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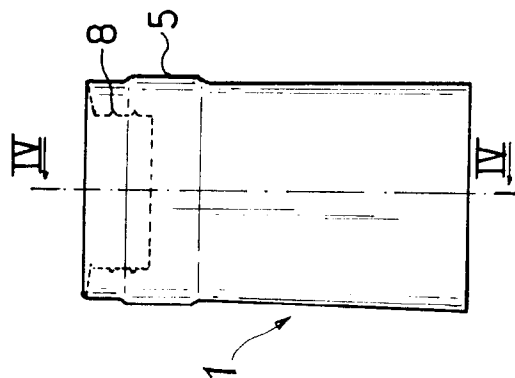
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(54) **Reclosable plastic material stopper, particularly for wine bottles**

(57) The present invention relates to a reclosable stopper (1) for bottles, realised by plastic material approved for containment of foods, and comprised of a substantially cylindrical body, closed at the top and provided with a thickened portion coupling with a corresponding thickened portion (5) on the neck of the bottle (6), said substantially cylindrical body being divided in

two parts, respectively upper (3) and lower (2) part, joined by a pre-established breaking or fracturation line (4), said upper part (3), removable and applicable again on the bottle (6) after the fracturation of said line, internally providing an engagement projecting element (7) having a substantially cylindrical cross-section coupling with the opening provided on the top of the bottle (6) neck.

**FIG. 1**



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## Description

The present invention relates to a reclosable plastic material stopper, particularly for wine bottles.

More particularly, the invention relates to a stopper of the above kind that can be safely used with any kind of wine, even the most valued, or with other kind of wine, and solving all the problems relevant to the plugging of the bottle and to the following reclosure after its first opening and a partial use of its contents.

As it is known, at present, mostly the bottles and particularly the bottles containing liquid, such as wine or other beverages, are plugged using cork stoppers or, less often and for less important cases, screwed aluminium stoppers.

The latter solution is the one less used either for practical reasons and for reasons connected with the guarantee of maintaining the organoleptic properties of the bottle contents.

The system surely more used is the one providing the use of cork stoppers.

As it is well known, this kind of closure has three specific problems.

First, their application on the bottle is rather problematic, requiring a particular apparatus for its application.

Furthermore, very often, particularly in case of a long preservation of the bottle full, its contents take an unpleasant stopper taste.

This kind of drawback is absolutely unacceptable for the consumer, particularly in case of very valued wines, so that the contents of the bottle can no more drunk.

Finally, the cork stopper, after having been removed for the first time, does not allow an easy reclosure of the bottle, so that often it is compulsory to cut its contour to try to introduce it again within the neck of the bottle, or to find out different solutions.

In view of the above, the Applicant has realised and set an innovative solution allowing to obviate to all the above drawbacks.

First, it is the object of the present invention that of providing a stopper for the closure of bottles allowing to reclose the bottle also after the first opening and a partial utilisation of the contents.

Another object of the present invention is that of providing a stopper that can be applied on the bottle by a single simple operation.

Still another object of the present invention is that of providing a bottle stopper that can be used in a very simple and cheap way.

A further object of the present invention is that of realising a stopper for the closure of bottles made up of cheap material that does not modify the organoleptic properties of the contents.

These and other objects of the present invention are obtained by the realisation of a reclosable plastic material stopper, substantially divided into two parts, coupled

by a pre-established breaking line, one of said parts remaining fixed coupled with the neck of the bottle and the other one, after the separation of the first one can be applied on and removed from the bottle for the use of the contents of the same bottle.

It is therefore specific object of the present invention a reclosable stopper for bottles, realised by plastic material approved for containment of foods, and comprised of a substantially cylindrical body, closed at the top and provided with a thickened portion coupling with a corresponding thickened portion on the neck of the bottle, said substantially cylindrical body being divided in two parts, respectively upper and lower part, joined by a pre-established breaking or fracturation line, said upper part, removable and applicable again on the bottle after the fracturation of said line, internally providing an engagement projecting element having a substantially cylindrical cross-section coupling with the opening provided on the top of the bottle neck.

