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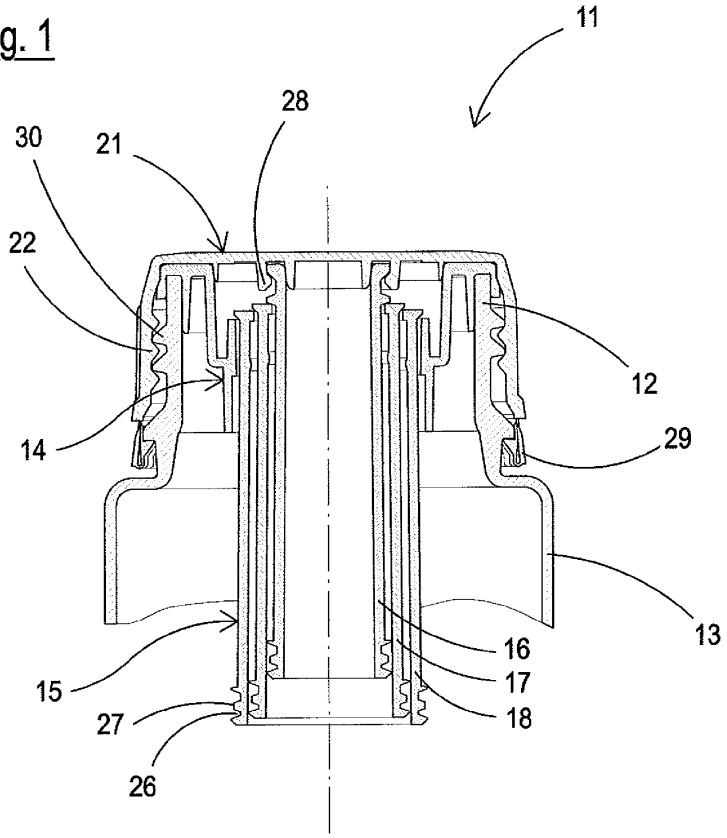
(54) **Extendable pouring stopper**

(57) An extendable pouring stopper to be positioned on an opening (12) of a container (13) comprising a tubular pouring element (15) and a covering capsule (21) which can be firmly and removably positioned on the opening (12) of the container (13), wherein the tubular pouring element (15) is composed of at least two extendable telescopic sections (16, 17, 18) moulded in a single piece in plastic material.

Fig. 1



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Description

[0001] The present invention relates to an extendable pouring stopper.

[0002] In containers for liquids, in particular liquid lubricants or particular fine liquids, great care must be taken in the pouring phase, especially when they are to be poured in relatively inaccessible positions. In order to avoid any kind of danger, resort is made, in fact, to a common funnel which allows a reasonably safe and problemless pouring.

[0003] It is also possible that some liquids in a container must be poured into openings that are inaccessible due to their hidden and awkward position, also in this case creating the problem of preventing the liquid from spilling out of the opening. This can be the case, for example, of racing motorbikes or motorcycles having reduced dimensions, in which the opening of the oil tank, for example, is situated under the fuel tank, in an inaccessible position which is difficult to reach directly with an oil can.

[0004] Also in this case, funnels or tubes or in any case additional extension elements are used, which allow the position to be easily reached.

[0005] These auxiliary pouring elements, however, are not always available and in any case must be at the disposal of the user whenever there is the necessity of having to pour the required liquid.

[0006] In this respect, many attempts have been made in recent years to find a solution to the problem, but so far no-one has reached the expected result.

[0007] The idea was conceived, for example, to connect to the opening of the container, in correspondence with the stopper, a cylindrical element foldable inside the container and extractable when necessary, such as, for example, in EP 432 433 or EP 524408 or in US 5088632 or EP 498954. This situation implies the production of this additional element and is complex and costly to effect. Furthermore, a considerable encumbrance of this folded tubular element is created which does not allow it to have a length adequate for its use.

[0008] A general objective of the present invention is therefore to solve the drawbacks of the known art mentioned above in an extremely simple, economical and particularly functional manner.

[0009] Another objective of the present invention is to provide an auxiliary element which also makes it possible to pour liquids into relatively inaccessible areas without resorting to specific additional elements of the tubular type.

[0010] A further objective of the present invention is to provide an auxiliary element for a stopper of a container which can be applied without additional operations to those of applying the stopper to the container of the specific liquid.

[0011] Yet another objective of the present invention is to provide an auxiliary element for pouring liquids into containers which has a particularly reduced cost to enable it to be applied to each container.

[0012] In view of the above objectives, according to the present invention, an extendable pouring stopper has been conceived, having the characteristics specified in the enclosed claims.

