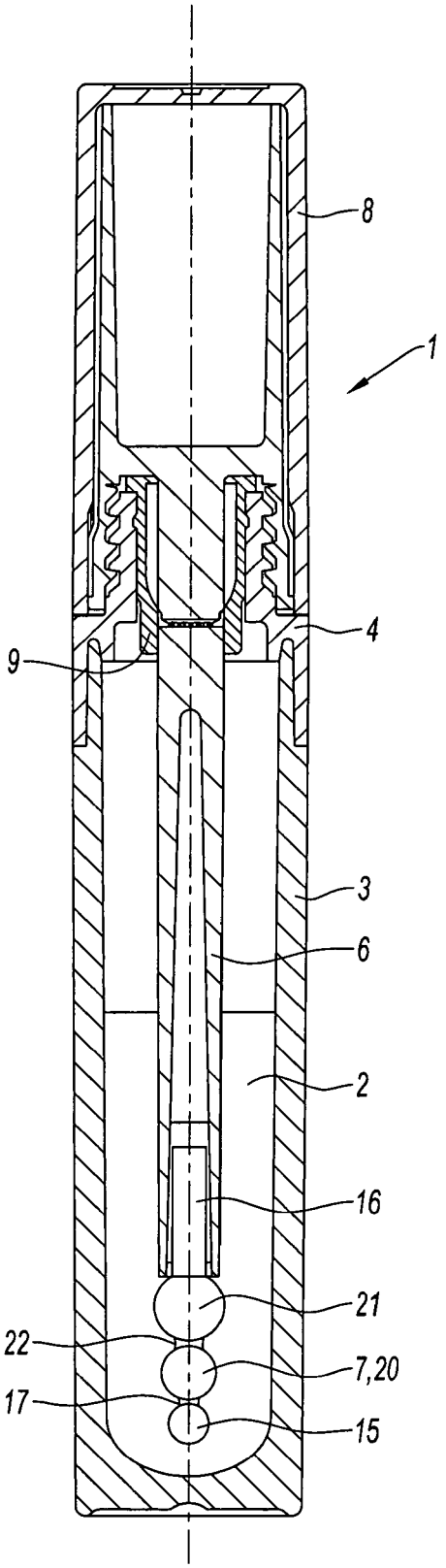

Fig. 1

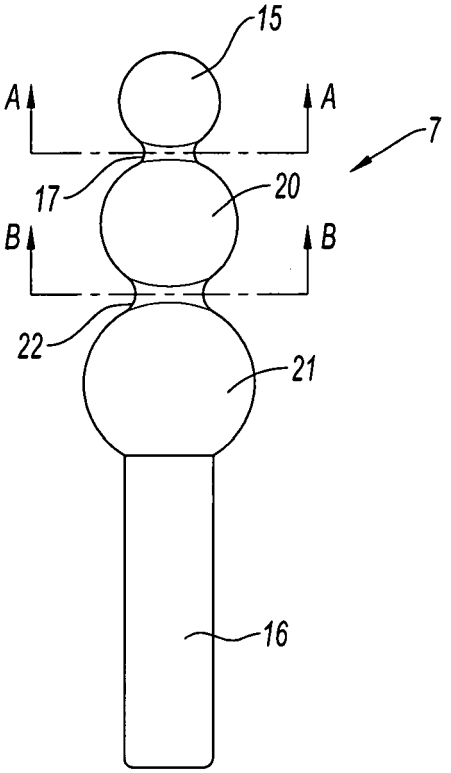

Fig. 2

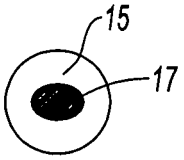

Fig. 2a

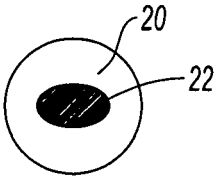

Fig. 2b

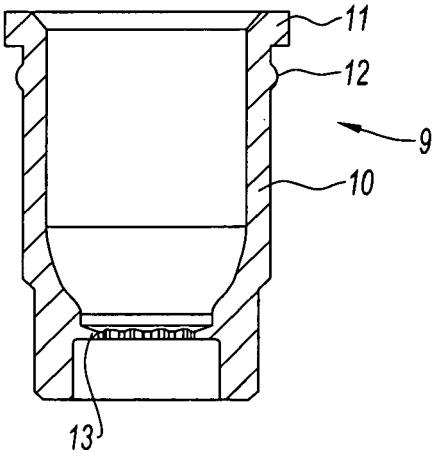

Fig. 3

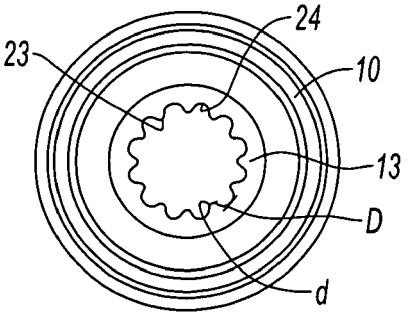

Fig. 3a

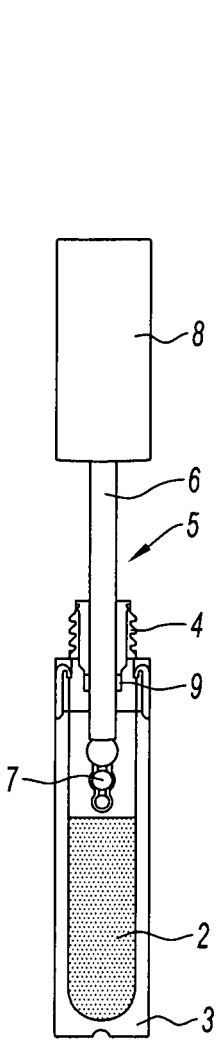

Fig. 4a

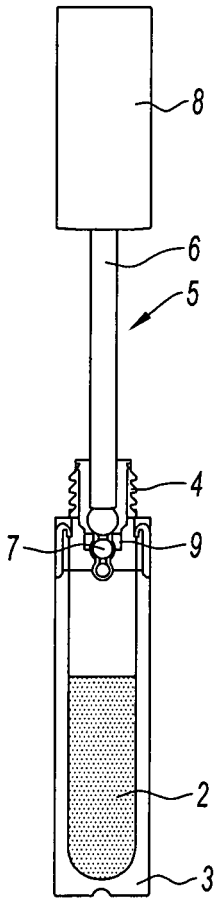

Fig. 4b

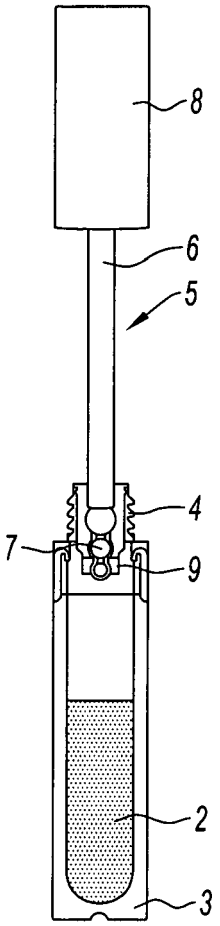

Fig. 4c

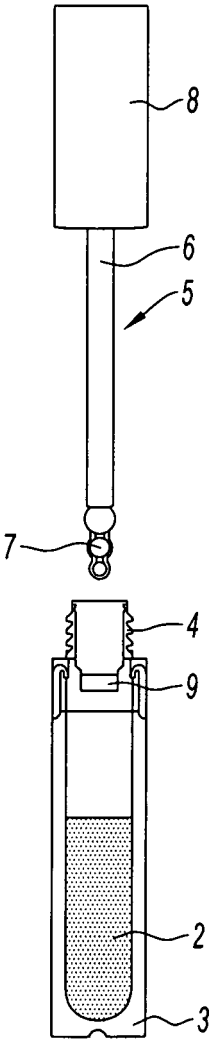

Fig. 4d

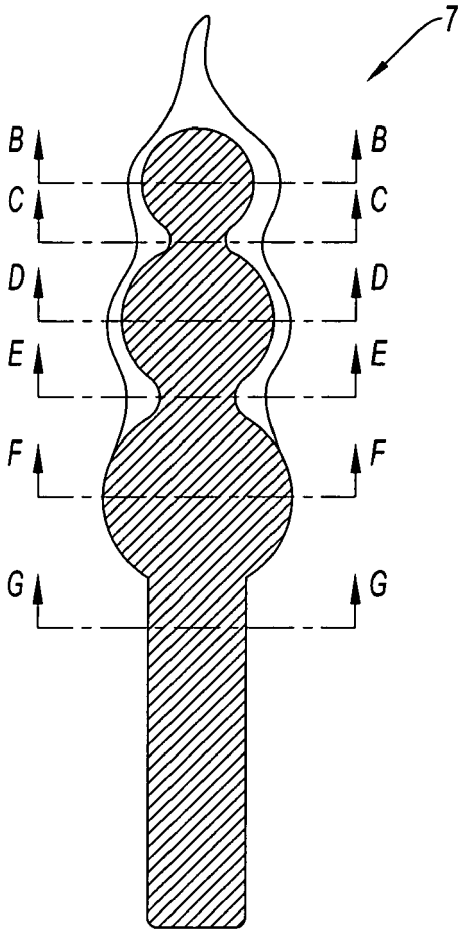

Fig. 5

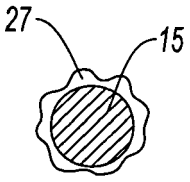

Fig. 5b

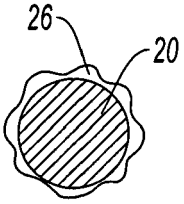

Fig. 5d

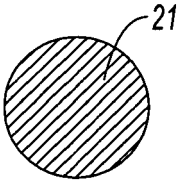

Fig. 5f

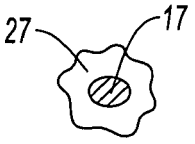

Fig. 5c

