(19) Europäisches Patentamt
European Patent Office
Office européen des brevets

(11) **EP 2 773 570 B1**

(12) **EUROPEAN PATENT SPECIFICATION**

(45) Date of publication and mention of the grant of the patent:
19.09.2018 Bulletin 2018/38

(21) Application number: **12780804.6**

(22) Date of filing: **19.09.2012**

(51) Int Cl.:
B65D 47/08 *(2006.01)*

(86) International application number:
PCT/IB2012/001895

(87) International publication number:
WO 2013/064873 (10.05.2013 Gazette 2013/19)

(54) Assembly comprising a container and a closing element

Baugruppe mit einem Behäler und einem Verschlusselement

Ensemble comprennant un conteneus et un élément de fermeture

(84) Designated Contracting States:
AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR

(30) Priority: **04.11.2011 IT VI20110294**

(43) Date of publication of application:
10.09.2014 Bulletin 2014/37

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Description

[0001] The present invention concerns an assembly comprising a container and a closing device according to the preamble of claim 1.

DESCRIPTION OF THE STATE OF THE ART

[0002] Various types of caps are known, which are applied to bottles or tubes such as containers for shampoos, bath foams, toothpastes and similar products.

[0003] According to the known technique, the caps for said containers are made of plastic and consist of two parts: a main body suited to be connected to the container and a second moving part in the shape of a cover. The two parts are advantageously connected by means of an articulated joint. Typically, the two parts define a single body obtained by moulding.

[0004] The main body of the cap is associated with the terminal portion of the container and is provided with a dispensing hole that is closed and/or opened by operating the cover.

[0005] The main body of the cap is usually applied by means of pressure or by screwing it onto a terminal portion of the container, where the hole for dispensing the product is located.

[0006] According to the known technique, the peripheral surface of the main body of the cap advantageously has a shape that matches the shape of the terminal portion of the container with which it is associated. In particular, the main body is typically provided with a collar that adheres to the periphery of the terminal portion of the container, substantially defining an extension of the typically tubular shape of the container.

[0007] The peripheral surface of the cover, in turn, has a shape that matches the shape of the peripheral surface of the main body and thus the shape of the terminal portion of the container. Therefore, in the closed position of the cover on the main body, the cover defines a further extension of the shape of the container.

[0008] In said closed position, therefore, the cover completely faces the surface defined by the main body.

[0009] The solution provided according to the state of the art, however, poses some drawbacks.

[0010] A drawback of the known technique is represented by the quantity of material used to make the two parts that make up the cap.

[0011] This negatively affects the cost of the raw material used for making the cap.

[0012] Another drawback of the known technique lies in that for containers having different shapes it is necessary to make specific caps in which the two parts have a shape that matches the shape of the terminal portion of the container with which they arc associated.

[0013] Examples of closing devices according to the prior art are known from documents FR 2 809 379, US 2004/079766, US 6 095 374, WO 2012/004668 and FR 2 512 421.

[0014] Document FR2809379A1 discloses an assembly according to the preamble of claim 1.

[0015] Document WO2012004668, cited in accordance with Article 54(3) EPC, discloses an assembly comprising a container and a closing device. The main object of the present invention is thus to solve or at least partially overcome the above mentioned problems that characterize the solutions known in the state of the art.

[0016] In particular, it is one object of the present invention to propose an assembly that makes it possible to reduce the amount of raw material used and therefore its production costs.

[0017] It is another object of the present invention to reduce the design and manufacturing costs of the caps compared to the known art.

SUMMARY OF THE PRESENT INVENTION

[0018] According to the present invention, an assembly comprising a container and a closing device is provided as defined in claim 1.

[0019] An exemplary closing device for a container comprises:

- a main body suited to be connected to said container and comprising an opening for the passage of a product flowing out of said container;
- a cover comprising means for closing said opening and suited to be arranged in a closed position with respect to said main body, in which said closing means intercept said opening, and suited to be arranged in an open position, in which said closing means do not intercept said opening,

wherein in said closed position at least one portion of said cover does not face said main body.

[0020] The opening is properly located in at least one surface of the main body suited to face the cover when the latter is in the closed position.

[0021] The main body comprises connection means suited to allow the device to be coupled with the container.

[0022] The closing device comprises hinge means between the main body and the cover.

[0023] Advantageously, the closing device is obtained by moulding a plastic material. According to a preferred embodiment, the main body comprises a collar suited to bear against the upper surface of the container.

[0024] The cover is provided at its periphery with a side surface bearing, in the closed position, against the upper end of the container. In the closed position at least one portion of the cover faces directly a head surface of the container when the device is connected to the container.

[0025] The cover properly comprises holding means suited to make it easier to move the cover with respect to the main body.

[0026] According to an exemplary embodiment, a closing device for a container comprises:

- a main body suited to be connected to a head surface of said container and comprising an opening for the passage of a product flowing out of said container;
- a cover comprising means for closing said opening and suited to be arranged in a closed position with respect to said main body, in which said closing means intercept said opening, and suited to be arranged in an open position, in which said closing means do not intercept said opening,

wherein in said closed position at least one portion of said cover faces directly said head surface of said container when said device is connected to said container.

BRIEF DESCRIPTION OF THE DRAWINGS

[0027] Further advantages, objects and characteristics, as well as further embodiments of the present invention are defined in the claims and will be illustrated in the following description, with reference to the enclosed drawings; in the drawings, corresponding or equivalent characteristics and/or components of the present invention are identified by the same reference numbers. In particular:

- Figure 1 shows an axonometric view of a container provided with a cap according to a first embodiment of the invention;
- Figure 2 shows the container shown in Figure 1 with the cap in open configuration;
- Figure 3 shows an axonometric view of the cap shown in Figure 1;
- Figure 4 shows a view from below of the cap shown in Figure 3;
- Figure 5 shows the cap shown in Figure 3 in open configuration;
- Figure 6 shows a view from below of the cap shown in Figure 5;
- Figure 7 shows an axonometric view of a container provided with a cap according to a different embodiment of the invention;
- Figure 8 shows a view from below of the cap shown in Figure 7;
- Figure 9 shows an axonometric view of a further variant embodiment of the cap of the invention;
- Figure 10 shows an axonometric view of another variant embodiment of the cap of the invention.