Preferably, according to the invention, said pre-established breaking line is provided above said thickened portion of said body.

Still according to the invention, said pre-established breaking line can be provided in correspondence of said thickened portion of said body.

Still according to the invention, said engaging projecting portion can be realised divided with respect to said upper part, a pending element being provided on said upper part for the fixed joint coupling with said projecting element, the coupling between said fixed joint coupling element and said projecting element being realised before than the coupling between the stopper and the bottle, and said elements being so shaped to realise between them, when coupled, a space to compensate the tolerances of the glass of the bottle.

Preferably, according to the invention, said projecting element is made up of plastic material approved for containment of food, particularly polyethylene, and said fixed joint coupling element is made up of a plastic material identical or different with respect to the one used for said projecting element.

Still according to the invention, above said projecting element, anti-rotation means are provided interacting with corresponding means provided inside said upper part.

Furthermore, according to the invention, said lower part of the body is slightly flared in correspondence of its lower end.

Still according to the invention, at least one sealing projection, preferably two or three, is provided on said coupling element.

Always according to the invention, said stopper is made up of polyethylene, polythene or other plastic material approved for containment of food.

The stopper according to the invention can provide on the outside a smooth surface or an embossed surface to obtain a better grip, e.g. splined or knurled.

The present invention will be now described, for il-

illustrative but not limitative purposes, according to its preferred embodiments, with particular reference to the figures of the enclosed drawings, wherein:

figure 1 is a front view of the stopper according to the invention;  
 figure 2 is a view of the stopper of figure 1 with the two parts separated;  
 figure 3 is a top view of the stopper of figure 1;  
 figure 4 is a section view taken along line IV-IV of figure 1;  
 figure 5 is a section view taken along line V-V of figure 2;  
 figure 6 is a partially broken front view of the stopper of figure 1 applied on a bottle; and  
 figure 7 is a partially sectioned view of a second embodiment of the stopper according to the invention.

Making now reference to the figures of the enclosed drawings, it is shown a stopper 1 according to the invention providing a lower part 2 and an upper part 3 (see figure 2).

Initially, the stopper 1 provides the two parts 2 and 3 joined along the pre-established breaking line 4, well shown in figure 3.

Even if it is not shown in the figures, the lower part 2, fixed on the bottle, can have its lower part flared for a better introduction of the stopper 1 on the bottle 6.

Furthermore, the stopper 1 according to the invention can be, as already said, splined or knurled on the outside in order to obtain a better grip.

Said pre-established breaking line 4 is provided on the stopper 1 in correspondence of a widening 5, corresponding to a similar widening 5 provided on the neck of the bottle 6.

Within said upper part 3 of the stopper 1 a substantially cylindrical element 7 is provided, said element fitting within the opening of the neck of bottle 6.

As it can be noted, said element 7 provides two projections 8 useful to obtain a better coupling with said bottle neck opening.

The stopper 1 according to the invention is made up as a sole part using plastic material approved for containment of food and then is applied on the bottle 6 by upward pressure, forcing the passage behind said widening, up to the element 7 with the two projections is introduced within said bottle neck opening.

When the bottle 6 must be opened, it will be sufficient to grasp by one hand one of the parts 2 or 3 and then turning the other up to obtaining the breaking of the pre-established breaking line 4.

The upper part 3 is separated and can be removed and applied again at will.

In fact, when it is applied again, due to element 7 and the projections 8, it perfectly couples with the opening of the bottle 6 neck, thus hermetically closing the same bottle.

In the embodiment shown in figure 7, the stopper

11 according to the invention has some modifications with respect to the stopper 1 of the embodiment shown in figures 1 - 6.

In this case, the separation between the lower part 12 and the upper part 13 is realised, always by a pre-established breaking line, in correspondence of the widening 15.

Furthermore, differently with respect to the preceding solution, in this case the substantially cylindrical element 17 is realised separated with respect to the stopper 11 and is coupled to the same, within the upper part 13, before the introduction of the stopper 11 on the bottle 16, by fixed joint with an element 19 pending from the upper part 13 of the stopper 11.

Said element 19 has a projection 20 engaging with the projection 18 of the cylindrical element 17.