[0013] The structural and functional characteristics of the present invention and its advantages with respect to the known art will appear more evident from the following description referring to the enclosed drawings, which, among other things, show a schematization of an embodiment of an extendable pouring stopper produced according to the same invention. In the drawings:

- figure 1 shows a schematic section of a first embodiment of an extendable pouring stopper according to the present invention when applied and closed above the opening of a container;
- figure 2 shows a section similar to that of figure 1 with the stopper removed from the opening of the container, but still positioned so as to block the liquid contained in the container;
- figure 3 shows a section identical to that of figure 2 with the stopper removed;
- figures 4a and 4b are a section and perspective view of a telescopic part of the stopper according to the invention once moulded, ready to be assembled to form the stopper complex of the present invention, when associated with a support positioned on the opening of the container;
- figure 5 shows a schematic section of a second embodiment of an extendable pouring stopper according to the present invention when applied and closed above the opening of a container;
- figure 6 shows a section similar to that of figure 5 with the stopper removed from the opening of the container, but still positioned so as to block the liquid contained in the container;
- figure 7 shows a section identical to that of figure 6 but with the stopper removed;
- figure 8 shows a schematic section of a third embodiment of an extendable pouring stopper according to the present invention when applied and closed above the opening of a container positioned according to the line VIII-VIII of figure 9;
- figure 9 is a plan view from above of the stopper illustrated in figure 8;
- figure 10 shows a section similar to that of figure 8 with the tap removed from the opening of the container, but still positioned so as to block the liquid contained in the container;
- figure 11 shows a section identical to that of figure 8 with the stopper removed.

[0014] With reference to the figures, these illustrate an extendable pouring stopper produced according to the invention, indicated as a whole with 11 and associated with an opening 12 of a container 13, only partially shown.

[0015] The pouring stopper 11 comprises a support 14

and a tubular pouring element 15 with various extendable telescopic sections (figures 4a and 4b). In the example shown, there are three extendable telescopic sections, indicated with 16, 17 and 18, but there can be at least two or more. The pouring stopper 11 of the invention is entirely produced in a plastic moulding material and is completed by a covering capsule 21 that can be firmly and removably positioned on the opening 12 of the container 13.

[0016] The support 14 is generally positioned on the opening 12 and comprises an upper area, having a larger diameter, whose end is positioned near the opening 12 of the container 13, and a lower area, having a smaller diameter. The lower area acts as a cylindrical sleeve, it also partially extends inside the upper area and inside this there is the tubular pouring element 15 having various extendable telescopic sections. More specifically, the lower area having a cylindrical sleeve comprises an upper portion 23 and a lower portion 24 with respect to the connection point to the upper area.

[0017] The upper portion 23, having a smaller diameter, serves for centering the sliding of the tubular pouring element 15 when it is extracted upwardly. The lower portion 24, having a larger diameter, serves as a blockage area of the last section 18 of the tubular pouring element 15, in this case the third section, once the tubular pouring element 15 has been completely extended towards the outside.

[0018] As already mentioned, the tubular pouring element 15 according to the invention is produced in plastic material moulded in a single piece, as shown in figure 4a and 4b. The extendable sections 16, 17 and 18 of the tubular pouring element 15 with various sections are in fact aligned and joined, when moulded, by means of a series of frangible bridges 25 arranged at facing ends of each section 16, 17 and 18. For the assembly, it is sufficient to press them to allow them to be inserted into each other, breaking the frangible bridges 25. First ends of each section 16, 17 and 18 contain outer grooves and crests 26, 27 which are engaged in undercuts 37 situated at the second ends that form reciprocal engagement elements in a completely extracted position. In this way, the reciprocal stable positioning is obtained in a complete extension phase of the sections 16, 17 and 18 of the extendable tubular element 15. The internal grooves and crests 26, 27 of the last section 18 are also engaged in the lower portion 24 facing the bottom of the cylindrical sleeve of the support 14.

[0019] The outer grooves and crests 26, 27 of the first section 16, on the other hand, are engaged in a specific annular element 28 situated internally and coaxially with respect to a covering capsule 21, ensuring positioning in a closed condition. Said covering capsule 21 naturally also has a frangible security ring 29 which reveals the first opening of the stopper 11 and which remains on the neck of the container 13.

[0020] In the embodiment of figures 1 to 3, the support 14 is provided, in an upper area having a larger diameter, with a lip 19 facing downwards and having an overturned U-section which is positioned on an upper peripheral edge 20 of the opening 12 of the container 13.

[0021] Furthermore, the covering capsule 21 is provided with a threading 22 situated in its interior which is engaged on a threading 30 situated outside the opening 12 of the container 13.

[0022] Also in the embodiment of figures 5 to 7, the support 14 is provided, in an upper area having a larger diameter, with a lip 19 facing downwards and having an overturned U-section which is positioned on an upper peripheral edge 20 of the opening 12 of the container 13.

[0023] In this case, the covering capsule 21 is simply provided, in correspondence with one of its lower edges 31, with an annular rib 32 protruding inwardly for engagement with corresponding annular ribs 33 protruding outwardly situated outside the opening 12.

[0024] In this case, the capsule 21 is click-positioned to close the tubular pouring element 15.

[0025] With respect to the third embodiment of figures 8-11, it can be observed that the covering capsule 21 comprises a central upper portion 34 provided with a pulling ring 35 frangible by means of bridges 36 with respect to the remaining part of the covering capsule 21. This pulling ring 34 facilitates the extraction of the tubular pouring element 15 and is click-positioned together with the central upper portion 34 of the covering capsule 21 directly on the last section 16 of the tubular pouring element 15.

[0026] In this case, as for the first embodiment, the covering capsule 21 is also provided with a threading 22 situated in its interior which is engaged on a threading 30 situated outside the opening 12 of the container 13.

[0027] A stopper according to the present invention therefore allows an ample extension when completely open and its portion consisting of the tubular pouring element 15 is extended so as to be able to solve any problem relating to difficult and inaccessible pouring.

[0028] It can be advantageously seen that the extendable pouring element 15 is produced in a single piece in the various sections forming it, allowing its easy production for any embodiment of the stopper of the invention. Said extendable pouring element 15 can also be easily withdrawn into a closed rest position, as shown in figure 1, occupying as little space as possible.

