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(54) **Device for closing bottles of alcoholic drinks and spirits**

(57) Device (100) for closing bottles of alcoholic drinks and spirits of the type comprising a cap (1), a pourer (2), suitable for being fixed to the neck of the bottle (3), and a coating (4).
The cap (1) comprises at least one lever element (5) irreversibly mobile between a first position, achieved prior to assembly of the closing device (100), and a second position in which, once installed on the bottle and opened for the first time, the cap (1) prevents the device (100) from being completely closed again on the bottle.

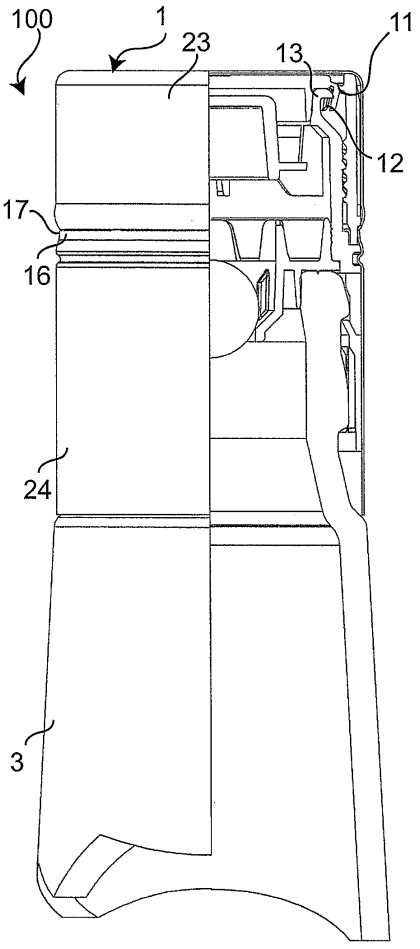


Fig. 1

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Description

[0001] The present invention refers to an anti-tampering closing device for caps of bottles of alcoholic drinks or spirits.

[0002] Different devices for closing bottles of alcoholic drinks are known, in general made up of a cap and a pourer.

[0003] The cap has an internal threading suitable for engaging, to open or close the bottle, with a corresponding threading foreseen on the outer surface of the pourer.

[0004] The latter is fixed with pressure in the opening of the neck of the bottle or through known means to the neck of the bottle.

[0005] Moreover, a further aluminium or plastic coating can be foreseen that covers the cap.

[0006] Known closing devices also generally have an annular band provided with a predetermined breaking line to join the cap to the neck of the bottle before it is first opened.

[0007] The first time the bottle is opened is made clear by the breaking of the aforementioned annular band at the predetermined breaking line.

[0008] Once the bottle has been opened for the first time it is extremely simple to remove the pourer to alter the content of the bottle, without it being at all clear that this has occurred.

[0009] In light of the above, there is clearly a need to have a device for closing bottles, like the one according to the present invention, which allows the possibility of alteration or contamination of the content of bottles to be eliminated or in any case reduced.

[0010] Therefore, a purpose of the present invention is to solve the problems of the prior art, providing a device for closing bottles that clearly and obviously shows when the bottle has been opened for the first time and the subsequent times that the bottle has been opened.

[0011] Another purpose of the present invention is to provide a device for closing bottles of alcoholic drinks and spirits that is simple and intuitive to use.

[0012] Finally, another purpose of the present invention is to provide a device for closing bottles of alcoholic drinks and spirits that is simple and cost-effective to make.

[0013] These and other purposes according to the present invention are accomplished by making a device for closing bottles of alcoholic drinks and spirits as outlined in claim 1.

[0014] Further characteristics of the closing device are the object of the dependent claims.