DETAILED DESCRIPTION OF THE PRESENT INVENTION

[0028] Although the present invention is described below with reference to its embodiments illustrated in the drawings, the present invention is not limited to the embodiments described below and illustrated in the drawings.

[0029] On the contrary, the embodiments described and illustrated in the drawings clarify some aspects of the present invention, the scope of which is defined in the claims.

[0030] The present invention has shown to be particularly advantageous when applied to closing devices for containers suited to contain fluid products, for example bath products like shampoos, bath foams, toothpastes or cosmetic products like cosmetic creams and the like. More preferably, the present invention has shown to be particularly advantageous when applied to closing devices made of plastic and obtained using moulding techniques. It should however be noted that the present invention is not limited to such usage. On the contrary, the present invention can be usefully applied in all cases requiring the use of closing devices for containers suited to contain a fluid product that is easy to dispense, for example deodorizers, hair removal creams, or containers for pharmaceutical or veterinary products, or containers for cooking ingredients like mayonnaise, sauces, or even containers for bonding substances and the like.

[0031] With reference to Figures from 1 to 6, here below is the description of a first embodiment of a closing device 1, hereinafter simply referred to as "cap", manufactured according to the present invention; in the figures similar or equivalent characteristics and/or component parts are identified by the same reference numbers.

[0032] In Figure 1 the closing device 1 according to the embodiment proposed by the present invention is shown when applied to a container 50 and in its closed configuration.

[0033] In Figure 2 the same closing device 1 is shown in its open configuration.

[0034] The container 50 shown in the figures is a container of the tube-shaped type suited to contain fluids consisting, for example, of toothpaste, bath foam, a cosmetic cream, etc.

[0035] The container 50 is preferably made of a plastic material and its cross section has a substantially elliptical shape.

[0036] The plastic materials suited to be used for this purpose are polypropylene (PP), polyethylene (PELLD, PELD, PEMD, PEHD) and other materials known as ABL, PBL, PCR, soft touch resin.

[0037] At the upper end of the container 50 there is a head surface 50a that is provided with an opening, not visible in the figures, intended to dispense the product. The size and shape of the dispensing opening can be different from time to time, according to the size of the container and/or to the type of product to be dispensed.

[0038] The closing device 1 is advantageously applied to the container 50 through a snap-in connection, as will be described in greater detail below.

[0039] According to exemplary embodiments, the cap may be associated with the container in a different way, for example via a screwing operation or through equivalent connection means.

[0040] For this purpose, the upper end of the container 50 is provided with corresponding connection means suited to allow the coupling of the cap 1 and not shown

in the figures. Typically, the upper end of the container is provided with a portion of neck that projects from the head surface 50a in order to allow the coupling of the cap.

[0041] The cap 1, better visible in Figure 5, comprises a main body 2, or base portion, suited to be connected to the container 50.

[0042] The main body 2 comprises at the top a main surface 3 provided with a dispensing hole 4 suited to be in communication with the corresponding dispensing opening of the container 50.

[0043] More particularly, the dispensing hole 4 is located on an annular portion 3a of the surface, belonging to a plane that is slightly offset and raised with respect to the plane defined by the main surface 3. Said annular portion 3a of the surface has furthermore a different shape that is not coaxial with the main surface 3.

[0044] In variant embodiments of the invention, however, the main body may comprise at its top different surfaces arranged on two or more offset planes. Furthermore, said surfaces may come in any type of shape, coaxial or not. Again, and even more simply, according to the invention there may be a single upper surface provided with said dispensing opening.

[0045] A collar 14, suited to bear against the head surface 50a of the container 50, advantageously develops on the periphery of the main surface 3.

[0046] In its lower portion 2a that faces the container 50, the main body 2 comprises means 6 for connection to the container 50, as shown in Figure 6. The connection means 6 comprise two projecting cylindrical portions 7, 8, suited to define an annular area that accommodates a cylindrical neck projecting from the container 50. At the level of the external cylindrical portion 7 there are two projecting edges 9a, 9b suited to be snapped in corresponding seats obtained in the neck of the container 50.

[0047] In exemplary embodiments the connection means can be of a different type, for example one or more projecting edges may be provided on the neck of the cap and corresponding seats can be created in the cap. Again, it is possible to provide a portion of nut screw on the lower portion of the main body of the cap, said portion of nut screw being suited to be engaged in a threaded portion provided on the cylindrical neck of the container.

[0048] The cap 1 also comprises a moving element 12, or cover, suited to intercept the dispensing hole 4 of the main body 2.

[0049] For this purpose, the cover 12 is provided with a reference element 23 suited to be fitted in the dispensing hole 4 of the main body 2.

[0050] The cover 12 can be moved, in the case at hand rotated, so that it comes to be in a configuration in which the dispensing hole 4 is closed, that is, the cap 1 is closed, as shown for example in Figure 1, or in a configuration in which the dispensing hole 4 is open, that is, the cap 1 is open, as shown for example in Figure 2. For this purpose, the main body 2 and the cover 12 are joined in a hinge area 17.

[0051] The cover 12 has a shape that substantially matches the shape of the container 50, in the case at hand an elliptical shape.

[0052] The cover 12 is provided at its periphery with a side surface 13 comprising an edge 13a bearing against the upper end of the container 50 to cover its head surface 50a. A slightly recessed area 13b is defined on the side surface 13 and is suited to favour the engagement for the rotation of the cover 12.

[0053] In the first embodiment of the invention illustrated herein, the side surface 13 and the corresponding edge 13a have a substantially elliptical shape.

[0054] The side surface 13 of the cover 12 substantially adheres to the upper end of the container 50, definitively and advantageously creating an extension of the container 50.

[0055] Thanks to the above, the unit made up of the container 50 and the cap 1 has a compact structure.

[0056] The parts making up the cap 1, meaning the main body 2, the cover 12 and the hinge area 17, are advantageously produced in a single body, by means of a plastic moulding operation.

