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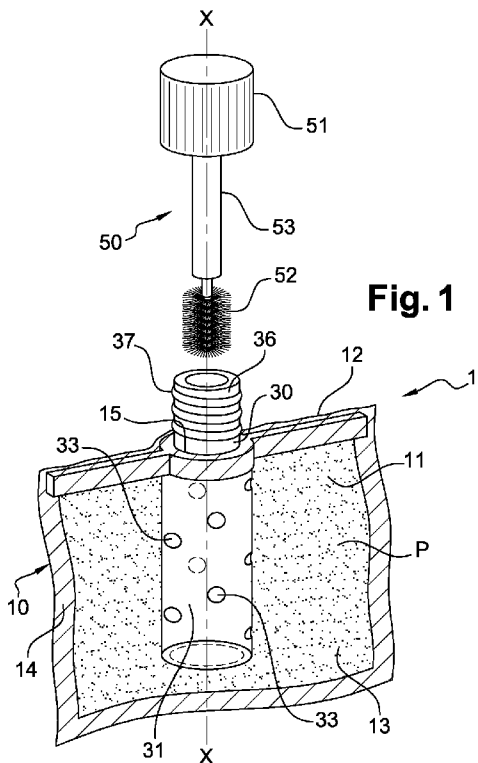
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[Continued on next page]

(54) Title: DEVICE FOR PACKAGING AND APPLYING A COSMETIC PRODUCT



(57) Abstract: The invention relates to a device (1) for packaging and applying a cosmetic product (P), comprising a container (10) that defines an internal volume (13) intended to hold the cosmetic product (P), said container (10) having at least one flexible wall (11) or (12) and being provided with an opening (15), and an applicator (50) intended to be fitted on the container (10) and having a grasping means (51) located on the outside of the container (10) and an applicator means (52) inserted at least partially into the container (10) through the opening (15) when the applicator (50) is fitted on the container (10). According to the invention, the device has a non-deformable hollow insert (30) fixed to the container (10) and extending into the internal volume (13) of said container (10), said hollow insert (30) having a passage, leading into the opening (15), for the introduction of the applicator means (52), and at least one orifice (33) leading into the container (10), such that the applicator means (52) is positioned in the hollow insert (30) and in contact with the product (P) when the applicator (50) is fitted on the container (10).

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## DEVICE FOR PACKAGING AND APPLYING A COSMETIC PRODUCT

The present invention relates to a device for packaging and applying a cosmetic product to human keratin materials, in particular the eyelashes, eyebrows, hair, nails, skin or lips.

The expression "cosmetic product" is understood to mean any product as defined in Regulation (EC) No 1223/2009 of the European Parliament and Council of 30 November 2009 relating to cosmetic products.

Devices for packaging and applying metered quantities or samples of cosmetic product are known in the field of sample dispensing, in particular from documents FR2905241 and FR2879418. These packaging devices have a container in the form of a flexible bag containing the cosmetic product and are provided with a detachable applicator. Prior to first use, the applicator is sealed to an edge or a part of the bag and the applicator member is dipped into the product contained in the bag. During application, the user breaks the seal, for example by tearing a breakable region of the bag, and withdraws the applicator member in order to use it. However, a drawback with this type of device is that they cannot be reclosed for another, subsequent use if the quantity of product allows this. In addition, the applicator member in this type of flexible wall packaging can be damaged, in particular during transport, if significant pressure is applied to the walls of the bag. For example, the bristles of a mascara brush can be bent or flattened.

Reclosable packaging devices having flexible walls are also known and are described in particular in documents FR2878130, WO2004071870 or US6158912; however, the applicator member in this type of flexible wall packaging can still be damaged if significant pressure is applied to the walls of the container. In addition, a particular type of container comprising a flexible wall portion and a rigid wall portion has a high production cost.

The object of the present invention is thus to provide an improved device for packaging and applying a cosmetic product in order to alleviate the abovementioned drawbacks.