The element 19 and the cylindrical element 17 are realised in such a way to create, between them, when coupled, a space 21 useful to compensate the glass tolerances.

Further, above said cylindrical element, tabs 22 are provided, said tabs during the rotation of the stopper 11 interacting with similar elements (not shown) provided within the upper part 13 so as to prevent the relative rotation of the various elements.

It is important that the element 17 is made up of food approved material, preferably polyethylene, while it is not important that the cylindrical element 19 is realised with this kind of material, said element 19 could be realised even by polypropylene, so that they could even be of different materials.

It can be thus clearly understood that the solution suggested according to the present invention allows to obviate to all the drawbacks of the solutions according to the prior art, maintaining at the same time all the positive features.

The present invention has been described for illustrative but not limitative purposes, according to its preferred embodiments, but it is to be understood that modifications and/or changes can be introduced by those skilled in the art without departing from the relevant scope as defined in the enclosed claims.

#### 45 Claims

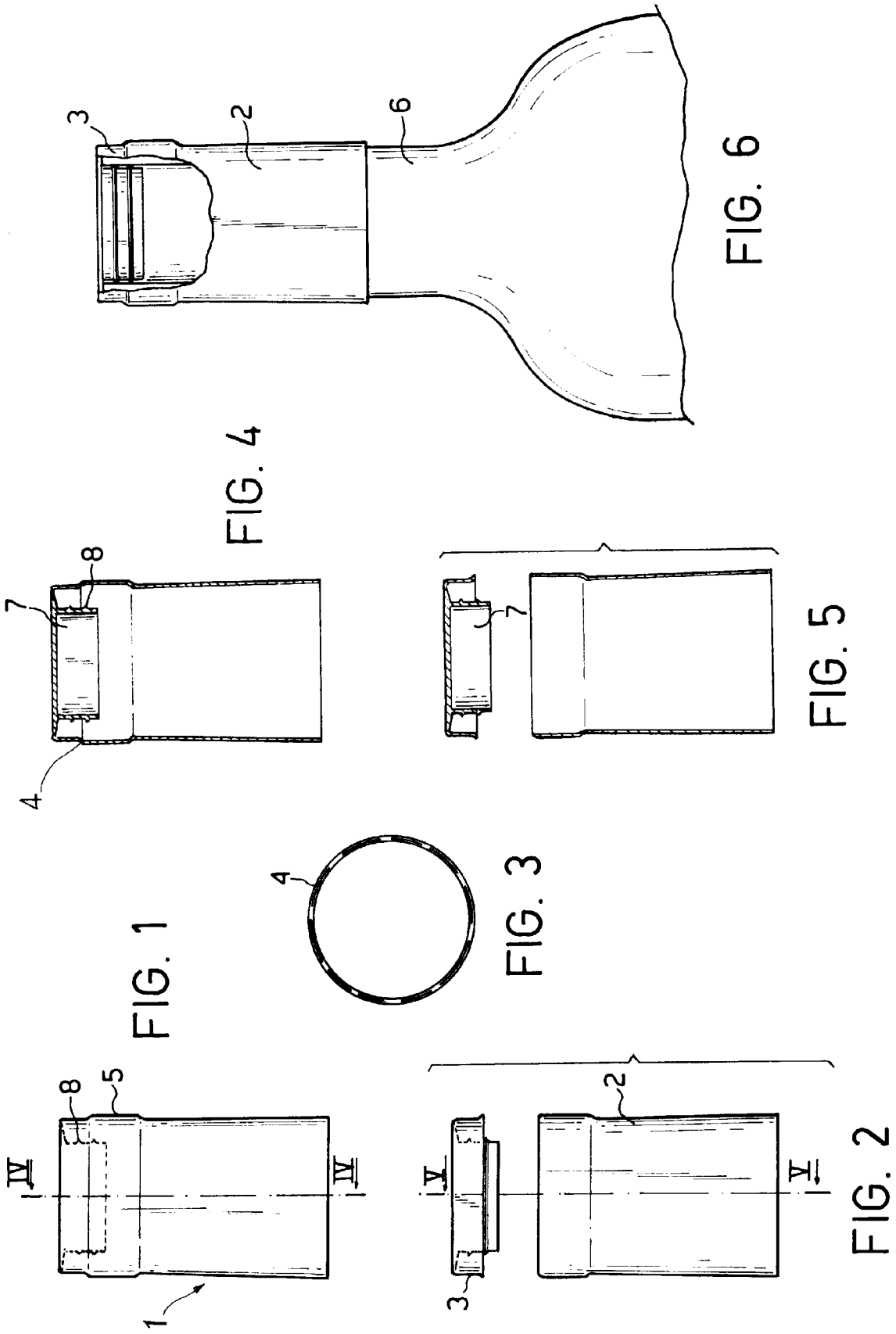
1. Reclosable stopper for bottles characterized in that it is realised by plastic material approved for containment of foods, and in that it is comprised of a substantially cylindrical body, closed at the top and provided with a thickened portion coupling with a corresponding thickened portion on the neck of the bottle, said substantially cylindrical body being divided in two parts, respectively upper and lower part, joined by a pre-established breaking or fracture line, said upper part, removable and applicable again on the bottle after the fracturation of said line, internally providing an engagement projecting

