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(54) DEVICE FOR PACKAGING AND APPLYING A COSMETIC OR CARE PRODUCT TO THE LIPS

VORRICHTUNG ZUM VERPACKEN UND AUFTRAGEN EINES KOSMETISCHEN ODER PFLEGENDEN PRODUKTES AUF DIE LIPPEN

DISPOSITIF DE CONDITIONNEMENT ET D'APPLICATION D'UN PRODUIT COSMÉTIQUE OU D'UN PRODUIT DE SOIN SUR LES LÈVRES

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Description

[0001] The present invention relates to packaging and application devices for applying a product to the lips. It may be a cosmetic or care product, in particular makeup, for example a lipstick, a lip gloss or a care product.

[0002] The invention relates more particularly, but not exclusively, to devices in which the applicator comprises a product applicator member which is carried by a stem and introduced into a container to be loaded with product.

[0003] European Patent Application EP 1 195 105 describes a device for applying a lipstick, comprising an applicator member having a bevelled portion. The product accumulates at the end of the applicator member, on a small surface.

[0004] European Patent Application EP 1 053 695 discloses devices in which the applicator member has a distal end that is at a distance from the longitudinal axis of the distal portion of the stem, so as to non-uniformly wipe the applicator member, allowing more product to accumulate on one side of the applicator member than on the other.

[0005] Patent Applications EP 1 623 650, FR 2 951 920 and FR 2 886 112 disclose applicators for applying product to the lips, comprising applicator members having two arms that delimit a central cavity intended to hold product. In these applicators, the application surface has relatively low flexibility in contact with the lips.

[0006] European Patent Application EP 1 440 629 describes a device comprising an opening on one side of the applicator member for loading the product, and one or several slots, all of which are situated at the opposite side of the opening and through which the product is distributed for application.

[0007] European Patent EP 0 196 282 discloses an application member formed by a plurality of concentric loops, with no aperture between two loops being mounted contiguously to each other.

[0008] European Patent Application EP 1 645 204 discloses a device comprising a spattle-like base body with through holes on the distal half of the base body, the thickness of the base body decreasing from a circular and rounded cross-section of the stem-connecting side towards the free outer edge to create a brush-like feeling during application.

[0009] Patent Application US 2005/0217691 discloses a mascara applicator forming a single plastic part, including a support and a plurality of radial discontinuities fixed to said support, said discontinuities forming a plurality of cavities and/or a plurality of elements in relief to offer high contact surface with product and retention volume.

[0010] Patent Application FR 2 895 887 describes a mascara applicator moulded in one piece comprising internal cavities surrounded by tubular walls and external cavities to hold product.

[0011] There is a need to further improve packaging and application devices that are used to apply a product to the lips.

[0012] There is an interest in particular in providing an applicator that is adaptable to the changing profile of the lips from one corner to the other, and which allows rapid and precise application. There is also a need to improve comfort during application, in particular the softness and uniformity of application, and also the autonomy of the applicator.

[0013] The invention thus relates, according to one of its aspects, to a device for packaging and applying a cosmetic or care product to the lips, comprising:

- a container containing the product to be applied to the lips, and
- an applicator member

  a) defining two opposite main application faces, and
  b) comprising at least three apertures formed between at least four longitudinal, transverse or oblique members, the thickness of the members defining the spacing between the two opposite application faces and the spacing between the two opposite application faces being less than 3 mm,

  wherein the applicator member comprises one or more main members that from a frame and a central core, and at least two secondary members connected to the frame or to the central core, the frame having a closed contour,
  wherein at least one aperture has, in at least one plane, a closed contour.

[0014] The applicator member has a very high degree of flexibility during application, in at least two directions in space. Thus, a high degree of softness of application is obtained. The applicator member can deform in a longitudinal direction and in a transverse direction at the same time. The application surface can thus be adapted easily to the shape of the lips.

[0015] Furthermore, the apertures constitute a multitude of small reservoirs for storing product even after any wiping, thereby improving the autonomy of the applicator. The applicator member may have very good deformability on passing the wiping member, and may thus make it possible to retain product in the apertures and a homogeneous film of product on the members. The product may be released progressively during application. The applicator according to the invention is thus highly capable of retaining and releasing the product. The applicator may also minimize the formation of streaks of product on the lips.

[0016] The thickness of a member may be between 0.3 and 3 mm. The "thickness" of a member refers to its transverse dimension measured perpendicularly to its longitudinal axis. In the case of a member having a circular section, its thickness corresponds to its diameter. If the member has an oblong section, for example an

elliptical section, the thickness corresponds to the dimension of the minor axis. The thickness may be measured in particular half way along the member. Thus, the members are relatively thin, making it possible to give the applicator member great flexibility. All of the members of the applicator member may have more or less the same thickness. The difference between the thicknesses of two members of the applicator member, defined as being the difference between the thicknesses with respect to the smallest thickness, may be less than 50%, better still less than 40%, and even better still less than 30%. Furthermore, comfort during application can be improved given the small thickness of the members and the flexibility of the applicator member.

[0017] The applicator member may have a generally flattened shape. The above closed contour can thus be seen when the applicator member is viewed in a direction perpendicular to the flattening plane. The stem may extend along a longitudinal axis parallel to or inclined with respect to the flattening plane, for example at an angle of between 1 and 35°.

[0018] The thickness of a main member may be between 0.5 and 3 mm, or even between 0.5 and 2.5 mm. The thickness of a secondary member may be less than 1.5 mm, being for example between 0.5 and 1.5 mm, better still between 0.5 and 1 mm, for example around 0.8 mm. The thickness of a main member may be smaller than that of a secondary member. Preferably, the members are filiform.

[0019] The cross section of a member may have a shape chosen from the following list: circular, oval, oblong, for example elliptical, polygonal, having or not having rounded peaks, for example triangular, square or rectangular, this list not being limiting. The members may be hollow, if need be. Preferably, the members have a solid section. The members may have rounded, tapered or pointed free ends.

[0020] The applicator member may define two opposite main application faces that are preferably approximately parallel to one another. The spacing between the two faces may vary by less than 0.5 mm. The spacing between the two opposite main application faces is defined by the members. The thickness of the members thus defines the spacing between the opposite application faces. The spacing between the main application faces, in other words the thickness of the applicator member, may be more or less constant between the main application faces. The spacing may be less than 3 mm, or less than 2.5 mm, better still less than 2 mm. Approximately all of the members may have the same transverse dimension which defines said spacing.

[0021] The "main application face" refers to a surface of the applicator member that is intended to come into contact with a lip in order to apply the product thereto. A main application face may have a planar, concave or convex envelope.

[0022] When viewed perpendicularly to a main application face, the applicator member may have a contour, the shape of which is chosen from the following list, which is not limiting: teardrop-shaped, drop-shaped, peanut-shaped, oval, elliptical, oblong, in the form of a regular or irregular polygon, for example a triangle, square, rectangle, lozenge, hexagon, in the shape of a Christmas tree, or in the shape of an ear of corn. The applicator member may have the general shape of a leaf, a feather, or else a stack of scales.

