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(71) Applicant: **CHROMAVIS S.p.A.**
20122 Milan (IT)

(72) Inventor: **Priore, Romualdo**
20129, Milano (IT)

(74) Representative: **Vanosi, Adelio Valeriano**
GIAMBROCONO & C. S.p.A.
Via Rosolino Pilo, 19/B
20129 Milano (IT)

(54) Double profile mascara brush

(57) Double profile mascara brush having a stem (1) supporting a plurality of radially disposed bristles (2), said stem being connected at one end (3) to a handgrip (capsule), the free ends of said bristles defining a lateral surface of the brush, which presents a make-up application portion (9, 29, 39) for applying the mascara to the short eyelashes and to the base of the long eyelashes, followed in the direction of the handgrip by a definition portion (8, 28, 38) of greater diameter, for defining and perfecting the ends of the long eyelashes.

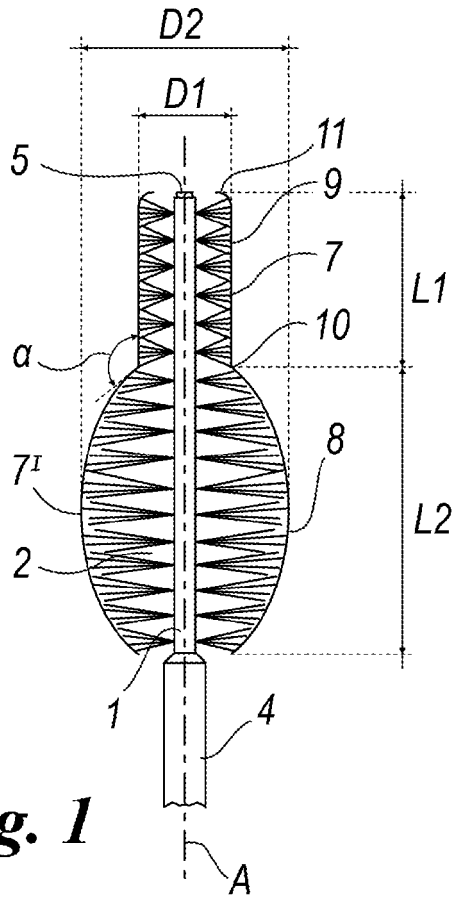

Fig. 1

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Description

[0001] The present invention relates to an applicator for cosmetics, in particular mascara.

[0002] A common type of applicator, used particularly for pasty formulations, presents a brush comprising a stem from which bristles extend generally in a radial configuration. This brush is immersed in the product contained in a bottle acting as a container, generally of cylindrical shape; the container opening through which the brush is inserted presents a collar of suitable shape, for example funnel shape, with its minor aperture facing the container interior, and of diameter such as to interfere with the brush surface, such as to remove any excess product from the bristles and leave an optimal quantity thereon for uniform and adequate application. The collar can be of suitable material, for example preferably soft plastic.

[0003] The stem can comprise two metal wires entwined together to retain the bristles, which can have the same or different length. The tips of the bristles define a surface known for brevity as the brush lateral surface, which can be a surface of revolution (cylindrical in the case of bristles of the same length) or not, either symmetrical or non-symmetrical about a longitudinal axis substantially contained within the stem.

[0004] The applicator comprises a handgrip (capsule) connected to one end of the stem, for example by a rod of suitable material and dimensions; usually the handgrip is shaped to act as a cover for the container, with which it forms a closure for example by means of corresponding threads. Brushes can also be formed in other ways, for example with bristles formed integrally with a stem of suitable material, for example plastic material.

[0005] To facilitate correct product application, brushes have been proposed having different types of lateral surface, for example cylindrical, convex conical, sometimes non-symmetrical. The rigidity of the bristles, dependent on their structure and the materials used, can vary, bristles of different type also being usable. However, the proposed forms are not completely satisfactory and do not enable the mascara to be distributed adequately and uniformly along the entire length of the longest eyelashes or on the shortest eyelashes in proximity to the inner corner of the eye. GB 2146520 describes a mascara brush. The brush is made of subsequent disks on which bristles are mounted. A space is provided between the disks. This space defines a mascara reservoir zone. The outer part of the bristles results instead almost clear form mascara. In this way a definition zone is formed in the outer part of the brush, and a reservoir zone (make up zone) in the inner part of the brush (the part closer to the brush axis). The utilization of this brush is really difficult, because the make-up zone and the definition zone are distributed for all the length of the brush and are not clearly separated. The ending part of the brush presents a conical shaped portion, that represents only a small part of the entire brush (see fig 1).

