Aug. 15, 1967

F. BRUMME

3,335,889

SAFETY CLOSURE CAP

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Fig. 1

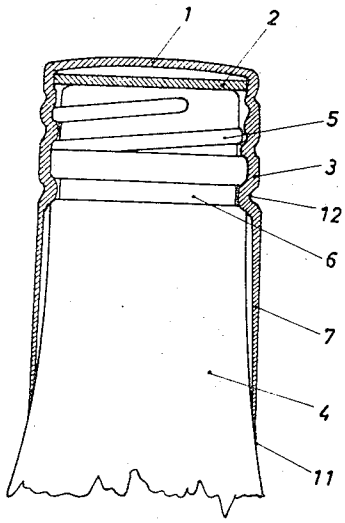


Fig. 2

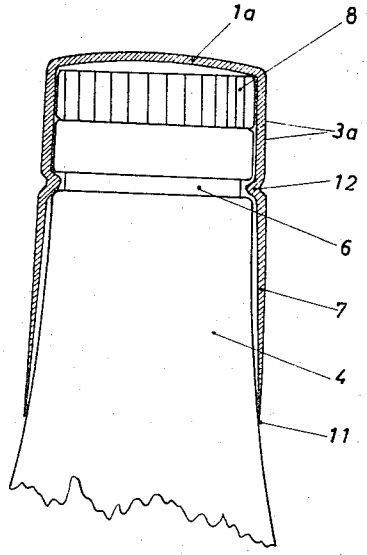


Fig. 3

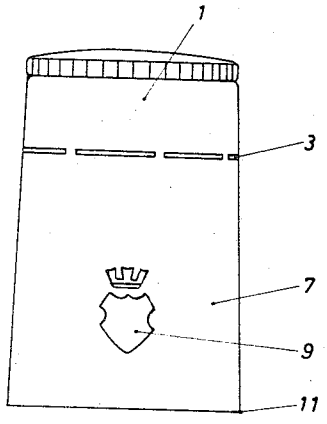
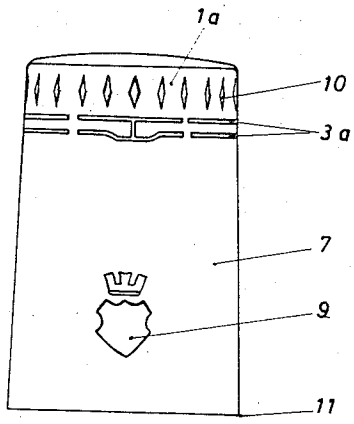


Fig. 4



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3,335,889

SAFETY CLOSURE CAP

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3 Claims. (Cl. 215—7)

The present invention relates to a safety cap composed of plastic or metal, preferably of aluminum and corresponding alloys, having at least one peripheral weakening line between the top and the lower edge of the cap. The invention also relates to methods of installing such cap on a bottle.

There are known in the art bottle caps which are provided with a weakening line, for example, in the form of partial slots. The shape of the cap is cylindrical, and a jacket portion of the cap below the weakening line is comparatively short, in order to avoid excessive widening by the neck of the bottle. Owing to the comparatively small dimension of the cylindrical jacket portion, the latter is not suited for the application of visible indicia for promotional or advertising purposes. The visible indicia would have to be restricted to a small region, especially since a deformation of the jacket portion is unavoidable.

Also known in the art are tin foil caps which are, for example, rolled on a thread of the bottleneck and comprise a peripheral weakening line below the thread. These caps have the disadvantage that the soft tin foil requires a wall of great thickness because of the highly stressed thread. The caps are therefore heavy and expensive. Moreover, any printing on the jacket will be impaired or distorted due to warping and formation of folds when the cap is rolled on the bottle.

It is an object of the invention to avoid the above objections and to provide a cap which is suitable for application onto the neck of a bottle such that visible indicia can be provided on the cap and be undisturbed by installation of the cap on the bottle.

It is a further object of the invention to provide a lower jacket portion of comparatively great size adapted to receive visible indicia therein.

According to the present invention, the lower jacket portion of the cap is conical and comparatively long and is supported on the bottle by contact therewith by its lower edge and a crease or indentation which engages in a groove of the neck of the bottle.

Further objects, features, advantages and uses of the invention will become apparent from the embodiments illustrated in the accompanying drawing, in which:

FIGURE 1 shows a section through a safety cap mounted on the neck of a bottle,

FIGURE 2 is a sectional view of a modified form of a cap mounted on the neck of a bottle.