To this end, the invention provides a device for packaging and applying a cosmetic product, comprising a container that defines an internal volume intended to hold the cosmetic product, said container having at least one flexible wall and being provided with an opening, and an applicator  
5 intended to be fitted on the container and having a grasping means located on the outside of the container and an applicator means inserted at least partially into the container through the opening when the applicator is fitted on the container.

According to the invention, the device has a non-deformable hollow  
10 insert fixed to the container and extending into the internal volume of said container, said hollow insert having a passage, leading into the opening, for the introduction of the applicator means, and at least one orifice leading into the container, such that the applicator means is positioned in the hollow insert and in contact with the product when the applicator is fitted on the container.

15 The invention makes it advantageously possible to obtain a container having a flexible wall but in which the applicator means is protected from the pressures exerted on the walls.

According to further features of the invention, the grasping means of the applicator may have a means for reversibly opening and closing the opening  
20 in the container.

The grasping means of the applicator may have a means for irreversibly opening the opening in the container.

All of the walls of the container may be flexible.

A portion of the insert may extend through the opening and outside  
25 the container so as to form a neck that defines the passage for the introduction of the applicator means.

The passage for the introduction of the applicator means may have a member for wiping the applicator means.

The container may be a bag formed by two flexible walls joined  
30 together at a peripheral edge, and the insert may be fixed between the two walls over a portion of the peripheral edge.

The applicator means may be a mascara brush or a lip product applicator.

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

- Figure 1 shows an example of a device for packaging and applying a cosmetic product according to the invention;
- Figure 2 is a longitudinal section through the device from Figure 1 without the applicator.

10

In the following description, the term flexible is used to describe a material which deforms under the pressure, typically greater than 10 g, exerted by a user.

By contrast, the term rigid or non-deformable is used to describe a  
15 material which hardly deforms at all under the pressure, typically less than 10 kg, exerted by a user.

With reference to the figures, a device 1 for packaging and applying a cosmetic product P comprises a container 10 and an applicator 50 intended to be fitted on the container 10.

20

The cosmetic product P is for example a makeup product, such as mascara, a nail varnish, a lip gloss, a care product, a colouring product or a haircare product. In the example illustrated, the cosmetic product P is mascara. The cosmetic product P may be fluid or viscous.

The applicator 50 has a grasping means 51 located on the outside of  
25 the container 10 and an applicator means 52 that can be inserted at least partially into the container 10.

The applicator means 52 is for example connected to the grasping means by a wand 53 that extends along the axis X-X when the applicator 50 is fitted on the container 10.

30

By way of non-limiting example, the applicator means 52 is a flocked pen, a felt-tip, a brush or a fine brush, preferably a brush for applying mascara.

The container 10 is formed by a bag consisting of two flexible walls 11 and 12. The bag may likewise consist of more than two walls which can be

joined together and/or folded so as to obtain a bag that forms a large volume in its three dimensions.

The walls 11 and 12 are attached to their peripheral edge 14 so as to define an internal volume 13 intended to receive the cosmetic product P. A  
5 portion of the peripheral edge of the walls 11 and 12 is not attached, so as to form an opening 15 of axis X-X between the outside and the internal volume 13 of the container 10. The peripheral edge 14 can be sealed by any means, such as by adhesive bonding or hot welding.

The flexible walls 11 and 12 are typically produced from multi-layer  
10 sheets, for example comprising an outer layer made of aluminium film and an inner layer made of a plastic film, the inner layer being intended to be in contact with the product P contained in the container 10. The inner layer is preferably made of plastics material, such as polyethylene (PE). The walls may also be produced from a single-layer sheet or from a multi-layer sheet comprising more  
15 than two layers. Similarly, the flexibility of the walls 11 and 12 of the container 10 may also be obtained by the presence in the composition thereof of at least one flexible material, such as an elastomer material.

Advantageously, all of the walls 11 and 12 forming the internal  
volume 13 of the container 10 are flexible, as in the example described, but it is  
20 also conceivable for only a portion of these walls to be flexible, for example more than 50%, or even more than 70% of the walls forming the internal volume 13 may be flexible. Likewise by way of example, the container 10 may have two walls, one wall being rigid and the other flexible.