[0015] The characteristics and advantages of a device for closing bottles of alcoholic drinks and spirits according to the present invention shall become clearer from the following description, given as a non-limiting example, referring to the attached schematic drawings, in which:

- figure 1 is a side elevation view partially in section of a first embodiment of the closing device according to the present invention with the lever element in the second position prior to the first time that the bottle is opened;
- figure 2 is a side elevation view partially in section of the cap of the closing device according to the present invention with the lever element in the second position after the first time that the bottle has been opened;
- figure 3 is a side elevationview partially in section of part of the closing device according to the present invention with the lever element in the first position before the complete assembly of the cap onto the pourer;
- figure 4 is a side elevation view in section of the cap of the device according to the present invention with the lever element in the first position, before assembly of the device;
- figure 5 is a side elevation view in section of the cap of the device according to the present invention with the lever element in the second position, after assembly of the device and installation onto the bottle, but before the bottle is opened for the first time;
- figure 5a is a view from below of the cap of the device according to the present invention with the lever element in the second position, after assembly of the device and before the bottle is opened for the first time;
- figure 6 is a side elevation view in section of the cap of the device according to the present invention with the lever element in the second position, closed on the bottle after it has been opened for the first time; and
- figure 6a is a view from below of the cap of the device according to the present invention with the lever element in the second position, closed on the bottle after it has been opened for the first time.

[0016] With reference to figures 1-6, a device for closing bottles of alcoholic drinks and spirits according to the present invention is shown, wholly indicated with 100.

[0017] The closing device 100 comprises a cap 1, a pourer 2 equipped with a drop-breaker 13 and a coating 4. The pourer 13 can be attached to the neck of the bottle 3 in a known way.

[0018] The coating 4, in a known way, is provided with an annular band 16 equipped with at least one annular line 17 with predetermined breaking that is, necessarily, lacerated to open the bottle 3.

[0019] Once the annular line 17 has been lacerated, the coating 4 remains divided into a top portion 23 and a bottom portion 24.

[0020] The cap 1, on the other hand, comprises at least one lever element 5 irreversibly mobile between a first position, set prior to the assembly of the device and before installation of the closing device 100 on the bottle 3, see figure 4, and a second position in which it prevents the device 100 from completely closing on the bottle 3, once installed on the bottle and opened for the first time,

figure 6.

[0021] By assembly of the device 100 we mean the operation in which at least the cap 1, the pourer 2 and the coating 4 are associated with one another.

[0022] Possibly, during assembly, it is possible to associate a lower diffuser and a possible valve and/or ball with the pourer 2.

[0023] The cap 1 also comprises a central portion 6 to which the lever element 5 is fixedly connected and a tubular side portion 7 equipped with a threading 8 suitable for engaging in a corresponding threading 9 of the pourer.

[0024] The engagement between the threading 8 and the threading 9 closes the cap 1 on the pourer 2 and consequently closes the device 100 on the neck of the bottle 3.

[0025] The side portion 7 extends from the central portion 6 up to the predetermined breaking line 17.

[0026] The central portion 6 is mobile, during the assembly of the device 100, under the action of the pourer 2 to take the lever element 5 from the first position, as shown for example in figure 3, to the second position, shown in figure 1.

[0027] The lever element 5 comprises at least one membrane 11 and at least one interference element 12.

[0028] The membrane 11 connects the side portion 7 of the cap 1 with the central portion 6 thereof.

[0029] In detail, each cap 1 has a plurality of interference elements 12 arranged spaced apart along a circumference concentric to the central portion 6, see figure 6a and 5a.

[0030] Each interference element 12 is fixedly connected to the membrane 11 and prior to the assembly of the cap 1 onto the pourer 2 is arranged according to a determined angle.

[0031] In detail, following production, the cap 1 is as shown in figure 4, in other words with the membrane 11 inclined centrally downwards and the elements 12 almost parallel to the side portion 7.

[0032] During the first mounting of the device 100, or assembly, the drop-breaker 13 of the pourer 2 acts upon the central portion 6 of the cap moving it upwards, see figure 5.