FIGURE 3 is a view of the cap according to FIG. 1, prior to its being mounted on the neck of the bottle, and

FIGURE 4 is a view of the cap according to FIG. 2, prior to its being mounted on the neck of the bottle.

Referring now to FIG. 1, therein is shown a safety cap **1** in which is accommodated a packing insert **2** made of cork or plastic. The cap **1** is provided with a weakening or score line **3** along which the cap can be divided into an upper portion and a lower portion as will be explained more fully hereinafter. The cap **1** is installed on the upwardly tapering neck **4** of a bottle. On the conical neck **4** is a thread **5** and a holding groove **6**. Numeral **7** designates a smooth lower conical jacket portion of the cap.

The same numerals are used in FIG. 2 to designate the same elements as in FIG. 1. The modified cap **1***a* in FIG. 2 comprises a pair of weakening or score lines **3***a*. An engageable cork **8** is inserted into the mouth of the bottle to close the same. The cork **8** has a gripping flange with a periphery having ridges. FIGS. 3 and 4 clearly show the weakening lines **3**, **3***a* and the conical shape of the entire cap. They also show a promotional or advertising imprint **9** on the lower jacket portion **7**. FIG. 4 also shows a decorative imprint **10** where the upper portion of the cap is indented in the periphery of the cork flange.

The safety cap according to the invention is mounted on the neck of the bottle in the following manner:

In the arrangement according to FIG. 1, the conical cap **1** together with the packing insert **2** is first placed over the filled bottle. The packing insert is then pressed onto or in the mouth of the bottle with the aid of a pressure stamp (not shown) and the threads **5** are stamped in the cap above the weakening line **3**. At the same time, a crease or indented portion **12** of the cap is formed to engage in the groove **6** of the neck of the bottle. A similar procedure is followed in the installation of the embodiment according to FIG. 2. In this case, the upper cap portion is fixed about the gripping cork **8**, and the crease **12** is pressed into the holding groove **6**. Upon opening the bottle, the upper or top portion of the cap can be separated from a lower portion along the weakening lines, so that the upper portion can be removed from the bottle while the lower portion remains in place on the neck of the bottle for promotional or information purposes.

The advantages of the invention lie in the fact that the conical form of the cap insures an absolutely dependable fit between the lower cap edge **11** and the crease **12**. This is especially the case if the taper of the cone of the cap ranges between 1:12 and 1:20. Moreover, the conical form of the cap permits the application of large size visible indicia, for example, emblems, coats of arms, heraldic figures and written material or the like. Alternatively, the cap may be unmarked and have the appearance of a traditional bottle cap. Moreover, since the lower jacket portion **7** of the cap is neither rolled-on nor deformed in any other way when being mounted on the bottle, an impairment of imprinted visible indicia due to folds or warping is completely eliminated. Furthermore, the production of a conical cap is simpler than the production of a cylindrical one, whereas the conical cap preserves the purity of the bottle contents as well as a cylindrical cap.

In summary therefore, it is seen that there has been provided in accordance with the invention, a bottle cap of novel construction which can be applied onto the neck of a bottle and thereafter separated so that an upper portion of the cap can be removed while a lower portion of the cap remains secured in place on the bottle. Moreover, such lower portion is smooth and is adapted for having visible indicia applied thereon since it is not distorted in any way during installation of the cap on the bottle.

What is claimed is:

1. For the neck of a bottle having a mouth; a closure cap comprising a one-piece member adapted for application onto the neck of the bottle for covering the mouth thereof, said member including means whereby the member can be divided into an upper first portion which is removable from the bottle and a second lower portion which remains on the bottle even with the first portion removed, said member being of conical form widening downwardly, said second lower portion being smooth when applied onto the neck and thereby adapted for having visual indicia applied thereon which is undisturbed by the application of the cap onto the bottle, and means below the first said means by which the member can be

divided, for securely engaging the neck of the bottle such that the cap has a smooth continuous outer surface of uniform conical taper, the means for securely engaging the neck of the bottle comprising an indented portion in engagement with the neck of the bottle, said neck having a continuous and uniform outer surface with a groove therein, said indented portion being in said groove.

2. A cap as claimed in claim 1 wherein said lower portion of the cap extends from the indented portion to the lower edge of the cap, said lower portion being in contact with the bottle at said indented portion and at said lower edge, said lower portion being relatively long compared with the remainder of the cap.

3. A cap as claimed in claim 2 comprising visual indicia means on said lower portion which is undisturbed by the application of the cap on the neck of the bottle, and upon removal of the upper portion of the cap.

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