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(54) **Container of single-dose cosmetic products**

(57) A container of single-dose cosmetic products comprising an external vessel formed by a hollow body and a closure adapted to isolate an internal cavity thereof; a plurality of single-dose containers containing a cosmetic product, housed in the cavity of the hollow body, each single-dose container being separately sealed; the external vessel has a housing adapted to constrain, in a use position, a single single-dose container.

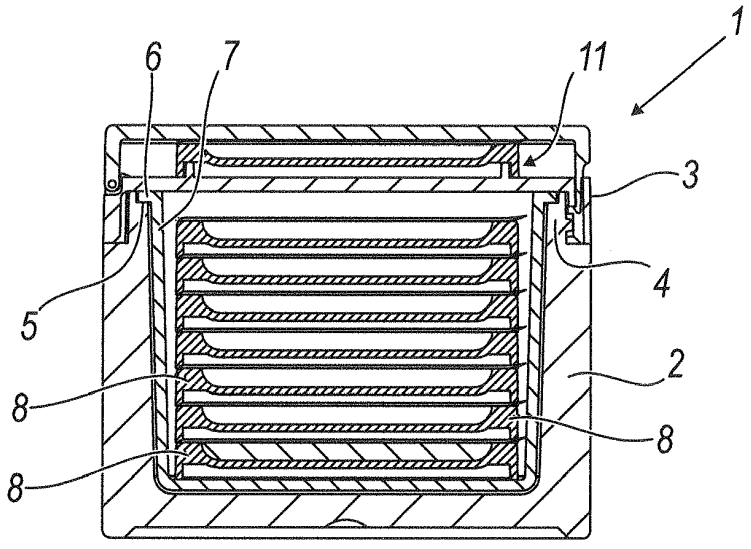


*Fig. 2*

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## Description

**[0001]** The present finding refers to a container of single-dose cosmetic products.

**[0002]** Single-dose cosmetic products are widely used on the market. For example, small single-dose capsules are known that are made of plastic material and sold by Elizabeth Arden with the name 'Ceramide Capsules Daily Youth Restoring Serum'.

**[0003]** The cosmetic product appears as a container, substantially a jar, in which a plurality of small loose capsules are housed, bunched together inside the vessel.

**[0004]** When a user wishes to use the cosmetic product, he opens the cover of the vessel and draws a small plastic capsule. The capsule provides for a head. By twisting the head, the user breaks the neck of the capsule, which is thus opened. A pressure on the convex body of the capsule causes the ejection of the product which can thus be used.

**[0005]** The known capsules have numerous disadvantages. Indeed, the use of the capsule is quite inconvenient and it is easy to waste product or dirty one's hands during the opening, closing or even during use.

**[0006]** The application WO 03092784A1 illustrates an applicator for the application of a spreadable composition for the skin comprising an element for receiving and carrying a measured dose of the composition and a grip portion for enabling the user to grip and manipulate the applicator, in which the grip portion and the reception element are arranged in a manner such that a user who holds the applicator by means of the grip portion is protected from undesired contact with the composition carried by the reception means. A plurality of applicators are housed in a container, the user extracts one applicator at a time from the container, then by using the grip portion of the applicator he uses it; the container which houses the applicators does not provide for a seat for the housing of a single applicator when it must be used.

**[0007]** The prior art solution does not fully meet the needs of the field of cosmetic products when the latter are contained in single-dose capsules or applicators, and it does not resolve the problem of manipulating or using said single-dose capsules or applicators.

**[0008]** In addition, once the capsule has been opened, the liquid at its interior must be used in a single application. Indeed, given the configuration of the capsule, it cannot remain autonomously 'upright'.

**[0009]** Object of the present finding is to obtain a container of single-dose cosmetic products which is improved with respect to the prior art.

**[0010]** In particular, object of the present invention is to provide a container for single-dose cosmetic products that facilitates the easy, convenient use of the cosmetic product.

**[0011]** These and other objects are achieved by making a container for single-dose cosmetic products according to the technical teachings of the enclosed claims.

**[0012]** Further characteristics and advantages of the finding will be evident from the description of a preferred but not exclusive embodiment of the container, illustrated as a non-limiting example in the enclosed drawings, in which:

figure 1 is a front view of a container according to the present invention, when in closed position;
figure 2 is a diameter section view of the container of figure 1;
figure 3 is the same view of figure 1, but when the container is open in use position;
figure 4 is a diameter section of the container as represented in figure 3;
figure 5 is a partial section of an enlarged detail of the present invention;
figure 6 is a diameter section view of a variant of the container of figure 1;
figure 7 is a diameter section view of a second variant of the container of figure 1;
figure 8 is a simplified diameter section view of a container according to an alternative embodiment of the present invention;
figure 9 is a side view of the container of figure 8, when it is in a use configuration;
figure 10 is a front view of the container of figure 9;
figure 11 is a cross section of the container of figure 9;
figure 12 is a cross section of a variant of the container of figure 9;
figure 13 is a side view in use position of a further variant of a container according to the invention;
figure 14 is a cross section of a detail of the container of figure 13;
figure 15 is a partial section of the container of figure 13 in "non-use" condition;
fig. 16 is a schematic view in cross section of a variant of the container pursuant to figures 13-14.

