



(12) **EUROPEAN PATENT APPLICATION**

(43) Date of publication:
12.08.2009 Bulletin 2009/33

(51) Int Cl.:
B65D 41/62 (2006.01) **B65D 51/18** (2006.01)
B65D 49/04 (2006.01)

(21) Application number: **08381026.7**

(22) Date of filing: **30.07.2008**

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

(72) Inventor: **Torrent Ortega, David**
11500 Puerto de Santa Maria (ES)

(74) Representative: **Martin Santos, Victoria Sofia et al**
UDAPI & Asociados
Patentes y Marcas
Explanada, 8
28040 Madrid (ES)

(30) Priority: **08.02.2008 ES 200800349**

(71) Applicant: **Compania de Tapones Irrellenables, S.A.**
11500 Puerto de Santa Maria (ES)

(54) **Capsule for the closure of bottles**

(57) This invention relates to a capsule for the closure of bottles that can be removed by means of tearing. The configuration of the capsule according to the invention provides a large area for the inclusion of advertising. The capsule is configured in two parts in such a way that; once the upper span has been removed by tearing, the

lower part remains attached in position. This capsule is at the same time a very obvious safety seal showing whether the bottle cap has been opened or not. The capsule is characterised by a configuration based on two essentially parallel lines of weakness defining a lateral tearing band located over the means that link the capsule to the pourer.

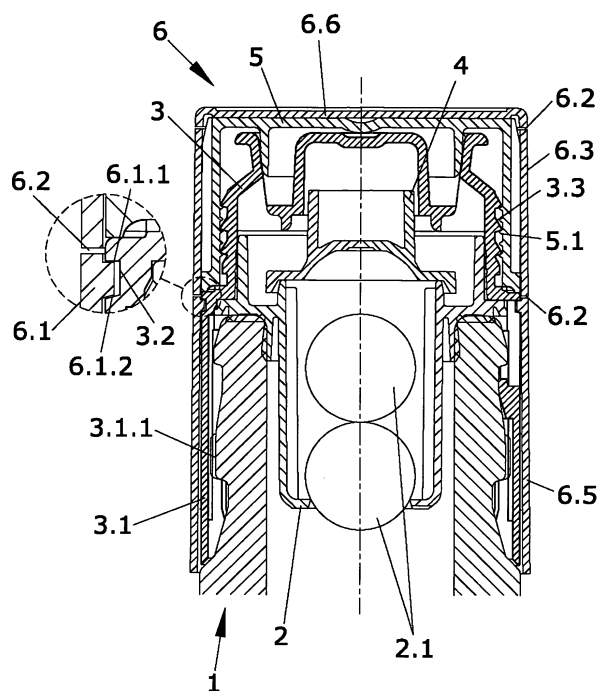


FIG.1

Description

PURPOSE OF THE INVENTION

[0001] This invention relates to a capsule for the closure of bottles that can be removed by means of tearing.

[0002] The configuration of the capsule according to the invention provides a large area for the inclusion of advertising. The capsule is configured in two parts in such a way that; once the upper part has been removed by tearing, the lower part remains stable in position.

[0003] This capsule is at the same time a very obvious safety seal showing whether the bottle cap has been opened or not.

BACKGROUND OF THE INVENTION

[0004] Closures including a first means of water-tight closure often require secondary closures with various additional functions.

[0005] This is the case for some bottle cap closures that have pourers with valves for preventing fraudulent refilling.

[0006] In these cases, the incorporation of an external capsule provides evidence of the first opening and additionally allows the incorporation of advertising on a surface free from knurling or other mechanical devices for closure.

[0007] Patent of publication number W00007898 discloses a closure by a cap incorporated on the neck of a bottle with a pourer, prepared so as to prevent fraudulent refilling, additionally incorporating a capsule.

[0008] This capsule has a special fixing configuration and tearing mechanism for its removal. The capsule has a peripheral line of weakness which gives rise to two portions: an upper and a lower.

[0009] The upper portion has two lines of weakness in vertical position, with the weakness incorporated in the internal part of the surface of the capsule, wherein at least one of them intersects the first peripheral line.

[0010] Before breaking the capsule, the peripheral line of weakness sets up a division in such a way that both above and below are means to prevent the rise of the capsule in the axial direction.

[0011] The descent of the capsule is prevented by the presence of the cap; but once the upper part has been removed, this retention is no longer present and the descent is only prevented by the wedging of the lower collar against the conical surface of the neck of the bottle, giving rise to the possibility of clearance in the axial direction between them.

[0012] Also, the vertical tearing requires a tab above the breaking point to be pulled by the side vertically up to the line of weakness that intersects with the peripheral line. Once the tearing has progressed to this point, continuing the tearing gives rise to an advance of the breakage of the lateral line of weakness until it extends to the whole perimeter.

[0013] The presence of the upper tab prevents the use of this surface for the incorporation of advertising that would make use of all of the upper area of the capsule.

[0014] The tearing of this type of capsule also requires two changes in direction: from the horizontal to the vertical; and from the vertical to the final peripheral span.

[0015] The present invention establishes a capsule configuration that gives rise to a closure that overcomes these drawbacks.

DESCRIPTION OF THE INVENTION

[0016] This invention consists of a capsule capable of establishing a closure over bottles incorporating a pourer.

This pourer can incorporate, for example, means to prevent the fraudulent refilling of the contents of the bottle.