[0033] The aforementioned movement causes the movement of the lever element 5 towards the second position in which the membrane 11 tilts upwards and each interference element 12 irreversibly rotates in the direction indicated by the arrows F of figure 5, so as to no longer be substantially parallel to the tubular element 7, but inclined towards the centre.

[0034] In other words, after the closing device 100 has been mounted, the cap 1 is in the configuration shown in figures 5, 5a with the central portion 6 moved upwards and the interference elements 12 irreversibly rotated into the second position, in other words substantially inclined centrally downwards.

[0035] After the assembly of the device 100, the latter is associated with a bottle 3.

[0036] During the first time the bottle is opened causing the laceration of the predetermined annular breaking line 17 of the coating 4, the interference means 12, although in the second position, in any case allow the pourer 2 to slide downwards.

[0037] However, during the subsequent closing of the device 100 on the neck of the bottle 3, the drop-breaker 13 of the pourer 2 interferes with the bottom free end portion of the interference elements 12, bending them further upwards, as shown in figures 6, 6a.

[0038] The bending of the interference elements 12 upwards and towards the inside of the cap 1 does not allow the pourer 2 to reach the top limit switch and consequently does not allow the device 100 to completely close on the neck of the bottle 3.

[0039] In other words, the bending of the interference elements 12 upwards, during the closing of the cap 1 prevents the drop-breaker 13 from going into abutment on the central portion 6 of the cap 1, as however occurred previously.

[0040] In this condition, the top portion 23 of the coating remains separate from the bottom portion 24 making it obvious when the bottle 3 has been opened for the first time.

[0041] According to an advantageous aspect of the present invention, it can be made even more obvious that opening has occurred by providing the bottom portion of the side portion 7 of the cap 1, at the lacerated predetermined breaking line 17, with a colour that contrasts with the colour of the coating 4.

[0042] From the description that has been made the characteristics of the system object of the present invention are clear, just as the relative advantages are also clear, including:

- impossibility of opening the bottle without it becoming obvious that this has occurred;
- intuitive operation;
- simplicity of construction;
- relatively low manufacturing costs.

[0043] Finally, it is clear that the device for closing bottles of alcoholic drinks and spirits thus conceived can undergo numerous modifications and variations, all of which are covered by the invention; moreover, all of the details can be replaced with technically equivalent elements. In practice, the materials used, as well as the sizes, can be whatever according to the technical requirements.

Claims

1. Device (100) for closing bottles of alcoholic drinks and spirits of the type comprising a cap (1), a pourer (2), suitable for being fixed to the neck of the bottle (3), and a coating (4) **characterised in that** said cap

(1) comprises at least one lever element (5) ir-

reversibly mobile between a first position, achieved prior to assembly of said closing device (100), and a second position, achieved after assembly of said device (100), in which once installed on said bottle and opened for the first time, said cap (1) prevents said device (100) from being completely closed again on the bottle (3).

2. Device (100) for closing bottles according to claim 1, **characterised in that** said cap (1) also comprises a central portion (6), to which said lever element (5) is fixed, mobile during the assembly of the device (100) under the action of said pourer (2) to take the lever element (5) from said first position to said second position.

3. Device (100) for closing bottles according to claim 1 or 2, **characterised in that** said lever element (5) comprises at least one membrane (11) and at least one interference element (12) suitable for interfering with said pourer (2) to prevent said cap (1) from completely closing on said pourer (2) and consequently to prevent said device (100) from completely closing on the bottle (3) .

4. Device (100) for closing bottles according to claim 3, **characterised in that** said lever element (5) comprises a plurality of interference elements (12) arranged along a circumference.

5. Device (100) for closing bottles according to claim 4, **characterised in that** prior to the assembly of said device (100), said cap (1) has said central portion (6) in lowered position, said membrane (11) centrally inclined downwards and said elements (12) substantially parallel to the side portion (7).