[0057] The plastic materials suited to be used for this purpose are preferably polypropylene (PP), polyethylene (PELLD, PELD, PEMD, PEHD).

[0058] In exemplary embodiments, the main body and the cover may be produced separately and assembled successively in order to be able to be mutually moved with respect to each other through hinge connection means that allow the cover to be moved with a rotary movement, as described herein.

[0059] According to the present invention, the surface 3 of the main body 2 has a reduced extension with respect to the cover 12.

[0060] In other words, considering the cap 1 in the closed position as shown for example in Figure 4, a portion of the cover 12 does not face the main body 2. This portion is better identified by the hatched area indicated by Z in Figure 5.

[0061] Furthermore, always in said closed position according to the present invention, a portion of the cover 12, corresponding to said hatched area Z, directly faces the head surface 50a of the container 50.

[0062] The presence of such main body 2 with reduced extension compared to the cover 12 makes it possible to produce a cap 1 using a limited quantity of material. Production costs are consequently reduced.

[0063] The reduced extension of the main body 2, furthermore, does not affect the compactness of the assembly made up of the container 50 and the cap 1, said compactness being guaranteed by the matching shaped of the cover 12 and the container 50.

[0064] Another variant embodiment of the invention is described with reference to Figures 7 and 8.

[0065] According to said variant embodiment, as shown in Figure 7, the cap 71 is applied to a tubular container 51 whose upper part has a substantially circular cross section.

[0066] Said variant differs from the embodiment previously described with reference to Figures from 1 to 6 due to the different shape of the cover 82 that has a substantially circular instead of elliptical shape, so that it can adapt to the corresponding circular shape of the upper part of the container 51 to which it adheres in the closed position.

[0067] Also the shape of the main body 72 is slightly different from the one previously described.

[0068] Advantageously, the surface 73 of the main body 72 also in this case has a reduced extension compared to the cover 82, as shown in Figure 8.

[0069] Figure 9 shows another variant embodiment of the cap 91 of the invention.

[0070] Said variant differs from the embodiment described above with reference to Figures 7 and 8 due to the different shape of the main body 92 that is substantially square.

[0071] Figure 10 shows a further variant embodiment of the cap 101 of the invention.

[0072] In said variant the main body 2 is the same as described with reference to the first embodiment shown in Figures from 1 to 6, while the cover 82 has a substantially circular shape, as illustrated with reference to the second embodiment of Figures 7 and 8.

[0073] The cap 101 of Figure 10, therefore, can advantageously be applied to a container 51 of the type shown in Figure 7.

[0074] The comparison between the cap 1 of the first embodiment and the cap 101 of the present embodiment shows that they can be produced using a main body 2 having the same shape.

[0075] This makes it possible to further reduce production costs in the cases where caps for containers having different shapes are to be produced.

[0076] In fact, it will be sufficient to modify only the construction of the cover, while the main body can be the same for all the types of cap.

[0077] The above thus shows that the closing device that is the subject of the invention makes it possible to achieve the set objects, and in particular makes it possible to reduce production material and costs compared to the devices of the known art. While the present invention has been described with reference to the particular embodiments shown in the figures, it should be noted that the present invention is not limited to the specific embodiments illustrated and described herein; on the contrary, further variants of the embodiments described herein fall within the scope of the present invention, which is defined in the claims.

Claims

1. Assembly comprising
   a container (50, 51) of the type having a tubular shape comprising a head surface (50a) at the upper end of the container (50, 51) from which a substantially cylindrical neck projects, **wherein** said tubular shape comprises a longitudinally extending surface which intersects said head surface (50a), the intersection of said longitudinally extending surface with said head surface (50a) delimiting said upper end of the container (50, 51),
   a closing device (1, 71, 91, 101) associated with said container (50, 51), said closing device comprising:

   a main body (2, 72, 92) connected to said container (50, 51) and comprising an opening (4) for the passage of a product flowing out of said container (50, 51), a cover (12, 82) comprising means (23) for closing said opening (4) and suited to be arranged in a closed position with respect to said main body (2, 72, 92), in which said closing means (23) intercept said opening (4), and suited to be arranged in an open position, in which said closing means (23) do not intercept said opening (4),
   wherein said main body (2, 72, 92) and said cover (12, 82) are integral with each other,
   characterized in that
   in said closed position at least one portion of said cover (12, 82) does not face said main body (2, 72, 72) but faces directly the portion of said head surface (50a) external to said substantially cylindrical neck when said closing device (1, 71, 91, 101) is connected to said container (50, 51), where a lower portion (2a) of said main body (2, 72, 92), said lower portion (2a) facing the container (50, 51), comprises two projecting cylindrical portions (7, 8) defining a substantially annular area suited to accommodate said substantially cylindrical neck of said container (50, 51) and at the level of one (7) of the external cylindrical portions (7, 8) there are two projecting edges (9a, 9b) suited to be snapped in corresponding seats obtained in the substantially cylindrical neck of said container (50, 51) in order to realize the connection between said main body (2, 72, 92) of said closing device (1, 71, 91, 101) and said container (50, 51), and **in that** said cover (12, 82) has at its periphery a side surface (13) bearing, in said closed position, against said upper end of said container.

2. Assembly (1, 71, 91, 101) according to claim 1, **characterized in that** said opening (4) is located in at least one surface (3, 73) of said main body (2, 72, 92) suited to face said cover (12, 82) when said cover (12, 82) is in said closed position.

3. Assembly according to any of the preceding claims, **characterized in that** it comprises hinge means (17) between said main body (2, 72, 92) and said cover (12, 82).

4. Assembly (1, 71, 91, 101) according to any of the preceding claims, **characterized in that** it is obtained by moulding a plastic material.

5. Assembly (1, 71, 91, 101) according to any of the preceding claims, **characterized in that** said main body (2, 72, 92) comprises a collar (14) bearing against said head surface (50a).

6. Assembly (1, 71, 91, 101) according to any of the preceding claims, **characterized in that** said cover (12, 82) comprises holding means (13a) suited to make it easier to move said cover (12, 82) with respect to said main body (2, 72, 92).