[0029] The various arrangements produced on the sections 16, 17 and 18 of the tubular element also ensure sealing between the parts in addition to their firm and easy reciprocal positioning, and return to a rest position.

[0030] The support 14 with the lower area having a cylindrical sleeve with its two upper 23 and lower 24 portions with respect to the connection point to the upper area, facilitates the positioning of the extendable pouring element 15, and also its guiding between the completely closed rest position and completely extended operative position.

[0031] All the important features forming part of the present invention can be found in these non-limiting ex-

amples.

[0032] The objective indicated in the preamble of the description has therefore been achieved.

[0033] The forms of the structure for the production of a pouring element of the invention, as also the materials and assembly modes, can obviously differ from those shown for purely illustrative and non-limiting purposes in the drawings.

[0034] The protection scope of the present invention is therefore delimited by the enclosed claims.

Claims

1. An extendable pouring stopper to be positioned on an opening (12) of a container (13) comprising a tubular pouring element (15) and a covering capsule (21) which can be firmly and removably positioned on the opening (12) of the container (13), wherein said tubular pouring element (15) is composed of at least two extendable telescopic sections (16, 17, 18) moulded in a single piece in plastic material, **characterized in that** said at least two sections (16, 17,18) at their opposite ends have reciprocal engagement element (26,27) in an completely extracted position of the sections (16,17,18).

2. The pouring stopper according to claim 1, **characterized in that** said at least two sections (16, 17, 18) are aligned and joined, when moulded, by means of a series of frangible bridges (25) arranged at facing ends of each section (16, 17, 18) which are broken when the sections are inserted in each other.

3. The pouring stopper according to one or more of the previous claims, **characterized in that** said tubular pouring element (15) is positioned on said opening (12) of the container (13) with the interpositioning of a support (14) constrained to said opening (12).

4. The pouring stopper according to claim 3, **characterized in that** said support (14) is provided, in an upper area having a larger diameter, with a lip (19) facing downwards and having an overturned U section which is positioned on an upper peripheral edge (20) of the opening (12) of the container (13).

5. The pouring stopper according to claim 4, **characterized in that** said support (14) has a lower area, with a smaller diameter which acts as a cylindrical sleeve, partially extends also inside said upper area and receives inside the same said pouring tubular element (15) having various extendable telescopic sections.

6. The pouring stopper according to claim 5, **characterized in that** said lower area with a cylindrical sleeve comprises an upper portion (23) and a lower portion (24) with respect to the connection point to the upper area, said upper area (23) having a smaller diameter and acting as a centring for the sliding of the tubular pouring element (15), whereas said lower portion (24), having a larger diameter acts as blockage area of a last section (18) of the tubular pouring element (15).