[0023] The applicator member preferably comprises a tapered end part, allowing precise application of makeup. The end part may be without a bevelled edge.

[0024] The members may extend at least partially or entirely longitudinally, transversely or obliquely, in a rectilinear or curved manner, for example in a circular manner, this list not being limiting.

[0025] At least two members may be concentric. At least two members may extend parallel to one another. Two members may be connected together by another member, for example by a member extending perpendicularly thereto. At least two members may have no connection between one another other than the stem.

[0026] The apertures may have a longitudinal dimension, measured along their longitudinal axis, of at least 6 mm, better still at least 7 mm, or even at least 8 mm. The longitudinal dimension of an aperture is understood as meaning the largest dimension of said aperture, measured between the most distant points of two members defining said aperture. The longitudinal dimension of an aperture may be approximately parallel to the longitudinal direction of the applicator member or be approximately perpendicular thereto.

[0027] A spacing between two consecutive members may be between 0.5 and 4 mm, better still between 0.5 and 3 mm.

[0028] The applicator member may comprise flocking. Alternatively, it may have no flocking. The presence of the flocking may make it possible to improve the sliding of the applicator member on the lips. The choice as to whether flocking is present or not could be made for example depending on the rheology of the product. It is possible for the members to be entirely flocked or not to be entirely flocked.

[0029] The length of the hairs of the flocking may be chosen such that the apertures in the applicator member are not visible when the applicator member is viewed perpendicularly to one of its main application faces. In other words, the hairs of the flocking may partially fill the apertures between the members, or even fill them completely. The length of the hairs of the flocking may be chosen such that the hairs mask the apertures. On looking at the applicator member, it is not possible to realize that the latter has apertures. The length of the hairs of the flocking may be for example between 0.2 and 2.5 mm, or even between 0.5 and 2 mm, better still between 0.8 and 1.2 mm. The length of the hairs of the flocking being greater than or equal to half the distance between one edge of the aperture and the opposite edge of the aperture.

[0030] The flocking may comprise a single sort of hairs or a mixture of hairs, for example hairs having different natures and/or having different lengths and/or having different diameters.

[0031] The applicator member may be flocked over approximately all of its visible surface. It is possible for only that surface of the applicator member that is used for applying the product to be flocked, if need be.

[0032] The applicator member may be mounted at the end of a stem. The stem may be secured at the other end to a gripping member designed to close the container.

[0033] A length of the applicator member, measured along its longitudinal axis, may be less than half the visible length of the stem, measured along its longitudinal axis, better still less than 1/3, even better still less than ¼.

[0034] The applicator member may extend along a longitudinal axis that forms an angle α with a longitudinal axis of the stem. The angle α may be between 1 and 35°.

[0035] The applicator member may comprise an injection-moulded or machined body. It may be produced from a thermoplastic material and/or elastomer, for example from PVC, EVA, latex, silicone, nitrile, EPDM, butyl, Hytrel®, Pebax®, Santoprene®, SIS, SEBS, PU, PET, PS, a polyolefin, in particular PE or PP.

[0036] The applicator member may comprise an end piece inserted into the interior of the abovementioned stem. The end piece may extend along a longitudinal axis parallel to or inclined with respect to a flattening plane of the applicator member. It may be inclined at an angle of between 1 and 35° for example.

[0037] The applicator member may be attached to the stem, in particular fixed to the stem by adhesive bonding, clamping, force-fitting, snap-fastening, screwing, stapling, crimping. Alternatively, it may be moulded in one piece with the latter. The stem may be flexible or rigid.

[0038] The applicator member may not have a membrane, a web or a mesh extending over a frame, the thickness of the mesh being very small with respect to the thickness of the frame, in particular less than 30% or less than 20% thereof. The applicator member may be magnetic or magnetizable.

[0039] The applicator member may contain no metal, thereby allowing it for example to be placed in a microwave oven.

[0040] The applicator member may be entirely contained between two planes which are based on a main member which defines the contour of the applicator member when the latter is viewed from the front, in a direction perpendicular to said planes.

[0041] The applicator member may comprise a plurality of members approximately parallel to one another or images of one another by homothety.

[0042] The applicator member may comprise concentric members.

[0043] The apertures may have different sizes and/or shapes when the applicator member is seen from above.

[0044] At least some of the apertures may have generally elongate shape.

[0045] At least some of the apertures may have a shape different from circular, or oval, or different from the shape of a regular or irregular polygon.

[0046] Within an aperture, the distance between two members defining this aperture may always be small enough for the product to be able to be retained by capillary action.

[0047] The total section taken up by the apertures, when the applicator member is viewed in a direction perpendicular to the main application faces, and ignoring any flocking, may be greater than the surface area taken up by the members. The applicator member comprises a peripheral member defining a frame having a closed contour, for example being connected to the stem or to an end piece fixed to the stem of the applicator.

[0048] The stem or the end piece may define at least partially a border of at least one aperture.

[0049] The frame may have a generally elongate shape along a longitudinal axis that is or is not at an angle to the longitudinal axis of the stem, in particular which is in the same plane as the longitudinal axis, this plane being for example perpendicular to a flattening plane of the applicator member.

[0050] Preferably, the applicator member viewed perpendicular to the flattening plane has a length to width ratio that is inferior to 3 or better still to 2.

[0051] The members which are connected to this frame are all oriented in the same manner, in one implementation example, for example, all transversely.

[0052] It is possible for the applicator member not to have members that cross.

[0053] At least some of the members may be in the form of chevrons.

[0054] At least some of the members may have constant cross section along their longitudinal axis.

[0055] The gripping member of the applicator may serve as a member for closing the container and engage for example by screwing with the container. The container may be closed in a leaktight manner by the gripping member of the applicator.

[0056] The device may comprise a member for wiping the applicator member. The wiping member is for example disposed in the neck of the container. The wiping member may allow the stem to be wiped fully, so as to keep the latter clean and give it a satisfactory appearance for the user, while ensuring satisfactory distribution of the product on the applicator member.

[0057] Alternatively, it is possible for it not to have a wiping member.

[0058] The wiping member may define a wiping orifice having a diameter smaller than the largest dimension of the stem in cross section. The wiping member may define a wiping orifice which is circular, non-circular, polygonal, having waves, having slits, which are radial or at a tangent to the wiping orifice. The wiping orifice may optionally be defined by a lip comprising undulations that allow the wiping orifice to widen more easily as the applicator

member passes through, thanks to the opening out of the lip. The number of undulations may be between 3 and 12. The wiping lip may extend generally in the form of a cone converging in the direction of the bottom of the container, having a generatrix that is at an angle with the longitudinal axis of the container. Alternatively, the wiping lip extends generally in a mid-plane perpendicular to the longitudinal axis of the device, or else in the form of a cone converging in the direction of the outlet of the container.