The container 10 also has a non-deformable hollow insert 30. The  
25 insert 30 is produced for example from polyethylene (PE), polypropylene (PP), polyoxymethylene (POM) or any other rigid material. This insert 30 is preferably produced by injection-moulding.

The insert 30 has an approximately tubular lower portion 31 that  
extends from the opening 15 in the container 10 towards the interior 13 of the  
30 container 10, mainly along the axis X-X. In this way, the open upper end 32 of the tubular lower portion 31 opens out next to the opening 15 in the container

10 so as to form a passage for the introduction of the applicator means 52 of the applicator 50.

The cross section of the lower portion 31 in this example is circular, but other forms may be suitable, such as oval or polygonal cross sections.

5 Similarly, the cross section of the lower portion may vary along the axis X-X.

The lower portion 31 extends advantageously along more than 50% of the length of the internal volume 13 of the container 10, measured along the axis X-X. Better still, the lower portion 31 extends along more than 70%, or even along more than 90% of the length of the internal volume 13. Thus, when  
10 the applicator means 52 of the applicator 50 is inserted into the container 10, it is positioned entirely in the tubular lower portion 31.

The lower end of the lower portion may be open as in the example illustrated, in order that the product P contained in the internal volume 13 of the container 10 can pass into the insert 30 and come into contact with the  
15 applicator means 52. To this end, the tubular wall of the lower portion 31 also comprises orifices 33 distributed over its entire wall. Thus, as is shown in Figure 2, some orifices 33 can be positioned opposite the flexible walls and others can be positioned opposite the junction between these flexible walls. Distribution all around the wall allows homogeneous impregnation of the product into the  
20 applicator means. The size of each orifice 33 is less than 100 mm<sup>2</sup> or even less than 50 mm<sup>2</sup>. With such dimensions, a finger of the user advantageously cannot exert a pressure directly on the applicator means.

The product P can flow freely through the orifices 33 if it is fluid or of low viscosity. If it has a higher viscosity, the product P can flow through the  
25 orifices 33 in a manner forced by the pressure exerted by the user on the flexible walls.

The number of orifices 33 can be greater than or equal to two, advantageously greater than or equal to three.

In this example, the upper end of the lower portion 31 of the insert 30  
30 is fastened to the container 10 by the peripheral edge 13 of the bag, defining the opening 15. This fastening is obtained by welding the walls to the insert 30, but can be obtained by any other known means. Alternatively, the insert 30 can be

fastened to the container 10 by the lower end of the lower portion 31 of the insert 30 or by any other part of the insert 30. The insert 30 illustrated has in particular two wings 35 that extend radially to the axis X-X on each side of the upper end of the lower portion 31 so as to be welded between two walls 11 and 12 of the bag on the upper edge and to provide improved fastening of the insert 30 to the container 10.

The insert 30 has an approximately tubular upper portion 36 that extends from the opening 15 in the container 10. This upper portion 36 of the insert 30 extends outside the container 10 so as to form a neck. The outer wall of the neck has a thread 37 for screwing on the applicator 50 by engagement with a complementary thread on the grasping means 51 of the applicator 50. Thus, the user can open and reclose the container 10 in a reversible manner. The lower portion 31 and the upper portion 36 are formed integrally, for example by moulding the insert in one piece.

In a variant which is not shown, the grasping means is fastened to the container prior to the first use by way of a breakable portion that forms a means for irreversibly opening the container.

The insert 30 has a means 38 for wiping the applicator means. This wiping means 38 is formed by a radial lip that extends from the neck towards the inside in order to provide a narrowed passage in the outlet opening of the container 10 in order to remove excess cosmetic product from the applicator means 52. As is shown in Figure 2, the wiping means 38 is formed integrally with the insert; however, alternatively, the wiping means can be attached to the insert.

One of the advantages of the invention is that it is possible to produce a low-cost packaging device that is particularly appropriate for multi-use samples. Another advantage of the use of a flexible container is that kneading this container makes it possible to completely use up the product, the applicator being protected from kneading by the insert.

