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(54) Title: ASSEMBLY FOR PACKAGING AND DISPENSING A COSMETIC PRODUCT

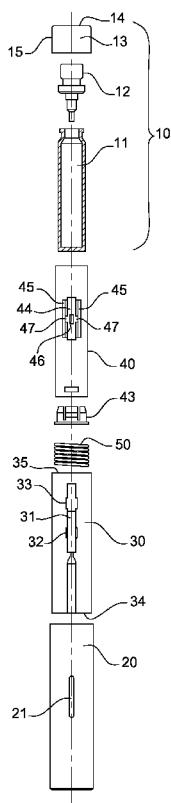


Fig. 1

(57) Abstract: The invention relates to an assembly for packaging and dispensing a cosmetic product, comprising a container (11) that contains the product and is provided with a dispensing head having a push button (13), a case (20) formed by a tubular wall extending along a main longitudinal axis of elongation, a holder (40) that receives the container (11), said holder being inserted and sliding along the axis X-X in the case between a storing position, and a use position, an elastic return means (50) that forces the holder to return into its storing position, and means (44) for immobilizing the holder (40) with respect to the case (20), firstly in order to prevent the holder (40) from moving axially towards its use position when in the storing position, and secondly in order to prevent the holder (40) from moving axially towards its storing position when in the use position.

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ASSEMBLY FOR PACKAGING AND DISPENSING A COSMETIC PRODUCT

The invention relates to an assembly for packaging and dispensing a cosmetic product. More particularly, the invention relates to a container
5 provided with a dispensing head, such as an atomizer, and contained in a protective case.

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

Some dispensing assemblies can be transported in pockets or
10 handbags for portable use. It is therefore necessary to protect them in order both to prevent the product from being unintentionally dispensed during transport and also to prevent dust or dirt impeding subsequent use of the device.

Document FR2606298 describes an assembly composed of an atomizer and a protective case in order to address this problem. The atomizer is
15 of a conventional type having a bottle closed by a head forming a push button and an ejection nozzle. The tubular case forms a three-part extraction mechanism, having an outer tube provided with helical ramps, a rotating base provided with axial slideways and an intermediate slider provided with radial pins that are inserted into the axial slideways and helical ramps. The bottle of
20 the atomizer is supported by the intermediate slider such that when the base is rotated with respect to the tube, the atomizer gradually emerges from the tube along a path which is helical with respect to the tube and rectilinear with respect to the base. The ends of the slideways on the base have notches which are perpendicular to the axis of the slideways, form end of travel stops and, when
25 the atomizer protrudes from the case, allow the push button to be pressed without the bottle being pushed into the case.

However, such an assembly is not satisfactory from an ergonomic point of view since, firstly, it can only be opened and closed with both hands, one hand holding the tube with the other hand turning the base, and, secondly,
30 the user does not know in advance the final position of the ejection nozzle, since the latter pivots with the base with respect to the tube. In addition, if the operator does not completely rotate the base during opening, the pins of the

mechanism will not penetrate into the notches, such that when the user pushes the push button, he also pushes the atomizer into the case, and the fluid is partially atomized in the case, soiling the latter. In this same configuration, if the assembly is stored for example in a handbag and accidentally activated, the product will be dispensed unintentionally, thus likewise soiling the handbag.

Document FR2871712 describes an assembly composed of an atomizer and a protective case in order to address this problem. The tubular case is open at its two ends. A first end has a member for actuating the assembly in order to extend the dispensing head of the atomizer from the second end. To this end, the assembly has a moving unit inserted in a sliding manner in the case, an elastic return means forcing the moving unit to return to its storing position, and means for immobilizing the moving unit in the form of a cam that engages with a follower member.

However, such an assembly is not satisfactory from an ergonomic point of view since, in order to extend the atomizer from one side of the case, it is necessary to exert pressure on the opposite end of the assembly, and this is not very intuitive. Specifically, similar assemblies in the cosmetic field have to be opened by exerting a pressure on the same side as the outlet of the dispensing device. Document EP1721543 may be mentioned by way of example. In addition, such an assembly has a significant number of components, making this assembly not very economical.