[0059] The wiping member may be produced from an elastomeric material.

[0060] The wiping member may also be produced in some other way, for example comprise a block of foam, which may be split.

[0061] The wiping member may be adjustable, if need be.

[0062] The wiping member is for example as described in Patent Applications or Patents US 2005/0028834, US 2005/0175394, US 2004/0258453, US 6 375 374, US 6 328 495 and US 7 455 468.

[0063] The stem is preferably relatively rigid and does not deform visibly during use in order to apply the product.

[0064] The stem may have a narrowing disposed in the region of the wiping member when the applicator is in position in the container, in order to preserve the wiping member at rest and not to deform it.

[0065] The applicator may comprise, anywhere other than on the applicator member itself, indicating means, the applicator member being in a predefined angular position in relation to the indicating means, so that the position of the applicator given by the indicating means corresponds to a predefined position of the application faces with respect to the user's lips.

[0066] The indicating means may be disposed on the gripping member. The gripping member may comprise at least one flat part, for example two flat parts, or even four flat parts, the position of which corresponds to the two opposite application faces of the applicator member. The indicating means may also comprise a visual marker such as an inscription or a coloured mark.

[0067] The device may be designed to allow the product to be stirred while the applicator member is being moved in the container. The applicator member may comprise one or more preferential passages, such as ridges or a screw thread, allowing the product to pass between the applicator member and the internal surface of the container. The applicator member may be located at a short distance from the internal surface of the container in order to obtain the desired stirring. This stirring may make it possible to mix a plurality of phases of the product prior to application, for example. The phases may for example include a wax, a pigment, polymers, solvents or oils.

[0068] Alternatively, the device comprises a scraper system having a variable volume chamber that makes it possible to empty a relatively large quantity of product contained in the container and/or to mix different phases.

[0069] The applicator member may also be mounted at the end of a flexible tube or of a container having a pump and/or piston, making it possible to supply product to the applicator member, for example through a duct formed in the latter, the duct opening for example into at least one of the apertures.

[0070] The invention may be better understood from reading the following detailed description of non-limiting implementation examples thereof and from examining the appended drawing, in which:

- Figure 1 is a schematic and partial perspective view of an example of a packaging and application device not in accordance with the invention,
- Figures 2a and 2b are side views perpendicular to one another of the applicator member from Figure 1, shown on its own, respectively along the arrows A and B,
- Figure 3 is a cross section on III in Figure 2a,
- Figure 4 illustrates the use of the applicator member from Figures 1 to 3,
- Figures 5a and 5b are detail views of variant embodiments,
- Figures 6a to 6o are views similar to Figure 2 of variant examples of the applicator member, some of said examples forming embodiments of the present invention,
- Figure 6p is a side view along arrow C of Figure 6o.
- Figure 6q is a cross section along D-D of Figures 6o or 6p,
- Figure 7 is a schematic and partial perspective view of a variant example of the device not forming part of the present invention,
- Figures 8a to 8d illustrate variant embodiments of wiping members,
- Figure 9 is a schematic and partial perspective view of a variant embodiment,
- Figure 10 shows an elevation view of a variant device not according to the invention,
- Figure 11 shows the applicator member of the device from Figure 10, and
- Figures 12 to 14 show variant containers that can accommodate the applicator member.

[0071] Figure 1 shows a packaging and application device 1 comprising a container 2 and an applicator 3. The container 2 contains a product P intended to be applied to the lips, for example a liquid lipstick, a lip gloss or a care product.

[0072] The applicator 3 comprises a stem 4 that is connected at its proximal end to a gripping member 5 and at its distal end to an applicator member 6, shown in more detail in Figures 2a, 2b and 3.

[0073] The gripping member 5 constitutes a leaktight closure member for the container 2 and comprises, for example, an internally threaded skirt, designed to be screwed onto the neck of the container 2, which may comprise a corresponding external thread.

[0074] The device 1 may also comprise a wiping member 8 fixed in the neck of the container 2.

[0075] In the example described, the stem 4 has a circular cross section, but it can have also some other cross section. The stem 4 may be solid or hollow. The largest outside diameter of the stem 4 is for example between 3 and 6 mm, being for example around 4 or 5 mm. The stem 4 may be relatively short. The visible length of the stem is for example between 10 and 40 mm.

[0076] The length L of the applicator member, measured along its longitudinal axis X, may be less than half the visible length of the stem, measured along its longitudinal axis Y.

[0077] The applicator member 6 comprises a body 9 which is preferably covered with flocking, as illustrated in Figures 2a, 2b and 3. In variant embodiments, it may have no flocking.

[0078] The body 9 may be produced, at least partially, and preferably entirely, by moulding, for example by injection moulding, for example using a material chosen from the following list: thermoplastic material, thermoplastic elastomer, thermoplastic polyester elastomer such as Hytrel® for example, nitrile, silicone, EPDM, SEBS, SIS, PU, EVA, PVC, PE, PET, PP, this list not being limiting.

[0079] The body 9 may be produced at least partially from a material that is more flexible than a material from which the stem 4 is produced.

[0080] The applicator member 6 may be magnetic, if need be, it being possible for the body 9 for example to comprise particles that have a non-zero magnetic susceptibility.

[0081] The applicator member 6 extends preferably with its longitudinal axis X at an angle α to the longitudinal axis Y of the stem 4, as illustrated in Figures 2b and 3.

[0082] More particularly, the applicator member 6 preferably has a generally flattened shape. The angle α is between 1 and 35° for example.

[0083] The applicator member 6 comprises apertures 15 formed between longitudinal, transverse or oblique members 16, 17. More precisely, in the example in question, the applicator member 6 comprises at its periphery a main member 16 that forms a frame, and also secondary members 17 connected at their ends to the frame, each being for example, as illustrated, bent in the direction of the distal end of the applicator.

[0084] The main member 16 may have a circular section.

[0085] The thickness e_1 of the main member 16 may be greater than the thickness e_2 of the secondary members 17, as illustrated in Figure 3. However, the thicknesses e_1 and e_2 preferably do not differ considerably from one another. The difference between the thicknesses e_1 and e_2 of two members 16 and 17 of a single applicator member may be less than 50%, or less than 40%, better still less than 30%, i.e. $|e_1-e_2|/e_2 \leq 0.5$.

[0086] The applicator member 6 defines two opposite main application faces. The thickness e is a distance measured between the two opposite application faces.

[0087] The apertures 15 have a longitudinal dimension *l*. Their transverse dimension d, corresponding to the spacing between two consecutive members 17, is between 0.5 and 4 mm, better still between 0.5 and 3 mm.

[0088] The product is retained by capillary action between the members 16, 17, in the apertures 15, and on the hairs of the flocking, as illustrated in Figure 3, where it is possible to see a layer of product P retained on the applicator member by capillary action.

[0089] The length of the hairs of the flocking is preferably chosen such that the apertures in the applicator member are not visible when the applicator member is viewed perpendicularly to one of its main application faces.