[0017] The capsule is of the type where at least one of the parts becomes detached by means of a tearing operation, leaving the cap of the bottle accessible. The configuration of the invention achieves a tearing that is performed on the side of the capsule without interfering with the upper surface, which enables the use of all of the area for the inclusion of advertising.

[0018] After tearing, the capsule is divided into two spans, the lower span remains linked to the neck of the bottle and the upper span is the part that is detached.

[0019] The object of the invention is the particular way of achieving these objectives through a configuration enabling the lower part to always remain axially fixed with respect to the bottle and the upper span never having a direct connection with the bottle. Its only connection is through the lower portion which is a temporary union until the tearing operation takes place.

[0020] The essential characteristics of the capsule for closure of bottles are that the capsule must be formed of two spans, linked together and separable after the tearing operation in the first opening of the closure and must therefore comprise:

- a first lower span, in the form of an external collar, that is intended to remain fixed to the bottle after tearing; and
- a second upper span that is removable by means of the tearing operation,

where the first lower span of the capsule has fixing means for remaining attached to a pourer of the bottle, giving rise to axial retention in both directions and with the capability of remaining attached to the pourer after the tearing operation; and where the second upper span of the capsule has a tearing band on its lateral face defined by means of two lines of weakness, these lines of weakness being above the fixing means that attaches the lower span of the capsule to the pourer.

[0021] In the examples of embodiment, the upper span and the lower span of this capsule are separable in the tearing operation through the lower line of weakness on the band. It is therefore considered that the band is a part

of the upper span.

[0022] The different ways of carrying out this invention are considered to be included in this description according to the dependent claims 2 to 13.

[0023] Also, the closure constituted from this capsule is considered within the field of the invention. The closure comprises a capsule according to any of the means of embodiment as well as:

- a pourer to be located on the neck of the bottle,
- a cap capable of being fitted over the pourer in order to enable the water-tight closure.

[0024] In this closure, the capsule is situated covering the assembly formed by the pourer and the cap with a configuration such that:

- the lower span of the capsule establishes a permanent union with the pourer, i.e., it remains after the tearing operation; and
- the upper span of the capsule is free of links with the pourer before and after the tearing operation.

[0025] Equally, closures deriving from any combination of dependent claims 15 to 21 are considered to be included in the description.

[0026] This capsule is at the same time a very obvious safety seal showing whether the bottle cap has been opened or not. If the bottle has been opened, this will be known because the upper span of the capsule will be missing. If it is not missing, the capsule will be complete.

[0027] Therefore, as well as being a capsule, it is also a safety seal.

DESCRIPTION OF THE DRAWINGS

[0028] This specification is complemented by a set of drawings, illustrating the preferred and non-limitative embodiment of the invention.

Figure 1 shows a first example of the embodiment of the invention giving an elevational view of the neck of the bottle with the closure that prevents fraudulent refilling, as well as the capsule.

Figure 2 shows the same example of embodiment in an elevational view, giving an external view of the presence of the tab that enables the removal of part of the capsule.

Figure 3 shows the same example of embodiment in an elevational view wherein the upper span of the capsule has been detached.

Figure 4 shows the same view as the previous figure where now the assembly without the upper span is illustrated sectionally.

Figure 5 is an elevational, sectional view of the capsule without the presence of the internal assembly, allowing a view of the projection that constitutes the retention mechanism with the pourer. This figure also

includes a close-up of the section of the projection. Figure 6 is an elevational, sectional view of a second example of the embodiment of the invention wherein there is a change in the way of starting the lines of weakness, which define the root of the removable band of the capsule.

Figure 7 is an elevational, sectional view and a plan view, also sectional, of a third example of the embodiment of the invention, wherein the lines of weakness comprise three consecutive sectors.

DETAILED DESCRIPTION OF THE INVENTION

[0029] A first example of the embodiment of the invention is shown in figures 1 to 5. In particular, in the section shown in figure 1, the neck of the bottle (1) is shown, whereon an assembly preventing fraudulent refilling is situated.

[0030] This assembly is mainly formed by a pourer (3) that has a collar (3.1), the internal face whereof has means (3.1.1) for preventing its rotation with respect to the bottle (1).

[0031] In the interior of this pourer (3), in this example of embodiment, there is a chassis (2) that holds a valve (4) in order to prevent fraudulent refilling, as well as two balls (2.1) that increase the security against fraudulent refilling offered by the valve (4).

[0032] The pourer (3) is closed by means of a cap (5), with which it maintains a link through a thread (3.3, 5.1).

[0033] The internal assembly of the closure plus the cap (5) are covered by a capsule (6) consisting of two separable portions or spans, one upper and the other lower; the latter in the form of an external collar (6.5).

[0034] It is this collar (6.5) that has a peripheral projection (6.1) on its internal face which is intended to be inserted into an external groove (3.2), which is also peripheral to the pourer (3).

[0035] This peripheral projection (6.1) does not necessarily have to be continuous but can be discontinuous, as is shown in Figure 5.

[0036] In this first example, as can be seen in the enlarged detail of Figure 5, the section of the peripheral projection (6.1) presents a small angle of inclination (α) on the lower face that facilitates the insertion of the capsule (6) over the pourer (3).

[0037] However, this peripheral projection (6.1) operating together with the peripheral groove (3.2) also peripheral to the pourer (3) is such that it prevents movement in both axial directions (according to the position shown in the figures) both in ascending and descending directions.

