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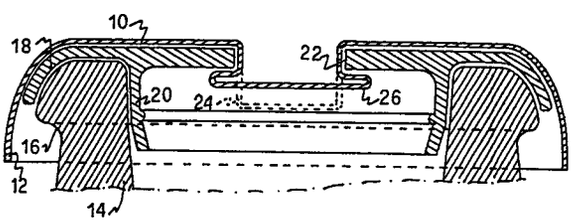
(54) Cap of the tear-off type for bottles containing highly carbonated liquids.

(57) The cap according to the present invention is characterized in that, at an intermediate working stage, on the top panel (10) thereof a hollow pin (24) is formed, said pin being riveted, at a subsequent working stage, after a bored gasket (18) has been put on it, so as to form a head (26) which fastens said gasket.

Therefore the certainty is achieved that the cap and gasket remain firmly bound to each other upon the opening of the bottle.



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Cap of the tear-off type for bottles containing highly carbonated liquids.

The present invention refers to a cap of the tear-off type, particularly suitable for closing bottles containing highly carbonated liquids, such as sparkling wine, for example.

A number of caps of the tear-off type are known, generally from aluminium or its alloys, in which a top panel extends in two lateral bands or skirts which are bent under the rim of the neck of the bottle in order to guarantee the gripping of the cap to the bottle and thus the sealing thereof.

To open the caps of such a type, a tear-off tab is utilized, which extends from the lateral band, while a number of score lines, generally two, which start at the intersection area between the tab and the lateral band and cross the latter and most of the top panel, provide for a easier path for tearing off the metal and thus help the opening.

In case of non carbonated liquids, or even of moderately carbonated liquids, such as carbonated beverages, beer and the like, the problem of sealing the liquid and expecially the gas between the glass of the bottle and the metal of the cap has been solved by interposing a gasket between glass and metal, which consists of a putty, generally having an angular cross-section. Upon closing the cap, this gasket is tightly pressed between metal and glass and thus guarantees the seal of the gases also.

However, when highly or very highly carbonated liquids have to be bottled, such as sparkling wines, such a kind of gasket is no longer sufficient to guarantee the sealing of the gases.

A rubber or plastic insert gasket is then used, which allows for a perfect sealing to be achieved. However, the use of such a gasket does not appear to be practical, because upon the opening of the

bottle, the gasket often separates from the cap, and sometimes it remains stuck to the mouth of the bottle, and therefore it must be taken away by means of a second operation. Even worse, in most cases, the gasket is violently ejected in an unpredictable direction by the gases themselves contained in the bottle, with some danger for the users. As a result, so far the caps of the tear-off type have been unable to be utilized on an industrial scale in the bottling of highly carbonated beverages.

Therefore, the main object of the present invention is to provide a cap of the tear-off type, which is able to guarantee the sealing of the gases in the more difficult and extreme conditions and, at the same time, allows the removal of the gasket in one piece with the cap upon the opening of the bottle.

Another object of the present invention is to provide a cap of such a type which still has a considerable opening ease and simplicity.

Still another object of the present invention is to provide a cap simple and inexpensive in construction, and therefore suitable for mass production.

The cap of the present invention is characterized in that, at an intermediate working stage, on the top panel thereof a hollow pin is formed, said pin being riveted, at a subsequent working stage, after a bored gasket has been put on it, so as to form a head which fastens said gasket.

With the present cap, the advantage is therefore achieved in that, upon the tearing-off procedure, the cap is taken away in one piece along with the sealing gasket, without the latter having any possibility of remaining stuck to the mouth of the bottle or being violently thrown far by the gases compressed inside the bottle itself.

Furthermore, the gasket is in no way damaged during the opening of the cap and therefore, remaining intact, the cap itself can be reused to temporarily close the bottle.

In the following, the present invention will be further clarified from the description of a form of practical embodiment of the bottle cap according to the present invention, a description made in a purely illustrative and not limitative way, with reference to the accompanying drawing, in which:

figure 1 is a bottom plan view in an enlarged scale of the present cap in an intermediate working stage thereof; and

figure 2 is a lateral cross-section taken along line II-II of figure 1 and shows the present cap during its application to a bottle.

