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(54) **A combination of decorative hood and closure cap**

(57) The invention relates to the tamper-proof means for ready products, in particular to screw closures intended to close glass containers or bottles, wherein the bottleneck lip is threaded. These are commonly the bottles for aperitifs, liquors, vodka and other strong drinks gradually consumed so that said bottle is to ensure safe opening and reclosing, and possibly time and again.

A combination of a decorative hood (1) and a closure cap (9) is proposed, wherein the decorative hood with a side wall (2) and a top is made of a polymeric material, while the closure cap provided with perforations (10) and corrugation (12,13) over the external surface, and an inner thread is fabricated from a metal, essentially aluminum, characterized in that the outer diameter of the decorative hood (1) surpasses the outer diameter of the closure cap (9), the inner surface of the decorative hood (1) being made with an annular projection (5) having denticles (6,7) on the inner surface and an annular intermittent collar (8) for fastening said hood on the closure cap in axial direction, aforesaid closure cap having an annular groove on its external surface.

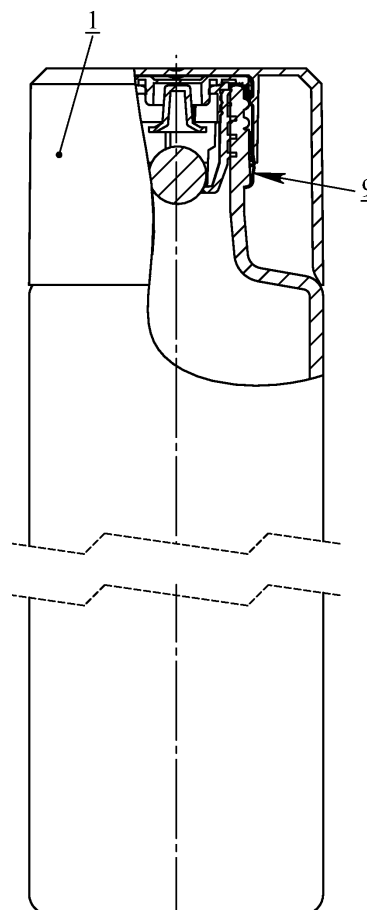


Fig.1

Description

Description

[0001] The invention relates to the tamper-proof means for ready products, particularly to screw caps intended to close glass containers or bottles wherein the bottleneck lip is threaded. These are commonly the bottles for aperitifs, liquors, vodka and other strong drinks gradually consumed so that said bottle is to ensure opening and reclosing, and possibly time and again.

[0002] Known in the art are the closure devices for bottles (US Patent no. 3930588, IPC B 65 D 41/34, publ. 06.01.76; RU Certificate for Utility Model no18697, IPC B 65 D 41/00, publ. 10.07.2001) comprising an aluminum closure for closing bottles with a threaded element to be engaged with the bottleneck, and perforations to make opening and removal of the cap easier. Identification marks are made on the external surface of such caps. Upon rolling said cap against the bottleneck a thread relief appears from the outside.

[0003] The drawbacks of above described engineering solution are unreliable sealing of the liquid in the bottle, imperfect means for identification marking and inconvenient unsealing due to a small diameter of the cap and elevated friction in the screw joint between the glass and rolled-in aluminum.

[0004] A safety cap is known comprising a decorative casing with a shut-off sleeve and a discharge sleeve, said cap being provided with a means for bottle sealing and a thread to be engaged with the cap enclosed in a decorative casing (RU Authors' Certificate for Utility Model no. 23290, B 65 D 39/00, publ. 10.06.2002). A drawback of the cap is intricacy of the design and imperfect means for identification marking.

[0005] The closest analogue is a decorative plastic hood for bottles, comprising a closure with essentially cylindrical side wall and essentially flat circular upper part (RU Patent for Utility Model no. 40629, B 65 D 41/32, publ. 20.09.2004), and a metallic closure cap provided with a threaded element to be engaged with the bottleneck, and perforations to make opening and removal of the cap easier (US Patent no. 4454954, B 65 D 49/02, publ. 19.06.86). Some ruffles are made on the external surface of the cap in its upper part.

[0006] Known in the art analogues are characterized by low tamper-proof and decorative means, and inconvenient unsealing, especially when the closure is screwed and unscrewed time and again.

[0007] The purpose of the present invention is to extend engineering resources of the closure cap and decorative hood by providing extra tamper-evident means, differentiated and esthetically new identification facilities, ensuring more comfort and reliability for handling.

[0008] Above-indicated technical result is achieved in that a combination is proposed of a decorative hood and closure cap, wherein the decorative hood is made of a polymeric material having a side wall and a top, whereas

said closure cap is made of a metal, essentially aluminum, and is fit with perforations, corrugation over its external surface and an internal thread, the outer diameter of aforesaid decorative hood surpassing that of the closure cap and having an annular projection made over its interior portion, wherein denticles are arranged over the inner surface of said hood and an annular intermittent collar to fix the hood in axial direction on the closure cap, the external surface of said closure cap being made with a circular groove.