Thus, the object of the present invention is to provide an improved assembly for packaging and dispensing a cosmetic product in order to remedy the abovementioned drawbacks, in particular by limiting the number of components in the assembly, said assembly being very simple and intuitive to use.

To this end, the invention provides an assembly for packaging and dispensing a cosmetic product, comprising a container that contains the product and is provided with a dispensing head having a push button, a case formed by a tubular wall extending along a main longitudinal axis of elongation X-X, the case being open at a first end and closed by an end wall at a second end, a holder that receives the container, said holder being inserted and sliding along

the axis X-X in the case between a storing position, in which the dispensing head is housed in the case, and a use position, in which the head protrudes from the first, open end of the case, an elastic return means that forces the holder to return into its storing position, and a means for immobilizing the holder
5 with respect to the case, firstly in order to prevent the holder from moving axially towards its use position when in the storing position, and secondly in order to prevent the holder from moving axially towards its storing position when in the use position.

According to the invention, the holder has an activation member for
10 unlocking the immobilizing means, the activation member protruding through a longitudinal slot in the side wall of the case.

The invention advantageously makes it possible to obtain an assembly that can be opened intuitively with one hand.

According to further features of the invention, the internal wall of the
15 case may have an upper housing and a lower housing, said housings being located along the slot and forming stops for protrusions on the holder immobilizing means.

The internal wall of the case may be formed by a sleeve fixed in the case and having a longitudinal opening corresponding to the slot in the case.
20 The length of the opening corresponds approximately to the displacement path of the activation member.

The protrusions may be disengaged from the lower housing or from the upper housing by a movement approximately perpendicular to the axis X-X.

The sliding movement of the holder with respect to the case may be a
25 movement of axial translation with no radial component, in order that the direction of the outlet orifice is oriented in a fixed direction with respect to the case.

The immobilizing means may be formed by an elastic portion of the wall of the holder, thereby minimizing the number of components in the
30 mechanism.

The elastic return means may be a compression spring between a sleeve stop and a holder stop that forces the holder to move towards the end

wall of the case. Thus, the container is returned automatically to its storing position and is kept in the storing position even in the event of involuntary radial pressure on the activation means.

The container may be removable from the holder in order that the
5 assembly container can be replaced or refilled.

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

10 - Figure 1 shows an exploded view of an example of an assembly for packaging and dispensing a cosmetic product according to the invention;

- Figure 2 shows a front view of the assembly from Figure 1 in the storing position;

15 - Figure 3 shows a front view of the assembly from Figure 2 without the covering case;

- Figure 4 shows a longitudinal sectional side view of the assembly from Figure 2;

- Figure 5 shows a front view of the assembly from Figure 1 in the use position;

20 - Figure 6 shows a front view of the assembly from Figure 5 without the covering case;

- Figure 7 shows a longitudinal sectional side view of the assembly from Figure 5.

25 With reference to Figures 1 to 7, an assembly for packaging and dispensing a cosmetic product comprises an atomizer 10 housed in a covering and protective case 20 extending along a main longitudinal axis of elongation X-X. The dimensions of the assembly are compatible with transport in a pocket or handbag, for example. The largest dimension of the assembly is, for example,
30 less than 15 centimetres or even less than 10 centimetres.

The atomizer 10 is formed by an approximately cylindrical container 11 closed by an end wall and having an opening provided with a dispensing

head. The dispensing head comprises a dispensing mechanism 12 such as a pump, and a push button 13 for actuating the dispensing mechanism. The approximately cylindrical push button 13 has an upper actuating face 14 and a side face 15, for example in the form of a skirt extending from the upper face in the direction of the container 11. The push button 13 comprises in particular a duct for supplying the product from the dispensing mechanism 12 towards a product outlet orifice. The product outlet orifice is advantageously located on the side face 15 of the push button 13.

The container may also be an aerosol container provided with a dispensing valve on which there is mounted a push button having a product outlet nozzle.

The movement of the push button 13 that causes the actuation of the dispensing mechanism is, in the example shown, a movement of translation in the axis of the case, but it could be some other movement, such as a movement perpendicular to the axis of the case, a pivoting movement about an axis perpendicular to the axis of the case, a rotational movement in the axis of the case, or more generally a composite movement.

The product contained in the container 11 may for example be liquid, such as perfume or eau de toilette. The invention may furthermore be applied to the dispensing of non-liquid products, for example powders, emulsions or pasty products.