**[0013]** With reference to the abovementioned figures, a container for single-dose cosmetic products is shown, indicated overall with the reference number 1.

**[0014]** It comprises an external vessel C formed by a hollow body 2 (in jar form in the example) and a closure element 3 adapted to isolate an internal cavity thereof. In the illustrated embodiment, the closure element is screwed (on a thread 15) to a neck 4 of the hollow body.

**[0015]** The hollow body, in proximity of the neck, has a seat where a flange 6 is abutted of an internal container 7, preferably made of a single piece of plastic material.

**[0016]** The internal container houses a plurality of mutually-stacked single-dose containers 8. Each single-dose container 8 substantially has the form of a discoid bottom and is formed via plastic material molding in a single piece - though of course it is not required that the single-dose container be of discoid form, as in this case, and it is not necessary that it be formed of a single piece. It can in fact assume any form according to requirements, and can of course be made of one or more pieces; it contains a cosmetic product 9. The cosmetic product can

for example be a cream, a make-up product, a powder or any other product housable in the single-dose container. The single-dose container is sealed by means of a film 10 glued to a surface thereof. The film can for example be a considerable multilayer and multi-material film. Of course, it is also possible to provide for a cover sealed with the container, or any other type of closure, preferably adapted to seal the single-dose container.

**[0017]** A certain quantity of cosmetic product is housed in each single-dose container. In such context, by 'single-dose' it must be intended a lower dose than that usually contained in conventional cosmetics bottles; hence the quantity of the contents of the 'single-dose' container can be such to be applied also in one or more applications at the discretion of the final consumer.

**[0018]** For example, if the cosmetic product is a cream, it is possible that the dose will be sufficient for the applications of an entire day.

**[0019]** As is observed in figure 2, the external vessel C has, at an external portion of its walls (an upper portion in the represented example), a housing 11 adapted to constrain, in a use position, a single single-dose container.

**[0020]** In figure 2, a user has arranged a single-dose container 8A in the housing 11 of the external vessel. Advantageously, as shown in fig. 5, the housing provides for means 12 for retaining the single-dose portion in the housing itself; such retention means are formed for example by an annular projection 12A which is extended from the closure element 3 of the hollow body 2.

**[0021]** The annular projection 12 laterally constrains the single-dose container 8A which, by virtue of its lower face, is positioned at the perimeter of the same. In such a manner, the single-dose container is constrained via fitting with the container.

**[0022]** In order to constrain the single-dose container 8A to the external body, it is also possible to provide for snap connection means (not represented), made for example on the annular projection 12, and adapted to cooperate with a corresponding suitably shaped portion, provided in the lower part of the single-dose container.

**[0023]** When it is necessary to use the cosmetic product, the user removes the film 10 from the single-dose container, he positions it in the housing 11 and uses the cosmetic product that he wishes, without dirtying and without wasting product.

**[0024]** If unused cosmetic product remains inside the single-dose container, the user can decide to close a cover 13 hinged to the closure element 3, in a manner so as to reuse the product contained in the single-dose container 8A.

**[0025]** It is also possible to separate (in this case by unthreading it) the closure element 3 from the hollow body 2, and use the closure element and the cover as a travel container, e.g. for using the cosmetic product during a brief vacation.

**[0026]** Advantageously, when all of the single-dose containers have been used, it is possible to extract the intermediate container 7 from the cavity of the body 2, and replace the old intermediate container with a new one, full of new stacked single-dose containers.

**[0027]** Of course, the presence of the intermediate container is optional, given that the single-dose containers can also be positioned directly in the cavity of the body 2.

**[0028]** It is noted that the housing 11 can be connected, directly or indirectly, to one or more portions of the external surface of the hollow body 2 of the container C, rather than to the closure element 3.

**[0029]** In the example of figure 6, the housing 11 is obtained on the bottom of the container C. Advantageously, an annular projection 12 is provided, adapted to retain single-dose portion 8A, along with a cover 13, which can be hinged to the bottom of the container C (as represented in fig. 6), or screwed thereto.

**[0030]** In another example, illustrated in figure 7, the housing 11 is arranged at an external portion of the hollow body 2, for example a flat side wall of the hollow body 2. The annular projection 12 is directly obtained on the side wall of the hollow body 2. It is preferable to provide for a cover with shape corresponding to the rest of the external wall of the hollow body 2. If the hollow body 2 has a cylindrical external wall, it is preferable to provide for a curved cover (not shown) in a manner such that when it is closed, the cylindrical form of the external wall of the container C is preserved.

**[0031]** According to a non-illustrated variant, the vessel according to the invention could also provide for a plurality of housings for the single-dose portions, e.g. a housing like that pursuant to figures 1-4 and a housing of the type represented in figures 6 and/or 7.

