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(54) Sealing and fixing means for closing botties filled under overpressure, in particular champagne bottles.

(57) The invention relates to sealing and fixing means for closing bottles filled under overpressure, in particular champagne bottles, provided with a sealing element closing the bottle mouth in an airtight way and with means fixing said element to the bottle neck.

The essential feature of the invention lies in that the sealing element is a synthetic stopper (2) or a cork stopper (3) fitting tightly into the neck of the bottle (12) form inwards, while as fixing means there is a clamping band (6) made of an infinite synthetic material led along the tearing-fastener (8) formed with protrusions (7) having a weakened cross-section and fitting into the grooves running around the top of the bottle neck; the upper flange of the clamping band (6) is forming an unit with the synthetic stopper head (4) connected to the synthetic stopper (2) or with the synthetic basket (5) enclosing the cork stopper (3) laterally and from the top.

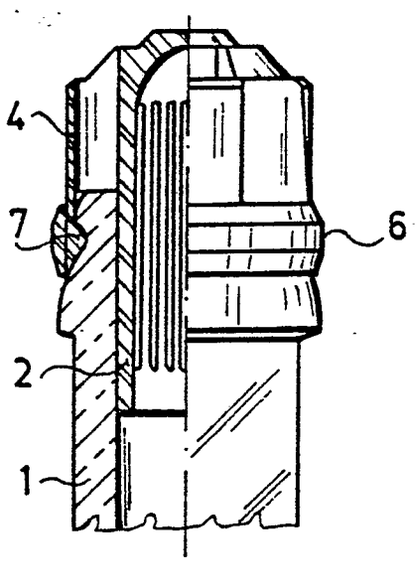

Fig.1

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Sealing and fixing means for closing bottles filled under overpressure, in particular champagne bottles

The invention relates to sealing and fixing means for closing bottles filled under overpressure, in particular champagne bottles, having a sealing element for the airproof closure of the mouth of the bottle and means for fixing said element to the bottle neck.

Several methods have been known for closing the bottles produced in series containing different drinks, in particular drinks containing carbonic acid. Application of one of the traditional processes, namely the use of cork stoppers is utmost expensive, as a replacement the so-called "crown-cork" used to be applied, being a flanged metal cap pressed into the upper groove of the bottle.

However, this solution became general only for closing refreshment drink bottles, as well as bottles containing beer and cheap wines. The reasons for it lies primarily in the traditions at the sale and consumption of the drinks.

In course of bottling quality drinks the fundamental aspect lies in assuring the originality of the drink, that means that the content of the bottle could not be decanted by exchanging the sealing means.

This requirement cannot be met either by the crowncork, or by different closing elements made of some thermoplastic synthetic material, which can be removed under heat treatment without getting damaged and replaced in the same way.

The solutions according to the Hungarian Patents HU-PS 169 627 and HU-PS 174 377 aimed at the assurance of original bottling and airtight closure. These solutions became widely used for sealing wine bottles, however, they were unsuitable for closing champagne bottles, as both the shape of the stopper and methods of opening of the bottle differ from the traditional.

For closing champagne and effervescent wine bottles presently stoppers made of cork or a synthetic material are used, which preserve their original shape. They are fixed with the well known wire basket made of steel-wire galvanized with zinc, the four branches of which enclose the head of the stopper. At the end of the branches there is a ring which encloses the bottle neck. When closing the bottle, the wire is seized on one place and by turning, the ring is pressed into the groove running around the bottle neck.

Production and application of the wire basket are fairly complicated and expensive. Several sulutions have been proposed for preparing simpler and cheaper fixing means simultaneously preserving aesthetic appe arance of traditional closing and usual mode of opening the champagne bottle. The essential feature of said solutions lies in that the head of the synthetic stopper is provided with extensions enclosing the bottle neck which is pressed into the groove around the neck by means of a ring, expediently a wire ring tightened by torsion.

The solution according to the Hungarian Patent Application 3794/85 lies the next to the object of the present invention.

However, the drawback of this solution lies in - being common with a plurality of other solutions -that the locking ring is to be produced separately, in course of bottle it has to be placed onto the stopper and pressed onto the extension of the stopper head by torsion or in any other way in order to get them pressed into the grooves on the bottle neck.