6. Device (100) for closing bottles according to claim 4, **characterised in that** after the assembly and the installation of said device (100) on the neck of a bottle, but prior to the first time that said cap (1) has been opened, said cap (1) has said central portion (6) in raised position, said membrane (11) centrally inclined upwards and said elements (12) substantially centrally inclined downwards.

7. Device (100) for closing bottles according to claim 4, **characterised in that** after the first time that said device (100) has been opened, each time it is reclosed said cap (1) has said central portion (6) in raised position, said membrane (11) centrally inclined upwards and said elements (12) substantially centrally inclined downwards so as to prevent said drop-breaker (13) from going into abutment on the central portion (6) of the cap.

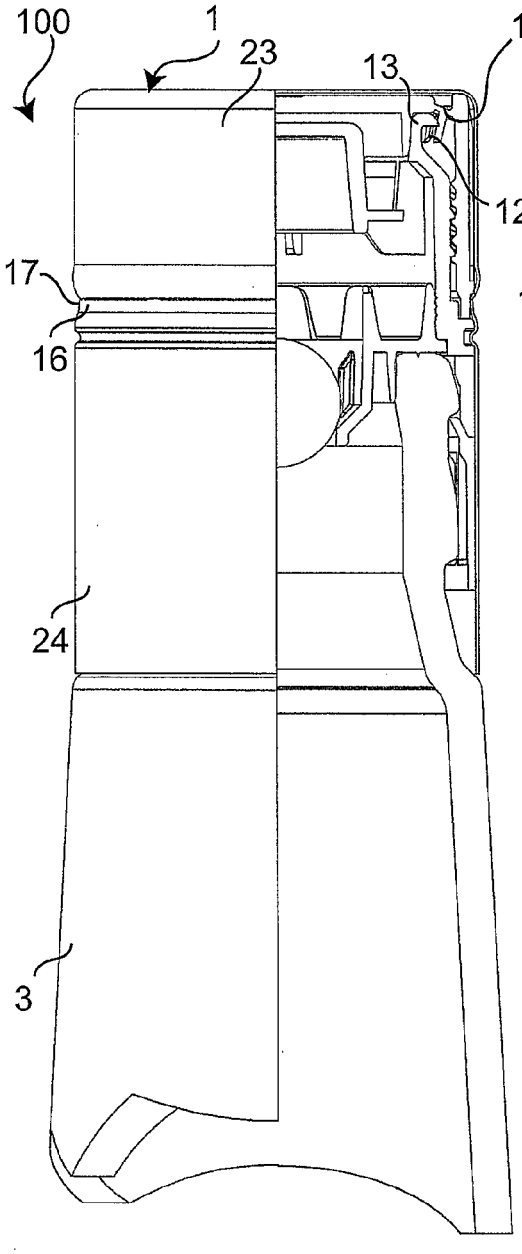


Fig. 1

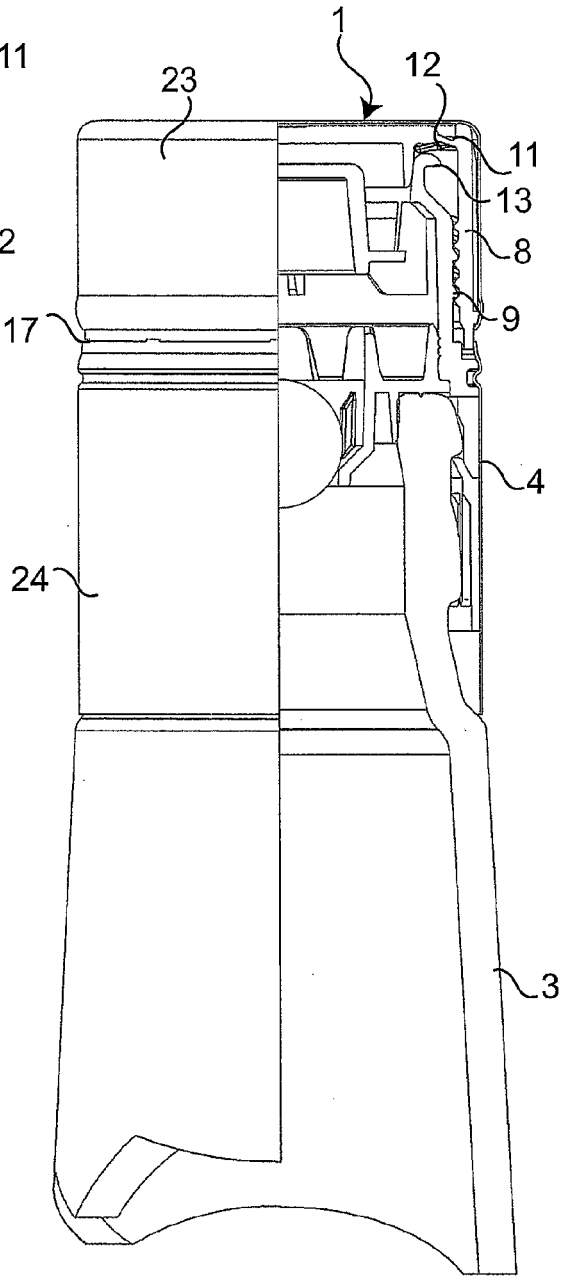


Fig. 2