[0038] Given that this projection (6.1) is on the interior of the lower span or external collar (6.5) of the capsule (6), once the upper span of the capsule (6) has been detached, the external collar (6.5) remains axially fixed with respect to the bottle (1) due to the fixing with the pourer (3).

[0039] The upper part of the capsule (6) is separable

by means of two lines of weakness (6.2) that define a band (6.3) between them. The lines of weakness (6.2) can, for example, be constituted by breakable connecting pieces.

[0040] In this example of embodiment, the two lines of weakness (6.2) are parallel, giving rise to a band (6.3) of constant width that terminates in a grasping tongue (6.3.1) that facilitates the start of the tearing the band (6.3).

[0041] The removal of this band (6.3) only has an advancement which follows a peripheral direction until a whole turn is completed.

[0042] After the tearing, the presence of a span of connection (6.4) between the band (6.3) and a terminal portion (6.6) of the upper span permits that once the upper span of the capsule (6) has been detached, the band (6.3) remains linked with the terminal portion (6.6) of the upper span, which in this case has the form of a disc, given the shortness of the lateral spans that remain on removing the band (6.3).

[0043] In practice, this span (6.4) is not essential for the manner of tearing indicated because, during said tearing, once more than about half of the points that link the band (6.3) with the terminal portion (6.6) of the upper span, both (6.3, 6.6) remain linked together through the span of points that have not yet been broken.

[0044] In turn, the entire upper span, that part comprising the band (6.3), remains separated from the collar (6.5)

[0045] Of the two lines of weakness (6.2), the lower is always above the projection (6.1) of the fixing, so that the fixture of the collar (6.5) is always ensured, even having removed the upper span of the capsule (6).

[0046] The terminal portion (6.6) of the upper span, preferably in the form of a disc, is available for publicity by means of printing or injection moulding to give some examples.

[0047] In a second example of embodiment, as shown in Figure 6, the band (6.3) is not necessarily defined between two lines of weakness (6.2) arranged in parallel but can be defined by two lines of weakness (6.2) that in their initial span have an inclination that deflects the final tearing of the band (6.3) towards the upper disk by means of an oblique span (6.3.2) without the band (6.3) being separated from the upper portion of the capsule (6).

[0048] Although it is a sectional view, the configuration of the band (6.3) can equally be seen from the inside.

[0049] In this second example, the peripheral projection (6.1) that is on the interior of the capsule (6) is continuous and according to the invention below the lower line of weakness (6.2) that gives rise to the tearing band (6.3).

[0050] A third example of embodiment is shown in Figure 7 wherein the lines of weakness (6.2) are parallel to each other and not continuous over the whole perimeter of the capsule (6), but comprise at least two consecutive sectors, which are manifest as three sectors in the example shown in the figure.

[0051] This division of the band (6.3) into sectors has

the advantage that in the case where there is an adhesive tape over the capsule (6), for example showing the corresponding prices, one of the ends of the adhesive tape may fall over the grasping tongue (6.3.1) making the opening of the capsule (6) more difficult. Including more than one grasping tongue (6.3.1) in the band (6.3) would enable the user access to another (6.3.1) that may not be covered by the aforementioned adhesive tape. Another advantage derived from this third example of embodiment is that as the band (6.3) comprises various sectors it makes it very obvious that the bottle has been opened, as it makes any subsequent attempt to locate each of the sectors in their initial position more difficult, thereby hiding the fact that the bottle was opened.

[0052] Thus, in the example of embodiment shown in figure 7, there are three defined sectors (6.3.3, 6.3.4, 6.3.5) of the band (6.3), which has constant width, each sector (6.3.3, 6.3.4, 6.3.5) terminating with a grasping tongue (6.3.1) that facilitates the tearing of each sector (6.3.3, 6.3.4, 6.3.5) of the band (6.3).

[0053] Additionally, the terminal portion (6.6) of the upper span of the capsule (6) comprises an orifice (6.6.1) on top, which in the embodiment shown has a circular form and is coaxial with the upper part of the cap (5), so as to enable visual access to the cap (5).

[0054] Between at least one of the sectors (6.3.3, 6.3.4, 6.3.5) of the band (6.3) and the terminal portion (6.6) of the upper span, there can be a connecting span (6.4) enabling the linking between the band (6.3) and the terminal portion (6.6). It is also possible that there is no connection between both elements (6.3, 6.6) so that the terminal portion (6.6) of the upper span would be removed after the tearing of the band (6.3).

Claims

1. Capsule for closure of bottles formed by two spans linked together and separable after a tearing operation in the first opening of the closure:

- a first lower span in the form of an external collar (6.5) that is intended to remain attached to the bottle (1) after tearing; and
- a second upper span that is removable by the tearing operation,

characterised in that the first lower part of the capsule (6) has a fixing means (6.1) for remaining attached to the pourer (3) of the bottle (1), giving rise to an axial retention in both directions and with the capability of remaining attached to the pourer (3) after the tearing operation; and the second upper span of the capsule (6) has a tearing band (6.3) on the lateral face of the capsule (6), defined by two lines of weakness (6.2), these lines of weakness (6.2) being above the fixing means (6.1) that links the lower span of the capsule (6) to the pourer (3).