Fig. 1

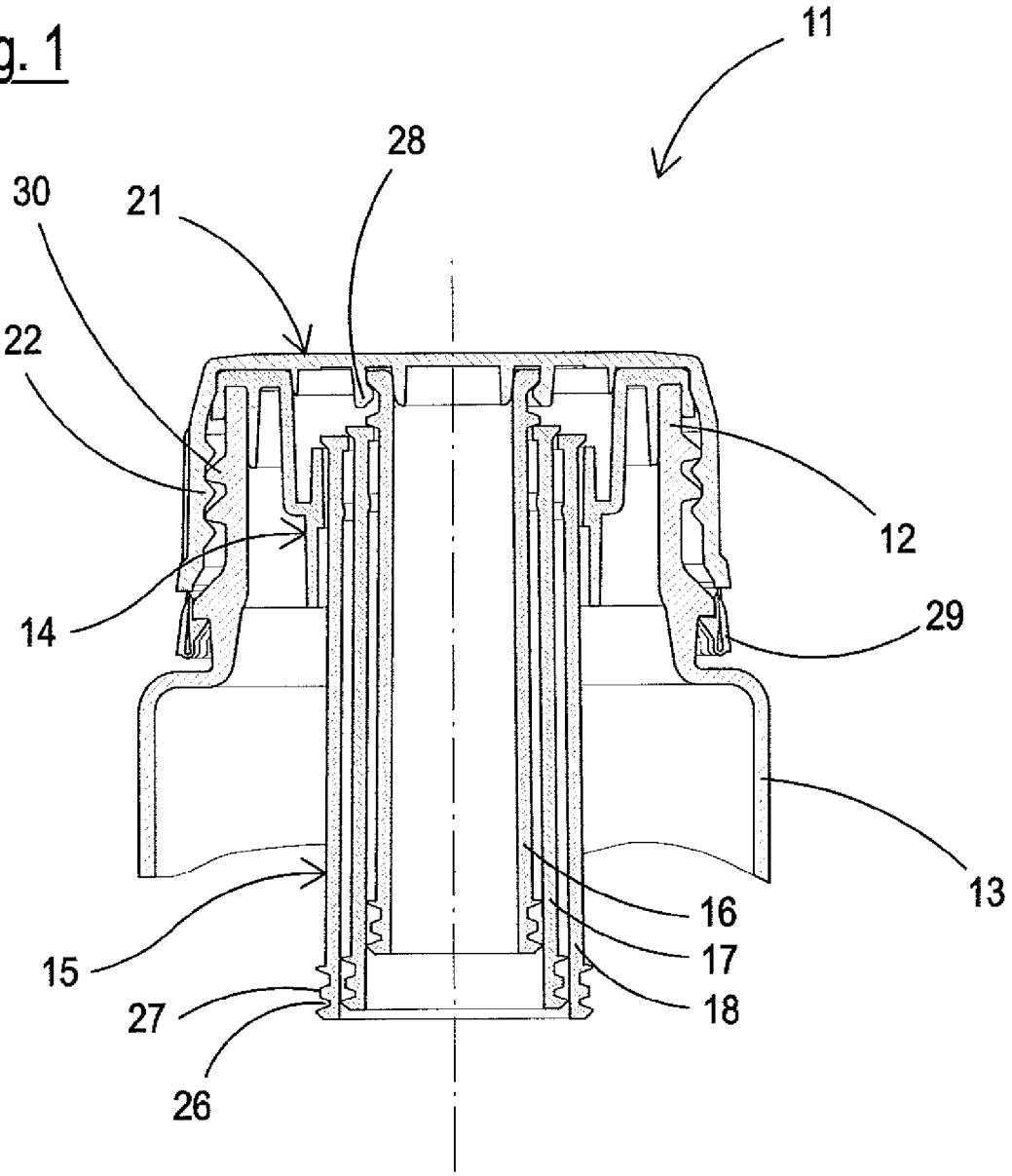


Fig. 2