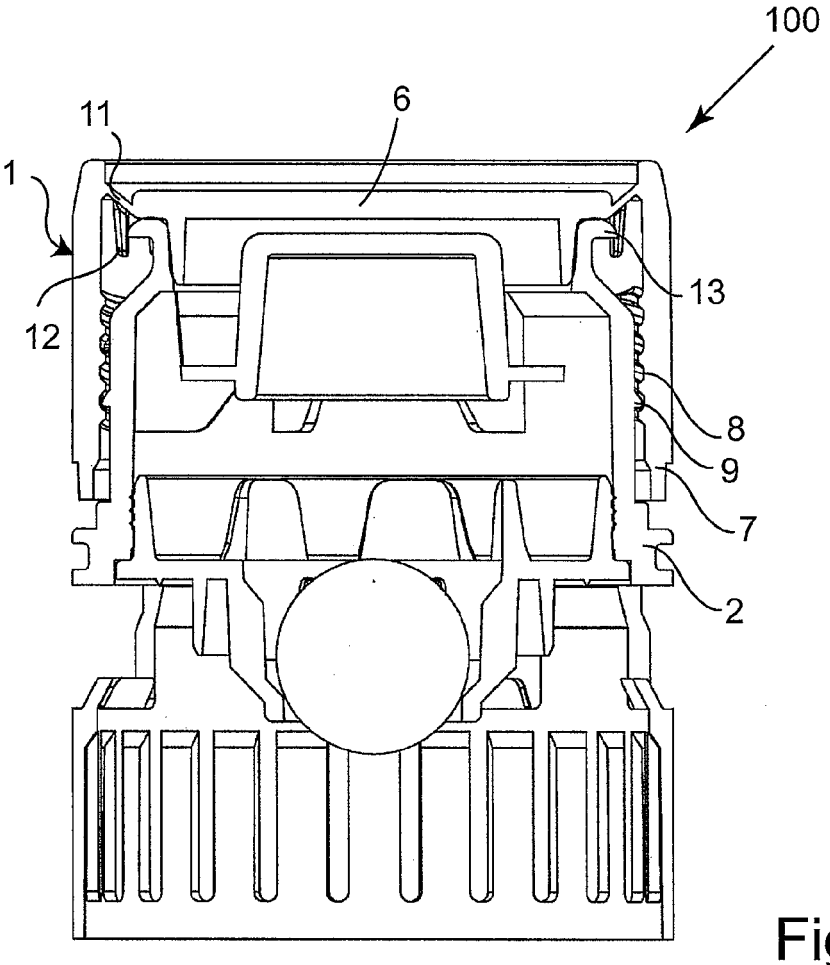


Fig. 3

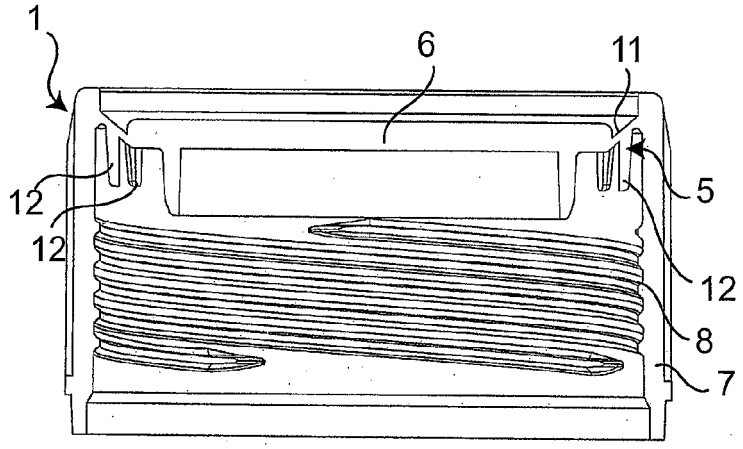


Fig. 4

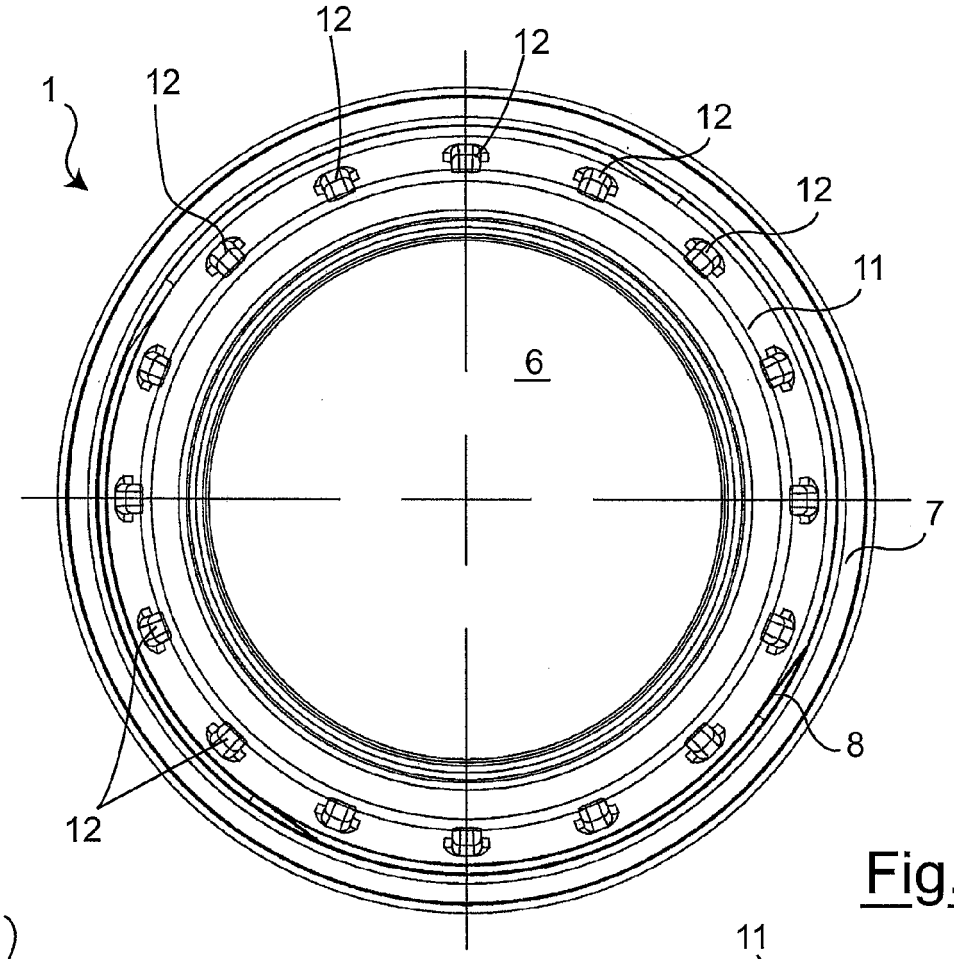


Fig. 5a

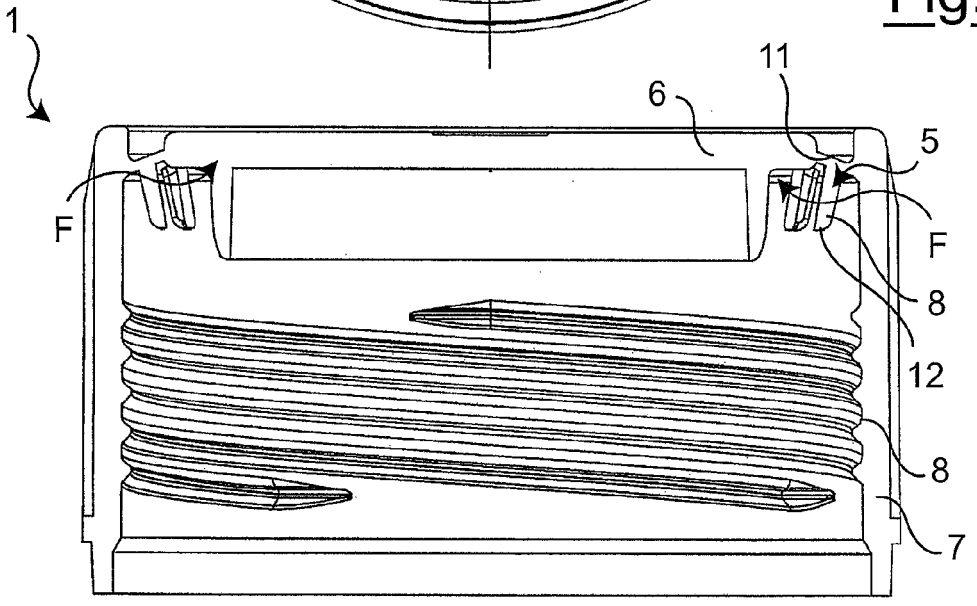


Fig. 5

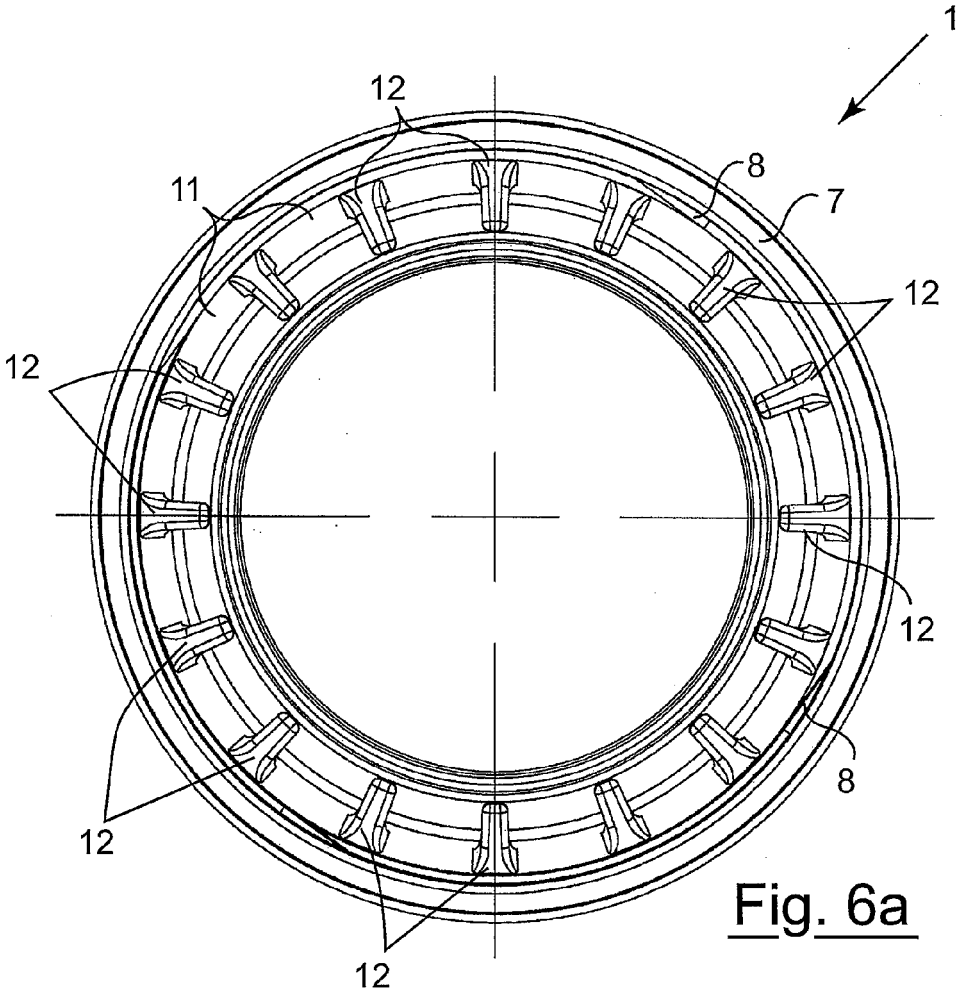


Fig. 6a

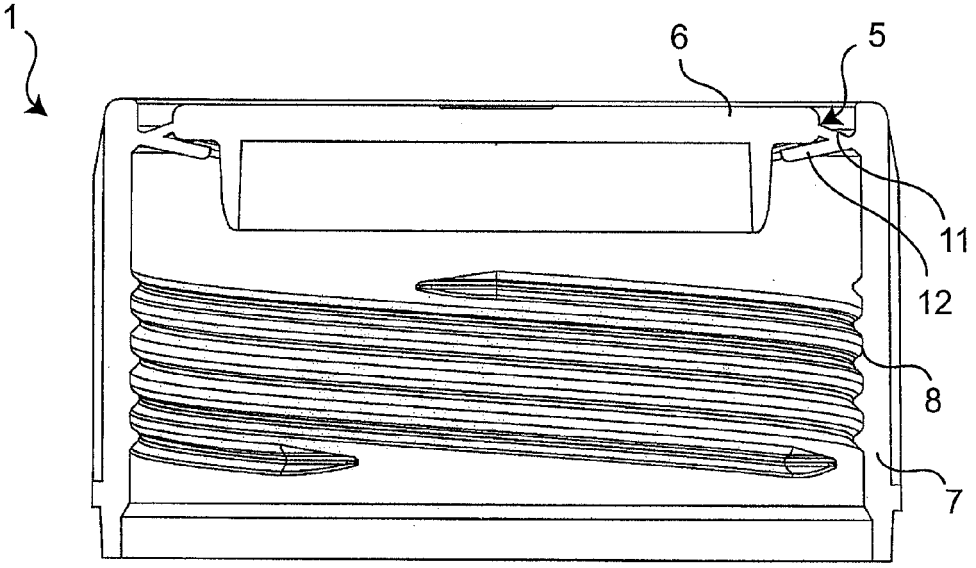


Fig. 6

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EUROPEAN SEARCH REPORT

Application Number
EP 06 11 5647

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			TECHNICAL FIELDS SEARCHED (IPC) B65D

The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
The Hague	18 October 2006	Zanghi, Amedeo

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