2. Capsule according to claim 1 **characterised in that** the upper span and the lower span of this capsule are separable in the tearing operation through the lower line of weakness (6.2).
3. Capsule according to claim 1 **characterised in that** the fixing mechanism between the first lower span of the capsule (6) and the pourer (3) are constituted by a peripheral projection (6.1) arranged on the internal face of the capsule (6), configured to enter into an external peripheral groove (3.2) of the pourer (3).
4. Capsule according to claim 3 **characterised in that** the axial retention in the upward direction to the bottle (1) is achieved by the presence of an upper plane (6.1.1) in the peripheral projection (6.1).
5. Capsule according to claim 3 **characterised in that** the axial retention in the downward direction to the bottle (1) is achieved by the presence of a lower plane (6.1.2) in the peripheral projection (6.1).
6. Capsule according to claim 5 **characterised in that** the lower plane (6.1.2) is oblique (α) in order to facilitate the insertion of the capsule (6) over the pourer (3).
7. Capsule according to claim 3 **characterised in that** the peripheral projection (6.1) of the capsule (6) can be continuous or can be constituted by spans over the internal perimeter.
8. Capsule according to claim 1 **characterised in that** the lines of weakness (6.2) that define the tearing band (6.3) are essentially parallel and run circumferentially around the upper span of the capsule (6).
9. Capsule according to claim 8 **characterised in that** the root of the tearing band (6.3) has an oblique sector (6.3.2) towards the terminal portion (6.6) of the upper span of the capsule (6).
10. Capsule according to claim 8 **characterised in that** the lines of weakness (6.2) comprise at least two consecutive sectors in such a way as to define at least two sectors (6.3.3, 6.3.4) of the tearing band (6.3).
11. Capsule according to claims 1 or 10 **characterised in that** the band (6.3) or the sectors (6.3.3, 6.3.4) of the tearing band (6.3) have a grasping tongue (6.3.1) at the end.
12. Capsule according to claim 8 or 10 **characterised in that** the root of the tearing band (6.3) or at least one of the sectors (6.3.3, 6.3.4) of the tearing band (6.3) has a connecting span (6.4), which is what links the band (6.3) to the rest of the upper span of the capsule (6) after the tearing operation.
13. Capsule according to claim 1 **characterised in that** the terminal portion (6.6) of the upper span of the capsule comprises an upper orifice (6.6.1) that enables visual access to the upper part of the cap (5).
14. Bottle closure comprising a capsule (6) according to any of the previous claims, as well as:
 - a pourer (3) to be located over the neck of the bottle (1),
 - a cap (5) capable of being fitted over the pourer (3) in order to enable the water-tight closure,**characterised in that** the capsule (6) is situated covering the assembly formed by the pourer (3) and the cap (5) with a configuration such that:
 - the lower span of the capsule (6) establishes a permanent union with the pourer (3), i.e. it remains attached after the tearing operation; and
 - the upper span of the capsule (6) is free of links with the pourer (3) before and after the tearing operation.
15. Closure according to claim 14 **characterised in that** the upper span of the capsule (6), removable by the tearing operation, has a configuration with respect to the rest of the closure assembly such that after the tearing operation, the cap (5) is left free.
16. Closure according to claim 14 **characterised in that** the pourer (3) has a collar (3.1) that externally covers the neck of the bottle (1).
17. Closure according to claim 16 **characterised in that** the external collar (6.5) of the capsule (6) covers the collar (3.1) of the pourer (3).
18. Closure according to claim 14 **characterised in that** the cap (5) is fitted over the pourer (3) by means of a thread (3.3, 5.1).
19. Closure according to claim 14 **characterised in that** the interior of the pourer (3) contains a valve (4) to prevent the fraudulent refilling of the bottle (1).
20. Closure according to claim 14 **characterised in that** the pourer (3) has an external peripheral groove (3.2) for fixing to the capsule (6) through the latter's peripheral projection (6.1).
21. Closure according to claim 20 **characterised in that** the peripheral groove (3.2) of the pourer (3) has an opposing configuration to the projection (6.1) of the capsule (6).