[0090] The applicator member 6 may be deformed easily in order to be adapted to the surface of the lips, as illustrated in Figure 4.

[0091] The cross section of a member 16, 17 may have any desired shape, for example circular, as illustrated in Figure 5a, or square, as illustrated in Figure 5b, or any other shape.

[0092] In alternatives, the main member 16 forming a frame has a generally rectangular shape with a free end that is pointed, as illustrated in Figure 6a, or rounded, as illustrated in Figure 6c, or else in the form of a drop, as illustrated in Figure 6b. It may also be lozenge-shaped, as illustrated in Figures 6d and 6f, or hexagonal, as illustrated in Figures 6g and 6l, or even peanut-shaped, as illustrated in Figure 6e, or leaf-shaped, as illustrated in Figure 6h.

[0093] The secondary members 17 may be transverse, as illustrated in Figure 6a, or at least partially longitudinal, as illustrated in Figures 6c or 6g, or oblique, as illustrated in Figures 6e to 6i. Alternatively, they may also be circular, as illustrated in Figures 6l and 6k.

[0094] The frame may be continuous, as illustrated previously, or interrupted, as illustrated in Figures 6j and 6n.

[0095] In one alternative not forming part of the present invention, the applicator member may comprise a main member that does not form a frame but rather a central core, as illustrated in Figure 6i, to which secondary members 17 are connected.

[0096] According to another example of the applicator member 6 illustrated in Figures 6o to 6q, the applicator member 6 extends at least partially along a longitudinal axis X inclined at an angle of more than 10°, for example, of about 25°, with respect to the longitudinal axis Y of the stem 4.

[0097] The applicator member 6 exhibits a fish bone like shape, which does not form part of the present invention, with a main member 16 carrying a plurality of spaced secondary members 17.

[0098] The spacing between two consecutive secondary members 17 is for example greater than 0.2mm and for example equal to 0.5mm.

[0099] The applicator member 6 may be attached to

the stem 4 via an end piece (not shown in its entirety) inserted into the interior of the stem 4.

[0100] The end piece (not shown in its entirety) may extend along a longitudinal axis inclined with respect to the longitudinal axis X of the main applicator member 16.

[0101] The cross section of the members 16, 17 is preferably circular.

[0102] The spacing between the two main application faces 110, 120 defined by the members 16, 17 is greater than 1.2mm, for example about 1.5mm measured along the main member 16.

[0103] The secondary members 17 may have an arcuate shape concave toward the free end 130 of the applicator member 6, as shown in Figure 6o.

[0104] The secondary members 17 may have an arcuate shape when viewed in a cross section perpendicular to the longitudinal axis X of the main member 16, as shown in Figure 6q. The concave face 110 may be oriented toward the side on which the longitudinal axis Y of the stem 4 extends below the stem 4, as shown in Figure 6p. The stem 4 is on the same side as the face 120 with regard to the axis X.

[0105] The two main application faces 110, 120 may have different curvatures in cross section.

[0106] The members 16, 17 may have rounded, tapered or pointed free ends 140.

[0107] The width w of the applicator member 6 may decrease when getting closer to the free end 130. According to the present invention, the applicator member comprises both a frame and a central core, as illustrated in Figures 6f, 6g and 6h.

[0108] The members may be articulated together, as illustrated in Figure 6m, which does not represent an applicator according to the present invention. In this example, two concentric members 16, 17 having a lenticular shape are connected by articulation members 20.

[0109] The stem 4 may have a rectilinear longitudinal axis Y, as illustrated, or alternatively have a curved or inclined axis. By way of example, Figure 7 illustrates a stem 4 that is bent where it emerges from the gripping member 5.

[0110] In the example illustrated in Figure 1, the wiping member 8 comprises a flexible lip defining a wiping orifice 11 having suitable dimensions for wiping the applicator member 6 and the stem 4. The wiping member 8 may have a wiping lip which is or is not wave-shaped, slit, or adjustable. Figure 8a illustrates a circular wiping orifice 11, Figures 8b and 8c illustrate a wiping member having slits respectively radial and at a tangent to the wiping orifice, and Figure 8d illustrates a wiping member having a wave-shaped lip.

[0111] In another variant embodiment that is illustrated in Figure 9, the gripping member 5 of the applicator does not act as a closing member for the container containing the product. In this figure, it can be seen that the product can be contained in a case, for example in the form of a cast lipstick. The case may house the applicator.

[0112] Figure 10 shows a variant device in which the applicator member 6 is secured to the container 2 containing the product during application.

[0113] The applicator member 6 may comprise, as illustrated in Figure 11, an internal duct 40 that communicates at one end with a space 41 containing the product, inside the container 2, and opens at the other end into one of the apertures 15. The container 2 is for example produced with a flexible wall such that the user can, by pressing on its wall, force the product to pass through the duct 40 in order to supply the application faces. The end piece 10 is for example inserted into a neck 45 of the container 2.

[0114] Alternatively, the duct 40 may be connected to a pump 45, the device comprising a pump 45 and a piston 46 so as to allow the product to be dispensed through the duct and then onto the applicator member, as illustrated in Figure 12.

[0115] If need be, the container may be produced in accordance with the teaching in Patent US 2005 0232681, with two parts 2a and 2b that are able to move with respect to one another, in rotation about the longitudinal axis of the container, as illustrated in Figure 13. These parts 2a and 2b define for example two chambers of variable volume inside the container, the rotation of one of the parts 2a or 2b with respect to the other causing the volume of one of the chambers to be reduced and the product to pass from this chamber into the other chamber. The applicator member 6 may be placed on the path of the product.

[0116] The container 2 may also be produced, as illustrated in Figure 14, with an inside diameter which corresponds approximately to the outside diameter of the applicator member 6. The applicator member 6 comes for example into contact with the internal surface of the container, or is located a short distance away, for example at a distance less than or equal to 1 mm. The container and the applicator member are, for example, produced in accordance with the teaching in Patent FR 08 54011. The container 2 is for example double walled with an external casing 61.

[0117] Needless to say, the invention is not limited to the examples that have just been described. The constructional details of the illustrated examples can be combined as parts of variants which are not shown.

[0118] The applicator member may also be produced from metal or wood, for example.

[0119] The expression "comprising a" should be understood as being synonymous with "comprising at least one", unless specified to the contrary.

Claims

1. Device (1) for packaging and applying a cosmetic or care product to the lips, comprising:

   - a container (2) containing the product (P) to be applied to the lips, and

- an applicator member (6)

  a) defining two opposite main application faces, and
  b) comprising at least three apertures (15) formed between at least four longitudinal, transverse or oblique members (16, 17), the thickness of the members (16, 17) defining the spacing between the two opposite application faces (11, 12) and the spacing being less than 3mm,

wherein the applicator member comprises one or more main members (16) that form a frame and a central core, and at least two secondary members (17) connected to the frame or to the central core, the frame having a closed contour,
wherein at least one aperture has, in at least one plane, a closed contour.