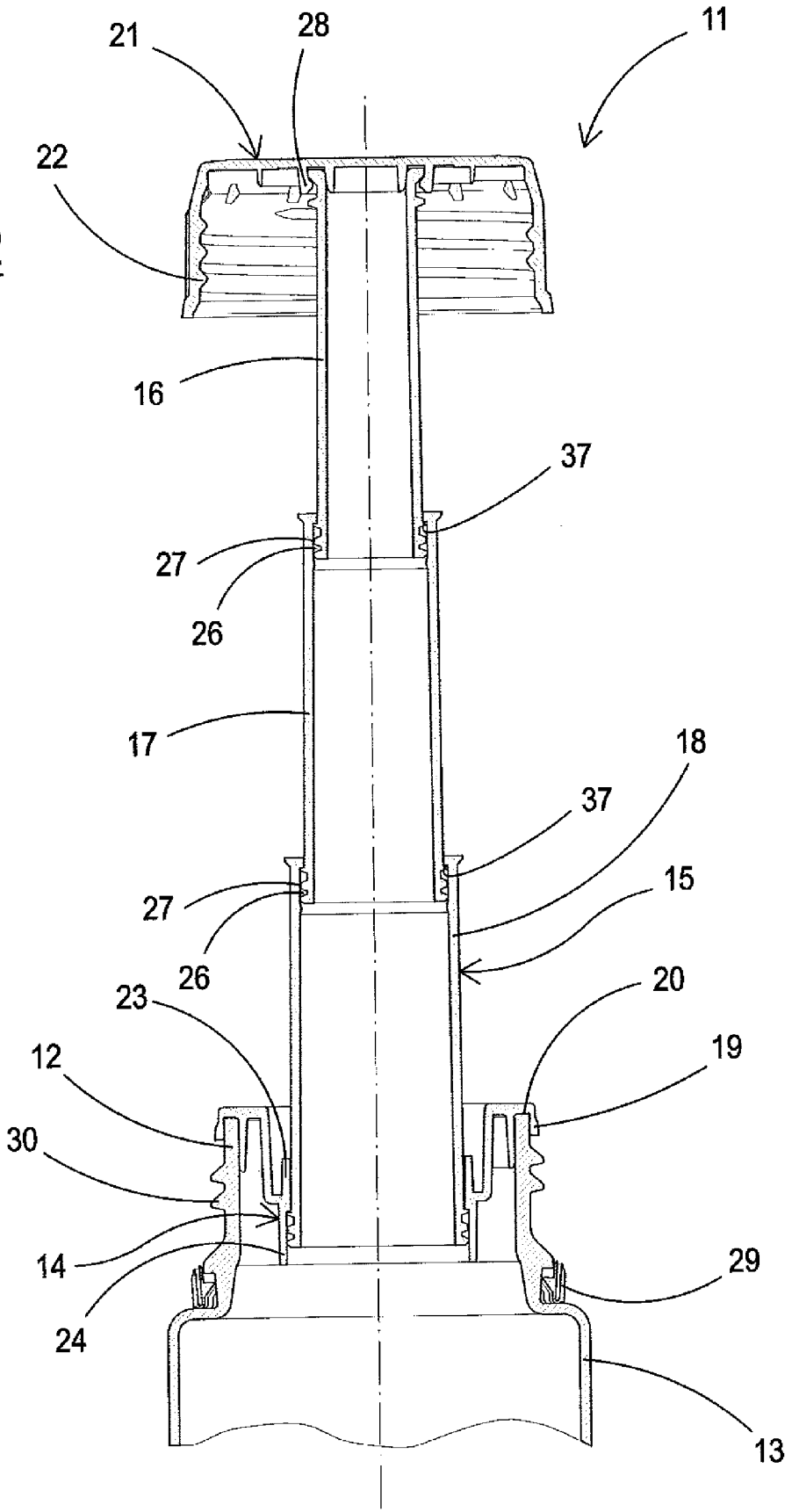
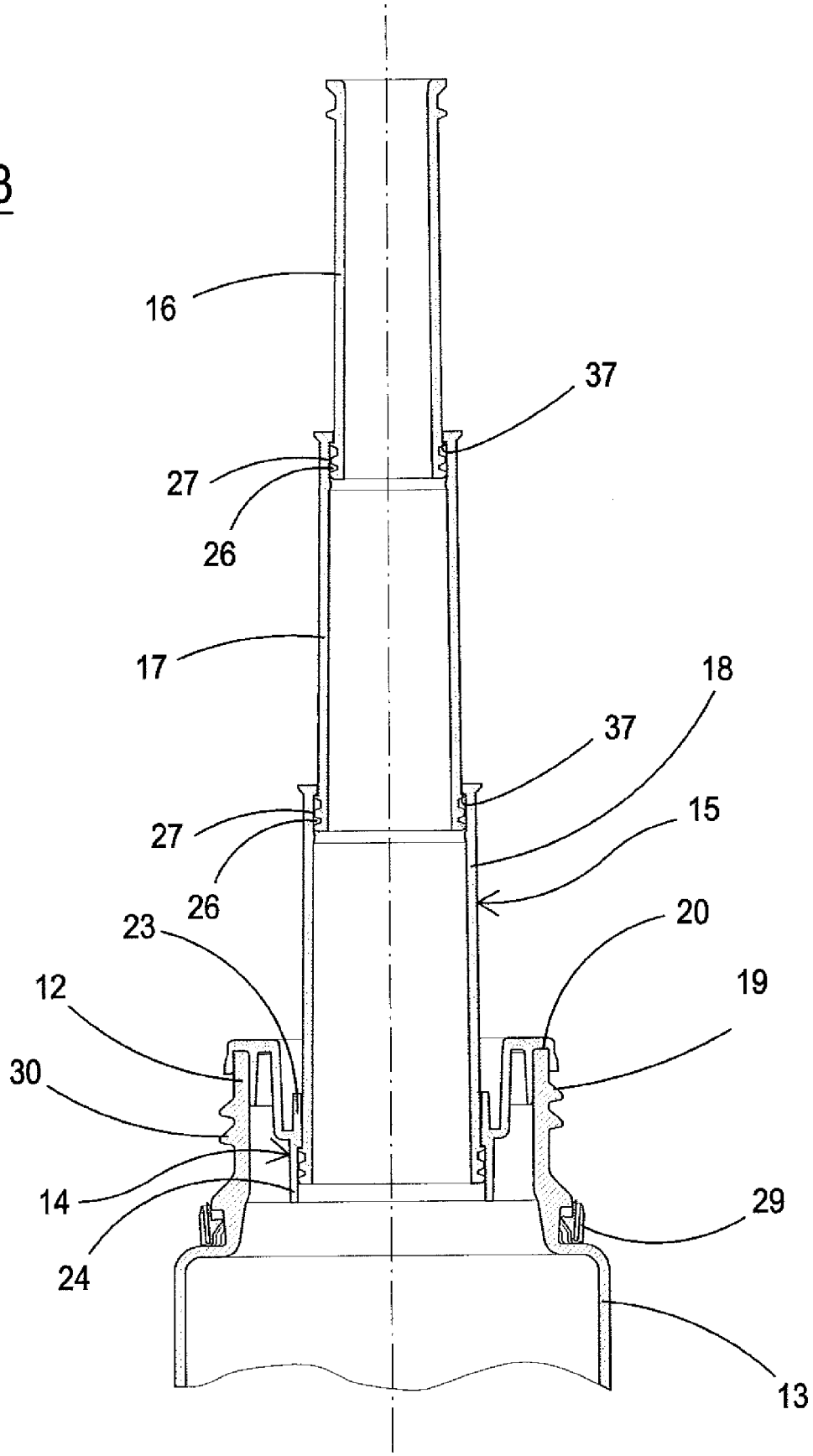