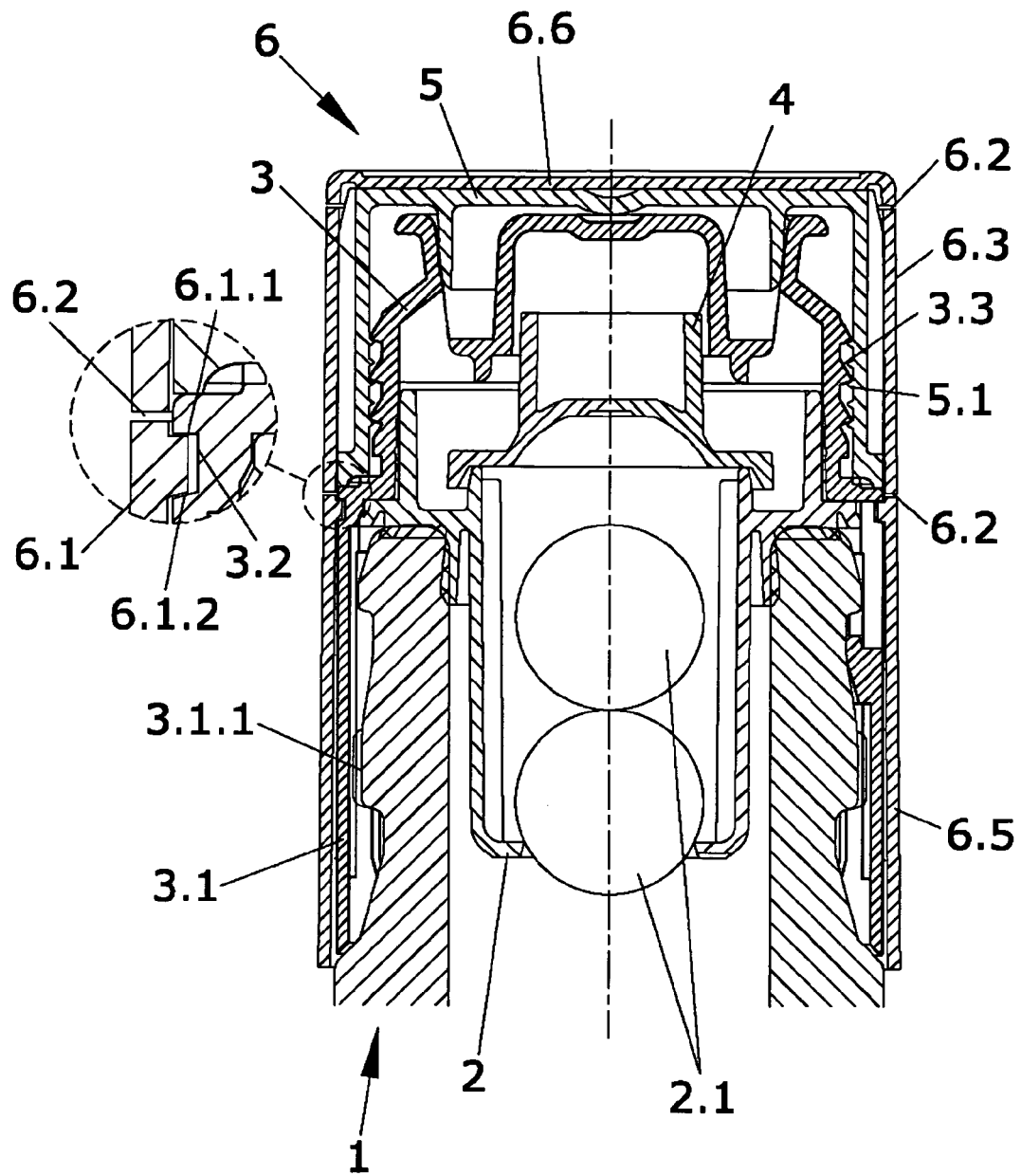
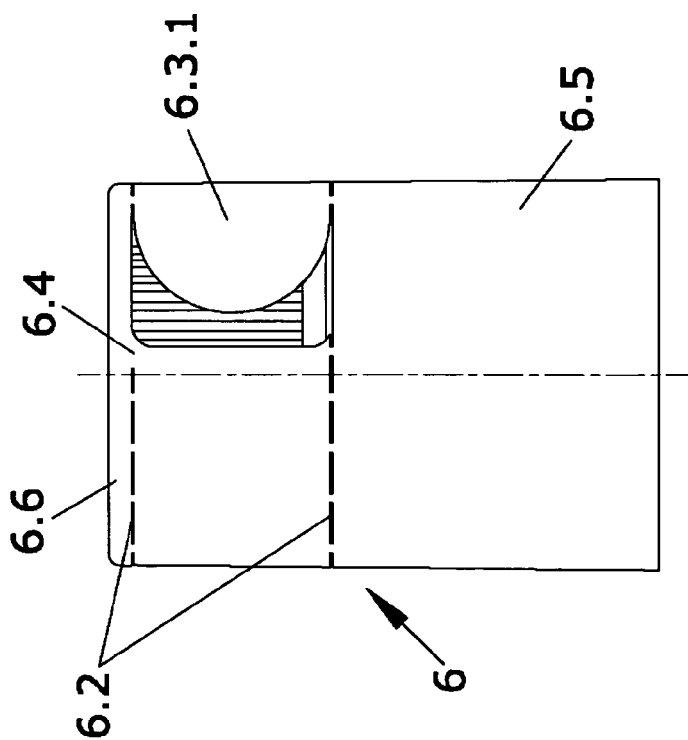