element having a substantially cylindrical cross-section coupling with the opening provided on the top of the bottle neck.

2. Reclosable stopper for bottles according to claim 1, characterized in that said pre-established breaking line is provided above said thickened portion of said body. 5
3. Reclosable stopper for bottles according to claim 1, characterized in that said pre-established breaking line is provided in correspondence of said thickened portion of said body. 10
4. Reclosable stopper for bottles according to one of the preceding claims, characterized in that said engaging projecting portion is realised divided with respect to said upper part, a pending element being provided on said upper part for the fixed joint coupling with said projecting element, the coupling between said fixed joint coupling element and said projecting element being realised before than the coupling between the stopper and the bottle, and said elements being so shaped to realised between them, when coupled, a space to compensate the tolerances of the glass of the bottle. 15  
20  
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5. Reclosable stopper for bottles according to claim 4, characterized in that said projecting element is made up of plastic material approved for containment of food, particularly polyethylene, and said fixed joint coupling element is made up of a plastic material identical or different with respect to the one used for said projecting element. 30  
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6. Reclosable stopper for bottles according to claim 4 or 5, characterized in that above said projecting element, anti-rotation means are provided interacting with corresponding means provided inside said upper part. 40
7. Reclosable stopper for bottles according to one of the preceding claims, characterized in that said lower part of the body is slightly flared in correspondence of its lower end. 45
8. Reclosable stopper for bottles according to one of the preceding claims, characterized in that at least one sealing projection is provided on said coupling element. 50
9. Reclosable stopper for bottles according to claim 8, characterized in that two or three sealing projections are provided on said coupling element. 55
10. Reclosable stopper for bottles according to one of the preceding claims, characterized in that said stopper is made up of polyethylene, polythene or

other plastic material approved for containment of food.

11. Reclosable stopper for bottles according to one of the preceding claims, characterized in that it provide on the outside a smooth surface.
12. Reclosable stopper for bottles according to one of the preceding claims 1 - 11, characterized in that it provide on the outside an embossed surface to obtain a better grip, e.g. splined or knurled.