[0006] So the user can't chose the part she want to use and mistakes often occurs. For example when using the definition part (the outer part of the bristles) an error in a movement can make the eyelashes to touch the inner part, thus depositing on them other mascara.

[0007] US 5,876,138 describes a mascara brush with a conical shape. The frontal part during the use act as a make up portion (mascara reservoir), the back part acts like a definition zone. The transition between the make up portion and the definition portion is not clearly visible and mistake can occur in the use. Furthermore there make up portion do not present an homogeneous distribution of mascara on it.

[0008] US 5,357,987 also describes a make up brush that is very difficult to use. The aforestated problems have now been solved by an applicator for cosmetics, in particular mascara, formed in accordance with the technical teachings of the accompanying claims.

[0009] The invention will be more apparent from the ensuing description of preferred embodiments thereof, given by way of non-limiting example with the aid of the accompanying figures, in which:

Figure 1 shows schematically a brush of an applicator according to the present invention;
Figure 2 shows schematically a brush of an applicator according to a different aspect of the present invention;
Figure 3 shows schematically a brush of an applicator according to a further aspect of the present invention.

[0010] With reference to Figure 1, this shows that part of an applicator presenting the brush, comprising a stem 1 presenting the bristles 2 disposed substantially radially. The brush has one end connected to a handgrip (not shown), for example by means of a rod 4, and its opposite end 5 free. It can be seen that the brush presents a make-up application portion 9 of lesser radius, disposed on the stem in an end position. Moving towards the handgrip a definition portion of greater radius is present. The make-up application portion 9 and the definition portion 8 follow each other towards the handgrip and are preferably in mutual contact.

[0011] The lateral surface, defined by the tip (end) of the brush bristles and intersected by a meridian plane (that of the drawing sheet) containing the brush axis, forms a line 7, 7'.

[0012] If said lateral surface is a solid of revolution, all the meridian lines are identical, this representing a preferred aspect of the invention.

[0013] The definition portion 8, as can be noted, has a distance from the axis A which is always greater than the make-up application portion, except at the point where these two portions join together. At this point 10 the line 7, 7' forms an angular point with its cusp facing the axis A. The concavity of the line 7, 7' hence faces away from the axis A. However the concavity of the line

7' pertaining to the definition portion and the line 7 pertaining to the make-up application portion can face the axis (including in the immediate vicinity of the angular point 10). A short radiused line with its concavity facing away from the axis can also be provided, in passing between the two portions.

[0014] In practice, that brush part at the definition portion is configured as a projection of the make-up application part.

[0015] According to a possible aspect, the definition portion 8 has its concavity facing towards the axis (it preferably being of ellipsoidal or spherical configuration), while the make-up application portion extends rectilinearly, parallel to the axis or convergent therewith. A rounding 11 can be present at its free end, in the usual manner.

[0016] Figure 2 represents a brush according to another aspect. In this case, the definition portion 28 is frusto-conical rather than spheroidal or ellipsoidal, and converges towards the free end 25, as far as the point 30 (which in the preceding embodiment was indicated by 10) where it connects to the make-up application portion 29, which is again cylindrical.

[0017] For any unspecified details of this embodiment, the considerations given for the embodiment of Figure 1 are valid.

[0018] A further embodiment is shown in Figure 3. In this case the line 7, 7' presents a discontinuity between the definition portion 38 positioned at a greater distance from the axis 36 and the make-up application portion 39. In the illustrated example, both portions extend substantially cylindrically, with generators 7, 7' parallel to the axis A.

[0019] A frusto-conical configuration converging towards the end 35 could be provided for one or both portions, or ellipsoidal or spherical forms, particularly the former, can be present, with their concavity preferably facing the axis.

[0020] In the aforedescribed embodiments innumerable variants are possible. For example, the described forms can be ellipsoidal, spherical, frusto-conical, cylindrical, with bevels at the end portions and with radiused connections between the two portions. In the present text the term "spherical form" or "ellipsoidal form" means a portion of a sphere or ellipsoid (ellipsoids or spheres sectioned by planes perpendicular to the brush axis A).

[0021] It has been found that the applicator of the present invention is particularly advantageous for its easy and uniform mascara distribution on the eyelashes.

[0022] It should be noted that while extracting the applicator from the mascara bottle the collar acts differently on the two brush portions. Specifically, the collar acts only minimally on the make-up application portion (of lesser diameter), hence leaving it much more impregnated with mascara. In contrast, the collar acts much more decidedly on the definition portion (of greater diameter), so removing a large part of the mascara present on the bristles, to hence leave this portion impregnated with a minimum quantity of make-up. During the extraction the mascara removed from the definition portion by the collar is transferred to the make-up zone with a single movement.