**[0032]** An alternative embodiment of the present invention is shown in figures 8 to 11.

**[0033]** Hereinbelow, in the present description, the same reference numbers will be used to indicate parts that are functionally similar to those already described.

**[0034]** Figure 8 shows a container 1 in section, which comprises an external vessel C formed by a hollow body 2 (with elongated form in the example) and a closure element 3 adapted to isolate an internal cavity thereof. In the illustrated embodiment, the closure element is screwed (on a thread 15) or snap-engaged on a neck 4 of the hollow body by means of a first annular portion 3A thereof, to which a second portion 3B is hinged which is engaged on the first.

**[0035]** The hollow body 2 houses a plurality of single-dose containers 80 arranged in a loose manner (or in an ordered manner) at its interior. Each single-dose container 80 is formed via molding of soft plastic material in a single piece, and contains a cosmetic product 9. Each single-dose container 80 has a conformation similar to a capsule, clearly visible in figure 9. In substance, it comprises a deformable portion 80A that contains the fluid 81; from such portion, a conduit 80B is extended that is sealed on the top. The conduit serves for supplying the fluid contained in the single-dose container upon sepa-

ration of a terminal portion 80C of the conduit. The rupture is facilitated by preferential breakage lines 80D.

**[0036]** Of course, the single-dose container can have a form different from that just described and it can be made of any material. It is also possible that the container be made of a substantially rigid material provided with a soft membrane or with a deformable part, in order to allow squeezing the contents through the neck. Thus, in the case of an incomplete use of the contents, the terminal part 80C can be reused for closing the container.

**[0037]** The fluid product can for example be a cream, an anti-wrinkle fluid, a cosmetic oil or another product housable in the single-dose capsule container.

**[0038]** In each single-dose container, a certain quantity of cosmetic product 81 is housed. In such context, by 'single-dose' it must be intended a lower dose than that usually contained in bottles of conventional cosmetic products - but of course the quantity of the contents of the 'single-dose' container can be such that the product can also be applied in multiple applications.

**[0039]** As is observed in figure 11, the external vessel C has a housing 11 adapted to house and constrain, in a use position, a single single-dose container. The housing is formed by a concave portion of the closure 3, and specifically of the second part 3B thereof.

**[0040]** The concave portion has a configuration corresponding to part of the convex portion of the capsule. In addition, a channel 25 is present that is adapted to receive the projection 80B of the capsule, from which the product is supplied.

**[0041]** The concave portion (and hence the housing) is positioned in a manner such to allow an end portion of said capsule 80B to project towards the exterior of the closure or external vessel, in a manner such that the supplied product does not come into contact with any part of the external vessel or cover.

**[0042]** As is seen in figure 9, the cover 13 is provided with a protuberance 28 useful for squeezing the capsule.

**[0043]** In figure 9, a user has arranged a single-dose container 80 in the housing 11 of the external vessel.

**[0044]** When it is necessary to use the cosmetic product, the user, after having previously opened the capsule by breaking the end portion 80C thereof, closes or lowers the cover 13.

**[0045]** The protuberance 28 squeezes the capsule that supplies the product in a convenient, clean manner.

**[0046]** There is no need for the user to even touch the capsule 80, thus fully facilitating the ease of use and cleaning.

**[0047]** Analogous to that said for the container of figures 1 to 7, it is possible to provide that the housing 11 is connected to the hollow body 2 of the container C rather than to the closure element 3 of the container C.

**[0048]** Figure 12 illustrates, for example, a variant of the container of figure 9; in such variant, the closure 3 is provided on the bottom of the container C, while the housing 11 is arranged on the upper part of the container C. Of course, it is possible to provide that the closure 3 be maintained on the upper part of the hollow body 2, and that the housing 11 is arranged on the bottom of the hollow body 2. It is also possible to provide that the housing 11 be obtained in the side wall of the hollow body 11.

**[0049]** Figures 13, 14, 15 and 16 show an alternative embodiment of the invention.

**[0050]** In this case, the cover 13 is not provided with a protuberance, but rather with a concave part 30 that encloses the swollen body of the capsule.

**[0051]** The top of the concave part 30 is open (opening 31) in a manner so as to allow a user to directly access the capsule 80, by pressing it.

**[0052]** Of course, this variant can be applied both when the housing 11 is obtained in the closure 3, and when the housing 11 is obtained directly in the hollow body 2. In this case, the variant illustrated in figure 12 is particularly suitable, as shown in figure 16.

**[0053]** In any case, though, the capsule is perfectly constrained to the external body.

## Claims

**1.** Container of single-dose cosmetic products comprising

- an external vessel (C) formed by: a hollow body (2) and a closure element (3) adapted to isolate an internal cavity of said hollow body (2),
- a plurality of single-dose containers (8, 8A, 80) containing a cosmetic product (9), housed in the cavity of the hollow body (2), each single-dose container (8, 8A, 80) being separately sealed,

**characterized in that**

- the external vessel (C) has a housing (11) adapted to constrain, in a use position, at least one single-dose container (8A, 80);
- and that said housing is provided at a portion of the external surface of said vessel (C).

