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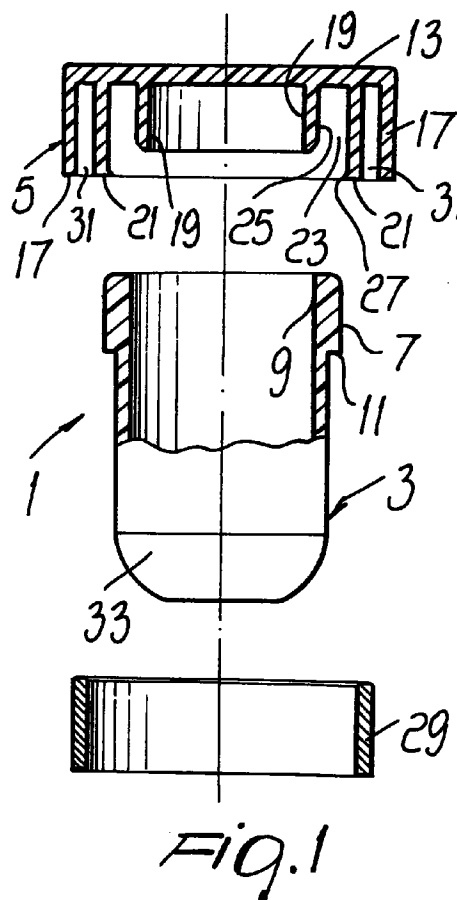
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(54) **Plastic stopper particularly for bottles containing beverages**

(57) A closure, particularly for bottles containing beverages, includes a hollow cylindrical body (3) made of soft plastic material associated with a cap (5) made of rigid plastic material by means of a seat (31).



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Description

The present invention relates to a closure particularly for bottles containing beverages.

Cork closures, constituted by a portion made of cork which is suitable to be inserted in the neck of the bottle and to form a seal and is associated, usually by gluing, with a cap made of wood or plastic have long been known.

The advantages of using a cork closure are well-known, but so is the problem of finding cork of good quality. Furthermore, quality cork is very expensive and is not always free from color release. Transfer of color to the liquid contained in the bottle is a strongly felt problem for beverage producers, especially if the contents are a clear liquid, such as "grappa", "schnaps", vodka or other clear beverages.

Closures made of different materials, particularly plastic, have been proposed but have drawbacks from the functional point of view, in terms of tightness and reliability, and from the industrial point of view, in terms of production costs.

The aim of the present invention is to provide a closure which solves the above mentioned problems of the prior art and is particularly suitable for use in bottles containing beverages.

An object of the invention is to provide a closure which is constructively simple and therefore easy and cheap to manufacture from the industrial point of view.

Another object of the invention is to provide a closure in which no adhesive is used, avoiding the problems linked to such use, such as for example the need to use adhesives which are non-toxic or in any case not harmful to the contents.

Another object is to provide a closure which is functional from the point of view of the user.

This aim, these objects and others which will become apparent hereinafter are achieved by a closure particularly for bottles containing beverages, characterized in that it includes a hollow cylindrical body made of soft plastic material associated with a cap made of rigid plastic material by virtue of an interlocking means.

Further characteristics and advantages will become apparent from the description of the closure, illustrated only by way of non-limitative example in the accompanying drawings, wherein:

Fig. 1 is an exploded lateral sectional view of the closure according to the invention;

Fig. 2 is a sectional view of the closure in assembled condition;

Fig. 3 is an enlarged-scale sectional view of a detail of the closure according to the invention;

Fig. 4 is a bottom view of the cap of the closure according to the invention;

Fig. 5 is a lateral elevation view of the closure according to the invention.

With reference to the above figures, the closure, particularly for bottles containing beverages, according to the invention, generally designated by the reference numeral 1, includes a hollow cylindrical body 3 which is associated with a cap 5.

The cylindrical body 3 is suitable to be inserted hermetically in the neck of a bottle and is made of relatively soft plastic material, for example low-density polyethylene. The cylindrical body 3 has a wider portion 7 which fits in the cap 5 and includes a knurled internal area 9 (the knurling is not visible in the figures) and a step 11 formed with the body 3. The cylindrical body 3, which is hollow, also includes an end 33 which is tapered and rounded to facilitate its insertion in the neck of the bottle.

The cap 5 includes an upper disk 13 having a plurality of cylindrical members: an outer ring 17, an inner ring 19 and a series of sectors 21 arranged between the two rings.

The inner ring 19 and the sectors 21 form, between them, a circular seat 23 which is suitable to accommodate the wider portion 7 of the cylindrical body.

The inner ring 19 includes a knurling 25 (not shown in the figures) which corresponds to the inner knurling 9 of the wider portion 7, in order to better associate the cylindrical body with the cap, avoiding mutual rotations.

The sectors 21 have an inner protruding edge 27 which is suitable to engage the step 11 of the wider portion 7 of the cylindrical body 3 when it is inserted in the seat 23 of the cap 5.