[0023] The make-up application portion can hence be used to distribute the mascara (with which this portion is abundantly loaded) with extreme accuracy (given its small radial dimensions) over all the eyelashes and in particular on the base of the eyelashes and on the (difficultly reachable) short eyelashes present at the ends of the eye. There is also a better "combing" of the outer eyelashes.

[0024] The definition portion makes it extremely simple to improve the definition of the tips of the longer eyelashes by combing them and separating them from each other, so providing them with volume and definition. This is facilitated by the minimum quantity of product present on this applicator portion.

[0025] In other respects, the applicator and its package can be formed in accordance with the known art. For example the stem can be formed with entwined metal wires as aforestated, or in any other known manner. The bristles, of equal or different material and properties, can be of any suitable type according to requirements, for example bristles of polypropylene, acetal resin, etc., and if considered opportune can be different in those brush parts relative to the two meridian line portions. The length of that stem part comprising the bristles (brush length L1 +L2) can be similar to that of brushes of known type, preferably between 20 and 30 mm, and up to 40 mm.

[0026] The length L2 of the definition portion can be for example between ¼ and ¾ of the total length of the brush, for example between 7 and 25 mm (preferably 15 mm), with a diameter D2 also between 7 and 25 mm (preferably 12 mm).

[0027] The length L1 of the make-up application portion at least ¼ of the length of the brush, and can be between 5 and 20 mm, preferably 15 mm, with a diameter D1 between 4 and 10 mm (preferably 6 mm).

[0028] Advantageously it has been verified that the optimal ratio between the definition portion diameter D2 and the make-up application portion diameter D1 is between 1.8 and 2.5, preferably 2.

[0029] The angle α present at the angular point (10, 30) between the tangents at the lines 7, 7' can be about 90º as improperly represented in Figure 3 (in fact, here the 90º angle defines a discontinuity in the line 7, 7'), or between 160º and 120º in the configuration of Figures 1 and 2.

[0030] In a different embodiment (not shown), the brush presents an axis A which is not rectilinear but is curved or at an angle to the axis of the rod 4. All the aforesaid concepts are adaptable to this case without problem, by properly adapting them to the new configuration comprising one or more curves.

[0031] The applicator is particularly suitable for mascara of pasty consistency, however it can also be used with possible modifications for formulations of other fluidities.

Claims

1. An applicator for cosmetics, particularly mascara, comprising a brush having a stem (1) provided with a plurality of bristles (2) disposed radially to said stem, said stem being connected at one end (3) to a handgrip, the free ends of said bristles defining the lateral surface of the brush, **characterised in that** said brush presents a make-up application portion (9, 29, 39) positioned at one end of the stem, followed in the handgrip direction by a definition portion (8, 28, 38), the intersection of the brush lateral surface with a meridian plane containing a brush longitudinal axis defining a meridian line (7, 7') presenting in the passage zone between the make-up application portion and the definition portion a step (40) or a slope variation (10, 30) with its concavity facing outwards from said axis, said step or slope variation enhancing the visibility of the passage point between the application portion and definition portion, said make up application portion extending at least for ¼ of the brush.

2. An applicator as claimed in claim 1, **characterised in that** the make-up application portion presents bristles the free ends of which always lie at a lesser distance from said longitudinal axis than the free ends of the bristles of the definition portion.

3. An applicator as claimed in claim 1 or 2, **characterised in that** said brush lateral surface is substantially a solid of revolution about said axis.

4. An applicator as claimed in any preceding claim, **characterised in that** said definition portion presents a concavity facing towards said axis and/or a substantially spherical conformation and/or a substantially ellipsoidal conformation and/or extends substantially rectilinearly, parallel to said axis or convergent therewith in the direction of the free end (25) of the brush.

5. An applicator as claimed in any preceding claim, **characterised in that** the make-up application portion extends rectilinearly, parallel to said axis or convergent therewith in the direction of the free end (5, 25) of the brush, and/or presents a rounded end portion.

6. An applicator as claimed in any preceding claim, **characterised in that** the ratio between the maximum distance of said meridian line in the definition portion and in the make-up application portion from said axis is between 1.8 and 2.5, preferably 2.

7. A package for a cosmetic, in particular mascara, comprising a container containing the mascara and an applicator in accordance with any preceding claim.

8. A package as claimed in the preceding claim, wherein the handgrip and the container are arranged to cooperate to form a closure.