[0009] In addition hereto, a particular case of the invention embodiment presupposes that the inner diameter of the annular projection of the decorative hood cedes slightly the outer diameter of the closure cap.

[0010] The denticles arranged over the inner surface of the annular projection of the decorative hood are spaced diametrically in two tiers. The corrugation on the external surface of the closure cap is made in its upper and lower portions. The number of denticles of the upper and lower tiers on the inner surface of the annular projection is multiple to the number of flutes of the corrugation on the closure cap.

[0011] Furthermore, in a particular case of the embodiment the circular groove on the external surface of the closure cap is located below the upper corrugation. On the external end surface of the closure cap a sealing disc is laid and kept by a ledge formed by the outer circular groove on the closure cap.

[0012] The cylindrical side wall of the decorative hood is open from one end and chamfered at the edge so as to be adapted tightly to the container body. The outside diameter of the decorative hood matches to the utmost the diameter of the container.

[0013] Besides, a particular embodiment of the invention comprises a closure cap containing a discharge element with a shutoff valve. The sealing cover of the discharge element is retained on the internal end surface of the closure cap when the closure is unscrewed owing to a ledge formed by the outer circular groove of the closure cap.

[0014] The invention is illustrated by the drawings, where Fig. 1 shows schematically the general view of the decorative hood and the closure cap; Fig. 2 - decorative hood; Fig. 3 - closure cap; Fig. 4 - discharge element; Fig. 5 - container; Fig.6 - view A in Fig. 3.

[0015] Decorative hood 1 comprises side wall 2 with chamfered edge 3 of the upper part 4, interior portion of said hood having annular projection 5, wherein on the inner surface a lower tier of denticles 6 and the upper tier of denticles 7 are provided, and intermittent collar 8.

[0016] Closure cap 9 is made with perforation 10, circular groove 11, upper ruffles 12 and lower ruffles 13. Over the interior surface of the closure cap there is annular ledge 14 formed by the outer circular groove 11 of said cap.

[0017] Closure cap 9 accommodates a portion of the valve fit inside the container's neck when adapting hood 1 to the container, said valve elements being made, e.g.

in the form of discharge element 15 with shutoff valve 16 and sealing cover 17.

[0018] Closure cap 9 may also contain a sealing gasket (not shown).

[0019] Decorative hood 1 is slipped tightly over closure cap 9 by involving annular projection 5. Denticles 6 and 7 are engaged with ruffles 12 and 13 of closure cap 9 to provide joining of said cap with the hood in radial direction. In addition, annular intermittent collar 8 of annular projection 5 of hood 1 is snapped on circular groove 11 located below upper ruffles 12 of closure cap 9 to fasten the hood in axial direction.

[0020] The number of the denticles of the upper and lower tiers on the interior surface of the annular projection is multiple to the number of flutes in the corrugation of aforesaid closure cap to allow to ensure a complete contact in the serrated joint and envisage the transfer of a maximal torque during unsealing of the container.

[0021] When mounting the hood on cap 9 the hood is guided and oriented by the lower tier of denticles 6 along the ruffles on the cap.

[0022] The lower and upper tiers 6 and 7 of the denticles ensure a uniform enfolding of the ruffles of closure cap 9 by annular projection 5 of hood 1, preserving thereby physical-mechanical parameters and hindering deformation of said cap while being unscrewed and screwed-up many times.

[0023] Rotation of decorative hood 1 initiates a simultaneous unscrewing of closure cap 9 via the serrated joint found between said cap and hood, breaking thereby the perforations. Upon unscrewing, cap 9 is kept within the annular projection 5 of hood 1 owing to intermittent collar 8 latched onto groove 11 of cap 9 and tight fitting between the annular projection and the cap.

[0024] By providing decorative hood 1 with substantially larger diameter than the closure cap has, makes it possible to vary the outer dimensions, shape and outward appearance of hood 1 in response to customer's requirements without modification of its technical essence but providing wider opportunities for identification stencils. Furthermore, decorative hood 1 encases fully cap 9 and bottleneck 18 of the container by chamfered edge 3 of the open end of the hood to ensure maximum protection against extraneous factors.

[0025] The presence of discharge element 15 with shutoff valve 16 and sealing cover 17 prevents from bottle refilling.

[0026] Decorative hood 1 is made of a homogeneous plastic by injection molding. Closure cap 9 is fabricated from a metal, e.g. aluminum by stamping.

[0027] The decorative hood can be of different configuration and form so as to match the shape and configuration of the container, i.e. it may be cylindrical, square, triangular, and so on.

