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(71) Applicant: **L'OREAL** [FR/FR]; 14, rue Royale, F-75008 Paris (FR).

(72) Inventors: **SANCHEZ, Marcel**; 02 impasse des Marronniers, F-93600 Aulnay Sous Bois (FR). **CAULIER, Eric**; 5 impasse de la Croisette, F-60420 Ferrieres (FR).

(74) Agent: **KHAIRALLAH, Murielle**; L'Oreal, D.I.P.I., 25-29 Quai Aulagnier, F-92665 Asnieres-sur-Seine Cedex (FR).

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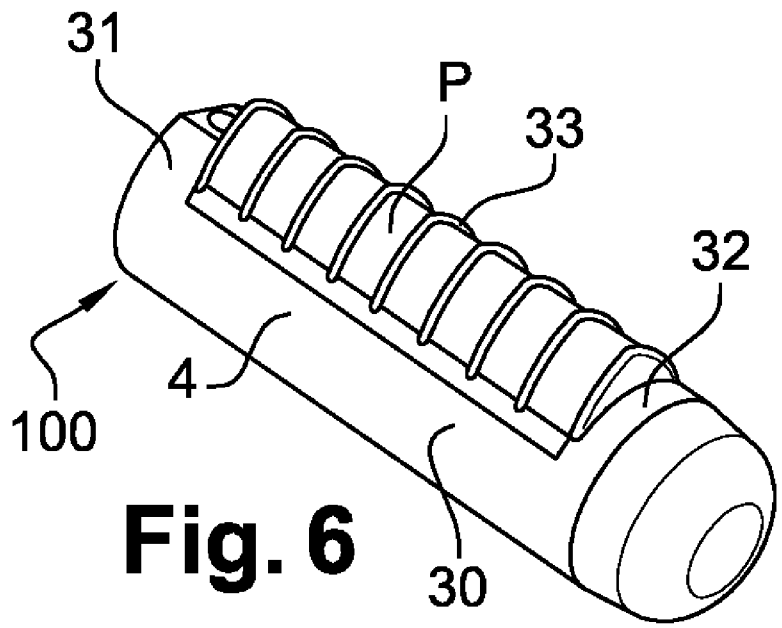

Fig. 6

(57) Abstract: The invention relates to an application unit (100) for applying a cosmetic product (P) for an applicator (1) that has a region for receiving the application unit, said application unit having a support (4) comprising a first portion in the form of a sleeve that is designed to removably fasten the support to the receiving region, and a second portion that forms at least one compartment (34) for receiving the cosmetic composition and/or elements for applying a cosmetic composition. According to the invention, the application unit is characterized in that the support comprises a slot (37) extending along at least 50% of the length of the support, or even along at least 90% of the length of the support.

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Application unit for applying a cosmetic product

The subject of the present invention is an application unit for an applicator for applying cosmetic product to human keratin materials, in particular the eyelashes or the eyebrows.

The expression "cosmetic product" is understood to mean any composition as defined in Council Directive 93/35/EEC of 14 June 1993.

Application EP 1 955 610 discloses an applicator end piece which is composed exclusively of a composition for making up the eyelashes, is moulded and can be mounted by being push-fitted onto a heating support in the form of a finger. However, such an end piece composed of cosmetic product mounted directly on the heating support soils this support, which has to be cleaned following each use. In addition, in order to be able to be push-fitted onto the support, the product necessarily has to extend around the entire perimeter of the applicator end piece. In addition, handling end pieces composed only of a makeup composition can lead to soiling of the user's fingers.

Application US 2007/0286831 discloses a mascara applicator comprising a heating member surmounted by a comb, in which the product is present in the form of bars or beads deposited on the heating member while the latter is in a housing. Feeding means comprising a piston, a cylinder or an endless screw are provided to move the product onto the heating member. The product is not directly supplied with the comb but requires a complex distributor having numerous mechanical parts, and this can hamper reliability and/or lead to the product becoming loaded with undesirable particles.

PCT Application WO 2006/043544 discloses a device for applying a cosmetic product, comprising a removable unit mounted on a receiving region of a base that faces a heating member and receives the product in the form of a block to be placed on the unit by the user and then to be melted by virtue of the heating member. However, handling the blocks can result in the user's fingers being soiled.

Application US 5 316 712 also discloses a method for manufacturing a solid cosmetic product that is obtained mainly from a powder and an oil and is injection-moulded for example onto a container such as a dish. However, in this method, it is necessary to place the dishes in the mould beforehand, and this results in an increase in the

manufacturing time and a risk of the dishes being poorly positioned, which can hamper the reliability of the manufacturing process.

Furthermore, PCT Application WO 2011/131907 discloses an application unit comprising a support and a cosmetic product having a composition different from the material that forms the support, this unit being intended to be mounted on a heating receiving region of an applicator. The application unit may be in the form of a sleeve that is push-fitted onto a tubular heating receiving region. However, there are significant dimensional constraints to be respected in order to obtain mounting with a tight fit on the receiving region. In addition, during heating, the receiving region can expand, causing difficulties in removing the unit that is already mounted and/or difficulties in mounting a new unit.

There is a need to make it possible to apply a cosmetic product to keratin materials with the aid of an applicator in a manner which is relatively simple, relatively reliable, hygienic and practical to use.

The object of the present invention is thus to provide an application unit for applying a cosmetic composition for an applicator, in order to alleviate the abovementioned drawbacks by proposing an improved application unit.