With reference to the figures of the accompanying drawing, the cap of the present invention comprises a top panel 10 which circumferentially extends into a lateral band 12. Upon the closing of the cap, the lateral band 12 is clamped along the outer wall of the mouth 14 of the bottle, particularly along a rim 16 thereof, so as to tightly force a gasket 18 of the insert type, which is preferably made from plastic material, between the metal of the cap and the glass of the bottle.

The gasket 18 comprises an insert 20 designed to get into the neck of the bottle, so as to improve the sealing of the gases and is provided with a bore 22 located at the centre thereof.

As it is shown in figure 1, according to the present invention, at an intermediate working stage, at the centre of the top panel a hollow pin 24 is formed, extending toward the inside of the cap.

The gasket 18 is then placed into its position inside the cap, with the pin 24 inserted into the bore 22.

At a subsequent working stage, the pin 24 is riveted until it forms a head 26, as shown in figure 2.

Therefore, the head 26 guarantees that the gasket 18 is surely removed from the mouth of the bottle upon the tearing-off of the cap

and remains firmly anchored to the cap itself.

Obviously, the action of the head 26 can be combined with the action of a usual glue located between the top panel 10 and gasket 18.

Although in the present description reference has always been made to a glass bottle as a container capable of being closed by means of the cap of the present invention, it is to be understood that the present cap can be used for closing any type of container having a mouth to close, indipendently from the material from which the container is made and from the kind of material placed into it.

It is obvious that other numerous and different changes and modifications can be performed by the skilled in the art on the embodiment form of the present invention hereinbefore described, without departing from its scope. It is intended therefore that all these changes and modifications are encompassed in the field of this invention.

CLAIMS

1. A cap of the tear-off type for bottles containing highly carbonated liquids, characterized in that, at an intermediate working stage, on the top panel (10) thereof a hollow pin (24) is formed, said pin being riveted, at a subsequent working stage, after a bored gasket (18) has been put on it, so as to form a head (26) which fastens said gasket.

2. A cap according to claim 1, characterized in that said pin (24) is carried out at the centre of the top panel (10).

3. A cap according to claim 1 or 2, characterized in that said gasket (18) is provided with an insert (20) designed to get into the neck of the bottle.

4. A cap according to any one of the preceding claims, characterized in that a usual glue is located between the top panel (10) and the gasket (18).