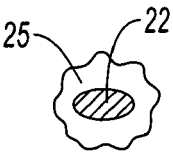

Fig. 5e

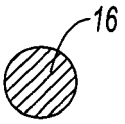

Fig. 5g

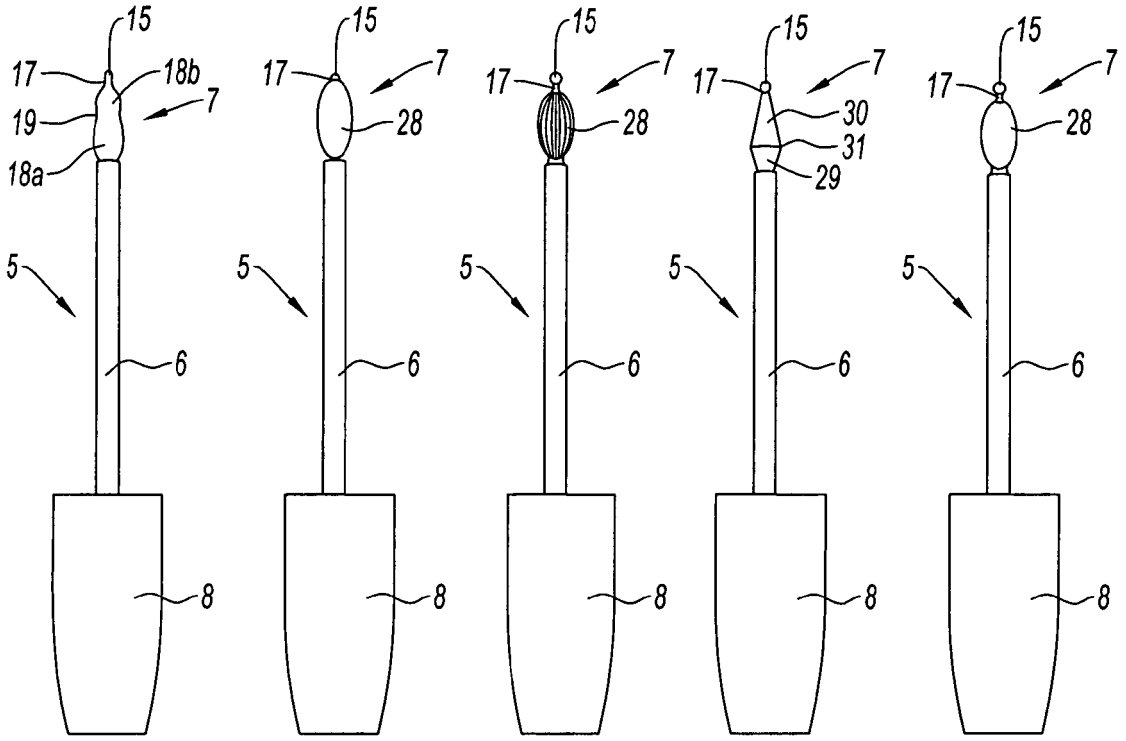

Fig. 6a Fig. 6b Fig. 6c Fig. 6d Fig. 6e

Europäisches Patentamt
European Patent Office
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EUROPEAN SEARCH REPORT

Application Number
EP 10 29 0208

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	US 2008/286030 A1 (RODER GEORG [DE]) 20 November 2008 (2008-11-20) * paragraphs [0001], [0021], [0022], [0046], [0047], [0052], [0057], [0059]; figures 1a-1c,6-8,10,12 *	1-3,5-7, 9-11	INV. A45D34/04 A45D40/26
X	US 2005/217691 A1 (PETIT ROBERT [FR]) 6 October 2005 (2005-10-06) * paragraphs [0016], [0017], [0024], [0063]; figures 2a-2d,4a-4d,5a-5d *	1-5,8,9, 11,12	
X	US 2003/089379 A1 (GUERET JEAN-LOUIS H [FR]) 15 May 2003 (2003-05-15) * paragraphs [0070], [0077], [0087], [0100], [0104]; figures 1,4-7 *	1-3,5-7, 9,11-15, 18	
X Y	FR 2 895 887 A1 (TECHPACK INTERNAT SA [FR]) 13 July 2007 (2007-07-13) * page 3, line 4 * * page 10, lines 14-16; figures 2a-2e,10a-10d *	1-3, 8-15,18 16,17	
Y	GB 2 097 662 A (OREAL) 10 November 1982 (1982-11-10) * figures 1-4 *	16,17	
A	US 1 996 897 A (BLINN JOSEPH S) 9 April 1935 (1935-04-09) * figure 1 *	1-18	
A	US 5 816 728 A (NARDOLILLO IRENE C [US] ET AL) 6 October 1998 (1998-10-06) * figures 4,5 *	1-18	

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	7 July 2010	Lommel, André

CATEGORY OF CITED DOCUMENTS

X : particularly relevant if taken alone
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