The case 20 has a tubular form with an approximately circular radial cross section. The radial cross section could also be elliptical, polygonal or any other shape. The case 20 extends along a main longitudinal axis of elongation X-X, the case being open at a first end and closed by an end wall at a second end. The case has a longitudinal slot 21 in a portion of its side wall. The longitudinal slot 21 is for example an elongate hole extending parallel to the axis X-X. The dimensions of the elongate hole are for example less than 5 millimetres in width and between 2 millimetres and 8 centimetres in length.

A sleeve 30 is mounted in a fixed manner in the case 20. The sleeve 30 is formed by a tubular wall complementary to the internal wall of the case 20 such that it can be fitted into the case 20. Thus, the case consists of two parts

that are secured together: an outer covering element 20 and an internal tubular sleeve 30. However, the case may consist only of a single part that combines the functions carried out by the covering element 20 and the internal sleeve 30.

The sleeve 30 has a longitudinal opening 31 corresponding to the slot
5 21 in the case 20, that is to say located adjacent to said slot 21. The longitudinal opening 31 has at least the same dimensions as the slot 21. The sleeve 30 forming the internal wall of the case 20 has an upper housing 33 and a lower housing 32, said housings being located along the slot. Each housing is formed by notches that extend perpendicularly on either side of the longitudinal opening.
10 The upper housing 33 is positioned next to the upper end of the slot 21 in the case 20, while the lower housing 32 is positioned next to the lower end of the slot 21 in the case 20.

The sleeve 30 is shorter than the covering case, such that the lower edge 34 of the sleeve 30 fixed in the case is in contact with the end wall of the
15 case 20 and such that the upper edge 35 of the sleeve 30 is set back from the opening in the case 20. The setback is sufficiently large for the push button 13, when in the storing position, to be entirely located between the open end of the case 20 and the upper edge 35 of the sleeve 30. In addition, the lower edge of the side face 15 of the push button 13 is located next to the upper edge 35 of
20 the sleeve 30, such that said upper edge 35 forms a stop for the push button 13 in the storing position.

The internal face of the sleeve 30 also has a circular rib 36 forming a supporting face for an elastic return element 50. Said supporting face formed by the rib 36 faces the end wall of the case 20.

25 The atomizer 10 is housed in a holder 40 that is able to move with respect to the case 20, sliding along the axis X-X in the case between a storing position, in which the push button 13 of the atomizer 10 is housed in the case 20, and a use position, in which the push button 13 protrudes from the open end of the case 20.

30 For this purpose, the holder 40 has a cylindrical wall, the external face of which can slide along the internal wall of the sleeve 30. The internal face of the wall of the holder 40 is for its part designed to receive the container 11 of

the atomizer. The container is for example friction-mounted in the holder in order that the atomizer 10 is secured to the holder 40 but can be removable if the user exerts enough pull to overcome the force caused by the friction between the holder 40 and the container 11.

5 The holder 40 also has a transverse plate 41 against which the end wall of the container 11 is in contact.

 Alternatively, the holder and the container may also only be in one piece.

 The length of the holder 40 corresponds approximately to that of the
10 sleeve 30 in order to obtain optimal axial sliding of the holder 40 in the sleeve 30.

 In addition, the lower edge of the holder 40 has an annular portion 42 protruding radially outwards so as to form a second supporting face for the elastic return element 50. Said supporting face formed by the annular portion 42
15 faces the rib 36 on the sleeve 30. The annular portion 42 is for example carried by a part 43 fixed to the holder, as in the example shown, or is made in one piece with the holder.

 The elastic return element 50 is a compression spring, an upper end of which presses against the circular rib 36 formed on the internal wall of the
20 sleeve, and the lower end of which presses against the annular portion 42 of the holder 40. The spring 50 thus tends to push the holder 40 back towards the end wall of the case 20 in its storing position.

 The holder 40 may also have means for limiting the sliding travel of the holder 40 with respect to the sleeve 30.