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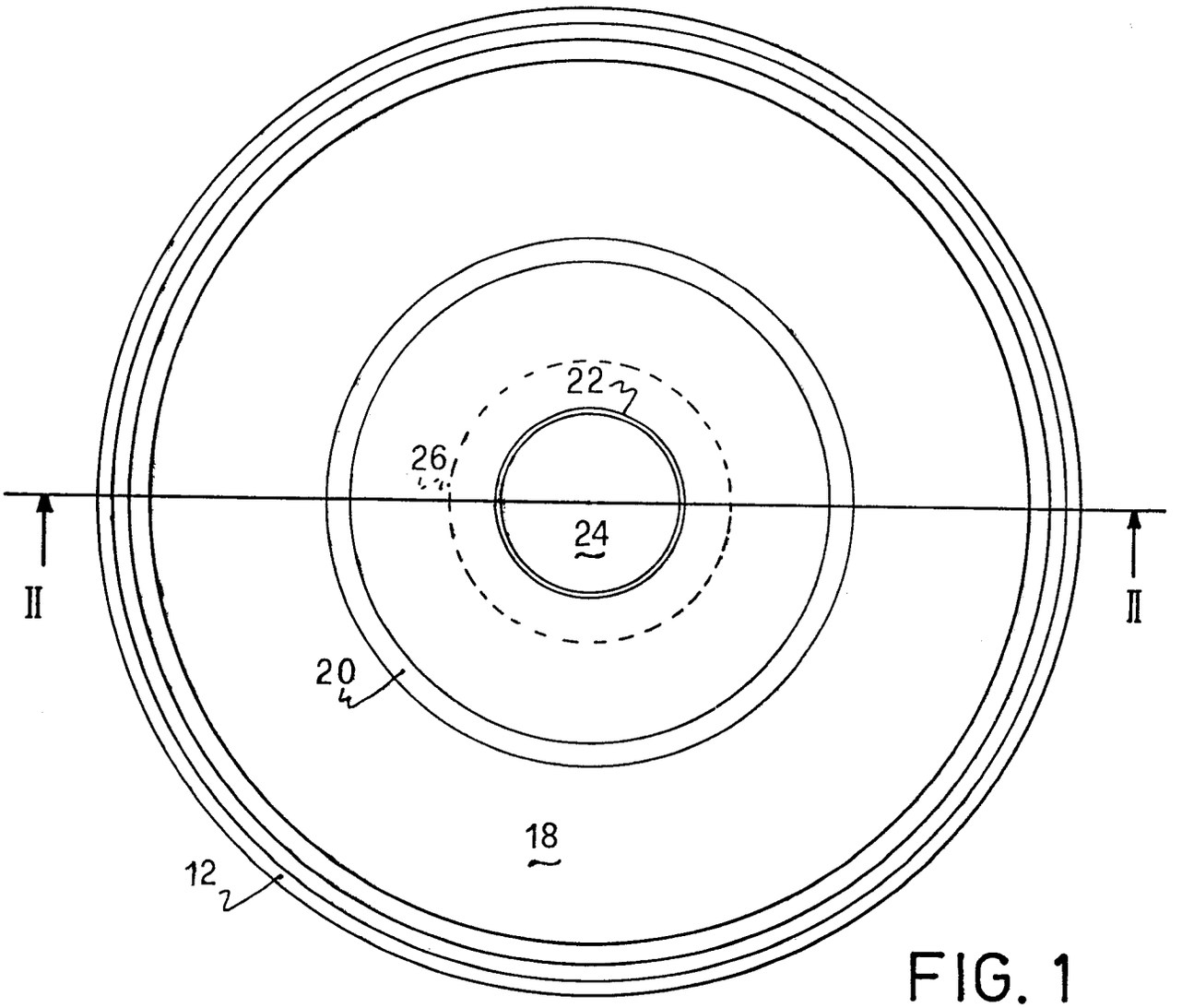

FIG. 1

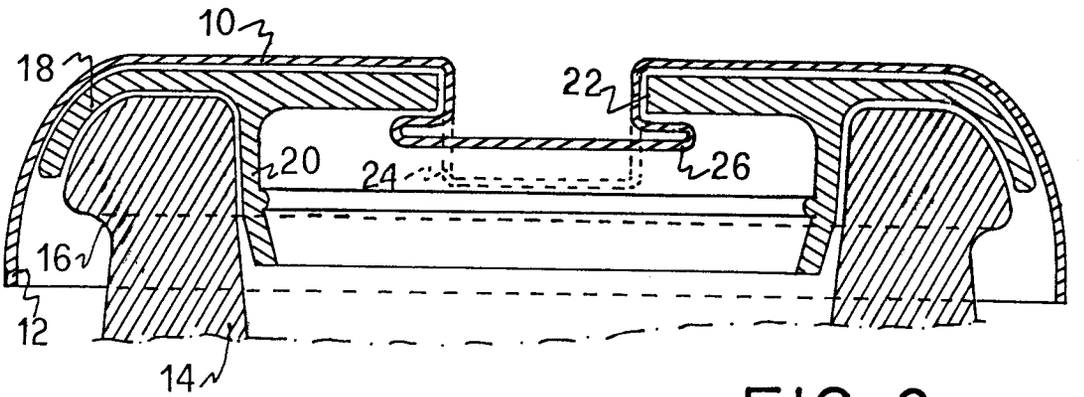

FIG. 2