**2.** Container according to the preceding claim wherein the external vessel (C) is provided with a cover (13) adapted to protect the single-dose container (8A, 80) when it is constrained in use position in the housing (11) for the single-dose container (8A, 80).

**3.** Container according to claim 1 wherein the hollow body (2) has means for coupling the closure element (3) to said hollow body (2), said coupling means preferably providing for a thread (15).

**4.** Container according to one or more of the preceding claims wherein the cover (13) is hinged to the closure element (3).

**5.** Container according to one or more of the preceding

claims wherein each single-dose container (8, 8A) is made of a single piece sealed by a film (10) glued thereto.

**6.** Container according to one or more of the preceding claims wherein the single-dose containers (8) are housed in an intermediate container (7) inserted in the cavity of the hollow body (2), the intermediate container (7) allowing the simultaneous extraction from the cavity of all the single-dose containers (8), or the insertion of a reloading of new single-dose containers (8).

**7.** Container according to claim 1, wherein the housing (11) of the hollow body (2) has a free edge cooperating with a corresponding groove made on a lower surface of said single-dose container (8A).

**8.** Container according to one or more of the preceding claims wherein each single-dose container (8, 8A) is configured in a manner so as to be stackable.

**9.** Container according to claim 1, wherein said cover (13) has a portion (28) adapted to press on a portion (80A) of said single-dose container (80) in order to extract the contents thereof.

**10.** Container according to claim 1, wherein said cover (13) has a further housing adapted to constrain the single-dose container (80) in collaboration with the housing (11) of the closure element (3), said further housing having an opening (31) adapted to allow a user to press on the single-dose container (80) when the latter is constrained to the external vessel (C) in order to use the contents thereof.

**11.** Container according to one or more of the preceding claims wherein the single-dose container (80) has a capsule conformation, and said housing (11) and/or said further housing has a concave part (30) adapted to house a corresponding part (80A) of said capsule, the housing and/or said further housing also providing a channel (25) adapted to receive a projection (80B) of the capsule from which the product is supplied.

**12.** Container according to one or more of the preceding claims wherein said housing (11) is positioned in a manner so as to allow a portion (80B) of said capsule (80) to project towards the exterior of the external vessel (C), in a manner such that the product supplied from the capsule (80) does not come into contact with any part of the external vessel (C) or the cover (13).

**13.** Container according to claim 3, wherein said closure element (3) has a first portion (3A) provided with a thread coupled with the thread (15) of the hollow body (2), and a second portion (3B) in which said housing (11) is present, the first and the second portion (3A, 3B) being mutually hinged.

**14.** Container according to one of the preceding claims **characterized in that** the housing (11) has means (12) for retaining the single-dose portion (8A) in the housing (11) itself.