25 According to the invention, the holder 40 comprises a means for preventing the movement of said holder 40 with respect to the sleeve 30 and the case 20. This means is formed by an elastic portion 44 attached by way of its upper and lower ends to the wall of the holder 40 and laterally bounded by two longitudinal openings 45. The elastic portion 44 is convex towards the
30 outside with respect to the rest of the wall of the holder 40, thereby giving the latter elasticity, being able to deform radially with respect to the axis X-X.

The elastic portion 44 has an activation member 46 formed by a material boss that protrudes through the longitudinal opening 31 in the sleeve and the slot 21 in the case 20. Thus, when the user exerts a radial pressure on the activation member 46, the elastic portion 44 deforms towards the inside of the assembly. The width of the activation member 46 is approximately the same as the width of the slot 21, such that it can slide along this slot 21.

The elastic portion 44 also has two protrusions 47 formed by material bosses on either side of the activation member in a transverse plane with respect to the axis X-X. These protrusions 47 are set back with respect to the activation member 46 so as not to be adjacent to the slot 21 in the case 20, but are designed to engage with the housings 32, 33 in the sleeve 30, said housings thus forming axial stops for the protrusions on the holder which are positioned in these housings.

The protrusions may have a profile having downward slopes extending along the axis X-X and forming upper and lower faces of the protrusions so as to make it easier to disengage the protrusions from the housings in the storing position, and to improve the hold of the protrusions in the housings in the use position.

Thus, the means for immobilizing the holder 40 firstly prevent the holder 40 from moving axially towards its use position when in the storing position, and secondly prevent the holder 40 from moving axially towards its storing position when in the use position.

The device functions in the following manner:

In the storing position in Figures 2 to 4, the spring 50 exerts a force on the holder 40 so as to push it towards the end wall of the case 20. The protrusions 47 on the immobilizing means 44 are thus in abutment in the lower housing 32 of the sleeve 30, thereby locking the holder 40 in the storing position. The upper face 14 of the push button 13 of the atomizer 10 is thus flush with the open end of the case 20. The push button 13 may optionally protrude partially from the case 20 in the storing position.

The lower edge of the side wall 15 of the push button 13 is in abutment against the upper edge of the sleeve 30, such that if a user or an

object presses against the push button 13, no force is transmitted to the pump 12. The product outlet orifice is protected by the case 20 in order to prevent any risk of soiling by dust.

In order to reach the use position shown in Figures 5 to 7 from the storing position shown in Figures 2 to 4, a radial pressure force, that is to say a pressure force approximately perpendicular to the axis X-X, is exerted on the activation member 46 in order to disengage the protrusions 47 from the lower housing 32 in the sleeve 30, and then the housing 40 is moved in translation in the sleeve 30 in that an axial force is exerted on the activation member 47, countering the return force of the spring 50, in order to slide the holder 40 and the atomizer 10 in the case 20. When the push button 13 protrudes from the case 20 and when the protrusions 47 are positioned next to the upper housing 33, the user releases the radial pressure such that the protrusions 47 engage in the upper housing 33 and the holder 40 is immobilized in its use position. In this position, the lower edge of the side wall 15 of the push button 13 is no longer in abutment against the upper edge of the sleeve 30 and is out of the case 20, enabling the product to be dispensed. If the user presses the push button 13 of the atomizer 10, the holder 40 remains immobile with respect to the case 20 and only the push button 13 of the atomizer 10 is depressed, causing the product to be dispensed.

In a variant which is not shown, when the user presses the push button of the atomizer, the push button of the atomizer is depressed such that the orifice of the spraying nozzle is located opposite a hole in the case, causing the product to be dispensed in the form of a jet passing through said hole in the case.

In order to reach the storing position in Figure 2 from the use position in Figure 3, a radial pressure force is exerted on the activation member 46 in order to disengage the protrusions 47 from the upper housing 33 in the sleeve 30. The return spring 50 thus automatically drives the holder 40 towards the end wall of the case 20 in the storing position. Once in the storing position, the protrusions 47 automatically re-engage in the lower housing 32 in the sleeve 30. The activation member may have a covering element forming a push button, for

example having larger dimensions than the longitudinal slot so as to provide improved ergonomics for the user and an improved appearance of the device, for example by partially or entirely covering the longitudinal slot in the case.

One of the advantages of this invention is that it can limit accidental opening of the assembly while providing intuitive use ergonomics. Moreover, 5 the invention is particularly economic and simple to produce on account of the lower number of components in this assembly.