2. Device according to the preceding claim, wherein the thickness of a member (16, 17) is between 0.3 and 3 mm.

3. Device according to the preceding claim, wherein the thickness (e1) of a main member (16) is between 0.5 and 3 mm, better still between 0.5 and 2.5 mm.

4. Device according to one of the two preceding claims, wherein the thickness (e2) of a secondary member (17) is less than 1.5 mm, preferably being between 0.5 and 1.5 mm, better still between 0.5 and 1 mm.

5. Device according to any one of the preceding claims, wherein the cross section of at least one member (16, 17) has a shape chosen from the following list: circular, oval, elliptical, polygonal, square.

6. Device according to any one of the preceding claims, the two opposite main application faces being approximately parallel to one another.

7. Device according to any one of the preceding claims, the apertures (15) having a longitudinal dimension (1), measured along their longitudinal axis, of at least 6 mm, better still at least 7 mm.

8. Device according to any one of the preceding claims, the spacing (e) between two consecutive members being between 0.5 and 4 mm, better still between 0.5 and 3 mm.

9. Device according to any one of the preceding claims, the applicator member comprising flocking.

10. Device according to the preceding claim, the length of the hairs of the flocking being greater than or equal to half the distance between one edge of the aperture and the opposite edge of the aperture.

11. Device according to one of the two preceding claims, the length of the hairs of the flocking being between 0.8 and 1.2 mm.

12. Device according to any one of the preceding claims, the applicator member being mounted at the end of a stem (4) secured at the other end to a gripping member (5) designed to close the container (2).

13. Device according to the preceding claim, wherein the applicator member extends along a longitudinal axis (X) that forms an angle (α) with a longitudinal axis (Y) of the stem.

14. Device according to any of the preceding claims, comprising a main member (16), preferably straight, extending along a longitudinal axis (X) of the applicator member (6), and a plurality of secondary members (17) spaced from each other, defining between them said apertures (15), the secondary member (17) preferably having an arcuate shape concave toward a free end (130) of the applicator member (6), the secondary members (17) preferably defining a width (*w*) of the applicator member (6) decreasing as getting closer to the free end (130).

Patentansprüche

1. Vorrichtung (1) zum Verpacken und Auftragen eines Kosmetik- oder Pflegemittels auf die Lippen, umfassend:

- einen Behälter (2), der das Produkt (P) enthält, das auf die Lippen aufgetragen werden soll, und
- ein Applikatorelement (6)

  a) das zwei gegenüberliegende Hauptanwendungsflächen definiert, und
  b) das mindestens drei Öffnungen (15) umfasst, die zwischen den mindestens vier Längs-, Quer- oder Schrägelementen (16, 17) gebildet sind, wobei die Stärke der Elemente (16, 17) den Abstand zwischen den zwei gegenüberliegende Anwendungsflächen (11, 12) definiert und der Abstand weniger als 3 mm ist,

wobei der Applikator ein oder mehrere Hauptelemente (16) umfasst, die einen Rahmen und einen mittleren Kern bilden, und mindestens zwei mit dem Rahmen oder dem mittleren Kern verbundene Sekundärelemente (17) umfasst, wobei der Rahmen eine geschlossene Kontur aufweist,
wobei mindestens eine Öffnung in mindestens einer Ebene eine geschlossene Kontur aufweist.

2. Vorrichtung nach dem vorherigen Anspruch, wobei die Stärke eines Elements (16, 17) zwischen 0,3 und 3 mm ist.

3. Vorrichtung nach dem vorherigen Anspruch, wobei die Stärke (e1) eines Hauptelements (16) zwischen 0,5 und 3 mm, besser noch zwischen 0,5 und 2,5 mm ist.

4. Vorrichtung nach einem der beiden vorherigen Ansprüche, wobei die Stärke (e2) eines Sekundärelements (17) kleiner als 1,5 mm, vorzugsweise zwischen 0,5 und 1,5 mm, besser noch zwischen 0,5 und 1 mm ist.

5. Vorrichtung nach einem beliebigen der zwei vorherigen Ansprüche, wobei der Querschnitt von mindestens einem Element (16, 17) eine Form aufweist, die aus der folgenden Liste ausgewählt ist: kreisförmig, oval, elliptisch, polygonal, quadratisch.

6. Vorrichtung nach einem beliebigen der zwei vorherigen Ansprüche, wobei die zwei gegenüberliegenden Hauptanwendungsflächen ungefähr parallel zueinander sind.

7. Vorrichtung nach einem beliebigen der zwei vorherigen Ansprüche, wobei die Öffnungen (15) ein Längsmaß (1), gemessen entlang ihrer Längsachse, von mindestens 6 mm, besser noch mindestens 7 mm aufweisen.

8. Vorrichtung nach einem beliebigen der vorherigen Ansprüche, wobei der Abstand (e) zwischen zwei aufeinanderfolgenden Elementen zwischen 0,5 und 4 mm, besser noch zwischen 0,5 und 3 mm ist.

9. Vorrichtung nach einem beliebigen der vorherigen Ansprüche, wobei das Applikatorelement eine Beflockung umfasst.

10. Vorrichtung nach dem vorherigen Anspruch, wobei die Länge der Haare der Beflockung größer als oder gleich wie der halbe Abstand zwischen einer Kante der Öffnung und der gegenüberliegenden Kante der Öffnung ist.

11. Vorrichtung nach einem der zwei vorherigen Ansprüche, wobei die Länge der Haare der Beflockung zwischen 0,8 und 1,2 mm ist.

12. Vorrichtung nach einem beliebigen der vorherigen Ansprüche, wobei das Applikatorelement am Ende eines Schafts (4) montiert ist, der am anderen Ende an einem Greifelement (5) befestigt ist, das konstruiert ist, den Behälter (2) zu verschließen.

13. Vorrichtung nach dem vorherigen Anspruch, wobei sich das Applikatorelement entlang einer Längsachse (X) erstreckt, die einen Winkel (α) mit einer Längsachse (Y) des Schafts bildet.

14. Vorrichtung nach einem beliebigen der vorherigen Ansprüche, umfassend ein Hauptelement (16), vorzugsweise gerade, das sich entlang einer Längsachse (X) des Applikatorelements (6) erstreckt, und eine Vielzahl von Sekundärteilen (17), die voneinander beabstandet sind und zwischen ihnen die Öffnungen (15) definieren, wobei das Sekundärelement (17) vorzugsweise eine gebogene Form aufweist, die zu einem freien Ende (130) des Applikatorelements (6) hin konkav ist, wobei die Sekundärelemente (17) vorzugsweise eine Breite (w) des Applikatorelements (6) definieren, die mit zunehmender Nähe zu dem freien Ende (130) abnimmt.