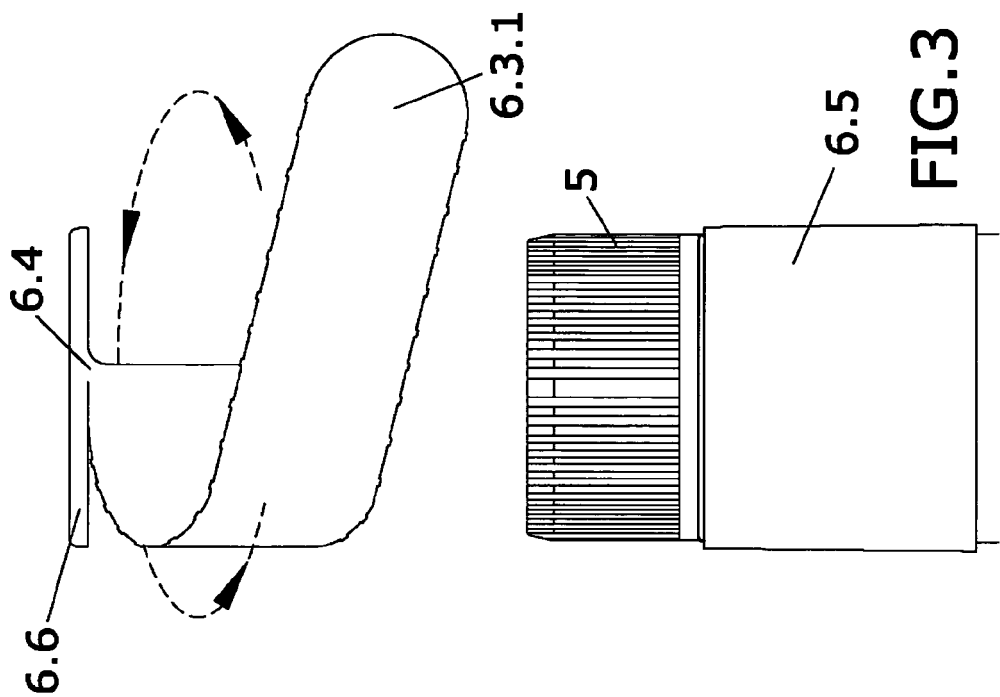
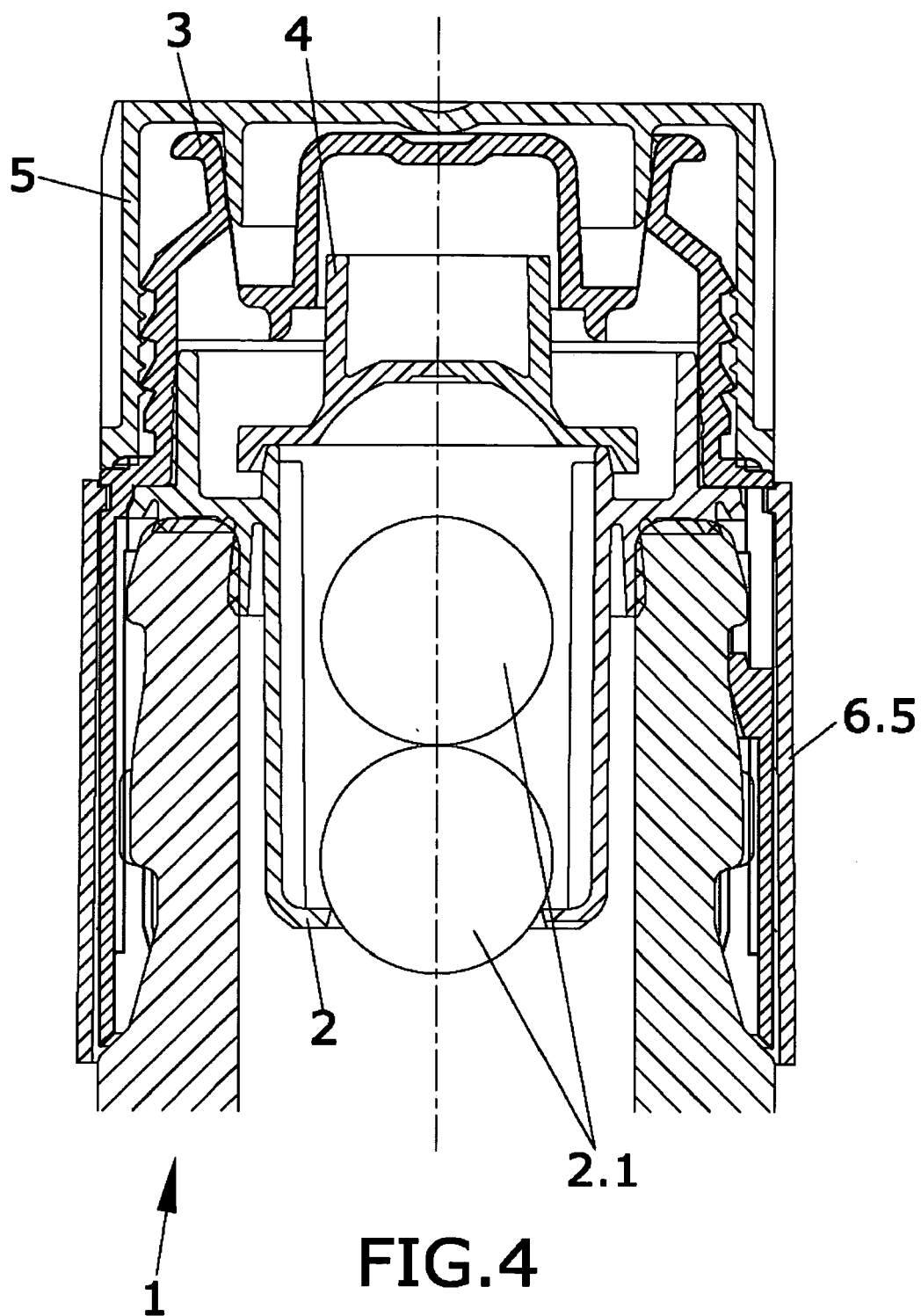