The closure according to the invention is completed by a ring 29 is suitable to be inserted with a tight fit in a seat 31 formed between the outer ring 17 and the sectors 21.

The closure according to the invention is assembled as follows.

The cylindrical body 3 is inserted in the seat 23 of the cap 5 so that the protruding edge 27 of the sectors 21 engages the step 11 of the wider portion 7 of the cylindrical body and so that at the same time the knurlings of the inner ring 19 and of the inner surface of the cylindrical body make mutual contact, preventing the mutual rotation of the two components.

The inner ring 19 advantageously has an outer rounded region to facilitate the insertion of the wider portion 7 of the cylindrical body.

Finally, the ring 29 is inserted in the appropriately provided seat 31 with a tight fit. The presence of the ring prevents the sectors 21 from tilting outward and thus prevents the cylindrical body 3 from slipping out of the cap 5, regardless of the force applied.

In practice, it has been observed that the invention achieves the intended aim and objects, providing a closure which is constructively simple and functional.

The hollow structure of the cylindrical body allows to further improve the tightness of the closure. The

higher the pressure inside the bottle, the higher the adhesion of the wall of the cylindrical body to the inside wall of the neck of the bottle.

The materials used, as well as the dimensions, may of course be any according to the requirements and the state of the art.

Claims

1. Closure particularly for bottles containing beverages, characterized in that it comprises a hollow cylindrical body (3) made of soft plastic material associated with a cap (5) made of rigid plastic material by virtue of an interlocking means (31). 10
2. Closure according to claim 1, characterized in that said interlocking means comprises a first seat (23), which is formed in said cap and is suitable to receive a portion (7) of said cylindrical body (3), and a second seat (31), which is formed in said cap and is suitable to receive a locking member (29). 15 20
3. Closure according to claim 2, characterized in that said cap (5) comprises an upper disk (13) in which there is an outer ring (17), an inner ring (19) and a series of sectors (21) arranged between said two rings, said inner ring and said sectors forming, between them, said first seat (23) which is suitable to accommodate said cylindrical body (3, 7); said outer ring and said sectors forming, between them, said second seat (31) which is suitable to accommodate said locking member (29). 25 30
4. Closure according to one or more of the preceding claims, characterized in that said inner ring (19) comprises a knurling on the side in contact with said cylindrical body (3). 35
5. Closure according to one or more of the preceding claims, characterized in that said sectors (21) comprise an edge (27) which protrudes inward on the side that is in contact with said cylindrical body (3). 40
6. Closure according to one or more of the preceding claims, characterized in that said cylindrical body (3) comprises a wider portion (7) which is suitable to fit in said first seat (23) of said cap (5) and comprises a step (11) which is suitable to engage said protruding edge (27) of said sectors (21). 45 50
7. Closure according to one or more of the preceding claims, characterized in that said cylindrical body (3) comprises a knurled inner area which is in contact with said inner ring. 55
8. Closure according to one or more of the preceding claims, characterized in that said locking member is constituted by a ring (29) which is suitable to be

inserted in said second seat (31) to prevent substantially radial movements of said sectors (21).

9. Closure according to one or more of the preceding claims, characterized in that said cylindrical body (3) is made of low-density polyethylene.
10. Closure according to one or more of the preceding claims, characterized in that said cap (5) is made of polystyrene.