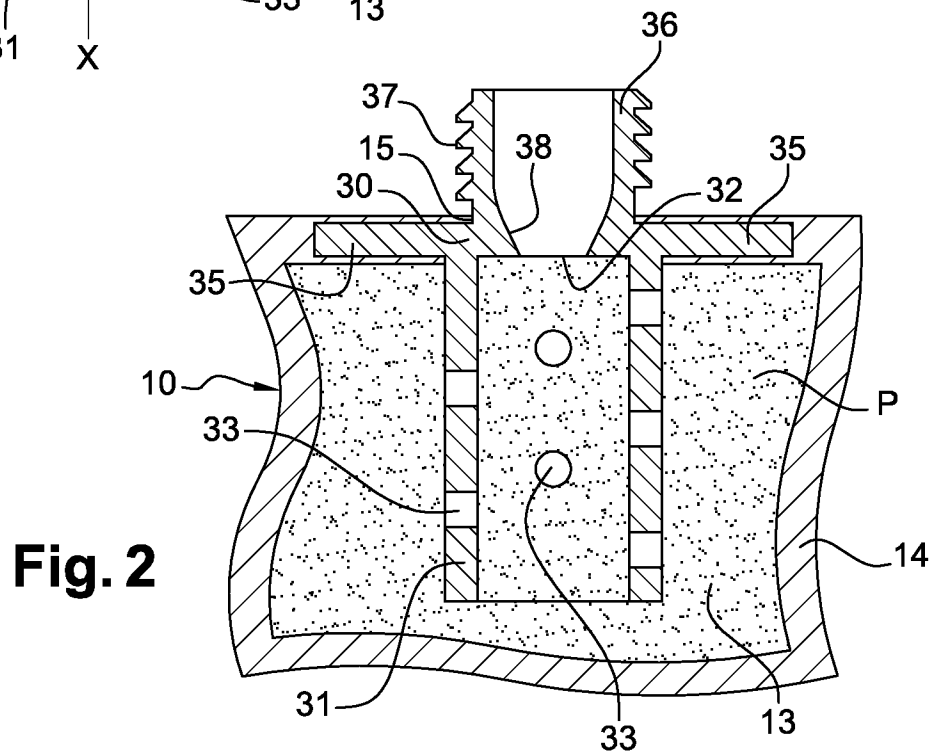
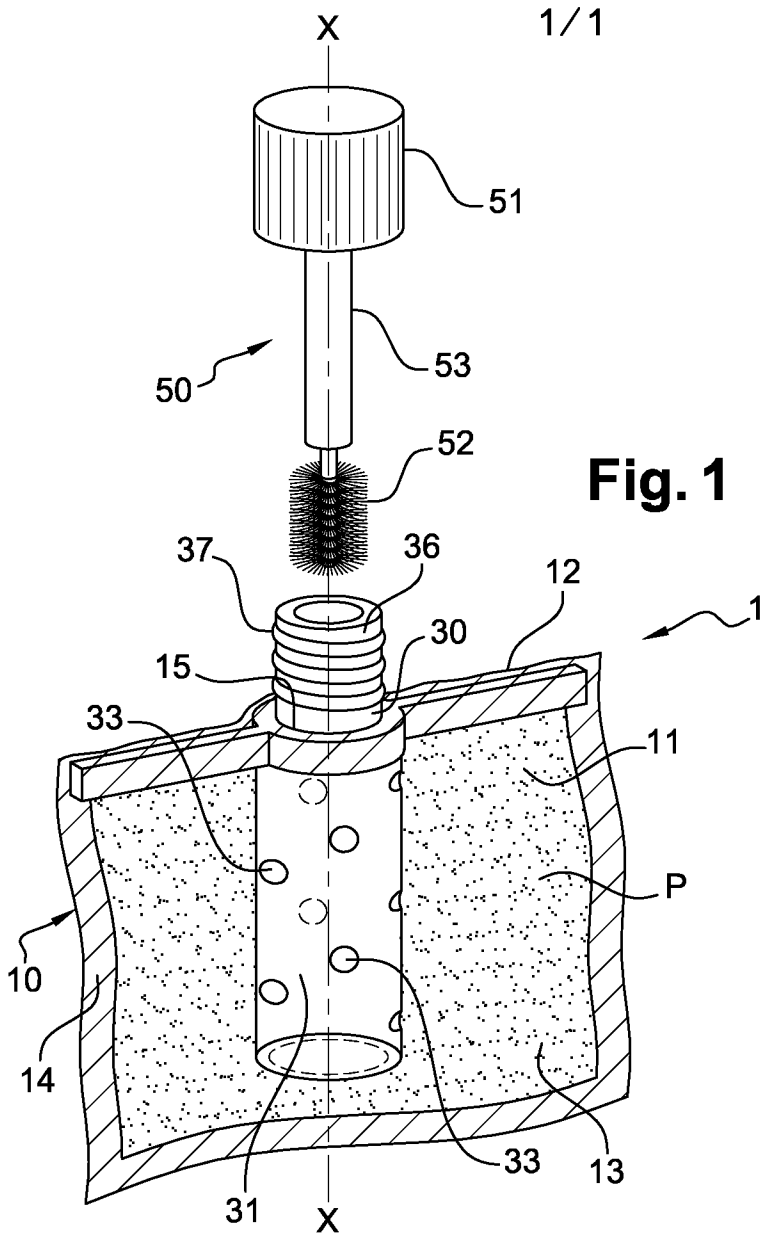
The invention is not limited to the examples illustrated. The features of the various examples can in particular be combined as parts of variants which are not illustrated.