[0028] Valve members are manufactured either from polystyrene or glass.

[0029] The gasket is made by extrusion of foamed polyethylene followed by blanking to a necessary diameter

on a crank press.

[0030] First, the container is closed using aluminum closure cap 9, which is rolled on thread 19, whereupon decorative hood 1 is pressed top-down by applying certain effort till complete latching of intermittent collar 8 on groove 11.

[0031] The proposed technical solution opens vast opportunities in decorative design of the external surface of the hood, makes it more convenient to unseal the closed container, protects the bottleneck from outer effects and preserves intact geometrical parameters of the thin-walled cap upon repeated screw-unscrew actions.

15 Claims

1. A combination of a decorative hood and a closure cap, wherein the decorative hood with a side wall and a top is made of a polymeric material, while the closure cap fit with perforations, corrugation over the external surface and an inner thread is fabricated from a metal, essentially aluminum, **characterized in that** the outer diameter of the decorative hood exceeds the outer diameter of the closure cap, the inside surface of the decorative hood being provided with an annular projection having denticles on the inner surface and an annular collar for fastening said hood on the closure cap in axial direction, aforesaid closure cap having an annular groove on the external surface.
2. A combination of a decorative hood and closure cap as claimed in Claim 1 **characterized in that** the inner diameter of the annular projection of the decorative hood is slightly less than the outer diameter of the closure cap.
3. A combination of a decorative hood and a closure cap as claimed in Claim 1, wherein the denticles located on the inner surface of the annular projection of the decorative hood are arranged diametrically in two tiers.
4. A combination of a decorative hood and a closure cap as claimed in Claim 1, wherein corrugation is made on the external surface of the closure cap in its upper and lower parts.
5. A combination of a decorative hood and a closure cap as claimed in Claims 3-4, wherein the number of denticles in the upper and lower tiers on the inner surface of the annular projection is a multiple to the number of flutes in corrugation of the closure cap.
6. A combination of a decorative hood and a closure cap as claimed in Claim 1, wherein the circular groove on the external surface of the closure cap is located below the upper corrugation.

7. A combination of a decorative hood and a closure cap as claimed in Claim 1, **characterized in that** the sealing gasket is fixed on the interior end surface of the closure cap being kept by a ledge formed by the outer circular groove on said cap. 5
8. A combination of a decorative hood and a closure cap as claimed in Claim 1, wherein the side wall of said decorative hood is made with an open end chamfered at the edge and adapted to be applied to the container body. 10
9. A combination of a decorative hood and a closure cap as claimed in Claim 1, wherein the closure cap comprises a discharge element with a shutoff valve and a sealing cover fastened on the neck of the container. 15
10. A combination of a decorative hood and a closure cap as claimed in Claim 8, **characterized in that** the sealing cover of the discharge element is kept when the hood is being unscrewed on the interior end surface of the closure cap owing to a ledge formed by the outer circular groove. 20
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11. A combination of a decorative hood and a closure cap as claimed in Claim 1, wherein the outer diameter of the decorative hood approaches to the maximum the outer diameter of the container. 30

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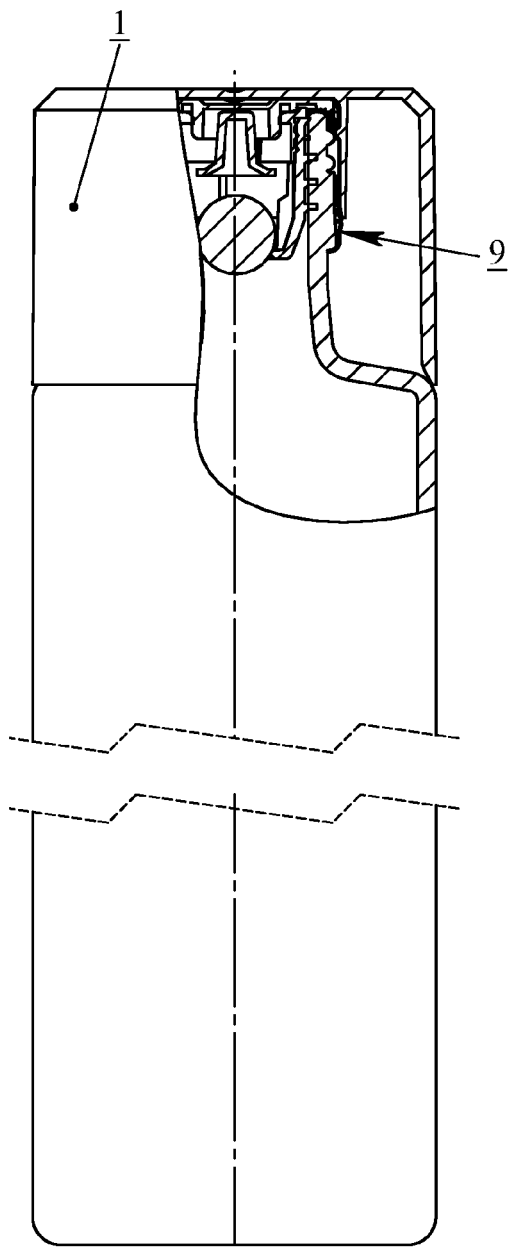