To this end, the invention proposes an application unit for applying a cosmetic product for an applicator that has a region for receiving the application unit, said application unit having a support comprising a first portion in the form of a sleeve that is designed to removably fasten the support to the receiving region, and a second portion that forms at least one compartment for receiving the cosmetic composition and/or elements for applying a cosmetic composition. According to the invention, the support comprises a slot extending along at least 50% of the length of the support, or even along at least 90% of the length of the support.

The invention makes it possible advantageously to have application units that can be loaded with product beforehand and are suitable for push-fitting onto a receiving region in a simple manner regardless of the slight dimensional variations in manufacture and/or expansion of the unit and/or of the receiving region.

According to further features of the invention, the unit may comprise a cosmetic product to be applied to human keratin materials, the composition of the product

being different from the material that forms the support, the cosmetic product being injection-moulded on to the support prior to any use of said unit with the applicator.

The support may have at least two receiving compartments that are separated from one another by ribs.

The ribs may extend substantially transversely to the support.

There may be an odd number of compartments.

The unit may comprise at least two cosmetic products.

The radial extent of the slot about the elongation axis of the support is preferably less than 20°, or even less than 10°, even better still less than 5°.

The slot may have a width measured between two opposite edges of the slot of less than 5 mm, or even less than 2 mm, for example substantially equal to 1 mm.

These dimensions make it possible advantageously to have a better hold of the support of the application unit onto an electric heating element.

The invention also relates to an assembly comprising an applicator having a tubular receiving region and an application unit having a slot as described above.

The receiving region may be heated.

The invention will be understood better from reading the following description of non-limiting implementation examples thereof with reference to the appended drawings, in which:

- Figure 1 schematically shows an applicator comprising an application unit according to the invention,
- Figure 2 is a top view of the application unit from Figure 1 on its own without cosmetic product,
- Figure 3 is a first variant of the application unit from Figure 2,
- Figure 4 is a second variant of the application unit from Figure 2,
- Figure 5 is a perspective view of the application unit from Figure 2,
- Figure 6 is a view of the application unit from Figure 5 loaded with cosmetic product,
- Figure 7 is a cross-sectional view on VII-VII of the application unit from Figure 2 without cosmetic product,

- Figure 8 is a cross-sectional view on VIII-VIII of the application unit from Figure 2 loaded with cosmetic product,
- Figure 9 is a perspective view of a variant of the application unit,
- Figures 10 and 11 show a variant of an applicator in two different use positions,
- Figures 12 to 18 show variants of application units that are not loaded with cosmetic product and are suitable for the support in Figure 10.

With reference to the figures, in particular to Figure 1, an applicator 1 according to a first implementation example has a base 2 that extends mainly along a longitudinal axis X and an electric heating element 3. An application unit 100 is mounted in a removable manner on the base 2 in a receiving region on the electric heating element 3. In the example described, the receiving region extends parallel to the longitudinal axis X, but this does not have to be the case.

The applicator 1 comprises in particular an autonomous energy source, for example an electric battery, for supplying power to the electric heating element 3 intended to transmit its heat to the application unit 100.

The electric heating element 3 can be produced in various ways, and may comprise a resistive electrical conductor which is coiled or in track form, for example one which is flexible.

Generally, the electric heating element 3 has for example a nominal power of between 0.5 and 2 W, for example around 0.8 W, and makes it possible to reach a temperature of greater than 50°C, for example a temperature of 70°C for an ambient temperature of 20°C.

This electric heating element 3 can comprise a metal covering made, for example, of stainless steel or anodized aluminium, thus defining the receiving region facing at least a part of the application unit 100 when the latter is fixed in the receiving region.

The metal covering is tubular, for example substantially cylindrical, extends from the base 2 of the applicator parallel to the axis X, and is designed to receive the application unit 100. The metal covering is for example open at its end distal from the

base 2 of the applicator so as to define a cavity suitable for receiving a lug on the application unit 100 when the latter is mounted on the receiving region.

In a variant that is shown in Figure 10, the receiving region of the application unit 100 extends in a manner forming a curved tube from a flexible portion 6 located between the base 2 of the applicator and the receiving region. The curve can be approximately circular and have a radius of curvature R of between 10 and 100 mm, advantageously between 20 and 30 mm, so as to be best suited to the application of the product to the eyelashes, for example.

The flexible portion 6 has shape memory so that the user can orient the receiving region with respect to the base using the desired application hand movements. A first configuration of the applicator is shown in Figure 10, in which the receiving region extends approximately parallel to and in line with the base. A second configuration of the applicator is shown in Figure 11, in which the receiving region of the application unit extends approximately perpendicularly to the base. In order to pass from the first configuration to the second configuration, the user applies a force to deform the flexible portion. When the exerted force is released, the flexible portion remains in the desired deformed position.

The flexible portion having shape memory can in particular be made of a thermoplastic material and/or of metal. It is advantageously in the form of a sleeve through which the electrical components that connect the power supply to the heating element, such as electrical wires or a flexible circuit, extend.

For example, the flexible portion is formed by a metal wire wound in a helical manner, and by a thermoplastic elastomer material overmoulded on this wire. In a variant, the flexible portion may be formed by a succession of rigid rings that form joints that are nested one after another.

The cross section of the receiving region is advantageously circular, but it is possible for it to have any other shape such as a polygonal or oval shape.

Figures 2 to 6 show, in isolation, application units 100 in an intermediate manufacturing stage, without product in Figures 2 to 5 and loaded with product in Figure 6. These application units 100 are suitable for an applicator according to the first implementation example described above but their features can be adapted to application units that are suitable for other types of applicators.