Revendications

1. Dispositif (1) de conditionnement et d'application d'un produit cosmétique ou de soin sur les lèvres, comportant :

un récipient (2) contenant le produit (P) à appliquer sur les lèvres, et
un organe d'application (6)

a) définissant deux faces d'application principales opposées, et
b) comprenant au moins trois ajours (15) formés entre au moins quatre membrures (16, 17) longitudinales, transversales ou obliques, l'épaisseur des membrures (16, 17) définissant l'écart entre les deux faces d'application (11, 12) opposées et l'écart étant inférieur à 3 mm,

dans lequel l'organe d'application comprend une ou plusieurs membrures principales (16) qui forment un cadre et une âme centrale, et au moins deux membrures secondaires (17) reliées au cadre ou à l'âme centrale, le cadre ayant un contour fermé,
dans lequel le au moins un ajour a, au moins dans un plan, un contour fermé.

2. Dispositif selon la revendication précédente, dans lequel l'épaisseur d'une membrure (16, 17) est comprise entre 0,3 et 3 mm.

3. Dispositif selon la revendication précédente, dans lequel l'épaisseur (e1) d'une membrure principale (16) est comprise entre 0,5 et 3 mm, mieux entre 0,5 et 2,5 mm.

4. Dispositif selon l'une des deux revendications pré-

cédentes, dans lequel l'épaisseur (e2) d'une membrure secondaire (17) est inférieure à 1,5 mm, de préférence comprise entre 0,5 et 1,5 mm, mieux entre 0,5 et 1 mm.

5. Dispositif selon l'une quelconque des revendications précédentes, dans lequel la section transversale d'au moins une membrure (16, 17) a une forme choisie dans la liste suivante : circulaire, ovale, elliptique, polygonale, carrée.

6. Dispositif selon l'une quelconque des revendications précédentes, les deux faces d'application principales opposées étant approximativement parallèles entre elles.

7. Dispositif selon l'une quelconque des revendications précédentes, les ajours (15) ayant une dimension longitudinale (1) mesurée le long de leur axe longitudinal, d'au moins 6 mm, mieux d'au moins 7 mm.

8. Dispositif selon l'une quelconque des revendications précédentes, l'écart (e) entre deux membrures consécutives étant compris entre 0,5 et 4 mm, mieux entre 0,5 et 3 mm.

9. Dispositif selon l'une quelconque des revendications précédentes, l'organe d'application comportant un flocage.

10. Dispositif selon la revendication précédente, la longueur des poils du flocage étant supérieure ou égale à la moitié de la distance qui sépare un bord de l'ajour du bord opposé de l'ajour.

11. Dispositif selon l'une des deux revendications précédentes, la longueur des poils du flocage étant comprise entre 0,8 et 1,2 mm.

12. Dispositif selon l'une quelconque des revendications précédentes, l'organe d'application étant monté à l'extrémité d'une tige (4) fixée à l'autre extrémité d'un organe de préhension (5) conçu pour fermer le récipient (2).

13. Dispositif selon la revendication précédente, l'organe d'application s'étend le long d'un axe longitudinal (X) qui forme un angle (α) avec un axe longitudinal (Y) de la tige.

14. Dispositif selon l'une quelconque des revendications précédentes, comprenant une membrure principale (16), de préférence droite, s'étendant le long d'un axe longitudinal (X) de l'organe d'application (6), et une pluralité de membrures secondaires (17) éloignées les unes des autres, définissant entre elles lesdits ajours (15), la membrure secondaire (17) ayant de préférence une forme arquée concave vers une extrémité libre (130) de l'organe d'application (6), les membrures secondaires (17) définissant de préférence une largeur (w) de l'organe d'application (6) qui diminue au fur et à mesure qu'elle se rapproche de l'extrémité libre (130).