Patentansprüche

1. Baugruppe, Folgendes umfassend
einen Behälter (50, 51) des Typs von Röhrenform, eine Kopffläche (50a) am oberen Ende des Behälters (50, 51) umfassend, aus dem ein im Wesentlichen zylindrischer Hals ragt, **wobei** die besagte Röhrenform eine sich längs erstreckende Oberfläche umfasst, die die besagte Kopffläche (50a) schneidet, und die Überschneidung der besagten, sich längs erstreckenden Oberfläche mit der besagten Kopffläche (50a) das obere Ende des Behälters (50, 51) begrenzt, eine mit dem besagten Behälter (50, 51) verbundene Verschlussvorrichtung (1, 71, 91, 101), wobei die besagte Verschlussvorrichtung Folgendes umfasst:

einen Hauptkörper (2, 72, 92), der mit dem besagten Behälter (50, 51) verbunden ist und eine Öffnung (4) für den Durchfluss eines aus dem besagten Behälter (50, 51) ausfließenden Produkts umfasst,
einen Deckel (12, 82), der Mittel (23) zum Schließen der besagten Öffnung (4) umfasst und geeignet ist, in einer bezüglich des besagten Hauptkörpers (2, 72, 92) geschlossenen Position angeordnet zu werden, in welcher die besagten Verschlussmittel (23) die besagte Öffnung (4) sperren, und geeignet ist, in einer geöffneten Position angeordnet zu werden, in welcher die besagten Verschlussmittel (23) die besagte Öffnung (4) nicht sperren,
wobei der besagte Hauptkörper (2, 72, 92) und der besagte Deckel (12, 82) eine Einheit bilden,
dadurch gekennzeichnet, dass
in der besagten geschlossenen Position wenigstens ein Abschnitt des besagten Deckels (12, 82) nicht zu dem besagten Hauptkörper (2, 72, 72) gerichtet ist, sondern unmittelbar zu dem Abschnitt der besagten Kopffläche (50a) gerichtet ist, der sich außerhalb des besagten, im Wesentlichen zylindrischen Halses befindet, wenn die besagte Verschlussvorrichtung (1, 71, 91, 101) mit dem besagten Behälter (50, 51) verbunden ist, wo ein unterer Abschnitt (2a) des besagten Hauptkörpers (2, 72, 92), der zum Behälter (50, 51) gerichtet ist, zwei hervorstehende zylindrische Abschnitte (7, 8) umfasst, die einen im Wesentlichen ringförmigen Bereich definieren, der geeignet ist, den besagten, im Wesentlichen zylindrischen Hals des besagten Behälters (50, 51) aufzunehmen, und wobei sich auf Höhe eines (7) der äußeren, zylindrischen Abschnitte (7, 8) zwei hervorstehende Kanten (9a, 9b) befinden, die geeignet sind, in entsprechende Aufnahmen in dem im Wesentlichen zylindrischen Hals des besagten Behälters (50, 51) einzurasten, um die Verbindung zwischen dem besagten Hauptkörper (2, 72, 92) der besagten Verschlussvorrichtung (1,71,91, 101) und dem besagten Behälter (50, 51) auszuführen, **und dadurch, dass**
der besagte Deckel (12, 82) an seinem Umfang eine Seitenfläche (13) aufweist, die in der besagten geschlossenen Position an das besagte obere Ende des besagten Behälters anschlägt.

2. Baugruppe (1, 71, 91, 101) nach Patentanspruch 1, **dadurch gekennzeichnet, dass** die besagte Öffnung (4) sich in wenigstens einer Oberfläche (3, 73) des besagten Hauptkörpers (2, 72, 92) befindet, dazu geeignet, zu dem besagten Deckel (12, 82) gerichtet zu sein, wenn der besagte Deckel (12, 82) sich in der besagten geschlossenen Position befindet.

3. Baugruppe nach einem jeden der vorstehenden Patentansprüche, **dadurch gekennzeichnet, dass** sie Scharniermittel (17) zwischen dem besagten Hauptkörper (2, 72, 92) und dem besagten Deckel (12, 82) umfasst.

4. Baugruppe (1, 71, 91, 101) nach einem jeden der vorstehenden Patentansprüche, **dadurch gekennzeichnet, dass** sie durch Formen eines Kunststoffs gewonnen wird.

5. Behälter (1, 71, 91, 101) nach einem jeden der vorstehenden Patentansprüche, **dadurch gekennzeichnet, dass** der besagte Hauptkörper (2, 72, 92) einen Bundring (14) umfasst, der an die besagte Kopffläche (50a) anschlägt.

6. Behälter (1, 71, 91, 101) nach einem jeden der vorstehenden Patentansprüche, **dadurch gekennzeichnet, dass** der besagte Deckel (12, 82) Haltemittel (13a) umfasst, die geeignet sind, die Bewegung des besagten Deckels (12, 82) bezüglich des besagten Hauptkörpers (2, 72, 92) zu erleichtern.

Revendications

1. Groupe comprenant
un récipient (50, 51) du type ayant une forme tubulaire comprenant une surface de tête (50a) sur l'extrémité supérieure du récipient (50, 51) duquel un goulot essentiellement cylindrique saillit, où ladite forme tubulaire comprend une surface s'étendant longitudinalement qui croise ladite surface de tête (50a), l'intersection de ladite surface qui s'étend longitudinalement avec ladite surface de tête (50a) qui délimite ladite extrémité supérieure du récipient (50, 51),
un dispositif de fermeture (1, 71, 91, 101) associé audit récipient (50, 51), ledit dispositif de fermeture comprenant :