An application unit 100 comprises a support 4 suitable for the positioning and removable fixing of the application unit on the receiving region of the applicator 1. In addition, the removable fixing of the support 4 on the receiving region makes it possible to easily change product, the applicator 1 then remaining clean and able to receive a new application unit 100. The removable fixing is realized by removable push-fitting. To this end, the support is in the form of a tubular sleeve having an internal section that is complementary to the section of the receiving region.

The support in the form of a sleeve has a slot 37 that extends along the length of the support, as can be seen in the rear view of the application unit in Figure 18. Preferably, the slot 37 extends along at least 50% of the length of the support, or even along at least 90% of the length of the support. The slot extends in a rectilinear manner but it may also extend along a curve or in an undulating manner.

The radial extent of the slot 37 about the elongation axis of the support is preferably less than 20°, or even less than 10°, and better still less than 5°.

The slot 37 has a width, measured between two opposite edges of the slot, of less than 5 mm, or even less than 2 mm, for example approximately equal to 1 mm.

Thus, the support 4 can extend along a longitudinal axis Y, which may be parallel to the longitudinal axis X of the base 2 of the applicator 1 when the application unit is mounted on the latter.

The support 4 may comprise, as illustrated, a frame having two lateral arms 30 that are connected together at their proximal and distal ends and by the proximal part 31 and distal part 32 of the support 4. The frame thus forms a compartment that is able to receive a cosmetic product.

As is illustrated in Figure 7, each of the arms 30 and the proximal part 31 and distal part 32 of the support 4 can have an internal profile complementary to the receiving region of the applicator and in particular to the electric heating element 3. For example, the internal profile is in the form of an arc of a circle so as to fit on a cylindrical receiving region, the free ends of each branch, which are opposite the compartment, facing one another so as to define the slot 37. Thus, the inner face of the support 4, that is to say the face opposite the heating element 3 or its metal covering, forms a shell that extends over virtually one revolution around the axis Y, for example so as to form the sleeve.

The support 4 can be designed to exert a combing action in particular on the eyelashes. Thus, the support 4 can comprise mutually parallel ribs 33. The ribs 33 can be oriented transversely to the axis Y, as illustrated in Figures 2, 5 and 6, or otherwise, for example forming an angle α with the axis Y of, for example, 45°, as in Figure 4, or can even be oriented parallel to the axis Y, as in Figure 3. It is also possible for the ribs 33 not to be parallel to one another.

The ribs 33 can connect the lateral arms 30 on the external side of the application unit 100, that is to say on the side opposite the heating element 3, when the application unit 100 is in place on the receiving region. The base of the ribs 33 thus has a profile in the form of an arc of a circle in line with the profile of the arms 30 in the form of an arc of a circle, in order to be able to be positioned in contact with the cylindrical receiving region.

The ribs 33 divide the frame into a plurality of compartments 34 that are suitable for receiving a cosmetic product. For example, in the case of ribs 33 oriented transversely to the axis Y, the support may comprise between two and fifteen ribs. The spacing between two adjacent ribs is for example between 0.2 and 1.2 mm.

Preferably, an application unit 100 can have a largest dimension along the axis Y of less than 30 mm, or even than 20 mm. The frame is divided into an odd number of compartments, for example a frame with a length of around 12 mm along the axis Y is divided into 9 compartments of around 1 mm along the axis Y by 8 ribs 33 that are transverse to the axis Y and less than 0.4 mm thick. These 8 ribs 33 can be supplemented by two end ribs on the proximal part 31 and distal part 32 of the support 4 in order that the first and last compartments 34 are identical to the others.

The ribs 33 can extend radially away from the support 4; for example the ribs 33 can have a height of 1 mm above the axis comprising the tops of the proximal part 31 and distal part 32. The ribs 33 illustrated have an identical height but can also have heights that vary from one end of the support to the other, in particular passing through a minimum half way along the support.

The ribs 33 can also have different types of profiles, for example rounded, triangular or, as illustrated, in the form of a pointed arch.

Furthermore, the ribs 33 can define a resting region that allows a user to more easily remove the support from the receiving region, for example by sliding it on the base, without the user's fingers coming into contact with the cosmetic product P.

It is also possible for the ribs 33 not to extend radially away from the support 4.

Figures 12 to 17 show variants of supports 4 suitable for the curved receiving region shown in Figure 10.

With reference to Figure 12, the support 4 is formed by a sleeve that has a circular section and extends along an elongation axis, wherein the radius of curvature is more or less identical to that of the receiving region of the applicator 1 in order to be able to be push-fitted onto this receiving region. A portion of the support comprises an opening that forms a frame for receiving the cosmetic product (not shown). This opening extends along the support. A bridge of material of the support 4 can divide this opening longitudinally into two parts. Ribs 33 divide the frame into a plurality of compartments 34 that are suitable for receiving a cosmetic product. The ribs 33 are oriented transversely to the axis Y and extend radially away from the support 4. The cross section of the ribs 33 forms more or less a half-moon shape.

With reference to Figure 13, the support 4 is similar to the one in Figure 12 but comprises spikes that extend radially from the bridge of material. One spike is located between each rib 33. The height of the spikes is identical to that of the ribs but this does not have to be the case. These spikes allow for example a better hold of the product on the support and also make it possible to separate the eyelashes better during the application of the product.

With reference to Figure 14, the support 4 is similar to the one in Figure 12 but each rib 33 comprises at least one spike that extends radially from the radial end of the rib.

