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Description

This invention relates to a closure for bottles as defined in the preamble of Claim 1 (see GB-A-1 421 572).

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 smaller 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 23 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 scope of 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);

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);

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),

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).

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 1 to 3, 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 1, characterized in that it comprises a cap overlay (29) encapsulating said cap (16).
5. A closure (1) for bottles, according to Claim 1, characterized in that the band (20) is made of aluminum.
6. A closure (1) for bottles according to Claim 4, characterized in that the cap overlay (29) is made of aluminum.
7. A closure (1) for bottles according to Claim 1, 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.

Patentansprüche

1. Verschuß (1) für Flaschen, der eine für sich allein handhabbare Einheit bildet und zur Anbringung an einer Flasche (2) geeignet ist, die ein Ende (3) mit einem Kragen (4) aufweist, der eine unterschneidete Schulter (5) festlegt, wobei der Verschuß aufweist:
eine Scheibe (6) mit einer festgelegten Achse (x-x),
einem Gußkörper (10), der der Scheibe (6) koaxial mittels eines Steckteil-Buchsen-Eingriffs (11) zugeordnet ist,
eine Kappe (16) zum Aufschrauben auf den Gußkörper (10),
ein röhrenförmiges Band (20) mit einer oberen Kante (21), die eingefaltet ist, um den Gußkörper (10) und die Scheibe (6) vorabzuhalten, und einer freien unteren Kante (22), einen röhrenförmigen Abstandshalter (23), der sich von dem Band (20) koaxial zu diesem nach innen erstreckt, mit der Scheibe (6) fest verbunden ist und eine vorbestimmte Höhenabmessung aufweist, und
eine Einfassung (25), die an der unteren freien Kante (22) des Bands (20) vorgesehen ist, um einen Axialanschlag für den röhrenförmigen Abstandshalter (23) zu bilden,
dadurch **gekennzeichnet**,
daß der Steckteil-Buchsen-Eingriff (11) einen zylindrischen Ansatz (12) aufweist mit einem vorbestimmten Durchmesser und in dem Gußkörper (10) gebildet ist, und ein Röhrenelement (13) mit zwei Durchmessern vorgesehen ist, das auf der Scheibe (6) gebildet ist, wobei das Röhrenelement (13) mit zwei Durchmessern einem ersten Abschnitt (14) mitlosem Steckteil-Buchsen-Eingriff mit dem zylindrischen Ansatz (12) aufweist in einen zweiten Abschnitt (15) in festem Steckteil-Buchsen Eingriff mit dem zylindrischen Ansatz (12).
2. Verschuß (1) für Flaschen nach Anspruch 1, dadurch **gekennzeichnet**,
daß der röhrenförmige Abstandshalter (23) eine vorbestimmte Dicke aufweist, um eine Dichtung zwischen dem Band (20) und dem Kragen (4) der Flasche (2) zu bilden.
3. Verschuß (1) für Flaschen nach einem der Ansprüche 1 bis 2, dadurch **gekennzeichnet**,
daß er eine Keilverbindung (26) zwischen röh-

renförmigen Abstandshalter (23) und dem Kragen (4) der Flasche (2) aufweist.

4. Verschuß (1) für Flaschen nach Anspruch 1, dadurch **gekennzeichnet**,
daß er einen Kappen-Überlappteil (29), das in der Kappe (16) eingekapselt ist, aufweist.
5. Verschuß (1) für Flaschen nach Anspruch 1, dadurch **gekennzeichnet**,
daß das Band (20) aus Aluminium ist.
6. Verschuß (1) für Flaschen nach Anspruch 4, dadurch **gekennzeichnet**,
daß das Kappen-Überlappteil (29) aus Aluminium ist.
7. Verschuß (1) für Flaschen nach einem der Ansprüche 1 bis 6, dadurch **gekennzeichnet**,
daß die Höhenabmessung des röhrenförmigen Abstandshalters (23) so gewählt ist, daß, wenn der röhrenförmige Abstandshalter (23) an die Einfassung (25) anschlägt, der Steckteil-Buchsen-Eingriff (11) nur durch seinen ersten Abschnitt wirkt, der durch einen gewissen losen Freiheitsgrad gekennzeichnet ist.

Revendications

1. Fermeture (1) pour bouteilles, formant un ensemble pouvant être manipulé de manière individuelle et adapté pour être assemblé sur une bouteille (2) ayant une extrémité (3) munie d'un collier (4) qui définit un épaulement (5) en contre-dépouille, la fermeture comportant :
une rondelle (6) ayant un axe prédéterminé (X-X),
un corps de déversement (10) associé à la rondelle (6) coaxialement à celle-ci, par l'intermédiaire d'un agencement mutuel mâle/femelle (11),
un bouchon (16) destiné à être vissé sur le corps de déversement (10),
une bande tubulaire (20) ayant un bord supérieur (21) replié pour retenir le corps de déversement (10) et la rondelle (6) en position et un bord inférieur libre (22),
une patte (23) formant écarteur tubulaire s'étendant vers l'intérieur de la bande (20) coaxialement à celle-ci, étant fixée à la rondelle (6), et ayant une dimension prédéterminée en hauteur, et
une bordure (25) formée au niveau du bord inférieur libre (22) de la bande (20) pour fournir une butée axiale pour ladite patte formant écarteur tubulaire (23),
caractérisée en ce que l'agencement mu-

tuel mâle/femelle (11) comporte un siège cylindrique (12) ayant un diamètre prédéterminé et formé dans le corps de déversement (10), et un élément tubulaire (13) à deux diamètres formé sur la rondelle (6), ledit élément tubulaire (13) à deux diamètres ayant un premier tronçon (14) ayant une relation d'agencement mâle/femelle avec jeu avec le siège cylindrique (12) et un second tronçon (15) ayant une relation d'agencement mâle/femelle serré avec ledit siège cylindrique (12).

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2. Fermeture (1) pour bouteilles selon la revendication 1, caractérisée en ce que ladite patte (23) formant écarteur tubulaire a une épaisseur prédéterminée efficace pour assurer l'étanchéité entre la bande (20) et le collier (4) de la bouteille (2).

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3. Fermeture (1) pour bouteilles selon la revendication 1 ou 2, caractérisée en ce qu'elle comporte une liaison cannelée (26) formée entre la patte (23) formant écarteur tubulaire et le collier (4) de la bouteille (2).

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4. Fermeture (1) pour bouteilles selon la revendication 1, caractérisée en ce qu'elle comporte un revêtement (29) de bouchon encapsulant ledit bouchon (16).

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5. Fermeture (1) pour bouteilles, selon la revendication 1, caractérisée en ce que la bande (20) est constituée d'aluminium.

6. Fermeture (1) pour bouteilles selon la revendication 4, caractérisée en ce que le revêtement (29) de bouchon est constitué d'aluminium.

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7. Fermeture (1) pour bouteilles selon la revendication 1 ou 6, caractérisée en ce que ladite dimension en hauteur de la patte (23) formant écarteur tubulaire est choisie de telle sorte que la patte (23) formant écarteur tubulaire étant en contact de butée avec ladite bordure (25), l'agencement mutuel mâle/femelle (11) n'existe qu'au niveau de son premier tronçon caractérisé par un degré de jeu.

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