un corps principal (2, 72, 92) relié audit récipient (50, 51) et comprenant une ouverture (4) pour le passage d'un produit qui s'écoule dudit récipient (50, 51), un couvercle (12, 82) comprenant des moyens (23) de fermeture de ladite ouverture (4) et apte à se disposer dans une position de fermeture par rapport audit corps principal (2, 72, 92), dans lequel lesdits moyens de fermeture (23) interceptent ladite ouverture (4), et apte à se disposer dans une position d'ouverture où lesdits moyens de fermeture (23) n'interceptent pas ladite ouverture (4),
où ledit corps principal (2, 72, 92) et ledit couvercle (12, 82) sont solidaires l'un de l'autre,
caractérisé en ce que
dans ladite position de fermeture au moins une portion dudit couvercle (12, 82) ne se trouve pas en face dudit corps principal (2,72,72), mais se trouve directement en face de la portion de ladite surface de tête (50a) extérieure audit goulot essentiellement cylindrique quand ledit dispositif de fermeture (1, 71, 91, 101) est relié audit récipient (50, 51), où une portion inférieure (2a) dudit corps principal (2, 72, 92), ladite portion inférieure (2a) étant en face du récipient (50, 51), comprend deux portions cylindriques saillantes (7, 8) définissant une zone essentiellement annulaire apte à loger ledit goulot essentiellement cylindrique (50, 51) et à hauteur d'une (7) des portions cylindriques extérieures (7, 8) il y a deux bords saillants (9a, 9b) aptes à être encliquetés dans des sièges correspondants obtenus sur le goulot essentiellement cylindrique dudit récipient (50, 51) de façon à réaliser la connexion entre ledit corps principal (2, 72, 92) dudit dispositif de fermeture (1, 71, 91, 101) et ledit récipient (50, 51), et **en ce que**
ledit couvercle (12, 82) présente sur sa périphérie une surface latérale (13) s'appuyant, dans ladite position fermée, contre ladite extrémité supérieure dudit récipient.

2. Groupe (1, 71, 91, 101) selon la revendication 1, **caractérisé en ce que** ladite ouverture (4) est disposée dans au moins une surface (3, 73) dudit corps principal (2, 72, 92) apte à se trouver en face dudit couvercle (12, 82) quand ledit couvercle (12, 82) se trouve dans ladite position de fermeture.

3. Groupe selon l'une quelconque des revendications précédentes, **caractérisé en ce qu'**il comprend des moyens d'articulation (17) entre ledit corps principal (2, 72, 92) et ledit couvercle (12, 82).

4. Groupe (1, 71, 91, 101) selon l'une quelconque des revendications précédentes, **caractérisé en ce qu'**il est obtenu par moulage d'un matériau plastique.

5. Groupe (1, 71, 91, 101) selon l'une quelconque des revendications précédentes, **caractérisé en ce que** ledit corps principal (2, 72, 92) comprend un collier (14) apte à s'appuyer contre ladite surface de tête (50a).

6. Groupe (1, 71, 91, 101) selon l'une quelconque des revendications précédentes, **caractérisé en ce que** ledit couvercle (12, 82) comprend des moyens de retenue (13a) aptes à favoriser la manutention dudit couvercle (12, 82) par rapport audit corps principal (2, 72, 92).