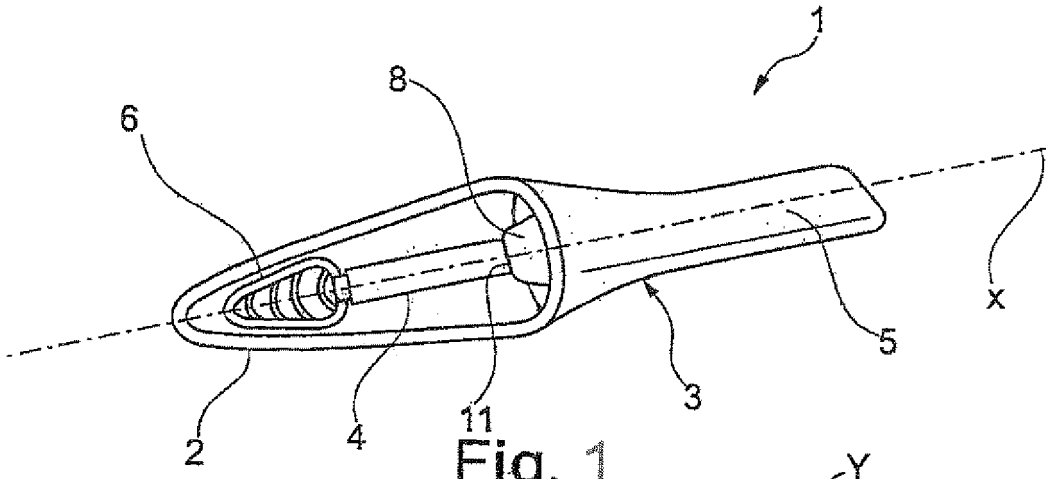

Fig. 1

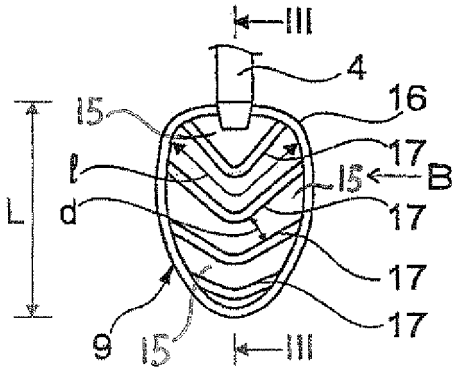

Fig. 2a

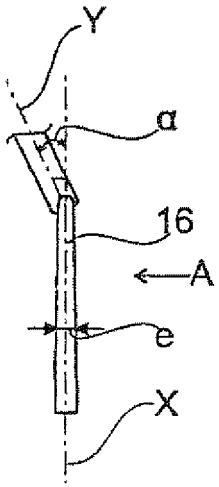

Fig. 2b

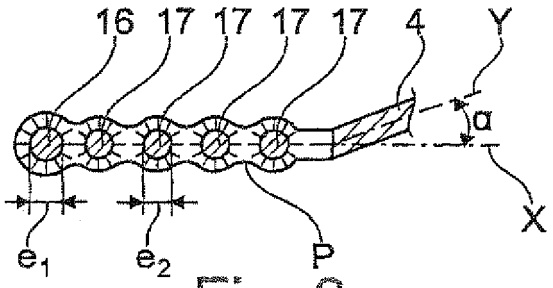

Fig. 3

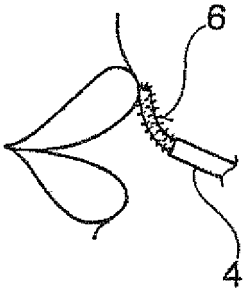

Fig. 4

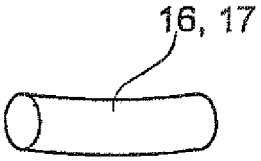

Fig. 5a

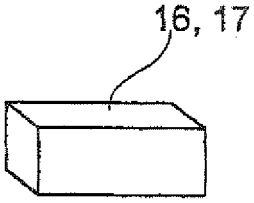

Fig. 5b

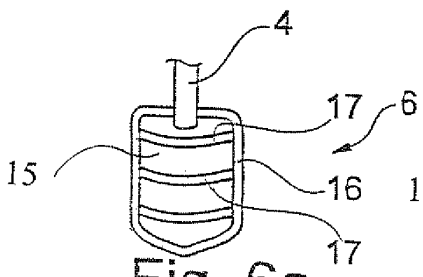

Fig. 6a

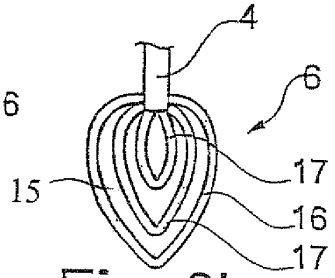

Fig. 6b

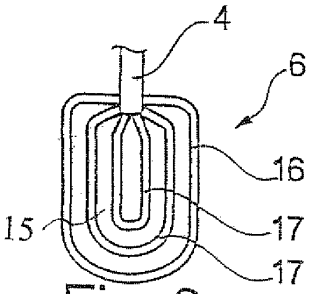

Fig. 6c

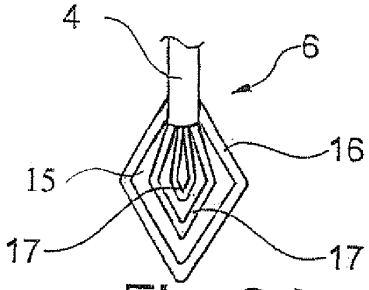

Fig. 6d

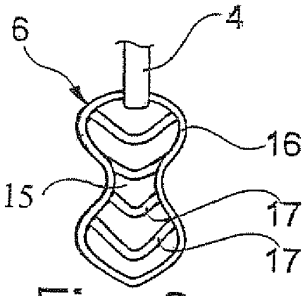

Fig. 6e

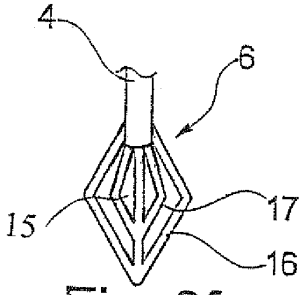

Fig. 6f

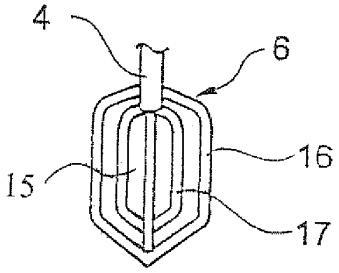

Fig. 6g

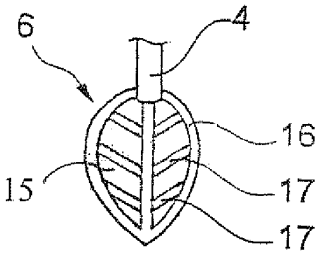

Fig. 6h

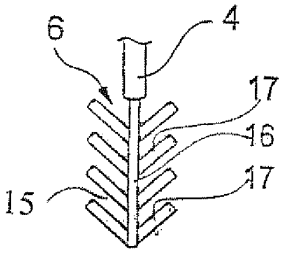

Fig. 6i

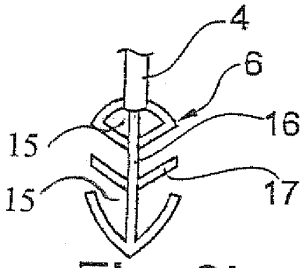

Fig. 6j