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

**CLAIMS**

1. Device for packaging and applying a cosmetic product, comprising:
  - 5 – a container that defines an internal volume intended to hold the cosmetic product, said container having at least one flexible wall and being provided with an opening,
  - an applicator intended to be fitted on the container and having a grasping means located on the outside of the container and an applicator means inserted at least partially into the container through  
10 the opening when the applicator is fitted on the container,  
the device being characterized in that it has a non-deformable hollow insert fixed to the container and extending into the internal volume of said container, said hollow insert having a passage, leading into the opening, for the introduction of the applicator means, and at least one orifice leading into  
15 the container, such that the applicator means is positioned in the hollow insert and in contact with the product when the applicator is fitted on the container.
2. Device according to Claim 1, characterized in that the grasping means of the  
20 applicator has a means for reversibly opening and closing the opening in the container.
3. Device according to Claim 1, characterized in that the grasping means of the  
25 applicator has a means for irreversibly opening the opening in the container.
4. Device according to one of the preceding claims, characterized in that all of  
the walls of the container are flexible.
5. Device according to one of the preceding claims, characterized in that a  
30 portion of the insert extends through the opening and outside the container so as to form a neck that defines the passage for the introduction of the applicator means.

6. Device according to one of the preceding claims, characterized in that the passage for the introduction of the applicator means has a member for wiping the applicator means.
- 5 7. Device according to Claim 6, characterized in that the wiping means is formed integrally with the insert.
8. Device according to one of the preceding claims, characterized in that the container is a bag formed by two flexible walls joined together at a peripheral edge, and in that the insert is fixed between the two walls over a portion of the peripheral edge.  
10
9. Device according to one of the preceding claims, characterized in that the applicator means is a mascara brush or a lip product applicator.  
15
10. Device according to one of the preceding claims, characterized in that the size of said orifice is less than 100 mm<sup>2</sup>.



**INTERNATIONAL SEARCH REPORT**

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**A. CLASSIFICATION OF SUBJECT MATTER**  
INV. A45D40/26  
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

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, WPI Data

**C. DOCUMENTS CONSIDERED TO BE RELEVANT**

| Category* | Citation of document, with indication, where appropriate, of the relevant passages   | Relevant to claim No. |
|-----------|--|-----------------------|
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| Y         | page 10; figure 5  | 6                     |
| A         | page 8   | 7                     |
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|           | -----  |                       |

Further documents are listed in the continuation of Box C.

See patent family annex.

\* Special categories of cited documents :

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# INTERNATIONAL SEARCH REPORT

Information on patent family members

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| International application No<br>PCT/EP2012/061523 |
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