With reference to Figure 15, the support 4 is similar to the one in Figure 12 but the ribs 33 have a cross section approximately in the form of a quarter-moon shape. The ribs 33 are disposed in an alternating manner along the bridge of material. Thus, the ribs extending on one side of the central bridge of material alternate with the ribs extending on the other side of the bridge of material. Spikes may be located between each rib 33, as in Figure 13, or on the ribs, as in Figure 16.

With reference to Figure 17, the support 4 is similar to the one in Figure 14 but the half-moon ribs 33 have an indentation at their extreme point. A spike may be disposed on each rib 33, in the indentation.

In the examples illustrated, the bottom of the support 4 is perforated, but it can be solid according to other variants. A perforated bottom allows direct transmission of the heat from the heating element 3 to the product P, and thus makes it possible to reach the application temperature more quickly.

The support 4 is, for example, made of plastics material, in particular of a polyolefin, such as polyethylene (PE) or polypropylene (PP) or, in a variant, of non-polyolefinic materials, such as styrene/acrylonitrile (SAN), acrylonitrile/butadiene/styrene (ABS) or polyoxymethylene (POM). These plastics materials can optionally comprise, as fillers, inorganic particles or fibres, for example metal oxides, powder or fibre of glass or carbon black, in order for example to improve and/or control the transfer of heat in the support 4 to the product, and/or to improve the rigidity of the support 4.

Alternatively, the support 4 can be made of metal, for example of aluminium, brass, silver or stainless steel.

The support 4 is produced by injection-moulding. A description has been given of variants of the support 4 comprising a single frame forming a compartment that is able to receive a cosmetic product, but variants of the application unit can comprise a plurality of frames.

The support 4 can also, as shown in Figure 9, comprise protruding application elements 28. In the case of application to the eyelashes, the application elements 28 can be useful for separating the eyelashes to which product has been applied and for defining means for combing the eyelashes.

The application elements 28 can be disposed on the arms 30 of the support 4; for example the application elements 28 can extend in two rows parallel to the longitudinal axis Y of the support 4, each of said rows being disposed on an arm 30 of the support 4.

When the support 4 is made of thermoplastic material, the application elements 28 can be made in one piece with the rest of the support 4 or, in a variant, be connected thereto.

In the example shown, the application elements 28 are teeth that extend between the ribs 33. An identical number of application elements 28 is for example disposed between two adjacent ribs 33.

The application elements 28 can be disposed in rows parallel to the axis Y and project above the ribs 33.

The cosmetic product P, also called cosmetic composition, can extend, as illustrated in Figures 6, 7, 9 and 10, in the frame of the support 4 formed by the two lateral arms 30 that are connected together at their proximal and distal ends. Thus, the product P extends over less than one revolution about the axis Y of the support 4, resting via an inner face, opposite the application face, against the bottom of the support 4, which is positioned facing the electric heating element 3 when the application unit 100 is in place on the base 2. The product P thus extends only over a portion of the metal element covering the heating element, thus preventing soiling of the entire surface of the metal element.

When the support 4 comprises ribs 33, the product P does not extend above the ribs 33. Preferably, the product P is at least partially set back from the upper end of said ribs 33, allowing a user to take hold of the application unit 100 without his or her fingers coming into contact with the cosmetic product P and thus preventing the fingers from being soiled.

The support 4 carries for example between 10 and 100 mg of product, for example between 20 and 50 mg of product, for example around 30 mg. This quantity is, for example, suitable for a single use. When the product is of the mascara type, for example, the quantity of product makes it possible for example to make up one or two rows of eyelashes. Mascara is understood to be a composition intended to be applied to the keratin fibres.

The cosmetic product P is for example an eyelash makeup composition which has a property that varies depending on the temperature, for example a threading nature. The product may be cold-applicable.

It is for example a composition comprising at least one reversible polymer that is solid at room temperature. The term "solid" denotes a product which does not flow under the effect of gravity at 20°C.

The composition may comprise at least one compound selected from:

- polymers and copolymers comprising at least one alkene monomer, in particular ethylene-based copolymers,
- poly(vinyl acetate) homopolymers,
- silicone resins,
- film-forming block ethylenic polymers, which preferably comprise at least a first block and at least a second block with different glass transition temperatures (Tg), said first and second blocks being linked together via an intermediate block comprising at least one constituent monomer of the first block and at least one constituent monomer of the second block,
- copolymers of dienes and of styrene,
- sulfopolyesters,
- copolymers of alkene and of vinyl acetate, in particular copolymers of ethylene and of vinyl acetate,
- copolymers of ethylene and of octene,
- T silicone resins, such as polyphenylsiloxanes,
- film-forming block ethylenic copolymers resulting essentially from monomers selected from alkyl methacrylates, alkyl acrylates and mixtures thereof,
- copolymers of butadiene and of styrene,
- copolymers obtained by condensation of diethylene glycol, cyclohexanedimethanol, isophthalic acid, sulfoisophthalic acid and mixtures thereof.

The threading nature can in particular be of dmax ≥ 5 mm, being determined in particular according to the protocol described in paragraphs [0120] to [0127] of Application EP 1 955 610.

The product P is for example solid at 20°C and has a hot threading nature at a temperature greater than 30°C, for example at a temperature of between 30°C and 80°C, preferably between 40°C and 70°C. The electric heating element thus has the role of bringing the product to a high enough temperature to cause it to melt and allow the formation of threads of product, in particular at the end of the eyelashes.

It is possible for the product not to have a hot threading nature; for example the heating of the product may also increase the adhesion of the product to the eyelashes

in order to make it easier to obtain a deposition having greater brilliance or else to allow the use of compounds which are not suitable for cold application.