FIG.1





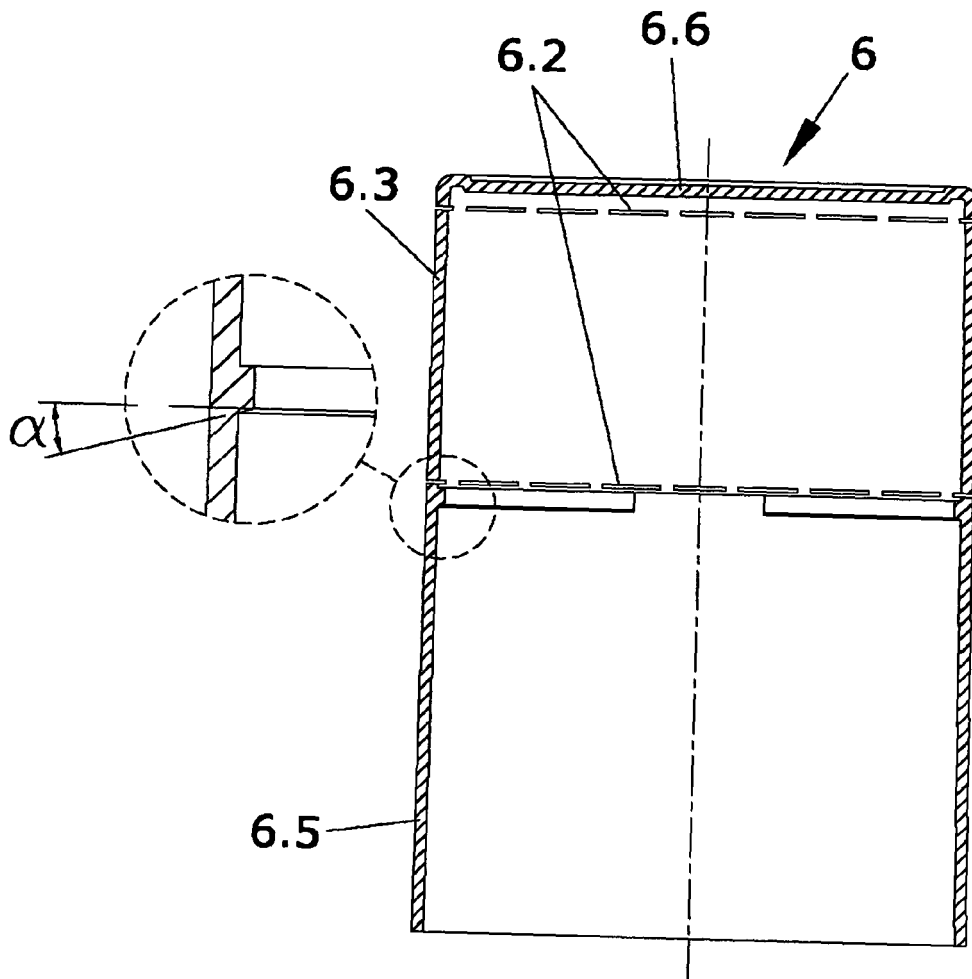


FIG.5

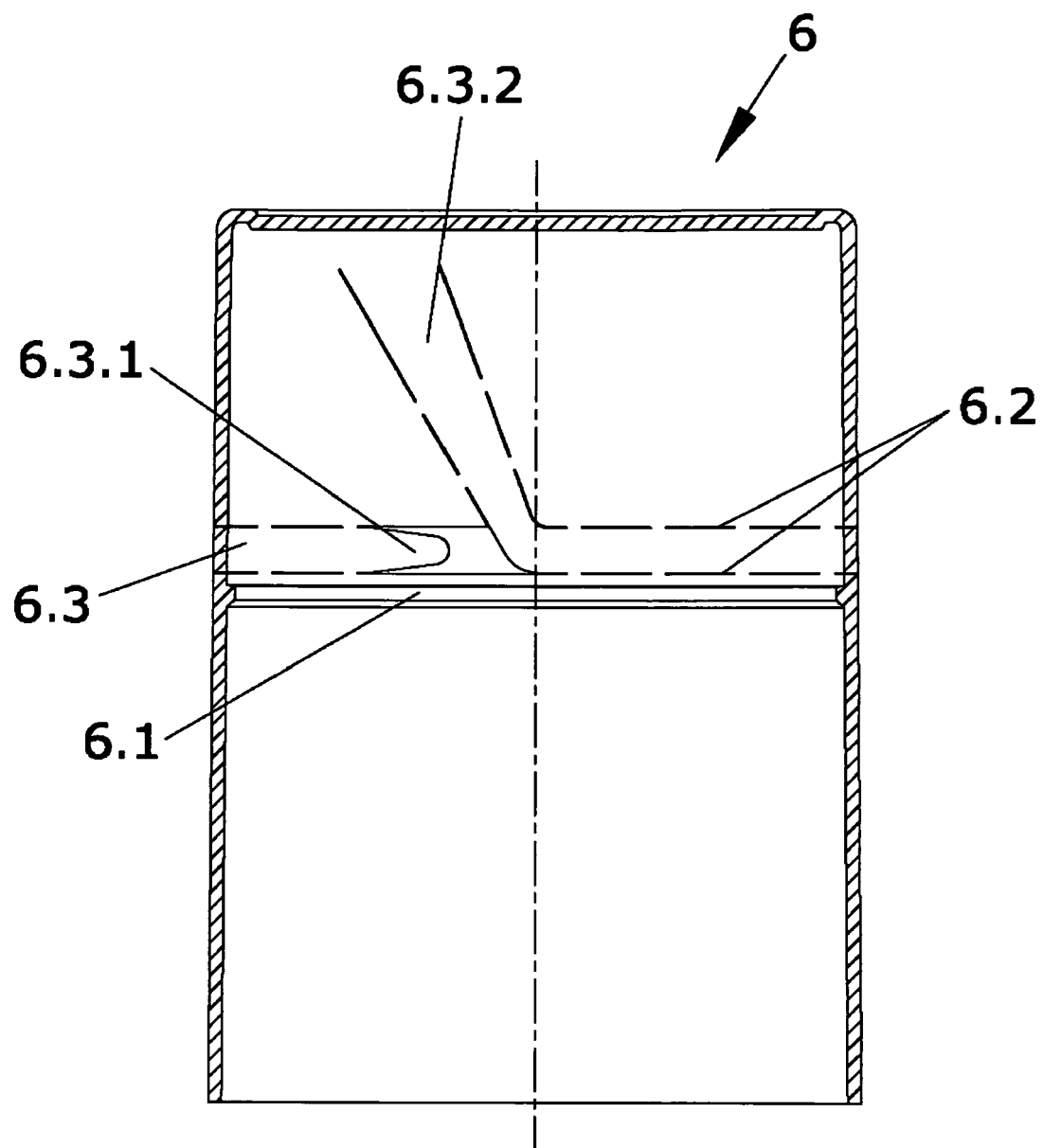


FIG.6

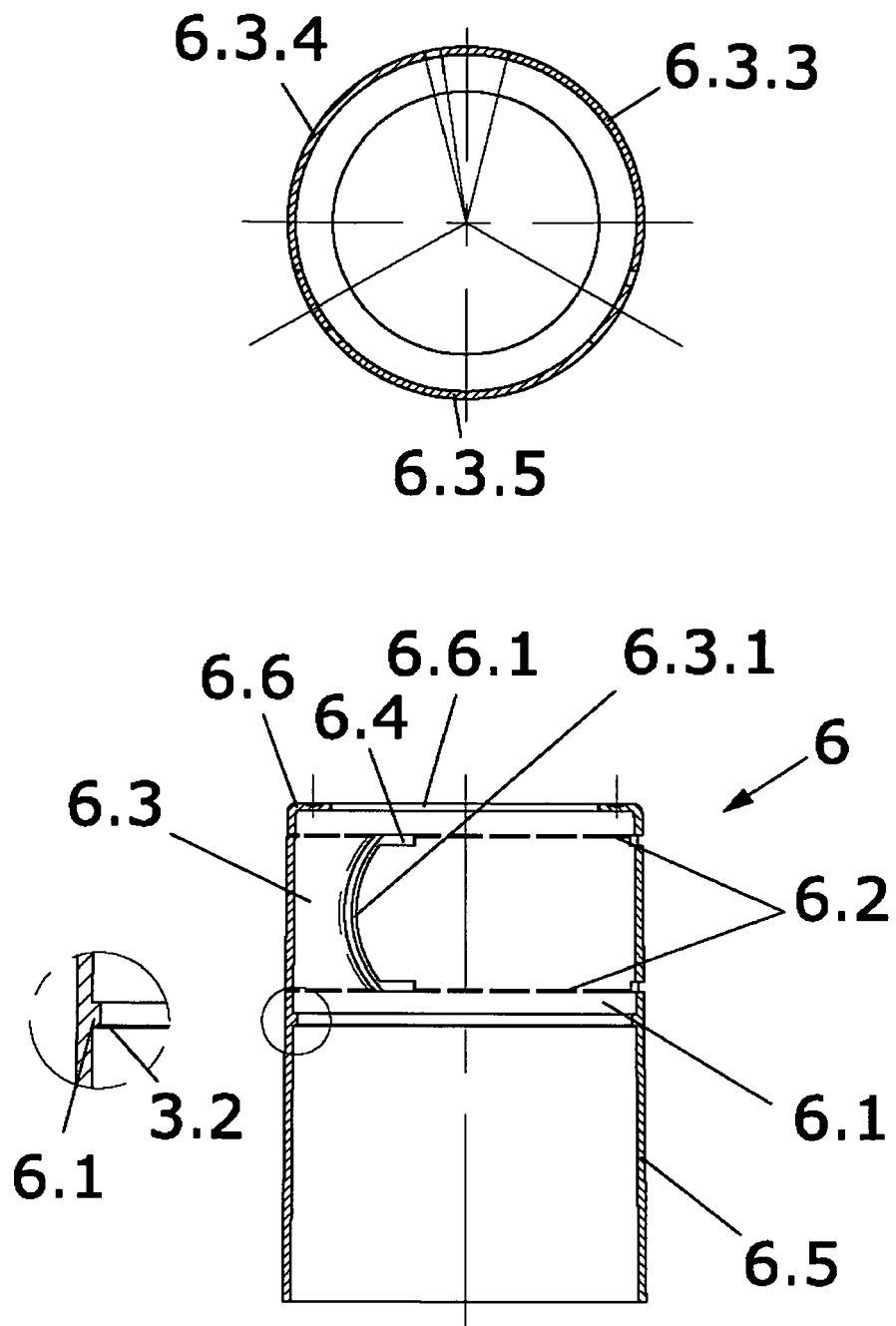


FIG.7

REFERENCES CITED IN THE DESCRIPTION

This list of references cited by the applicant is for the reader's convenience only. It does not form part of the European patent document. Even though great care has been taken in compiling the references, errors or omissions cannot be excluded and the EPO disclaims all liability in this regard.

Patent documents cited in the description

- WO 0007898 A [0007]