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(54) Closure for bottles.

(57) A closure (1) for bottles, forming an individually manipulable unit with improved handling features and uniquely attractive appearance, comprises a washer (6) having a predetermined axis (X-X), a pour body (10) associated coaxially with the washer (6) through a male/female interfit (11), a cap (16) for threading onto the pour body (10), a tubular band (20) having an upper edge (21) folded in to retain the pour body (10) and the washer (6), and a free lower edge (22), a tubular spacer lug (23), extending inwardly of the band (20) and coaxially therewith, which is fast with the washer (6) and has a predetermined height dimension, and a border (25) formed at the free lower edge (22) of the band (20) to provide a stop for said tubular spacer lug (23).

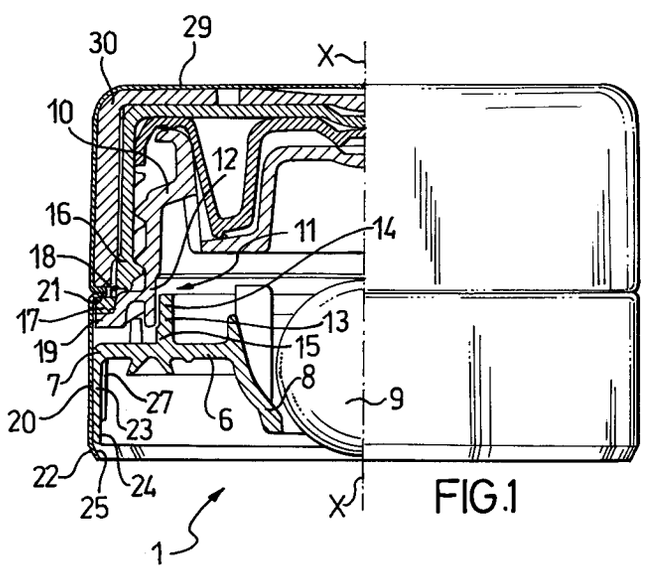

FIG.1

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This invention relates to a closure for bottles as defined in the preamble of Claim 1.

A well-recognized requirement of closures of this kind is that they should form an individually manipulable unit, adapted to be stored and later transferred to the site for its application to a bottle, without its several component parts coming loose and getting lost.

In particular, the washer should not separate from the side band.

To fill this requirement, it is current practice to form a groove, such as by a rolling process, around the side band which is effective to forcibly engage with the washer and thereby retain it axially in place.

Alternatively to the groove, locking spots are formed which are distributed at pitch distances around the band, causing the band to deform locally and become axially attached to the washer such that the latter cannot part from the band.

Closures of this kind, while being widely utilized and achieving their objective, still leave something to be desired at the consumption stage from the standpoint of their manipulation and outward appearance.

The groove or locking spots break, in fact, the continuity of the outer surface and make the closure inconvenient to manipulate, as well as rendering it aesthetically unattractive.

The underlying problem of this invention is to provide a closure of the type specified above, which can overcome the above-mentioned drawbacks with which the prior art is beset.

This problem is solved by a closure as indicated and according to the characterizing part of Claim 1.

Further features and the advantages of a closure according to this invention will become apparent from the following detailed description of an embodiment thereof, given by way of non-limitative example with reference to the accompanying drawing figures, of which:

Figure 1 is a part-sectional elevation view of a closure according to the invention;

Figure 2 is a fragmentary elevation view showing in section the closure of Figure 1 at a first stage of its application to a bottle; and

Figure 3 is a fragmentary elevation view showing in section the closure of Figure 1 at a successive stage of its application to a bottle.

With reference to the accompanying drawing views, generally shown at 1 is a closure for a bottle 2, said bottle having an end 3 and a collar 4 which locates at the end 3 and defines an undercut shoulder 5.

The closure 1 includes a washer 6, substantially in the form of an annular disk, having an axis X-X, a periphery 7, and a centrally located seat 8 for a one-way valve 9, in this example a glass ball.