The product may have a melting point greater than or equal to 50°C, for example close to 54°C.

The product is for example chosen to be able to be heated several times to a temperature of at least 90°C without being damaged.

The product described in this example is of the mascara type for application to the eyelashes, but in an alternative, the product may be intended for application to the lips, the nails or may otherwise be a skin makeup product, for example a foundation; in these other applications, it is possible for the support 4 not to have ribs 33.

The product P is loaded onto the support 4 by injection-moulding. The injection-moulding process will be described below in the description.

In variant embodiments that are not illustrated, an application unit 100 may comprise a plurality of cosmetic products P, P'.

The different products are for example different colours or have different properties. The different products proposed can for example result in makeup effects which are more or less full-bodied, and more or less lengthening.

According to another variant which is not shown, in the case of a support comprising two rows of compartments, each of these rows comprises a different cosmetic composition P, P'. For example, the first composition P may be a makeup base for keratin fibres or else a composition for the cosmetic treatment of the keratin fibres, and the second composition P' may be makeup for the keratin fibres or a composition to be applied to a mascara. Such compositions are described in particular in Application WO2009062947. In this way, the user can first of all apply the first product P for preparing the eyelashes and then the second product P' for making up the eyelashes.

The method of manufacturing and loading the support 4 with product P by injection-moulding is described in the document WO 2011/131907. Injection-moulding is understood to be moulding of a component by injecting a material in the fluid state under superatmospheric pressure into a volume which is closed apart from the injection orifice defined by the mould.

The supports 4, after having been loaded with product in particular by the injection-moulding method, can be sold in a pack, for example a blister pack, comprising a

plurality of application units 100 with or without an applicator 1. In the case where an applicator 1 is provided in the pack, one application unit 100 may already be fixed to the applicator 1.

The application units may contain the same product or different products. The different products are for example different colours or have different properties. The different products proposed can for example result in makeup effects which are more or less full-bodied, and more or less lengthening.

In particular when the appearance of the products present on the corresponding supports does not allow the user to easily differentiate between them, the supports may be produced with identifiers for telling them apart. The supports may for example be produced in different colours, each colour being associated with a corresponding product. The user can then choose the support in the colour corresponding to the product which he or she wishes to apply.

Different supports provided to consumers can be packaged individually or in a variant in a common pack. The supports may for example be present in strings, being for example linked together by bridges made of breakable material. This may make it easier to manufacture the application units.

The applicator can be provided to the consumer with the base and a plurality of application units. The base may in particular be provided within a single pack with a plurality of identical application units or with a plurality of application units holding different products, and the user can then choose an application unit depending on the product which he or she wishes to use.

It is also possible to provide to the user, in particular within a single pack, application units that are loaded or are not loaded with the same product but having different reliefs, for example comprising more or fewer projecting application elements or differently oriented ribs, in order for example to comb the eyelashes more or less during application and to produce a more or less full-bodied makeup.

The invention is not limited to the examples illustrated. The features of the various examples can in particular be combined as parts of variants which are not illustrated.

The expression "comprising a" should be understood as meaning "comprising at least one", unless specified to the contrary.

CLAIMS

1. Application unit (100) for applying a cosmetic product (P) for an applicator (1) that has a region for receiving the application unit, said application unit having:

- a support (4) comprising a first portion in the form of a sleeve that is designed to removably fasten the support to the receiving region, and a second portion that forms at least one compartment (34) for receiving the cosmetic composition and/or elements for applying a cosmetic composition,

the application unit being characterized in that the support comprises a slot (37) extending along at least 50% of the length of the support, or even along at least 90% of the length of the support.

2. Application unit (100) according to the preceding claim, characterized in that the unit comprises a cosmetic product (P) to be applied to human keratin materials, the composition of the product being different from the material that forms the support, the cosmetic product being injection-moulded on to the support prior to any use of said unit with the applicator.

3. Application unit (100) according to either of the preceding claims, characterized in that the support (4) has at least two receiving compartments (34) that are separated from one another by ribs (33).

4. Application unit (100) according to Claim 3, characterized in that the ribs (33) extend substantially transversely to the support (4).

5. Application unit (100) according to one of the preceding claims, characterized in that there is an odd number of compartments (34).

6. Application unit (100) according to one of the preceding claims, characterized in that it comprises at least two cosmetic products (P, P').

7. Application unit (100) according to one of the preceding claims, characterized in that the radial extent of the slot (37) about the elongation axis of the support is preferably less than 20°, or even less than 10°, even better still less than 5°.

8. Application unit (100) according to one of the preceding claims, characterized in that the slot (37) has a width measured between two opposite edges of the slot of less than 5 mm, or even less than 2 mm, for example substantially equal to 1 mm.

9. Assembly comprising an applicator (1) having a tubular receiving region (3) and an application unit (100) according to one of Claims 1 to 8.