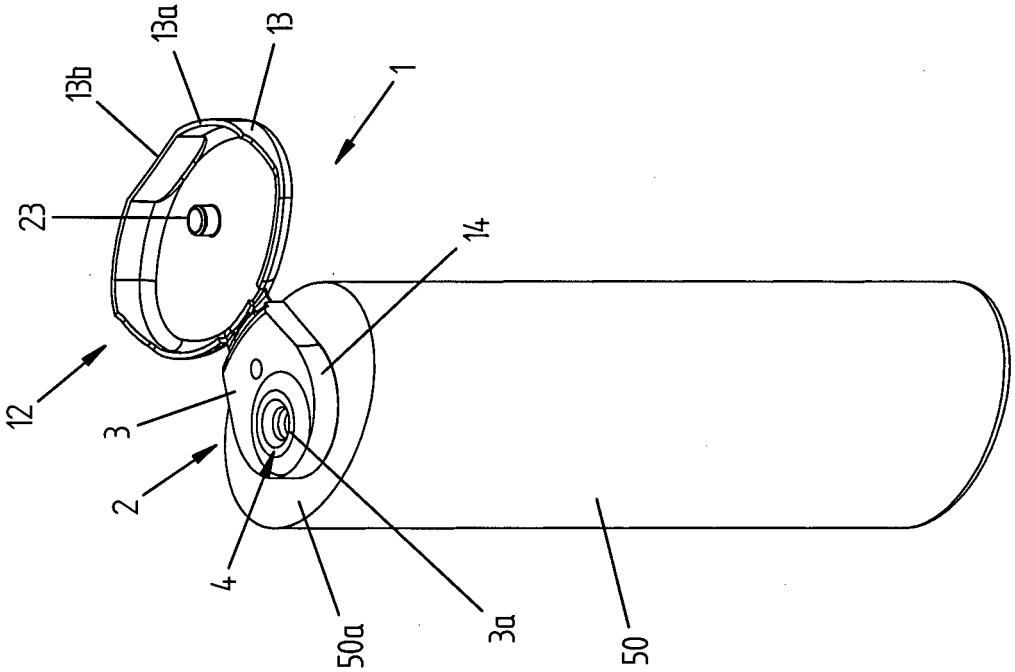


FIG. 2

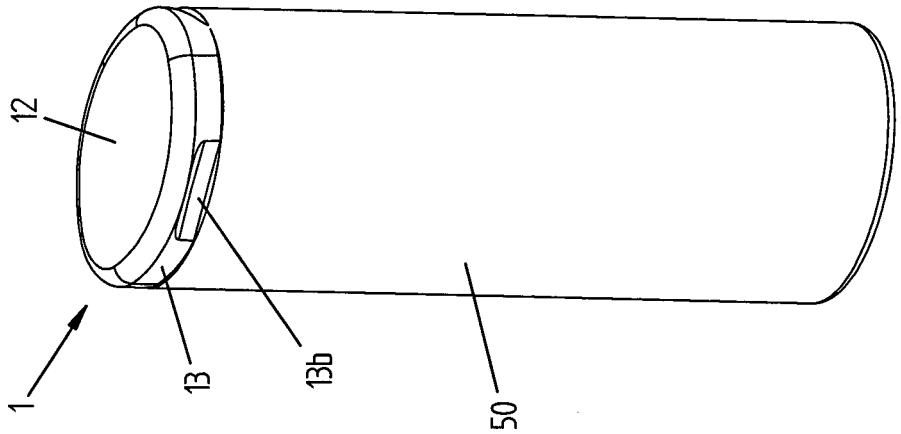


FIG. 1

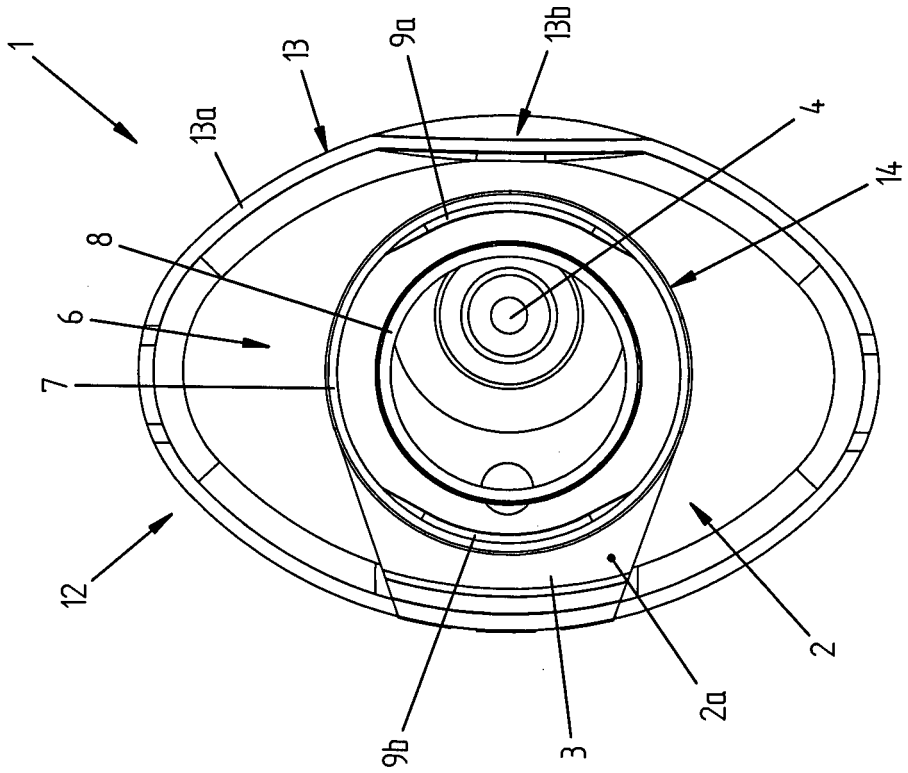


FIG. 4

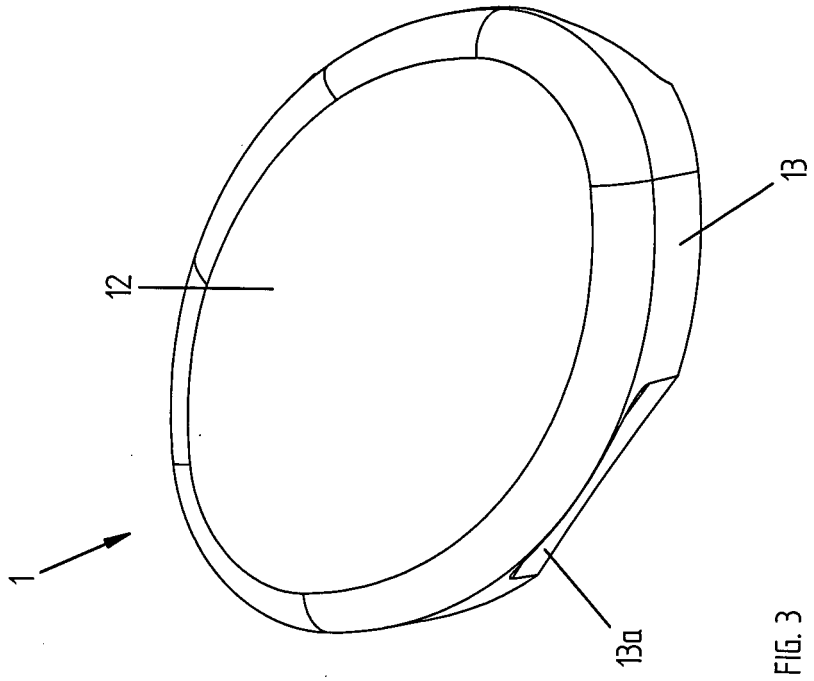


FIG. 3