CLAIMS

1. Assembly for packaging and dispensing a cosmetic product, comprising:
 - 5 - a container (11) that contains the product and is provided with a dispensing head having a push button (13),
 - a case (20) formed by a tubular side wall extending along a main longitudinal axis of elongation X-X, the case being open at a first end and closed by an end wall at a second end,
 - 10 - a holder (40) that receives the container, said holder being inserted and sliding along the axis X-X in the case between a storing position, in which the dispensing head is housed in the case, and a use position, in which the head protrudes from the first, open end of the case,
 - an elastic return means (50) that forces the holder to return into its storing position,
 - 15 - a means (44) for immobilizing the holder with respect to the case, firstly in order to prevent the holder from moving axially towards its use position when in the storing position, and secondly in order to prevent the holder from moving axially towards its storing position when in the use position,the assembly being characterized in that the holder has an activation member
20 (46) for unlocking the immobilizing means, the activation member protruding through a longitudinal slot (21) in the side wall of the case.

2. Assembly according to the preceding claim, characterized in that the
25 internal wall of the case has an upper housing (33) and a lower housing (32), said housings (33, 32) being located along the slot and forming stops for protrusions (47) on the holder immobilizing means.

3. Assembly according to either of the preceding claims, characterized in that
30 the internal wall of the case is formed by a sleeve (30) fixed in the case and having a longitudinal opening (31) corresponding to the slot in the case.

4. Assembly according to one of the preceding claims, characterized in that the protrusions are disengaged from the lower housing or from the upper housing by a movement approximately perpendicular to the axis X-X.
- 5 5. Assembly according to one of the preceding claims, characterized in that the sliding movement of the holder with respect to the case is a movement of axial translation with no radial component.
6. Assembly according to one of the preceding claims, characterized in that
10 the immobilizing means is formed by an elastic portion of the wall of the holder.
7. Assembly according to one of the preceding claims, characterized in that
15 the elastic return means is a compression spring between a fixed stop (36) with respect to the case and a holder stop (42) that forces the holder to move towards the end wall of the case.
8. Assembly according to one of the preceding claims, characterized in that
20 the container is removable from the holder.

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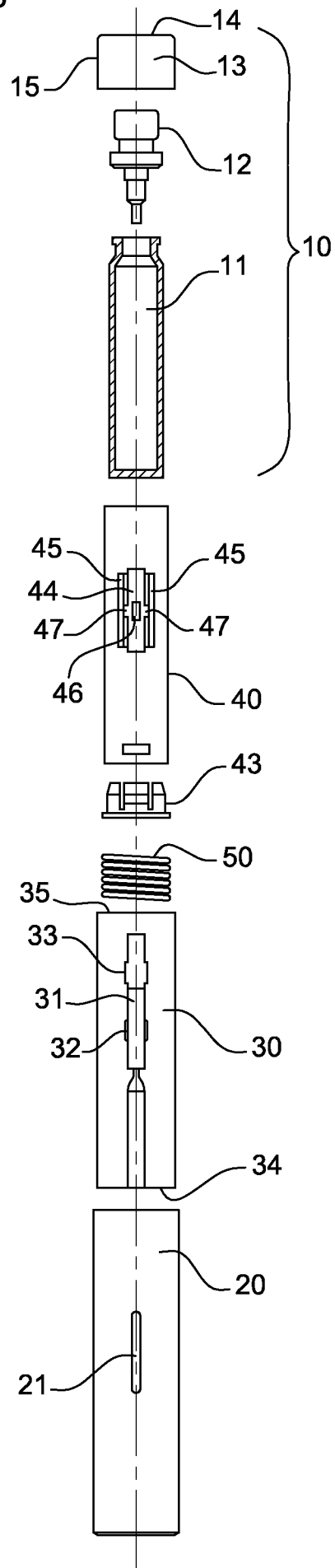