10. Assembly according to Claim 9, characterized in that the receiving region is heated.

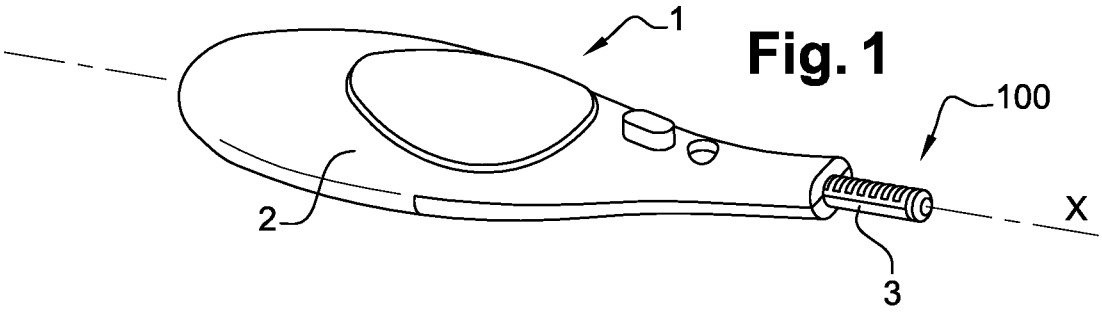


Fig. 1

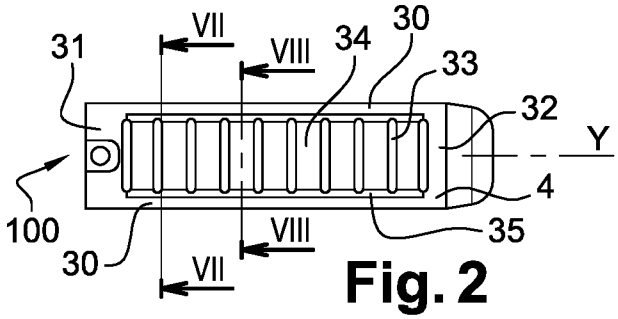


Fig. 2

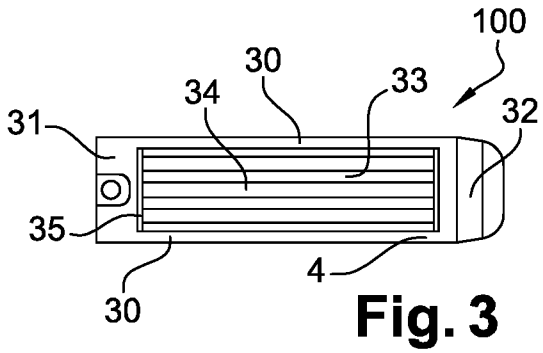


Fig. 3

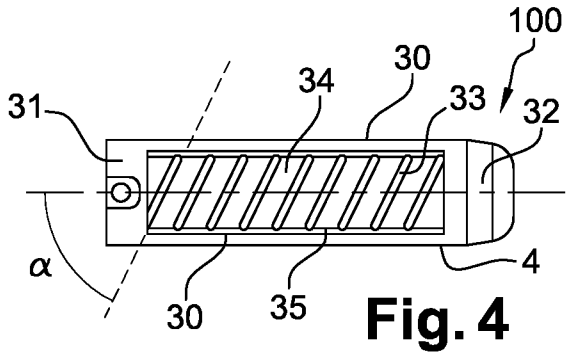


Fig. 4

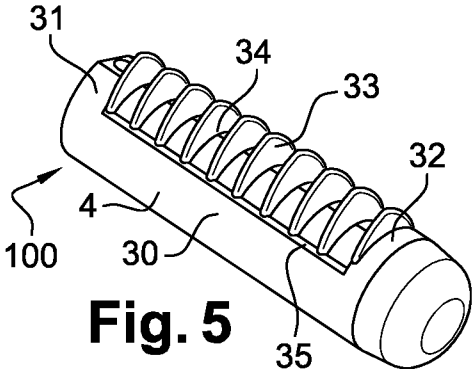
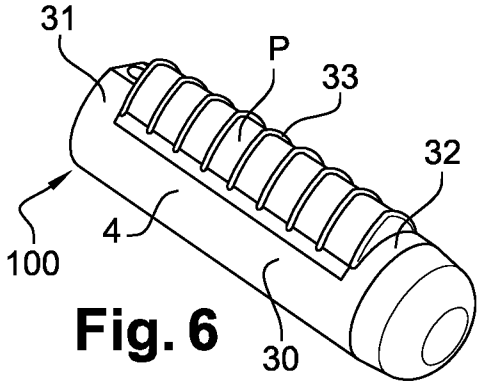


Fig. 5



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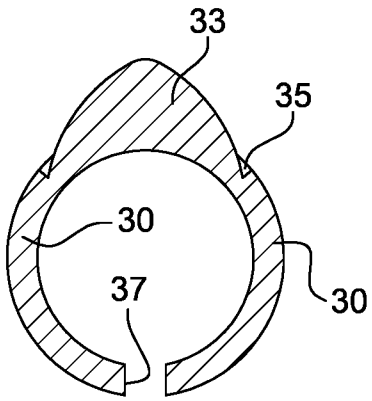