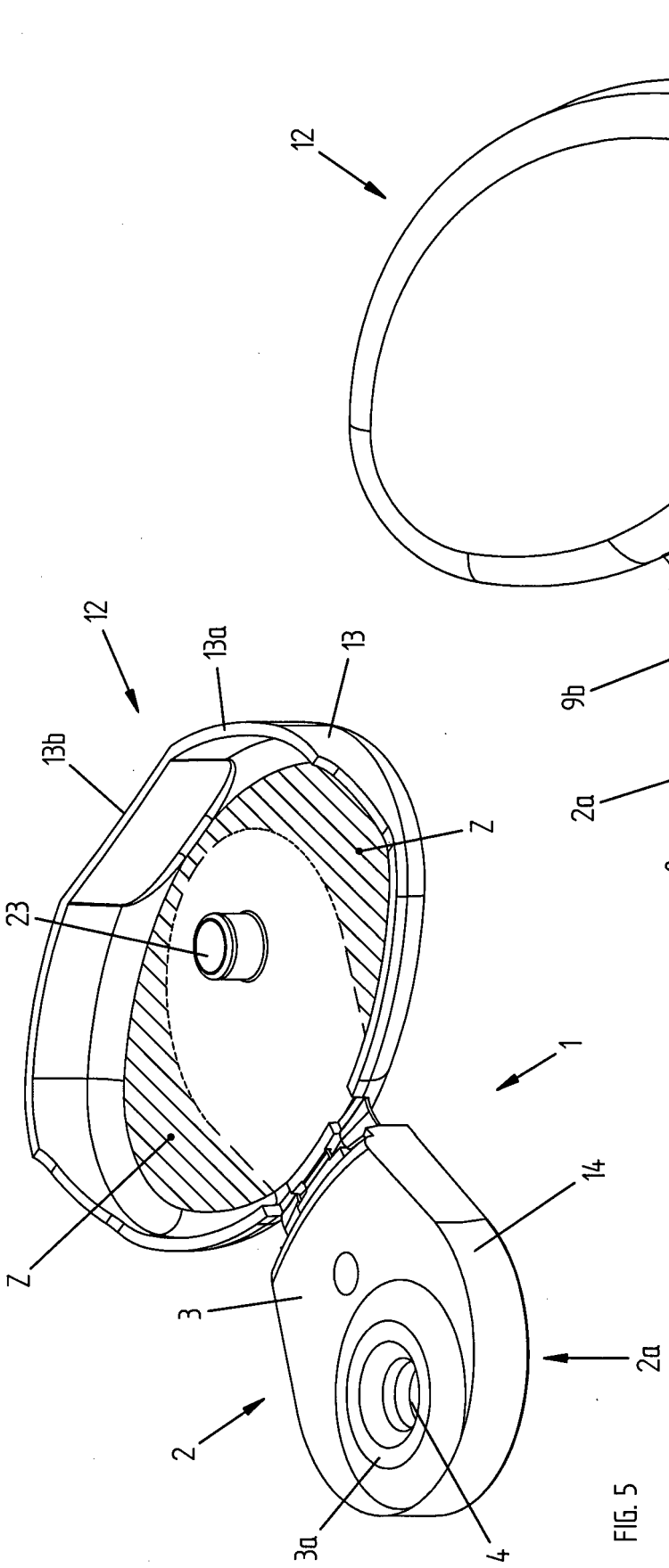


FIG. 5

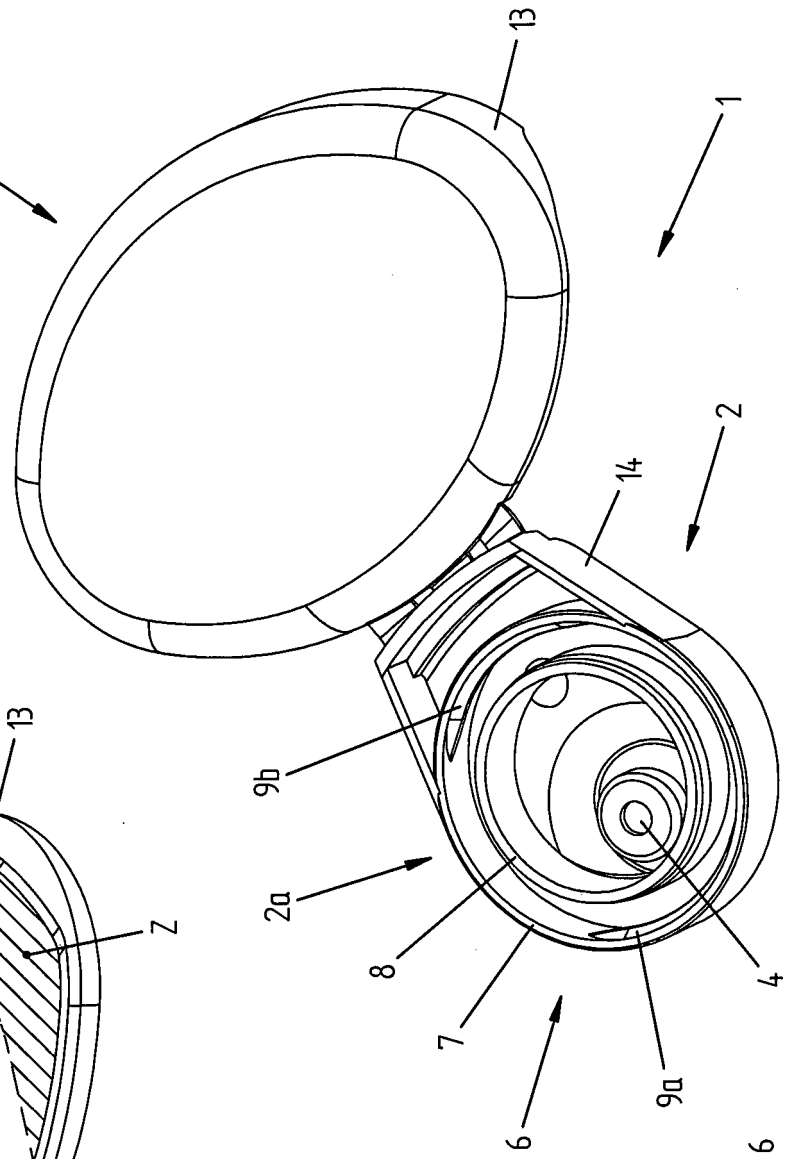


FIG. 6

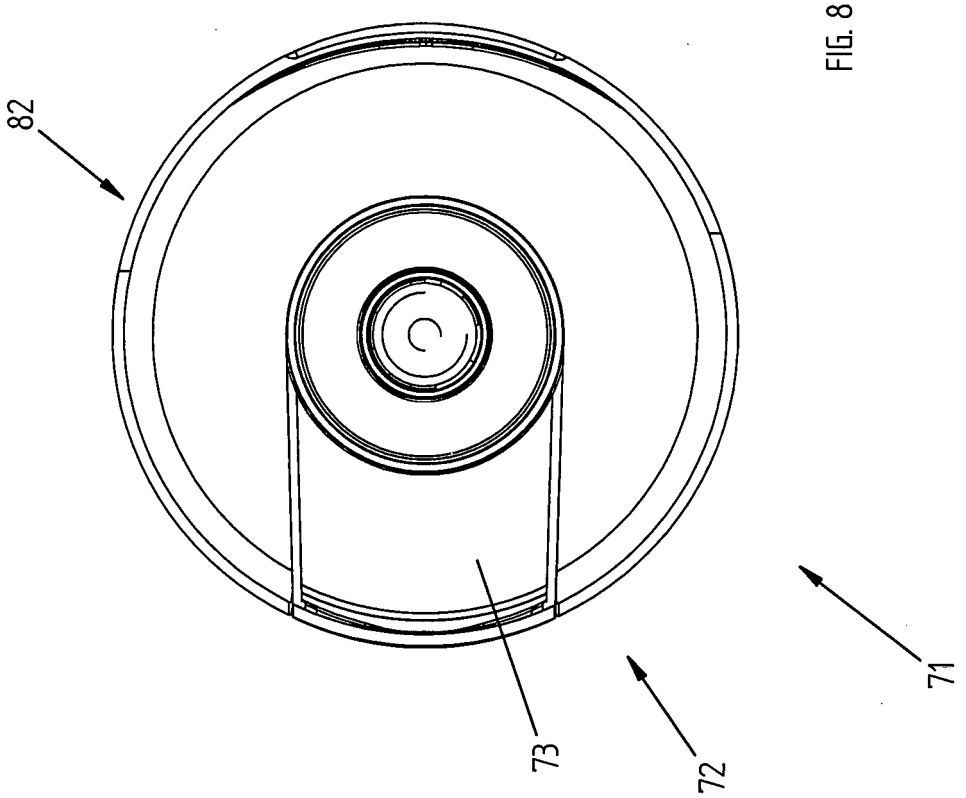


FIG. 8

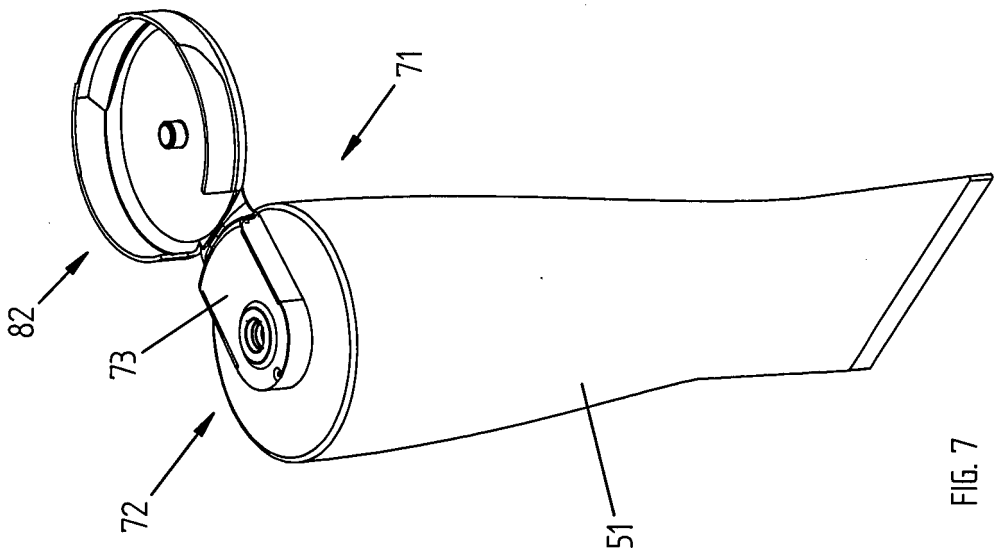