Fig. 3



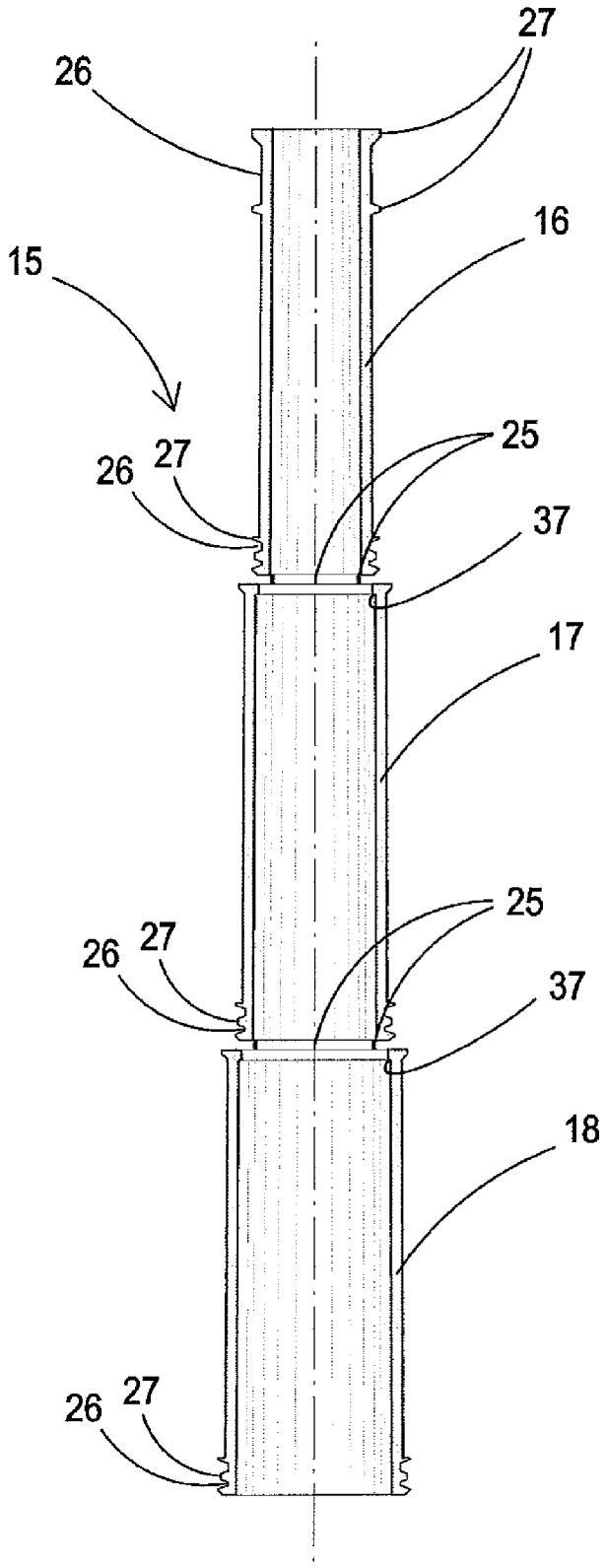


Fig. 4a

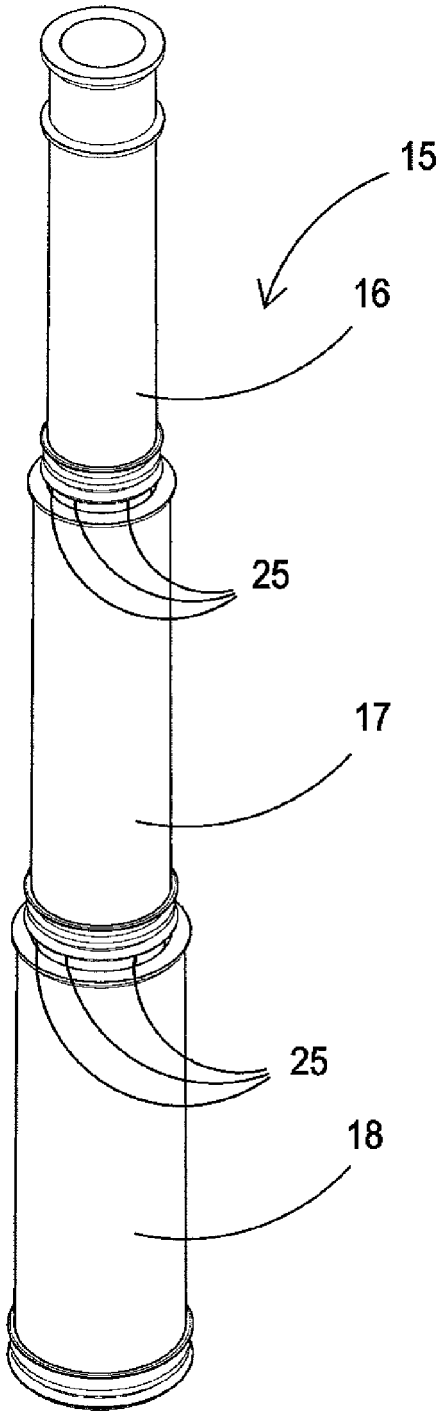
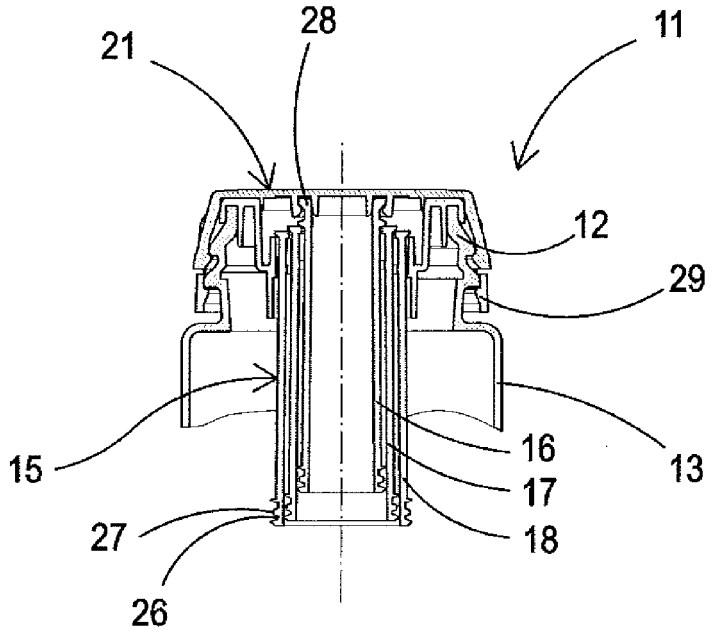