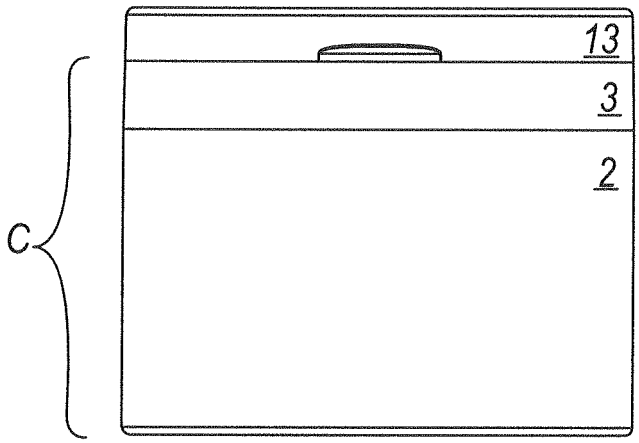


*Fig. 1*

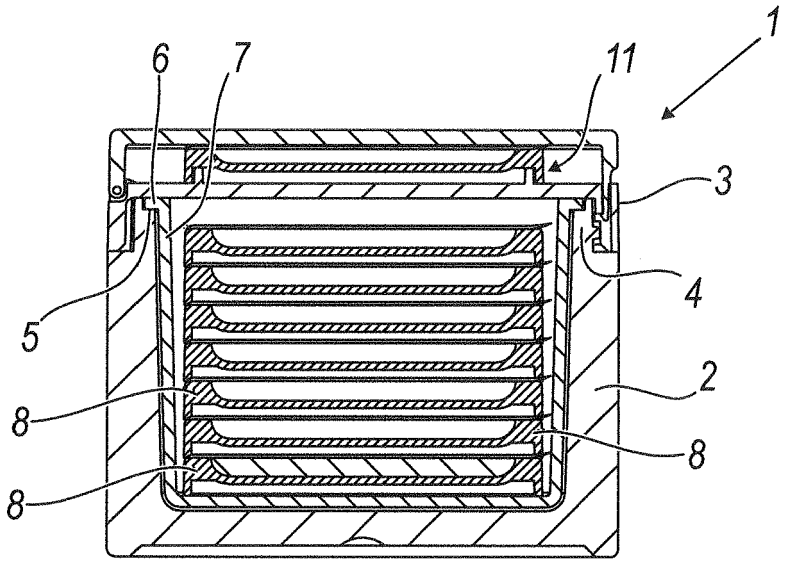


*Fig. 2*

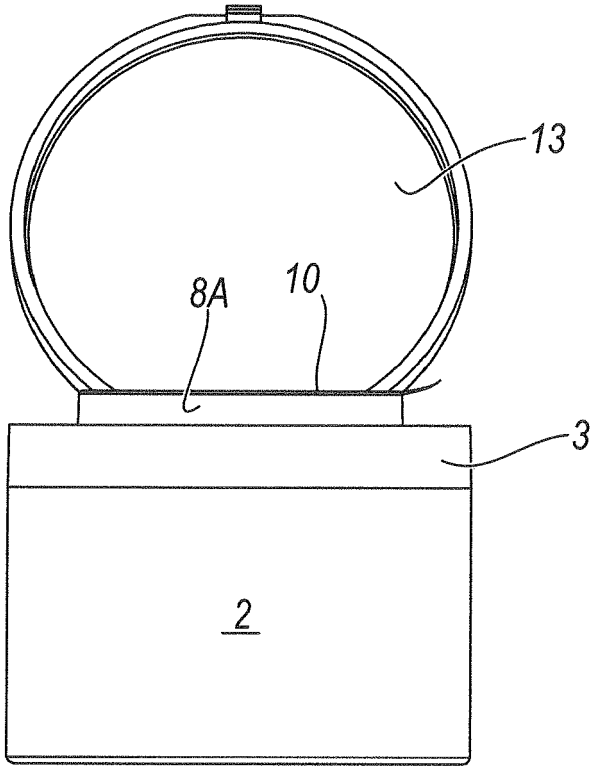


Fig. 3

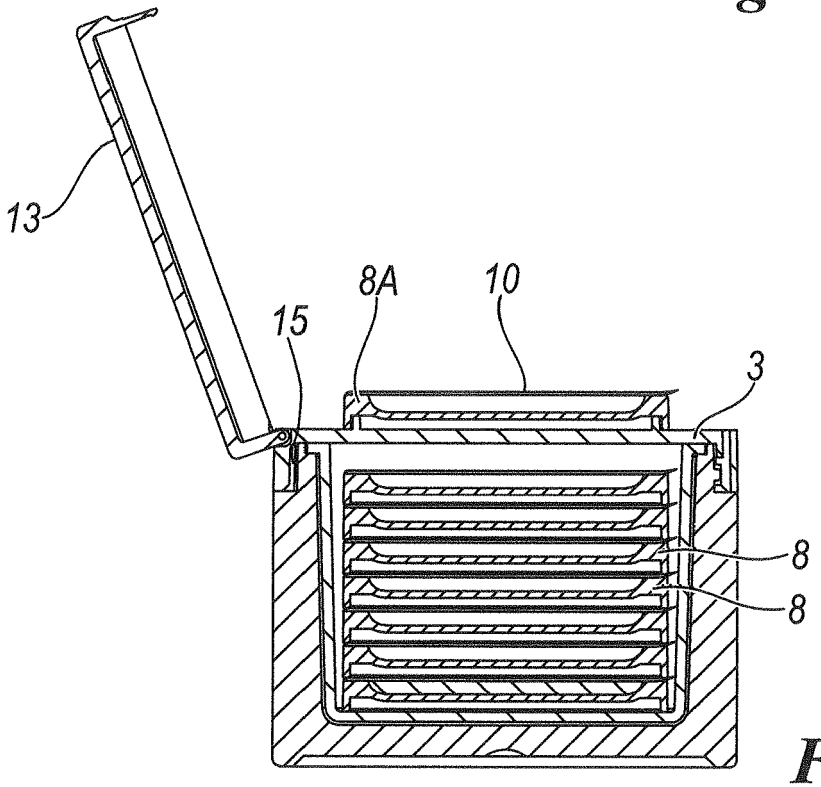


Fig. 4

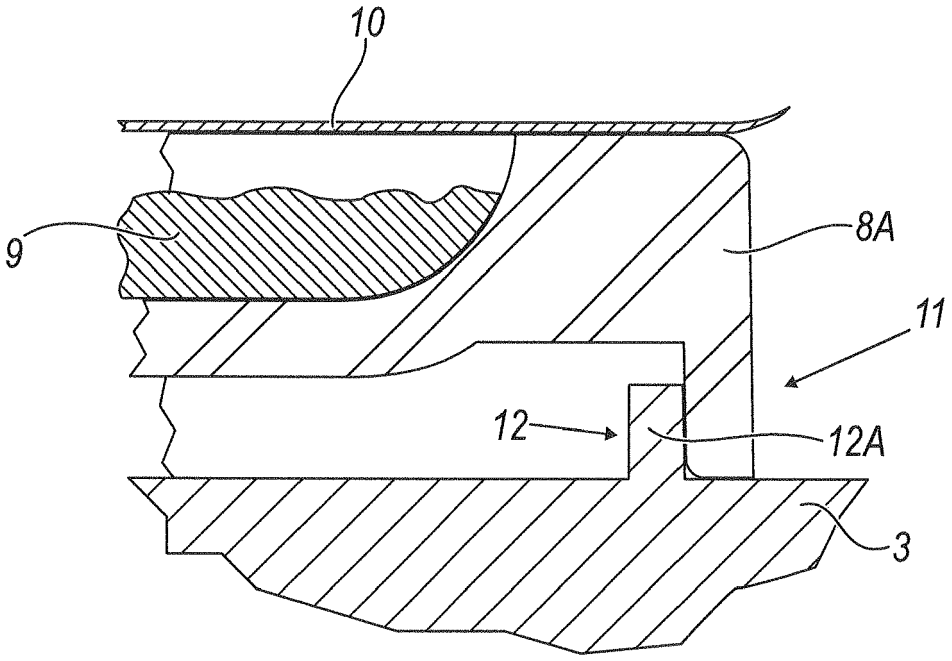


*Fig. 5*

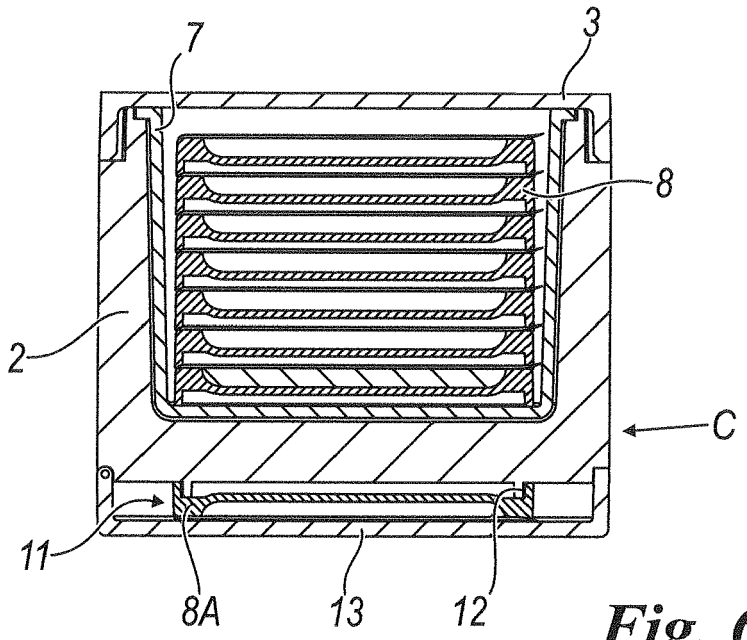


*Fig. 6*

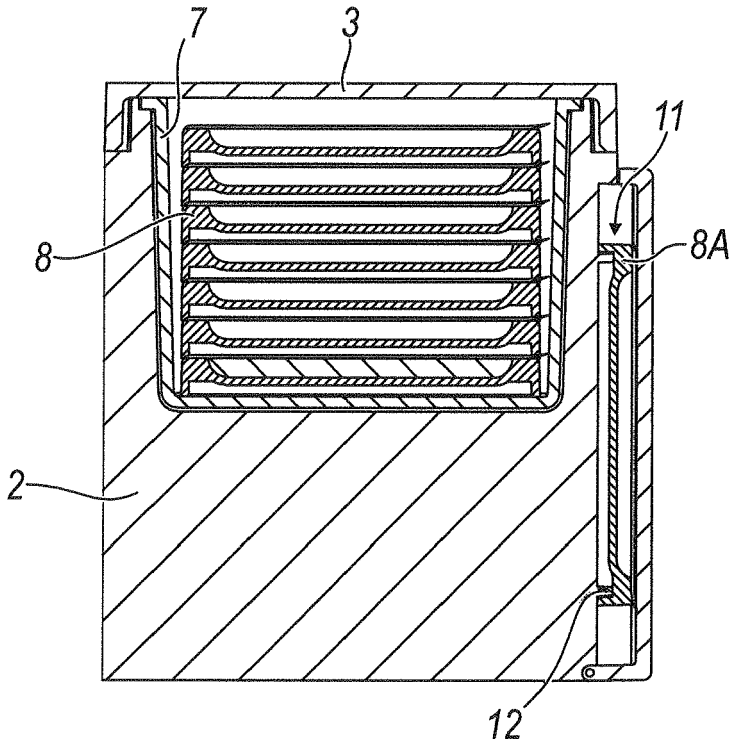


*Fig. 7*

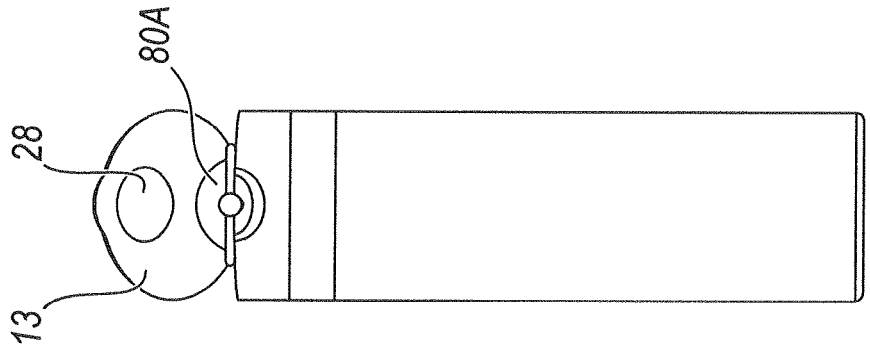


Fig. 10

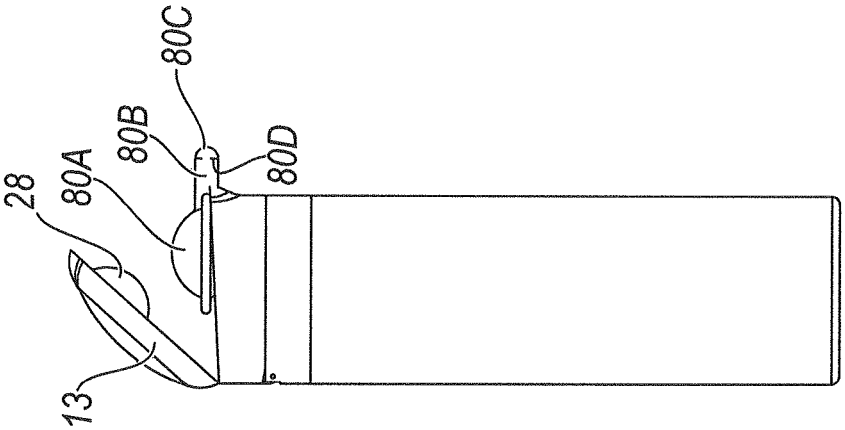


Fig. 9

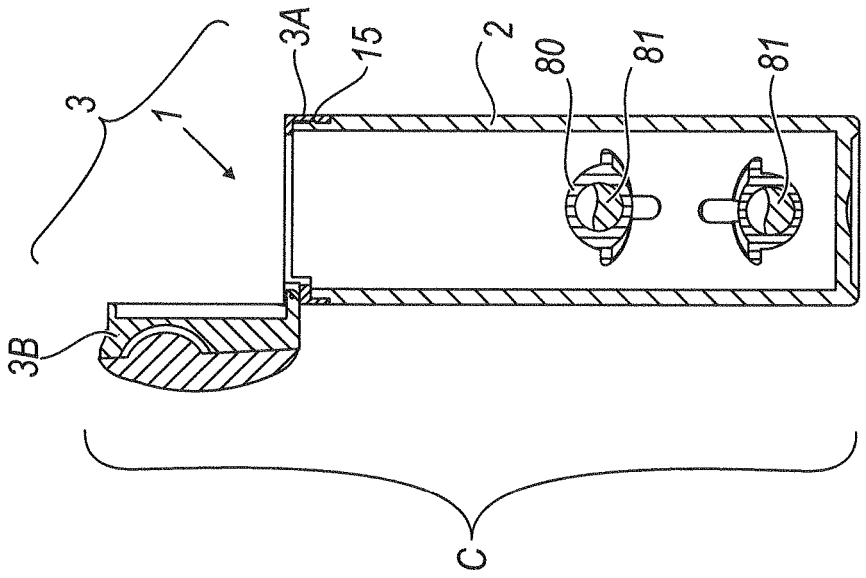


Fig. 8