The aim of the invention is to develop a sealing and fixing construction - simultaneously eliminating the deficiencies of known solutions -, the fixing means of which is forming one structural unit with the sealing stopper in course of bottling and simultaneously with putting in the stopper, the stopper will be fixed too.

The aim set was achieved by the structural design, in so far as the sealing element of the sealing and fixing means is a stopper made of cork or any synthetic material fitting closely to the bottle neck from within, while the fixing means are formed by a synthetic clamping ring made of an infinite material, led along the tearing-fastener fitting into the upper groove running around the bottle neck and having a cross-section weakened by protrusions: along the upper flange the clamping ring forms a unit with the synthetic stopper head connected to the synthetic stopper or with the synthetic basket enclosing the cork stopper laterally and from the top.

An embodiment of the sealing and fixing means according to the invention is considered as expedient, with which - when using a synthetic stopper - an elastic band made of the same material as the stopper head is connected with the stopper head in a detachable way; the elastic band encloses the bottle neck and the ends thereof are connected so, that they could be torn, furtheron, on the inner side of the band two or more symmetrically arranged protrusions are formed, which are fitting into the grooves on the bottle neck.

In case of a cork stopper the end of the stopper extending from the bottle is enclosed by a synthetic basket, which is connected to a fixing construction, similarly to the previously described solution.

Furtheron, it is considered as advantageous, if on the clamping band made of some elastic syn-

thetic material two or more protrusions with identical mutual distances are arranged, fitting, resp. extending into the upper groove of bottle neck.

With a further advantageous embodiment of the sealing and fixing means of the invention the clamping band is provided with lug being suitable for releasing the tearing-fastener and extending in one of the directions.

In case of the aforementioned advantegeous embodiment the synthetic stopper, the synthetic basket belonging thereto and the fixing means can be manufactured from the same basic material in one and the same tool, in contrast to the separately manufactured closing means of the known solutions. In course of bottle separate feeding of the stopper and the fixing means becomes superfluous, putting in the stopper and fixing do not form separate operations.

The invention will be described in detail by means of preferred embodiments serving as example, with reference to the accompanying drawings, wherein

Figure 1 is the semi-sectional view of the synthetic champagne bottle stopper according to the invention,

Figure 2 the top view of Figure 1, at last

Figure 3 the semi-sectional view of the cork-stopper for champagne bottles, fixed with a synthetic basket in accordance with the invention.

With the embodiment as to be seen in Figure 1, a synthetic stopper 2 is put into the bottle neck of champagne bottle 1, the synthetic stopper head 4 thereof impacts on the mouth of the bottle. The clamping band 6 - made of the same material, as the stopper head - is connected to the synthetic stopper head 4, said clamping band encloses tightly the neck of the bottle 1, while the two ends - as it becomes obvious form Figure 2 - are connected to the detachable tearing-fastener 8.

On the inner side of the clamping band 6 two or more - in our case four - symmetrically arranged protrusions facing inwards are arranged which are fitting into the grooves running around the bottle neck. At the end of the clamping band the lug 9 is formed, which can be well siezed with our hands.

With the embodiment according to Figure 3 the neck of the bottle 1 is sealed with the cork stopper 3, the end extending therefrom is enclosed by the synthetic basket 5. The synthetic basket 5 is provided with the fixing means, as described in connection with the previous embodiment.

With both embodiments, when the synthetic stopper 2 resp. the cork stopper 3 are pressed into the neck of the bottle 1, the protrusions 7 on the inside of the clamping band 6 are snapped into the groove running around the bottle neck and fix the stopper in its pressed-in state. When opening the bottle, by siezing the lug 9 we tear down the clamping band 6 from the stopper head, thereafter the stopper is pulled out in the usual way.

The solution according to the invention can be applied primarily for champagne bottling, however, it can be applied suitably for other bottles filled under overpressure, e.g. for drinks containing carbonic acid, naturally, with properly shaped stoppers and stopper heads, however, with fixing means being essentially identical with the specified one.