Fig. 7

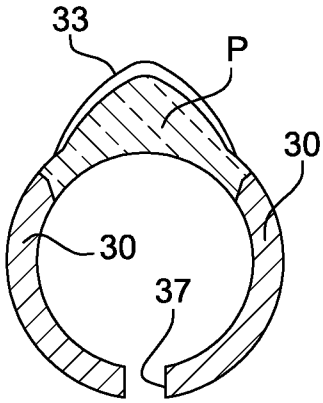

Fig. 8

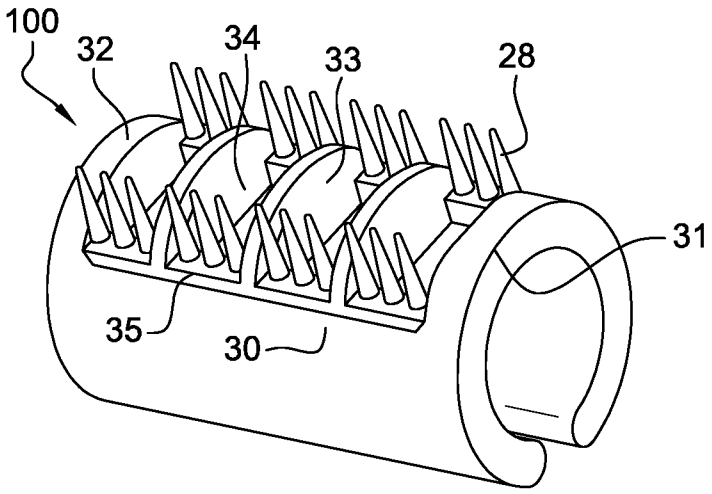

Fig. 9

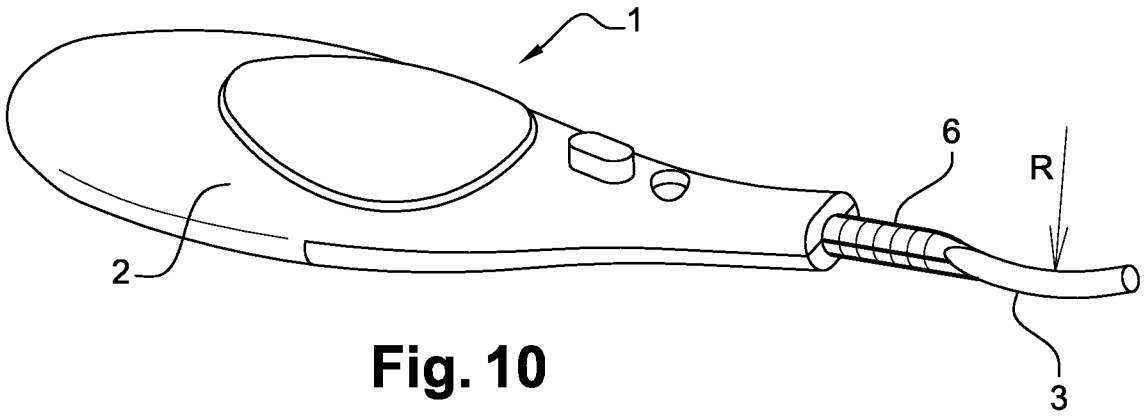

Fig. 10

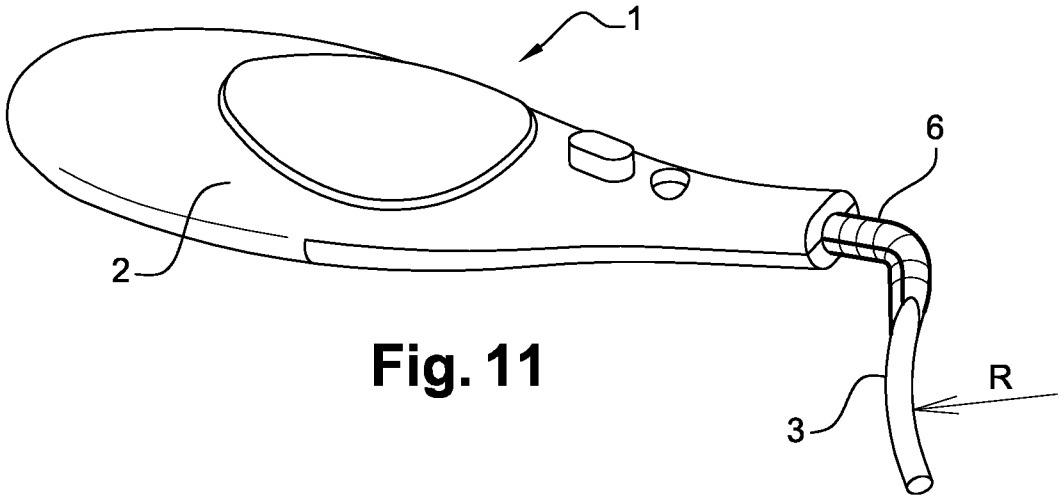

Fig. 11

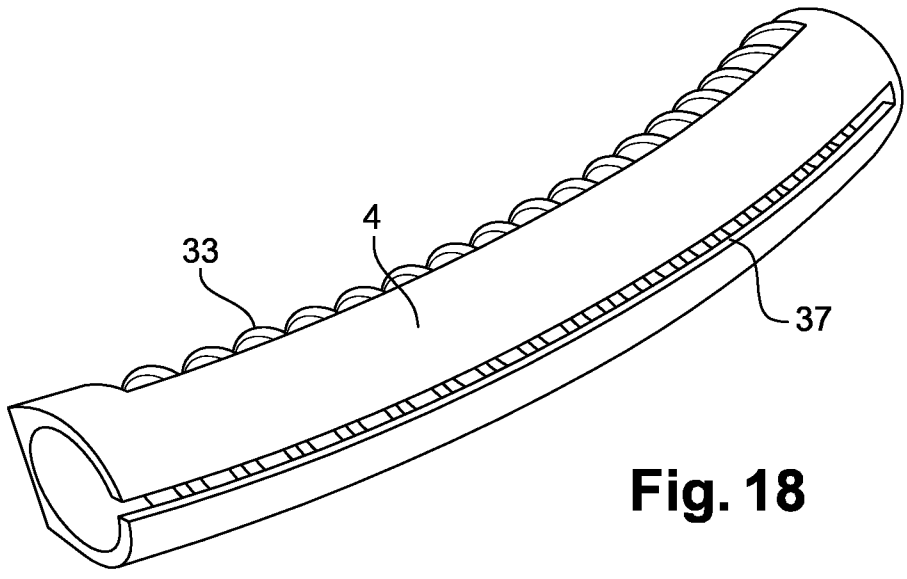

Fig. 18

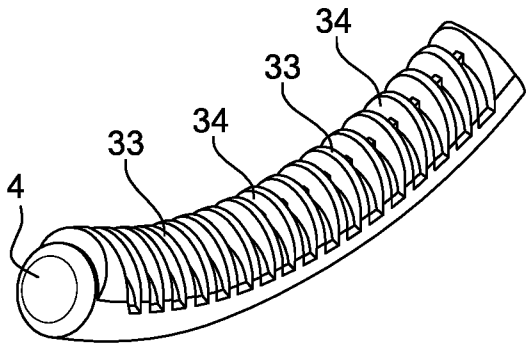

Fig. 12

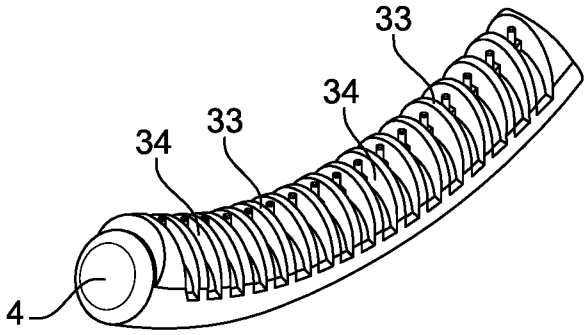

Fig. 13

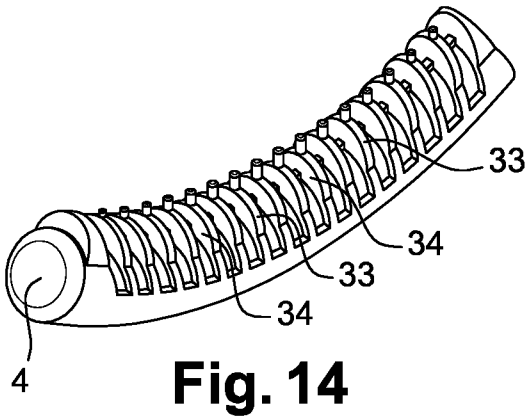

Fig. 14

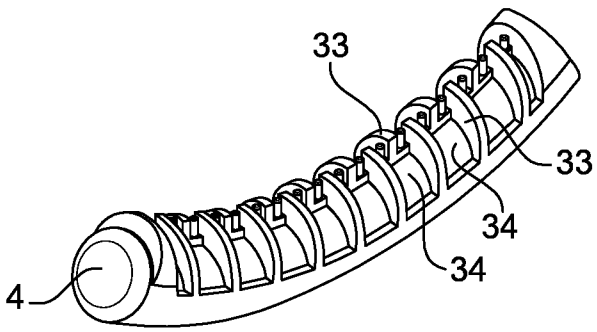

Fig. 15

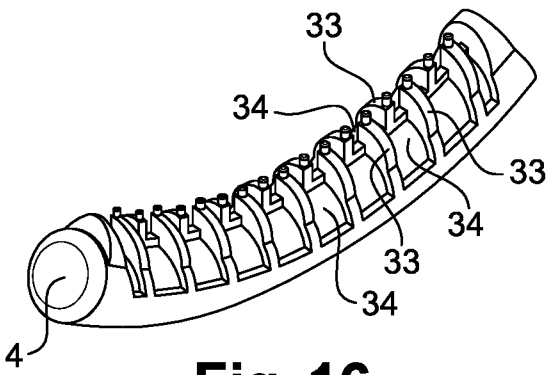

Fig. 16

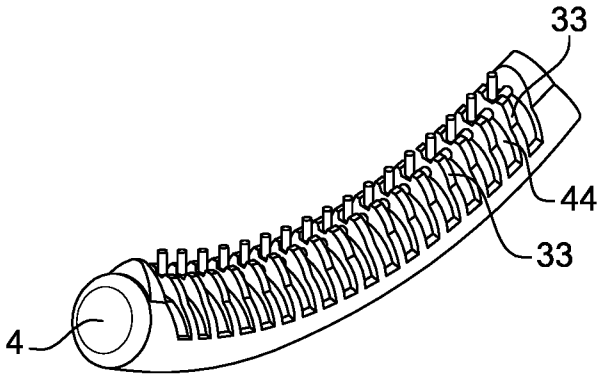

Fig. 17

INTERNATIONAL SEARCH REPORT

International application No
PCT/EP2014/076315

A. CLASSIFICATION OF SUBJECT MATTER
INV. A45D40/26 A45D2/48 A46B9/02
ADD.

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
A45D A46B

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

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)
EPO-Internal

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	FR 2 959 107 A1 (OREAL [FR]) 23 March 2011 (2011-03-23) the whole document -----	1-10
X	EP 2 298 115 A1 (OREAL [FR]) 23 March 2011 (2011-03-23) paragraphs [0149] - [0150]; figures 13-15 -----	1,2,5-10

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

☒ See patent family annex.

* Special categories of cited documents :

"A" document defining the general state of the art which is not considered to be of particular relevance

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

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

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

"&" document member of the same patent family

Date of the actual completion of the international search	Date of mailing of the international search report
3 February 2015	10/02/2015

Name and mailing address of the ISA/	Authorized officer
European Patent Office, P.B. 5818 Patentlaan 2 NL - 2280 HV Rijswijk Tel. (+31-70) 340-2040, Fax: (+31-70) 340-3016	Van Bastelaere, Tiny

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INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No
PCT/EP2014/076315

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