9. A package as claimed in one or more of the preceding claims, wherein the container presents in proximity to its opening a collar adapted to remove any mascara excess from the bristles during extraction of the brush from the container.

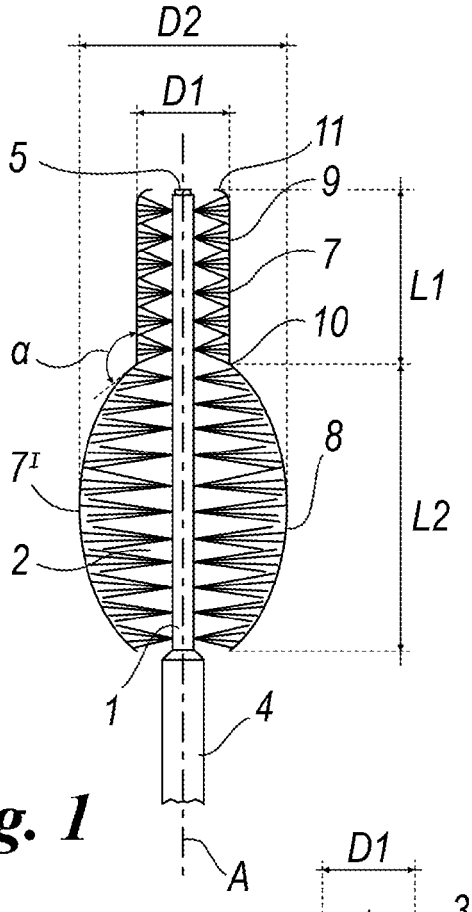

Fig. 1

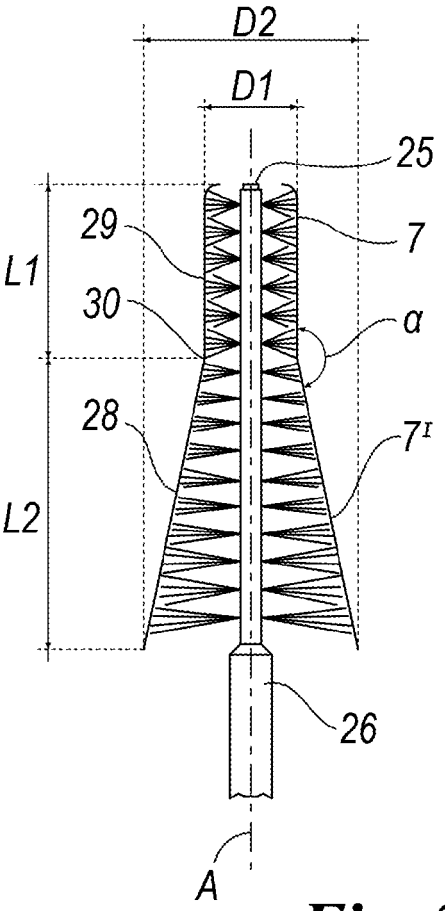

Fig. 2

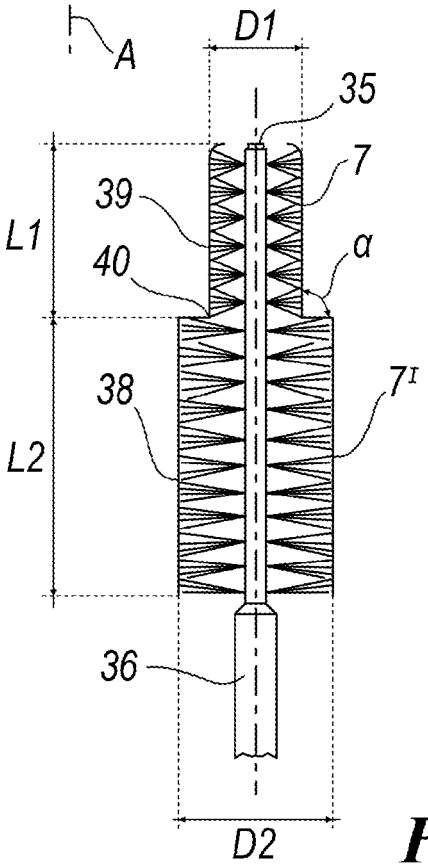

Fig. 3

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EUROPEAN SEARCH REPORT

Application Number
EP 10 18 7132

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TECHNICAL FIELDS SEARCHED (IPC)

A46B

The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
Munich	8 February 2011	Salvatore, Claudio

CATEGORY OF CITED DOCUMENTS

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