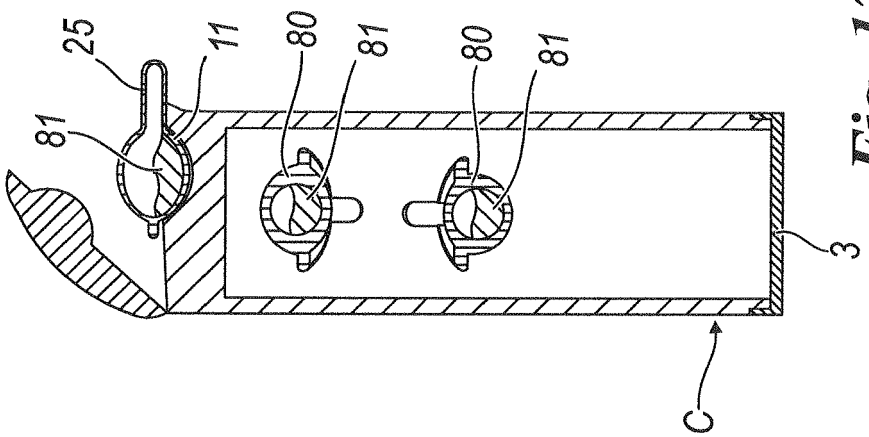


Fig. 12

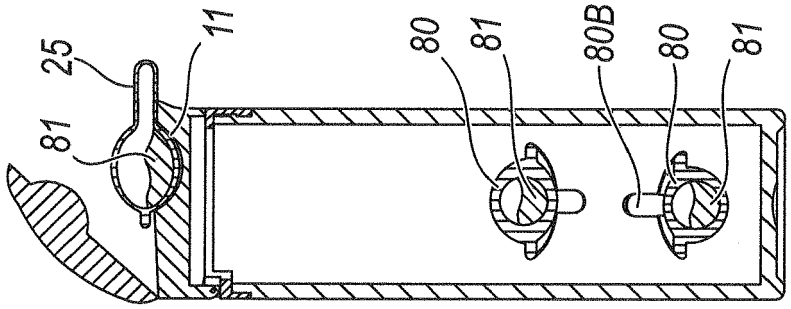


Fig. 11

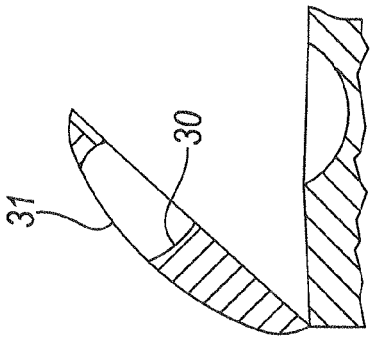


Fig. 15

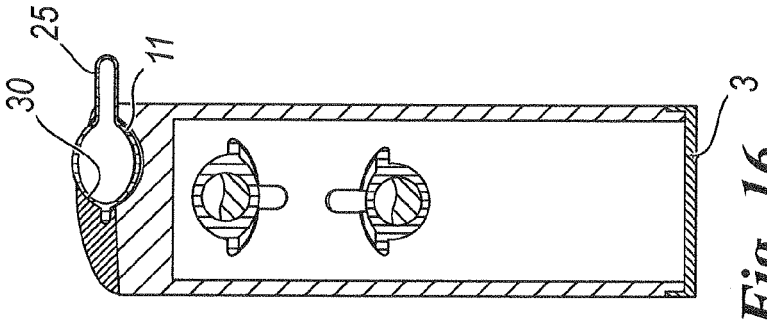


Fig. 16

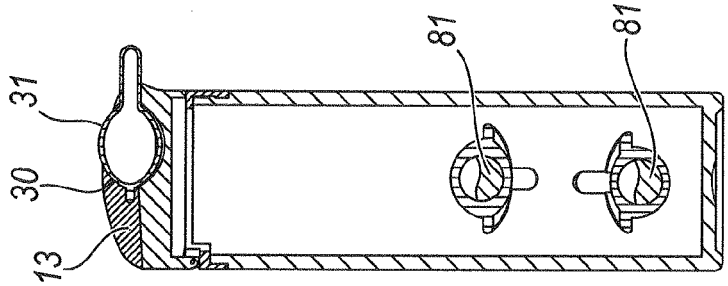


Fig. 14

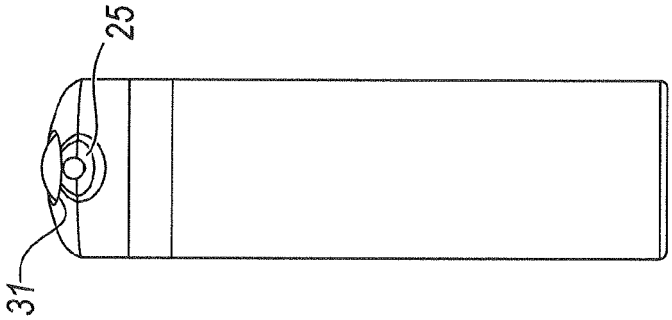


Fig. 13

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# EUROPEAN SEARCH REPORT

Application Number
EP 14 18 4214

## DOCUMENTS CONSIDERED TO BE RELEVANT

| Category | Citation of document with indication, where appropriate, of relevant passages | Relevant to claim | CLASSIFICATION OF THE APPLICATION (IPC) |
|---|---|---|---|
| A,D | WO 03/092784 A1 (VECTURA LTD [GB]; STANIFORTH JOHN NICHOLAS [GB]; TOBYN MICHAEL JOHN [G) 13 November 2003 (2003-11-13) * page 17, line 27 - page 19, line 32 * | 1-14 | INV. A45D40/24 A45D40/00 B65D21/02 |
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| A | US 4 854 761 A (SMITH LOUISE [US] ET AL) 8 August 1989 (1989-08-08) * abstract * | 1 | |

The present search report has been drawn up for all claims

| Place of search | Date of completion of the search | Examiner |
|---|---|---|
| The Hague | 7 January 2015 | Nicolás, Carlos |

CATEGORY OF CITED DOCUMENTS

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EPO FORM 1503 03.82 (P04C01)

## ANNEX TO THE EUROPEAN SEARCH REPORT ON EUROPEAN PATENT APPLICATION NO. EP 14 18 4214

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report. The members are as contained in the European Patent Office EDP file on
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07-01-2015

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