Fig. 4b

Fig. 5



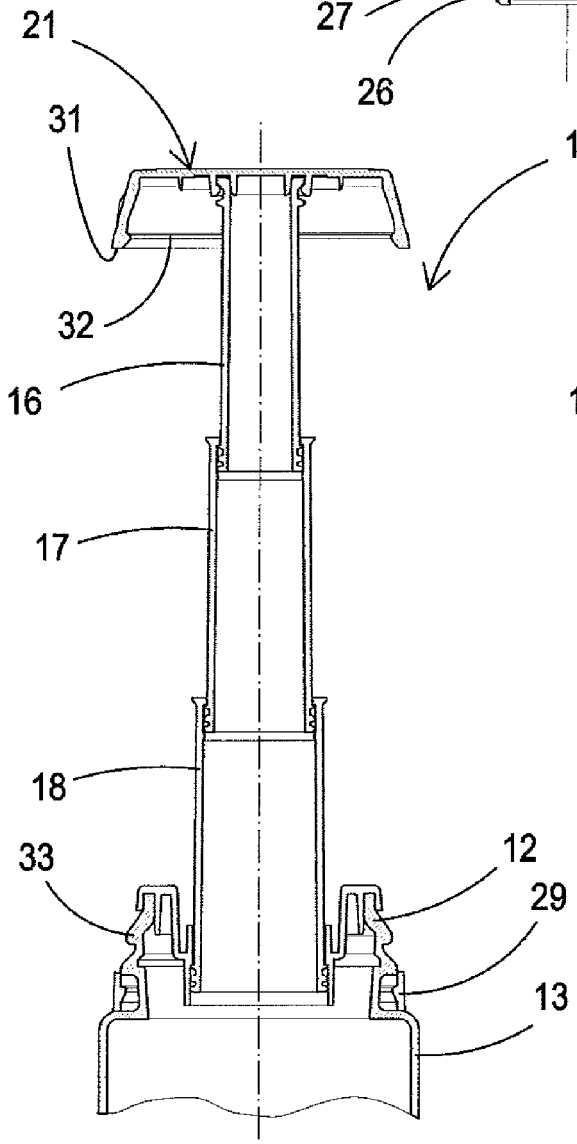


Fig. 6

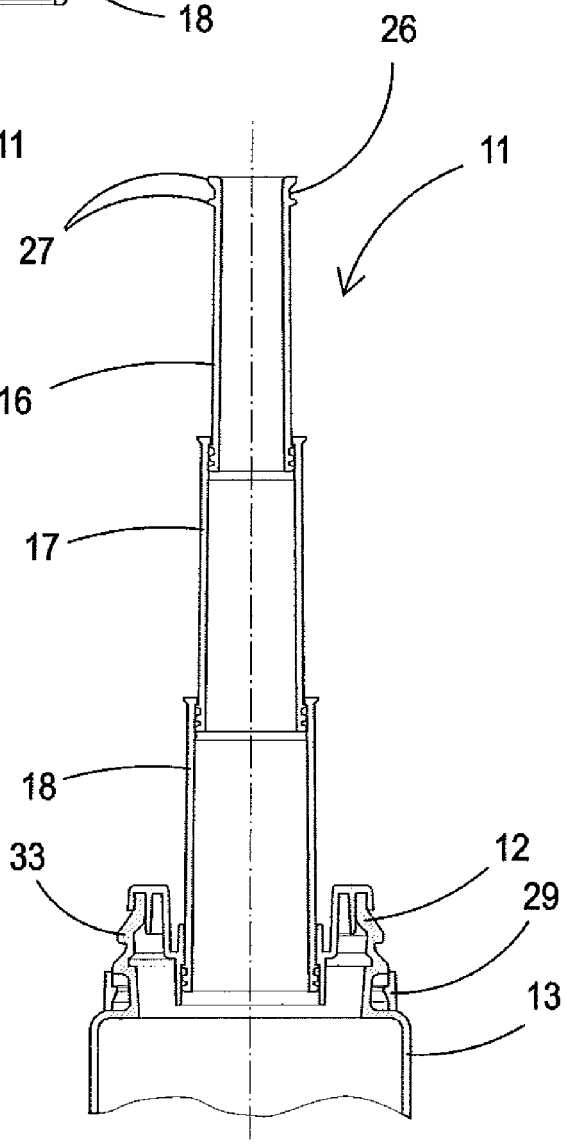


Fig. 7

Fig. 8

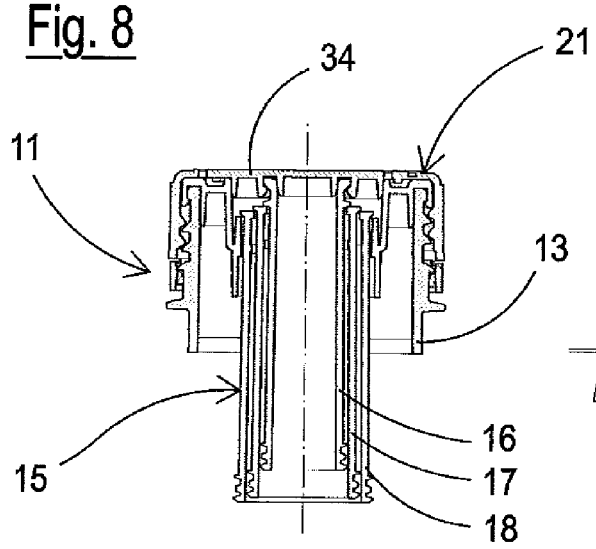


Fig. 9

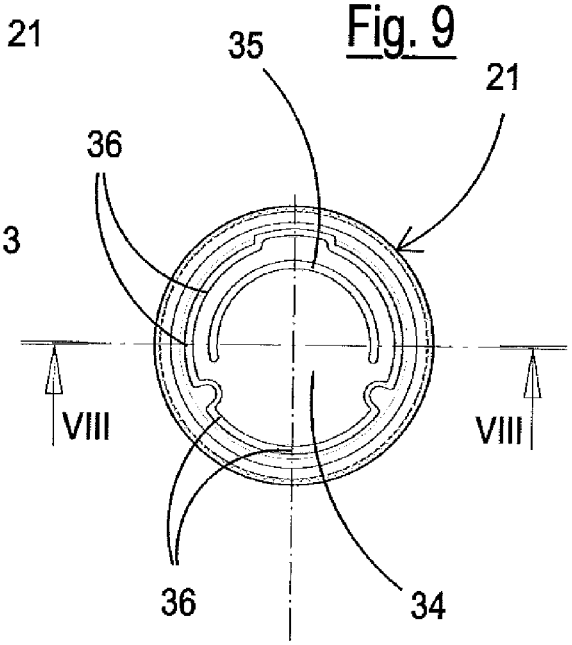


Fig. 10

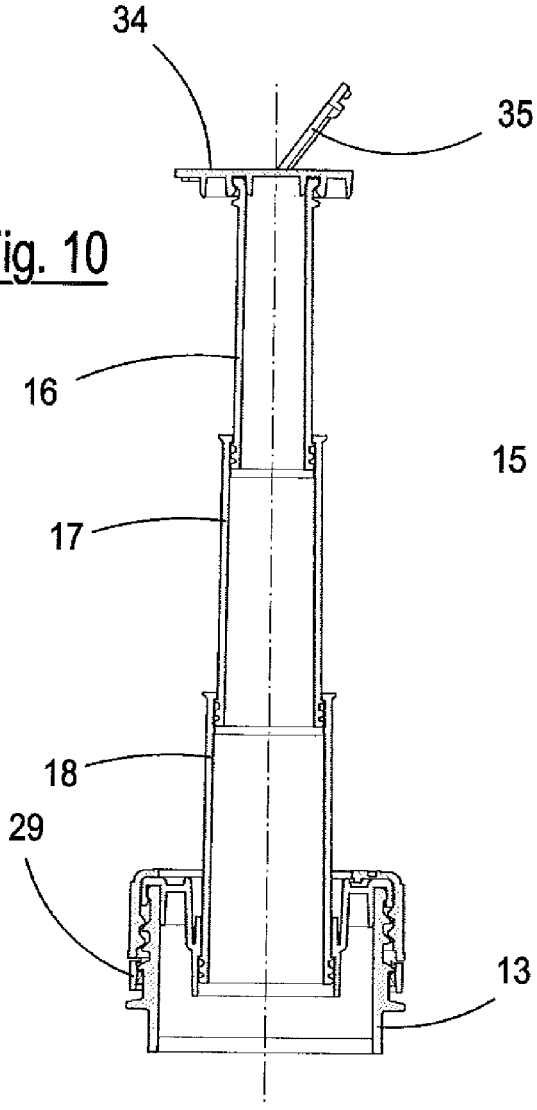
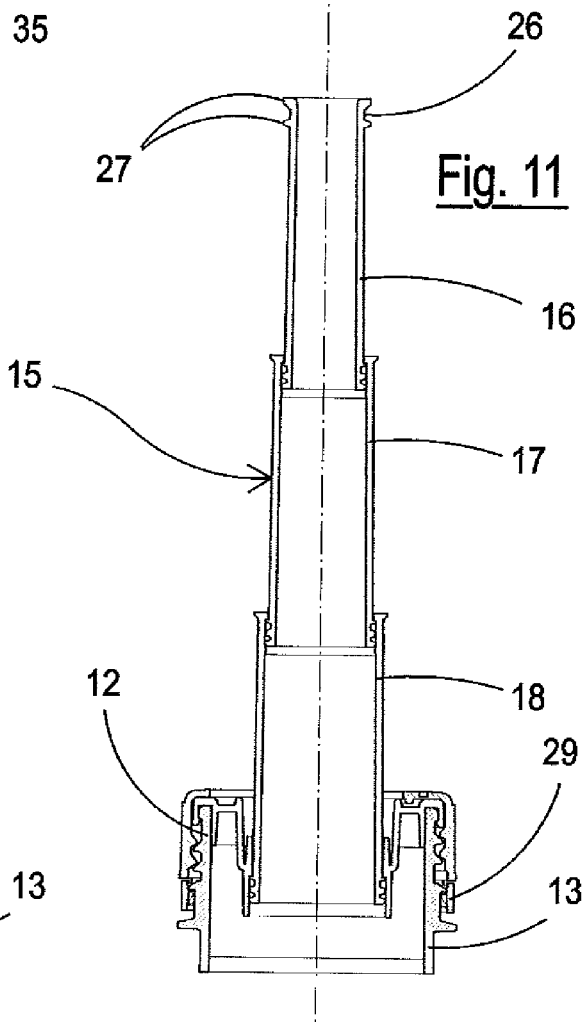


Fig. 11



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EUROPEAN SEARCH REPORT

Application Number
EP 13 15 8549

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The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
Munich	24 May 2013	Leijten, René

CATEGORY OF CITED DOCUMENTS

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