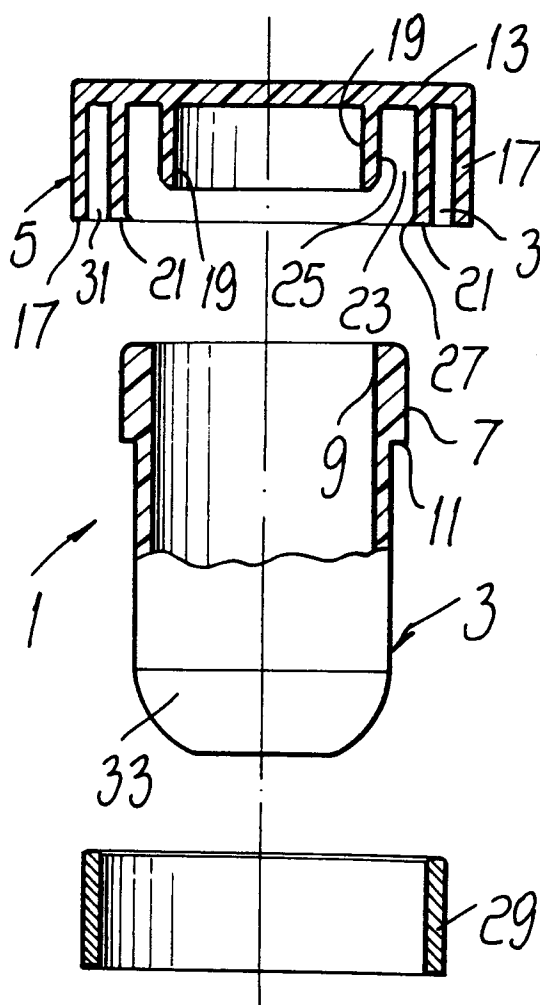


Fig. 1

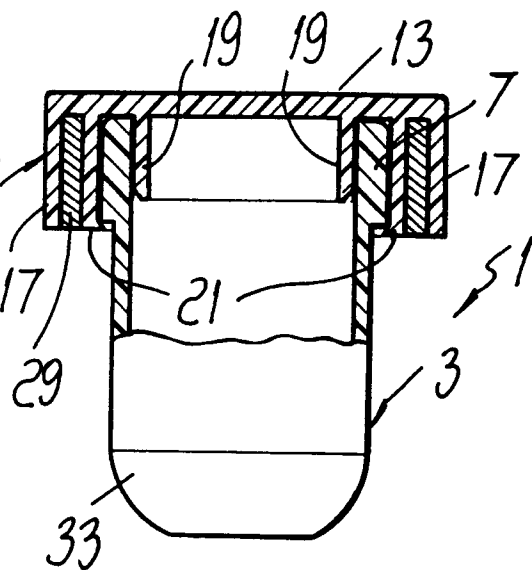


Fig. 2

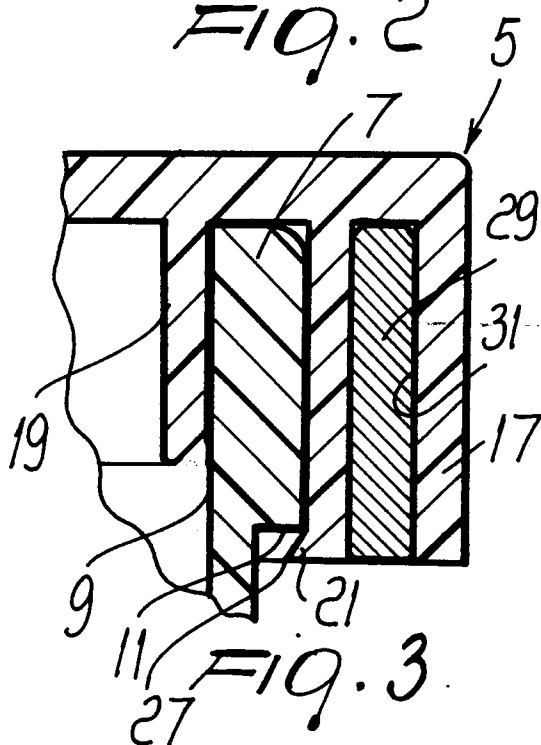


Fig. 3

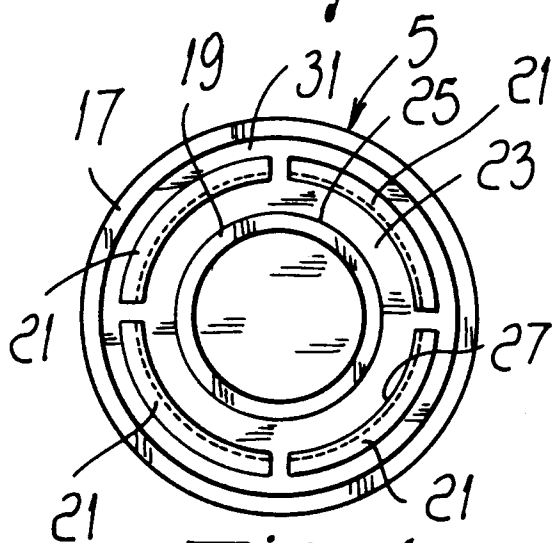


Fig. 4

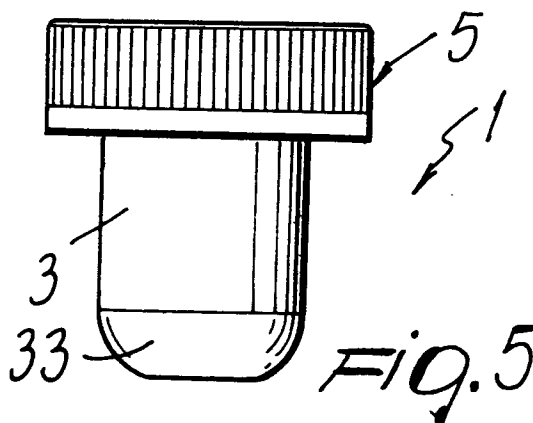


Fig. 5



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EUROPEAN SEARCH REPORT

Application Number
EP 98 10 5599

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.6)
X	FR 2 328 625 A (SOCIETE NOUVELLE DE BOUCHONS PLASTIQUES) 20 May 1977	1	B65D39/16
A	* the whole document *	4-6, 9, 10	
A	FR 1 232 453 A (AUGROS) 10 October 1960		
			TECHNICAL FIELDS SEARCHED (Int.Cl.6)
			B65D
The present search report has been drawn up for all claims			
Place of search		Date of completion of the search	Examiner
THE HAGUE		22 July 1998	SERRANO GALARRAGA, J
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