Fig.1

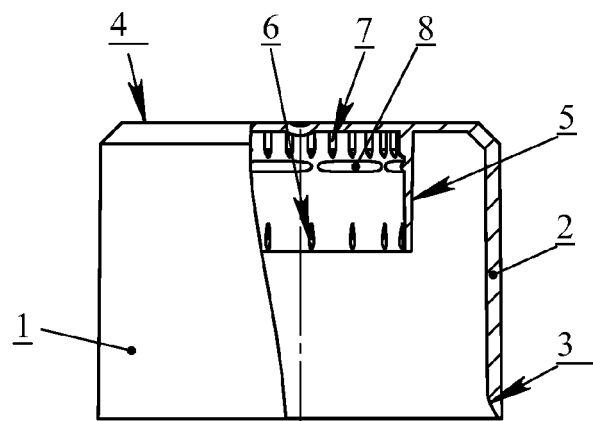


Fig.2

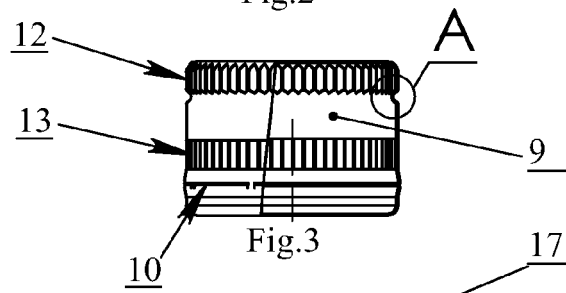


Fig.3

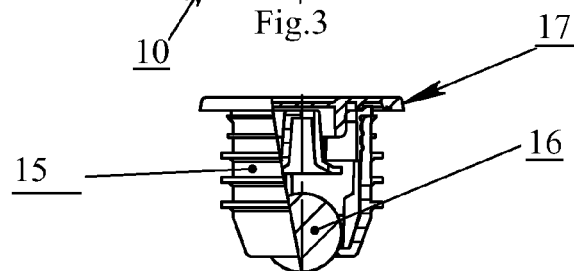


Fig.4

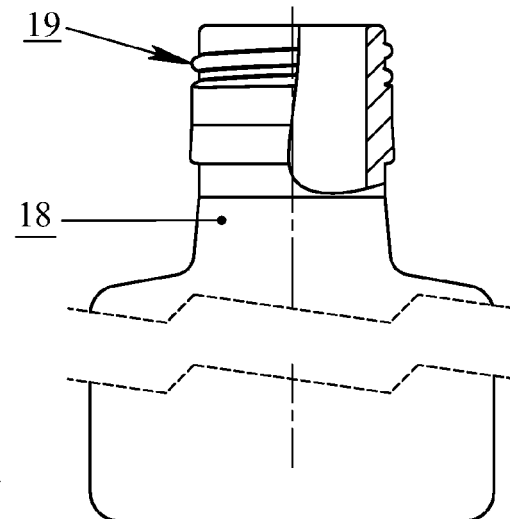


Fig.5

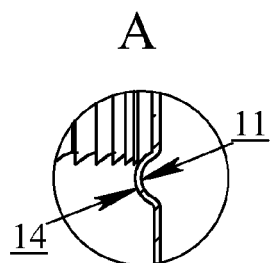


Fig.6



European Patent
Office

EUROPEAN SEARCH REPORT

Application Number
EP 07 10 7126

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
A	EP 0 117 722 A (UNILEVER PLC [GB]; UNILEVER NV [NL]) 5 September 1984 (1984-09-05) * page 8, lines 6-18 - page 10, lines 8-13; figure 1 *	1-9	INV. B65D49/04 B65D51/18
A	DE 77 16 002 U1 (HENKELL & CO [DE]) 9 March 1978 (1978-03-09) * page 4, lines 11-23; figure 1 *	1-9	
			TECHNICAL FIELDS SEARCHED (IPC)
			B65D
The present search report has been drawn up for all claims			
Place of search Munich		Date of completion of the search 3 April 2008	Examiner Cazacu, Corneliu
CATEGORY OF CITED DOCUMENTS X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document			

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**ANNEX TO THE EUROPEAN SEARCH REPORT
ON EUROPEAN PATENT APPLICATION NO.**

EP 07 10 7126

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03-04-2008

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REFERENCES CITED IN THE DESCRIPTION

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