A pour body 10 is coupled to the washer 6, coaxially therewith, by means of a male/female type of connection. The connection 11 consists of a cylindrical seat 12, having a predetermined diameter and being formed in the pour body 10, and a two-diameter tubular member 13 which protrudes from the washer 6. Specifically, the tubular member 13 has a first section 14 with a small diameter, adapted to produce a slack male/female fit, and a second section 15 with a larger diameter selected to produce a tight male/female fit.

A cap 16 is threaded onto the pour body 10. The cap 16 has a tamperproof ring 17, to which it is attached through a rupture weakening line 18. Said ring 17 abuts against a flange 19 protruding from the pour body 10 and being integral therewith.

A tubular band 20 of aluminum, lying on the axis X-X, has an upper edge 21 folded inwards to axially retain the ring 17 and flange 19, as well as the periphery 7 of the washer 6.

The band 20 also has a free lower edge 22.

In accordance with the invention, the closure 1 includes a tubular spacer lug 23 extending inwardly of and coaxially with the band 20 and being fast with the periphery 7 of the washer 6. The tubular spacer lug 13 is formed integrally with the washer and has a predetermined height dimension from the periphery 7 of the washer 6 to its free end 24.

An inwardly bent border 25 is formed at the lower edge 22 of the band 20 to provide a stop in the axial direction for said tubular spacer lug 13.

The height of the tubular spacer lug 23 is selected such that, with the free end 24 of the lug abutted against the border 25, only the engagement of the first section 14 with the cylindrical seat 12, characterized by a degree of slack, will be operative and not that of the second section 15, characterized by a degree of tightness.

It should be noted that the tubular spacer lug 23 has a predetermined thickness, to be selected so as to have the tubular spacer lug function as a sealing gasket driven radially between the band 20 and the bottle collar 4.

Preferably, a splined connection 26 is provided between the tubular spacer lug 23 and the collar 4 which consists of an axial spline formation 27 on the tubular spacer lug 23 inside and an axial spline formation 28 on the bottle collar 4 outside.

The cap 16 has an aluminum overlay 29 which fits over a plastics core 30, being in turn a tight fit over the cap proper.

In manipulation of the closure according to the invention, (see Figure 1) the washer 6 will be held captively with the pour body 10 by the band border 25 provided, against which border the tubular spacer lug abuts and is retained.

On the occurrence of this engagement situation, the washer 6 and pour body 10 -- more specifically, the cylindrical seat 12 and the first section 14 of the tubular member 13 -- are engaged together loosely in a male/female interfit.

In this condition, the closure can be moved with no risk of any parts thereof getting lost, and can be stored even for a long time with no yield of the confronting materials in the male/female interfit.

On assembling the closure to the bottle (see Figure 2) by axially fitting it thereover, the washer 6 will abut against the bottle end 3, and the pour body 10 fit over the washer 6, thereby a male/female interfit is established by the second section 15 of the tubular member 13 being driven into the cylindrical seat 12.

At this stage, the closure is associated immovably with the bottle through the tubular spacer member provided, and is ready to be permanently secured thereon by folding in, as by a rolling operation or the like, the lower edge 22 of the band 20 (see Figure 3) against the shoulder 5.

A major advantage of the closure according to the invention resides in its improved handling capability and uniquely attractive appearance.

It is also easier to manufacture.

A further advantage of the inventive closure is that it can be attached to the bottle more reliably. It becomes indeed permanently associated with the bottle, once fitted axially thereon, by virtue of the tubular spacer lug provided. Also facilitated is the following operation of final securement of the closure on the bottle by rolling in the free edge of the band.

An additional advantage of the closure according to the invention is that it will be held securely while the cap is screwed off, since any objectionable dragging of the washer around with the cap is positively prevented by the provision of a splined connection between the tubular spacer lug and the bottle collar.

The closure outward appearance is further improved by the provision of an aluminum cap overlay extending in continuation of the band.

It will be understood that the closure disclosed hereinabove may be modified and altered in several ways by a skilled person in the art to meet contingent and specific demands, within the invention scope as defined in the appended claims.