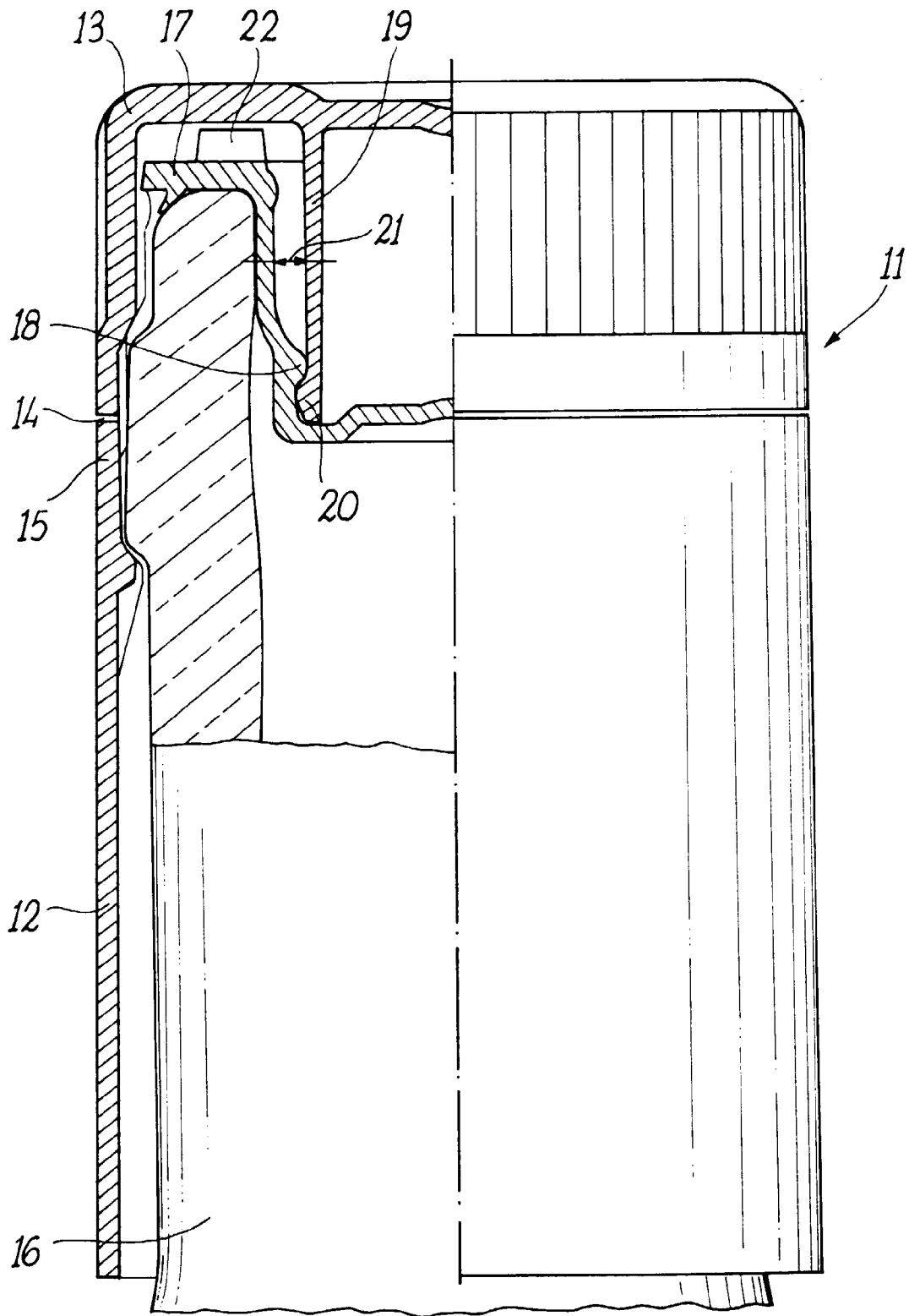


FIG. 7



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EUROPEAN SEARCH REPORT

Application Number  
EP 96 83 0364

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	US-A-3 405 830 (HAYASHIDA KOUICHI) 15 October 1968 * column 3, line 1 - line 54; figures * ---	1-12	B65D41/48
X	DE-A-25 18 227 (BOUCHAGE MECANIQUE) 4 November 1976 * page 5, paragraph 4 - page 9, paragraph 1; figures * ---	1-12	
X	US-A-3 109 547 (WOOD) 5 November 1963 * column 2, line 26 - column 3, line 26; figures * ---	1-3,7-12	
X	FR-A-1 385 457 (ÉTHYLÈNE-PLASTIQUE) 5 May 1965 * the whole document * -----	1-3,7-12	
The present search report has been drawn up for all claims			TECHNICAL FIELDS SEARCHED (Int.Cl.6)
			B65D
Place of search		Date of completion of the search	Examiner
BERLIN		23 September 1996	Olsson, B
CATEGORY OF CITED DOCUMENTS		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	
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			

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