FIG. 7

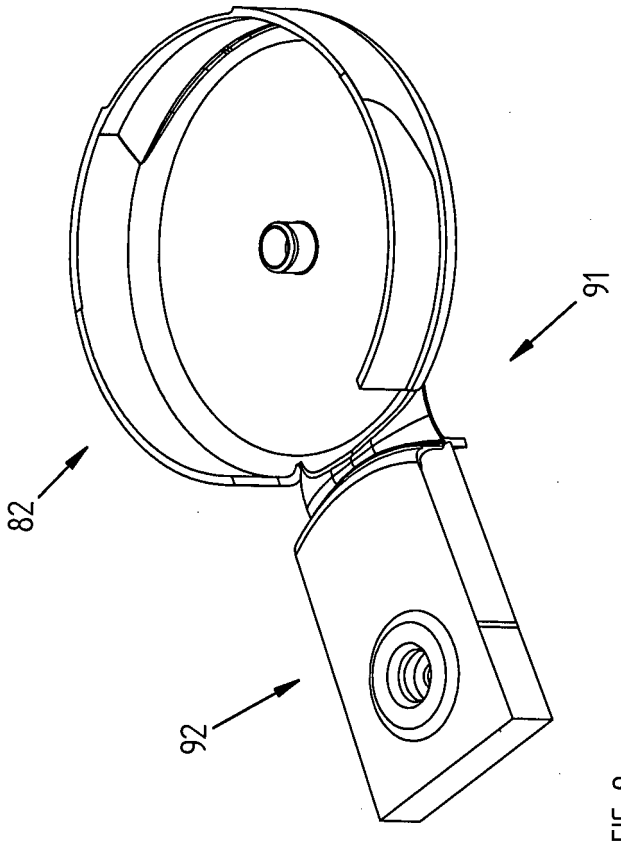


FIG. 9

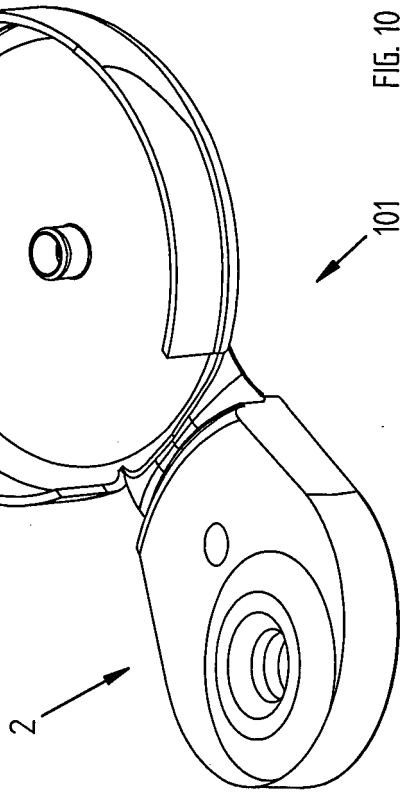


FIG. 10

REFERENCES CITED IN THE DESCRIPTION

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