Claims

1. A closure (1) for bottles, forming an individually manipulable unit and being adapted to be assembled to a bottle (2) having an end (3) provided with a collar (4) which defines an undercut shoulder (5), the closure comprising:

a washer (6) having a predetermined axis (X-X);

a pour body (10) being associated with the washer (6) coaxially therewith by means of a male/female interfit (11);

a cap (16) for threading onto the pour body (10); and

a tubular band (20) having an upper edge (21) folded in to retain the pour body (10) and the washer (6) in place and a free lower edge (22);

characterized in that it comprises:

a tubular spacer lug (23) extending inwards of the band (20) coaxially therewith, being fast with the washer (6), and having a predetermined height dimension; and

a border (25) formed at the free lower edge (22) of the band (20) to provide an axial stop for said tubular spacer lug (23).

2. A closure (1) for bottles according to Claim 1, characterized in that said tubular spacer lug (23) has a predetermined thickness effective to form a seal between the band (20) and the collar (4) of the bottle (2).

3. A closure (1) for bottles according to Claim 2, characterized in that it comprises a splined connection (26) formed between the tubular spacer lug (23) and the collar (4) of the bottle (2).

4. A closure (1) for bottles according to Claim 3, characterized in that it comprises a cap overlay (29) encapsulating said cap (16).

5. A closure (1) for bottels, according to Claim 4, characterized in that the band (20) is made of aluminum.

6. A closure (1) for bottles according to Claim 5, characterized in that the cap overlay (29) is made of aluminum.

7. A closure (1) for bottles according to Claim 1, characterized in that the male/female interfit (11) comprises a cylindrical seat (12) having a predetermined diameter and being formed in the pour body (10), and a two-diameter tubular member (13) formed on the washer (6), said two-diameter tubular member (13) having a first section (14) in slack male/female fit relationship with the cylindrical seat (12) and a second section (15) in tight male/female fit relationship with said cylindrical seat (12).

8. A closure (1) for bottles according to Claim 7, characterized in that said height dimension of the tubular spacer lug (23) is selected such

that with the tubular spacer lug (23) in abutting engagement with said border (25), the male/female interfit (11) is only operative at its first section characterized by a degree of slack.