Claims

1. Sealing and fixing means for closing bottles filled under overpressure, in particular champagne bottles, provided with a sealing element closing the bottle mouth in an airtight way and with means fixing said element to the bottle neck, **characterized** in that the sealing element is a synthetic stopper (2) or a cork stopper (3) fitting tightly into the neck of the bottle (1) form inwards, while as fixing means there is a clamping band (6) made of an infinite synthetic material led along the tearing fastener (8) formed with protrusions (7) having a weakend cross-section and fitting into the grooves running around the top of the bottle neck and the upper flange of the clamping band (6) is forming an unit with the synthetic stopper head (4) connected to the synthetic stopper (2) or with the synthetic basket (5) enclosing the cork stopper (3) laterally and from the top.

2. Sealing and fixing means as claimed in Claim 1, **characterized** in that on the clamping band (6) made of some elastic syntheticmaterial two or more protrusions (7) are arranged in a mutually equal distance, which are fitting resp. extending into the topmost groove running around the bottle neck (1).

3. Sealing and fixing means as claimed in Claims 1 and 2, **characterized** in that the clamping band (6) is well suitable for releasing the tearing-fastener (8) and it is provided with a lug (9) extending in one direction.

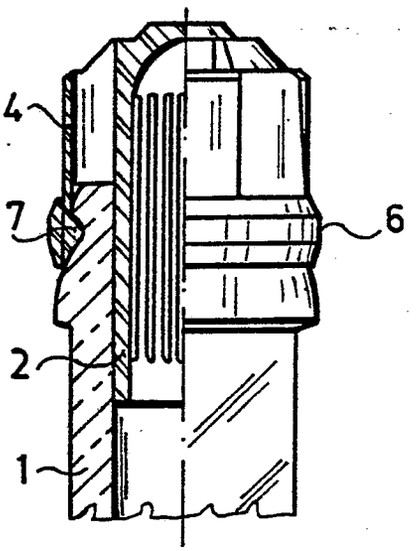

Fig.1

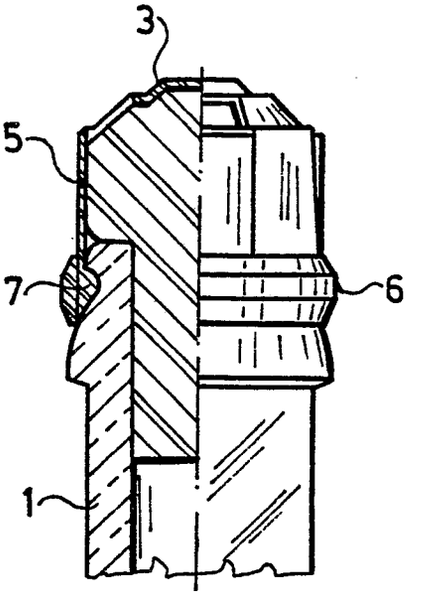

Fig.3

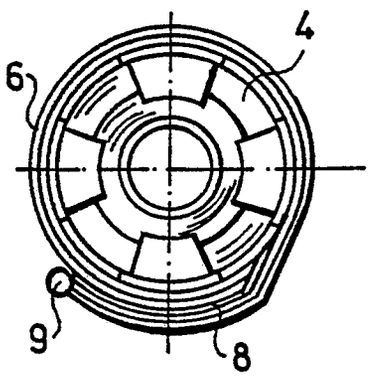

Fig.2

European Patent Office

EUROPEAN SEARCH REPORT

Application Number

EP . 88 12 1783

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.4)
A	FR-A-1 086 833 (M.P.A. BLONDEL) * Page 1, column 2, last paragraph; page 2, column 1, lines 1-27; page 2, column 1, last paragraph; figures 1,2 *	1,2	B 65 D 55/06
A	US-A-3 025 990 (A. PANCRAZI) * Column 2, lines 10-70; figures 1-3 *	1-3	
			TECHNICAL FIELDS SEARCHED (Int. Cl.4)
			B 65 D

The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
THE HAGUE	29-03-1989	VANTOMME M.A.

CATEGORY OF CITED DOCUMENTS

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