Fig. 1

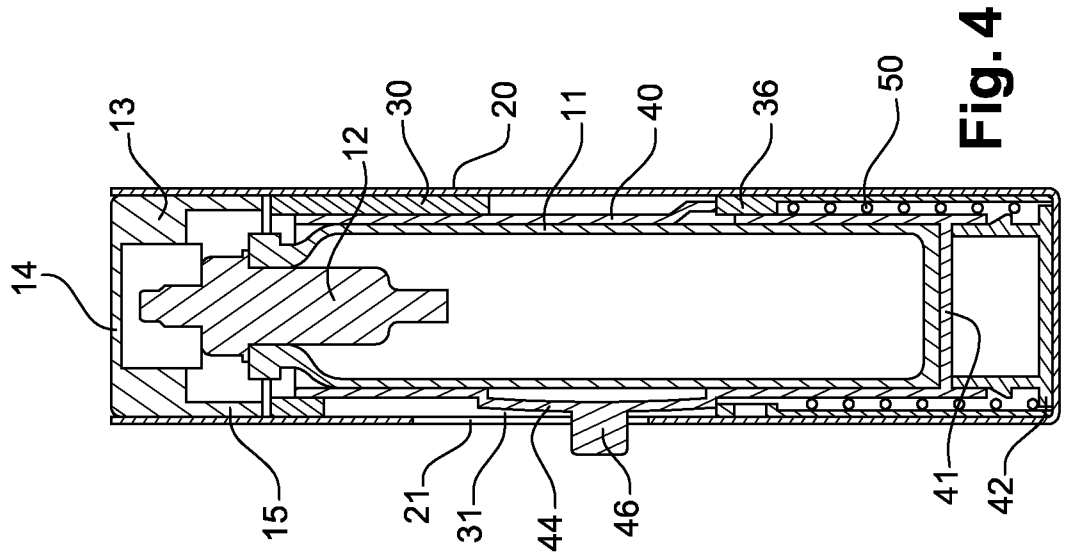


Fig. 4

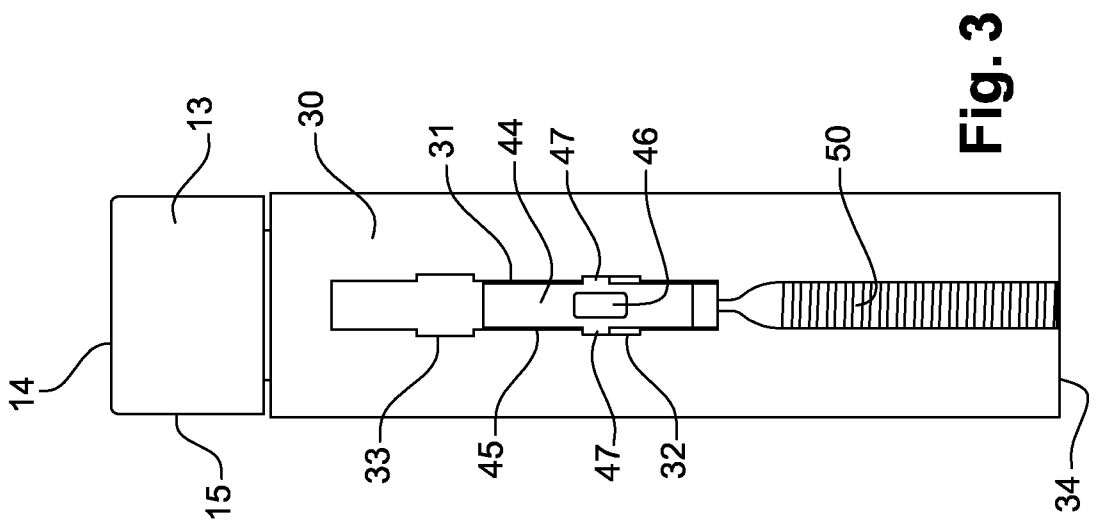


Fig. 3

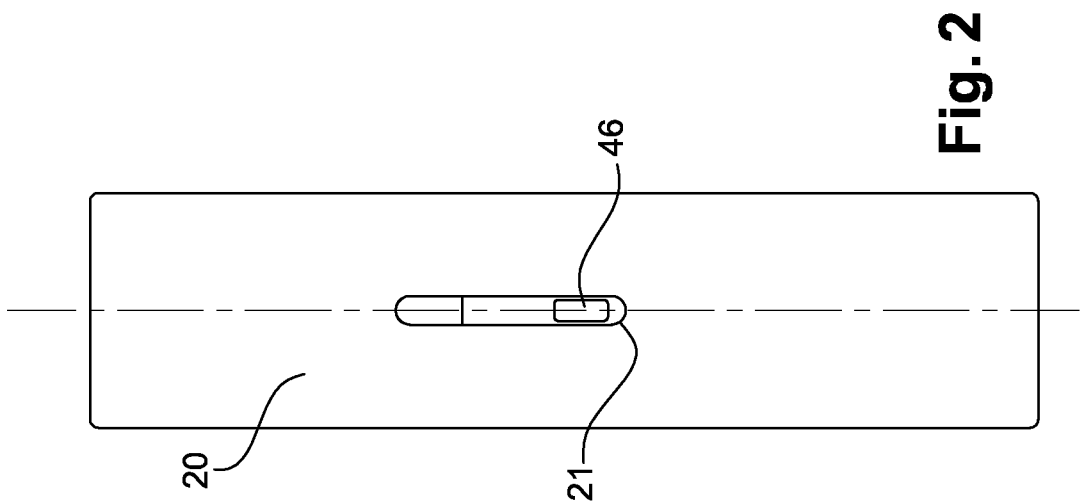


Fig. 2

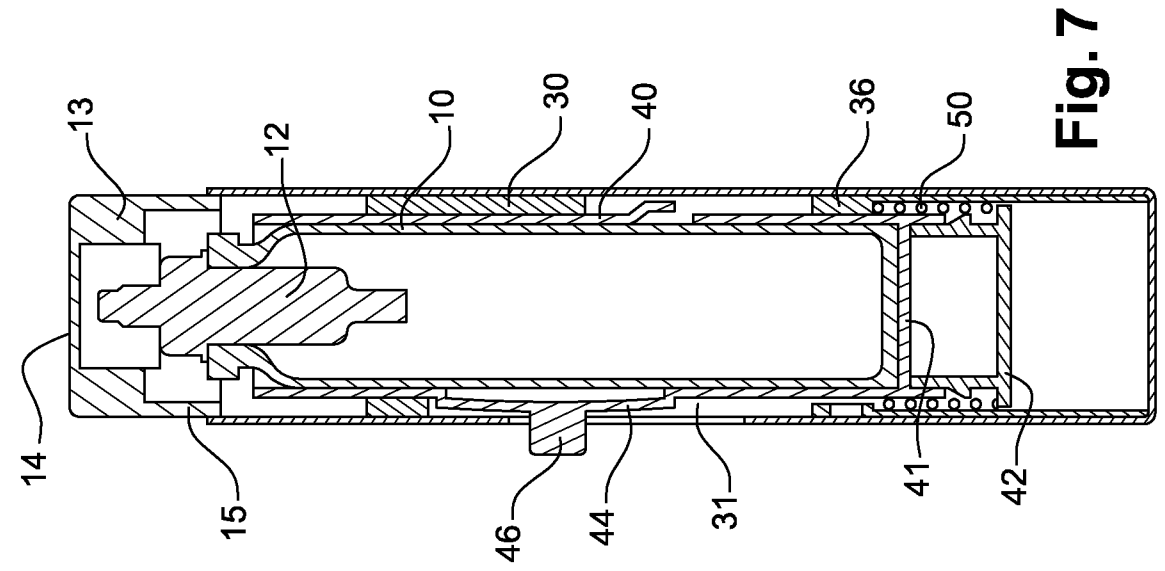


Fig. 7

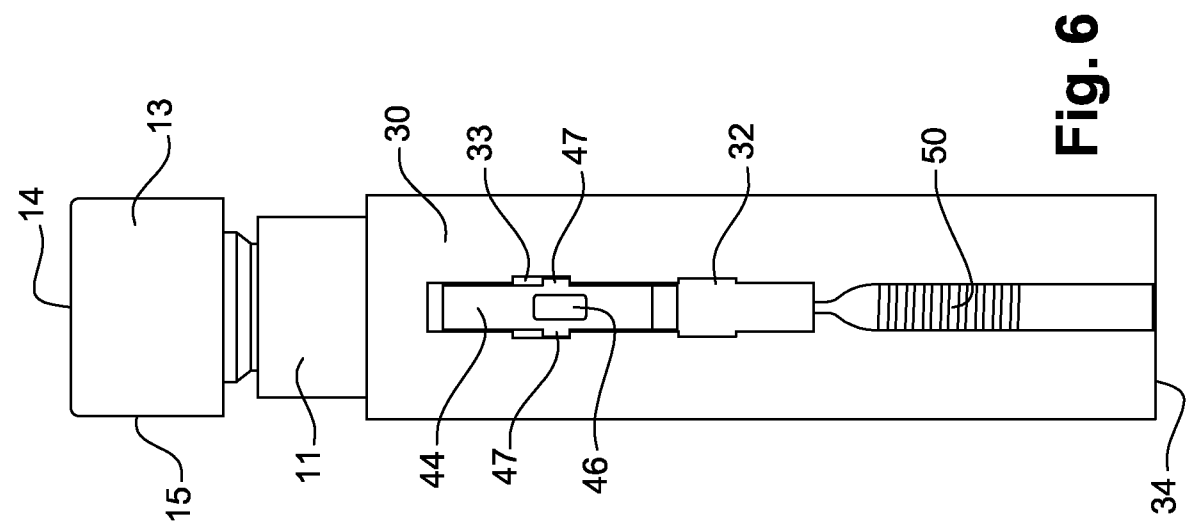


Fig. 6

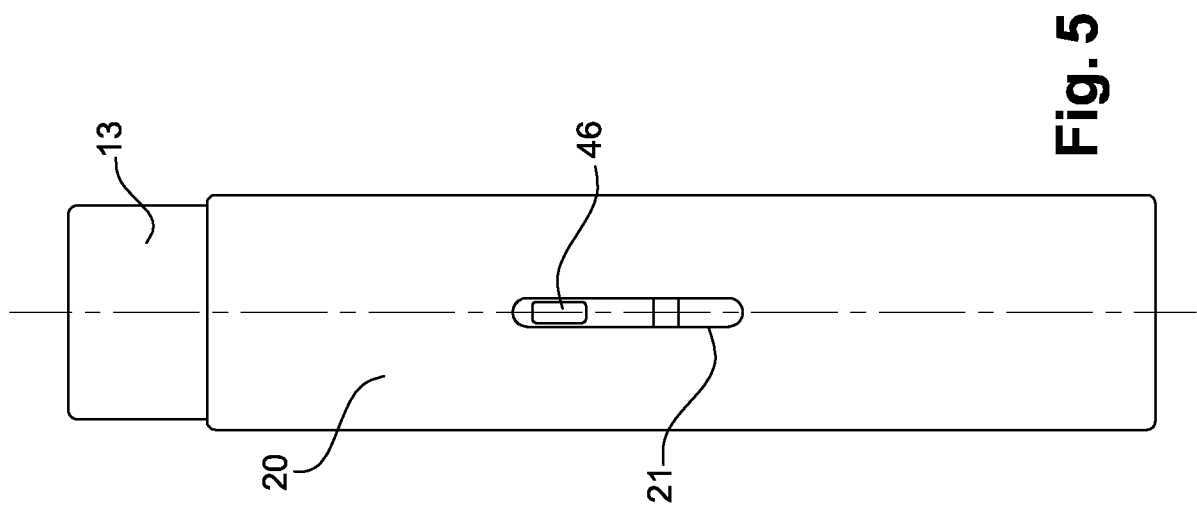


Fig. 5

INTERNATIONAL SEARCH REPORT

International application No
PCT/EP2012/060774

A. CLASSIFICATION OF SUBJECT MATTER
 INV. A45D34/00 A45D34/02 A45D34/06 A45D40/18
 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 B65D B05B

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 A	EP 2 095 883 A1 (REXAM REBOUL [FR]) 2 September 2009 (2009-09-02) paragraph [0013] - paragraph [0033] -----	1,2,5,7, 8 3,4,6

Further documents are listed in the continuation of Box C.

See patent family annex.

* Special categories of cited documents :

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Date of the actual completion of the international search

11 September 2012

Date of mailing of the international search report

17/09/2012

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INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No

PCT/EP2012/060774

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
EP 2095883	A1	02-09-2009	AT 521417 T 15-09-2011
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			FR 2927825 A1 28-08-2009