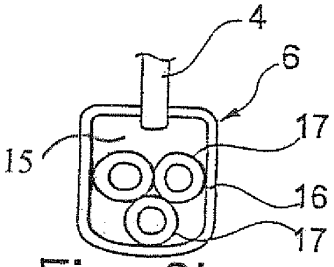

Fig. 6k

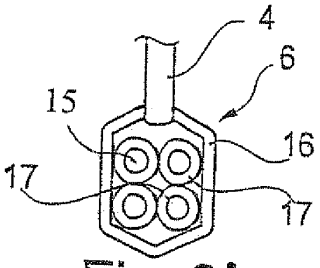

Fig. 6l

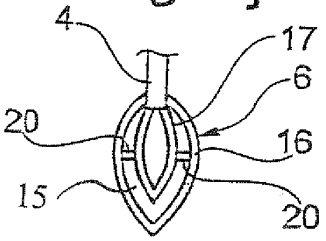

Fig. 6m

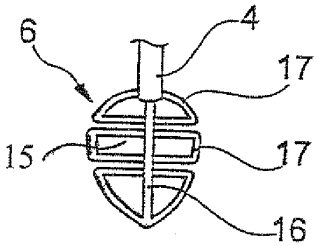

Fig. 6n

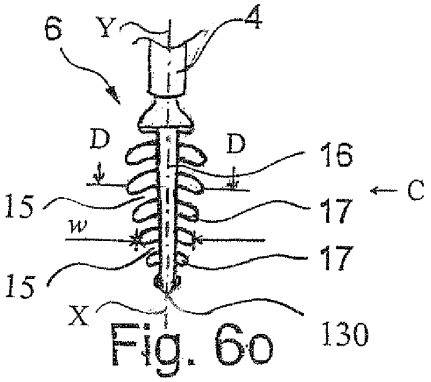

Fig. 6o

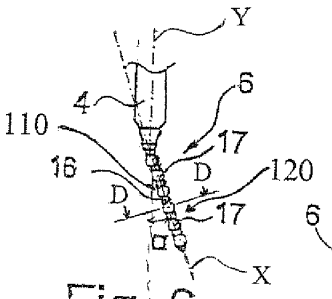

Fig. 6p

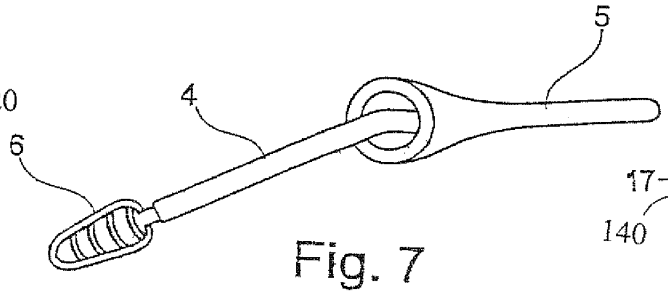

Fig. 7

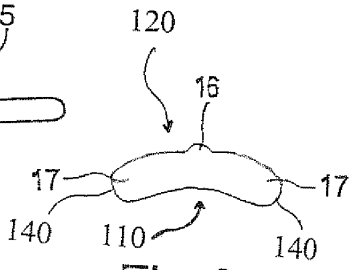

Fig. 6q

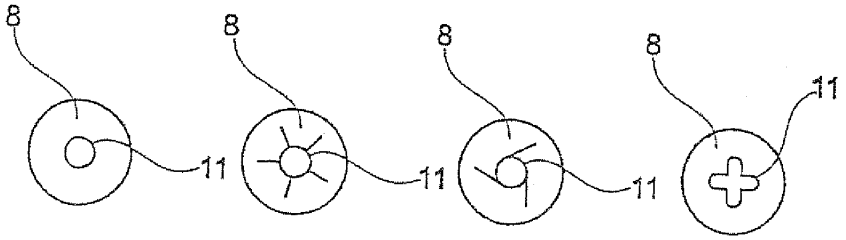

Fig. 8a Fig. 8b Fig. 8c Fig. 8d

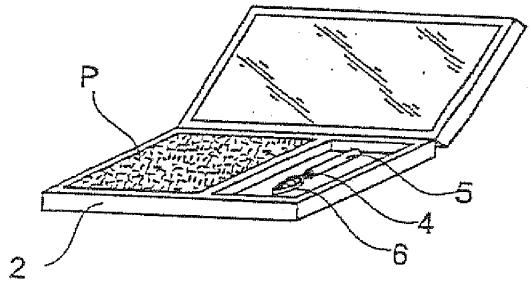

Fig. 9

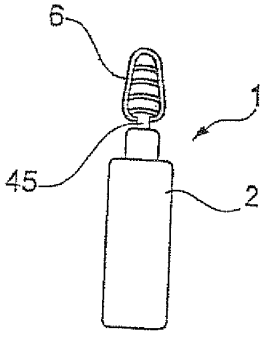

Fig. 10

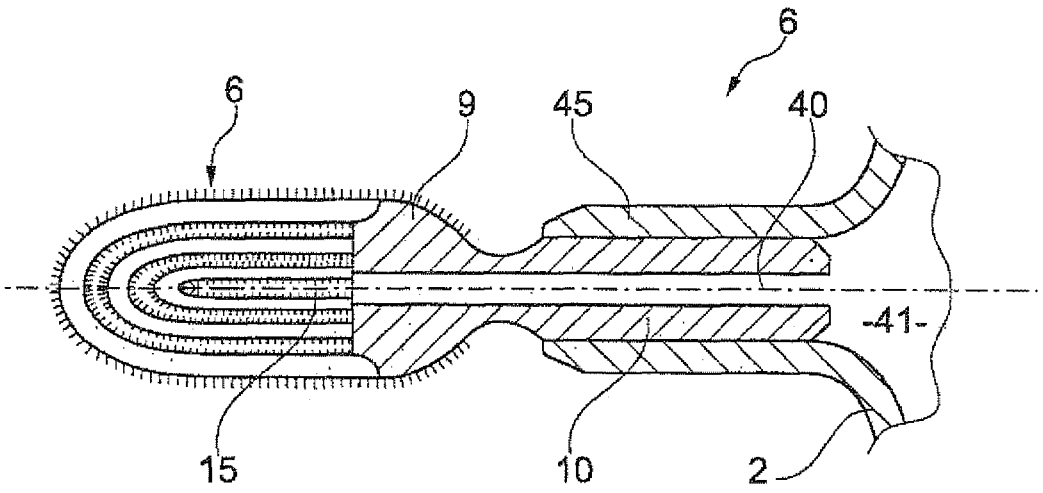

Fig. 11

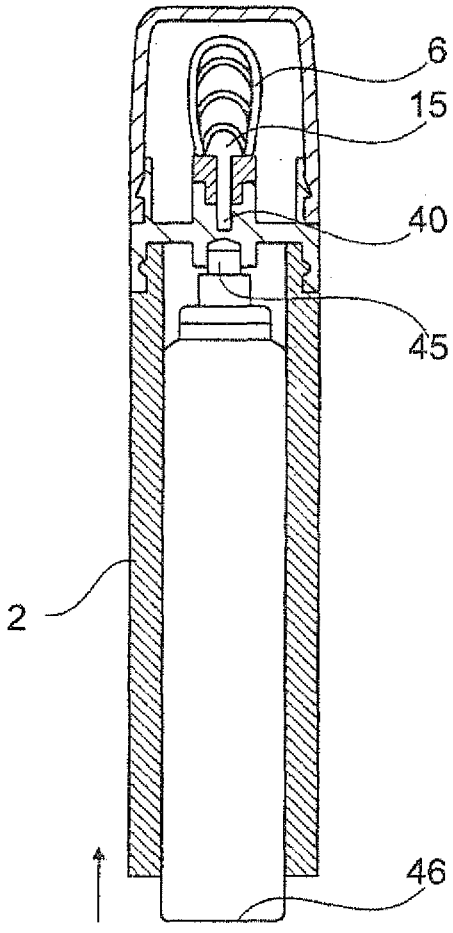

Fig. 12

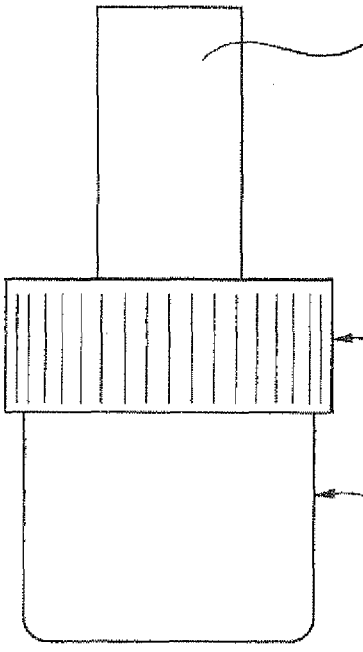

Fig. 13

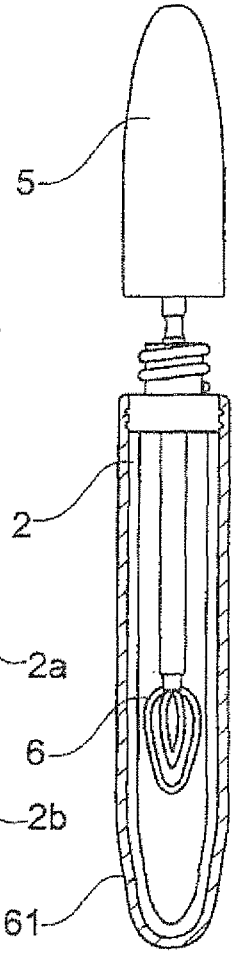

Fig. 14

REFERENCES CITED IN THE DESCRIPTION

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