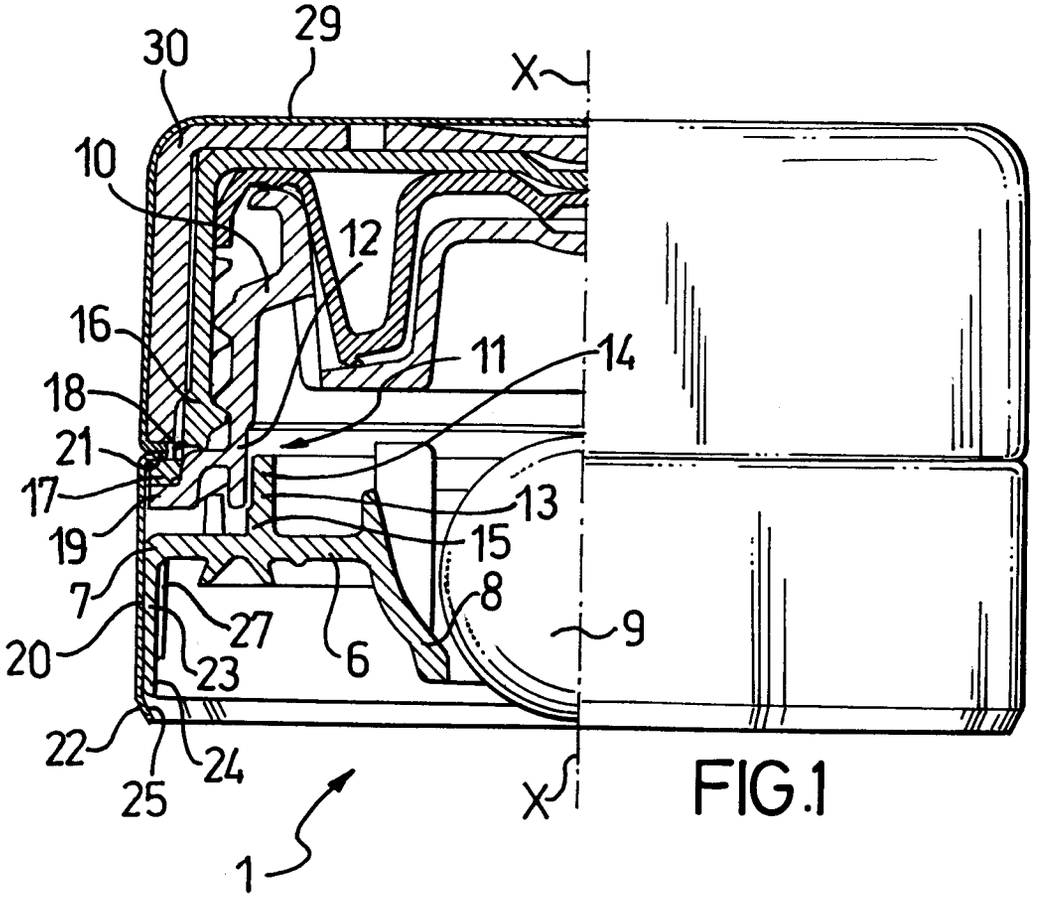

FIG.1

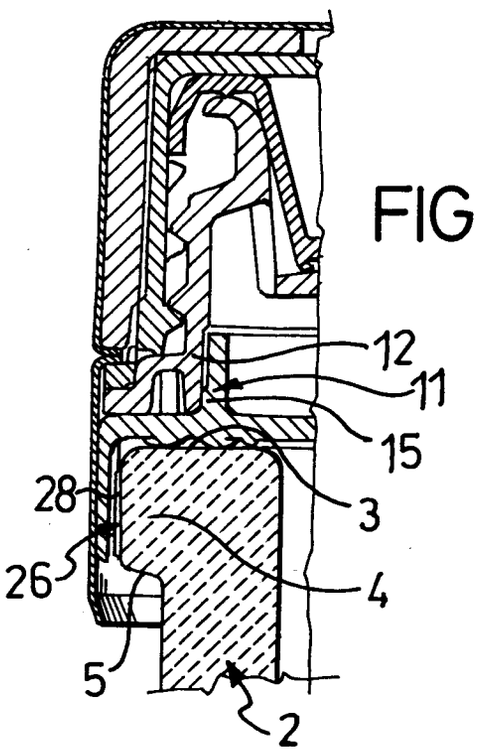

FIG.2

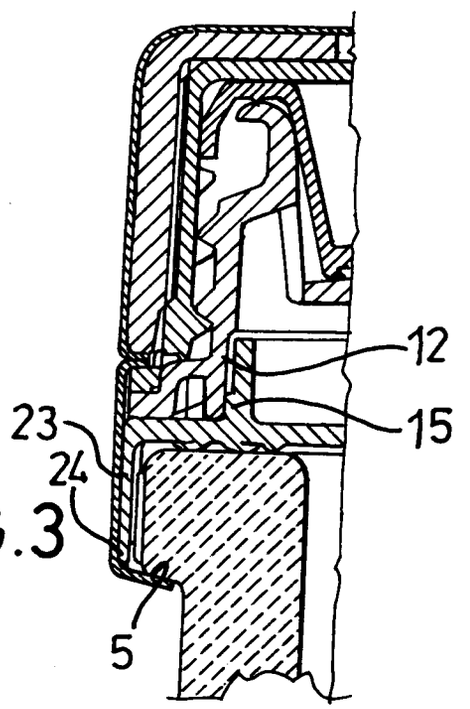

FIG.3

European Patent Office

EUROPEAN SEARCH REPORT

Application Number

EP 92 83 0301

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.5)
X	GB-A-1 421 572 (ALLUMINIO MAUCERI BORGHETTO) * the whole document *	1-2	B65D47/12 B65D49/04
A	GB-A-2 124 599 (ANGELO GUALA SPA) * the whole document *	1-3,7	

TECHNICAL FIELDS SEARCHED (Int. Cl.5)

B65D

The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
THE HAGUE	11 FEBRUARY 1993	BRIDAULT A.A.Y.

CATEGORY OF CITED DOCUMENTS

X : particularly relevant if taken alone
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