

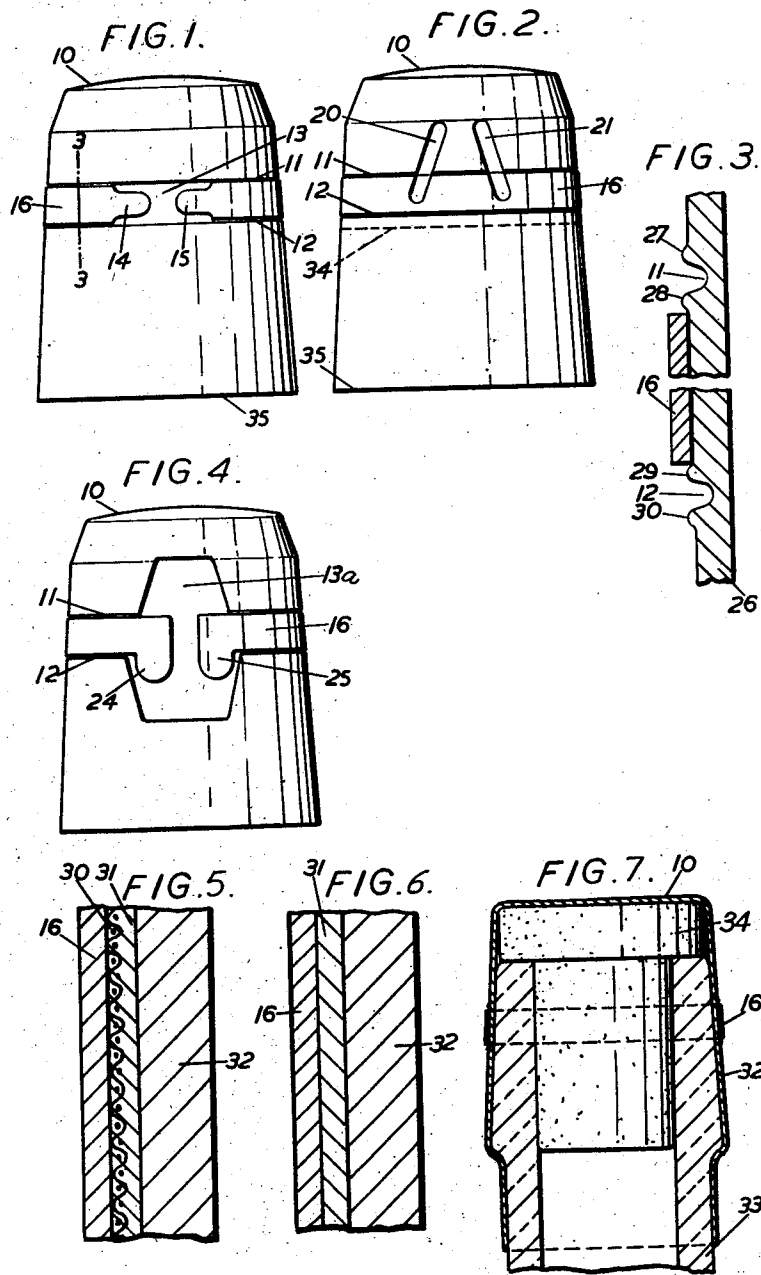
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BOTTLE CAPSULES

2,806,620

Filed April 30, 1954

2 Sheets-Sheet 1



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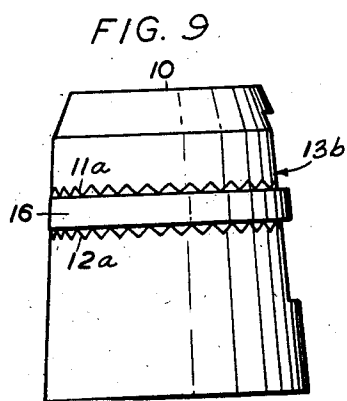
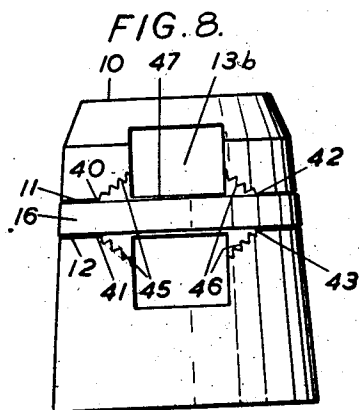
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BOTTLE CAPSULES

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8 Claims. (Cl. 215—46)

This invention relates to bottle capsules of the kind manufactured from thin soft metal. These capsules are generally made of either lead-tin alloy coated on one or both sides with tin, or aluminium, and having a thickness of three to five thousandths of an inch. They are commonly made of frusto-conical shape with an end wall at the small end. The bottle is fitted with a seal, such as a cork, stopper, metal or moulded screw cap, or lever cap; the capsule is placed over the seal; and the capsule is squeezed or spun tightly on to the bottle by mechanical means or otherwise. The capsule is usually provided with an inside adhesive so that the capsule adheres to the bottle.

In order to facilitate the removal of the capsule, it has been known to provide parallel lines round the skirt of the capsule at a suitable distance from the end wall or top of the capsule, these lines being spaced apart about three-sixteenths of an inch, the metal being thinner at these lines. The capsule may be cut between the lines so that they form tab-like ends and when one tab-end is pulled, or both together, the band of metal between these thinned lines is parted and pulled off leaving a shallow cup which can easily be removed or may remain on the cork or other device but leaving a large part of the skirt (usually carrying embossed and coloured lettering and design) still in position.

When the bottle is capped with a lever type of cap, the capsule may have an opening through which the lever projects so that the lever can be opened without tearing the capsule skirt which is to remain on the bottle when the top is removed. The tab ends may be made so as to rest on the lever when closed if desirable.

It has been found that this band does not always tear cleanly round the capsule and even breaks, and sometimes the user in endeavouring to open the bottle will remove a part of the capsule which it is desired to leave on the bottle.

If an attempt is made to overcome this difficulty by still further reducing the substance of the capsule along said lines, the capsule will be too weak and may be parted inadvertently at the lines during application, storage or transit.

According to the present invention, a band of thin material is attached adhesively to the outer surface of the capsule between said lines. We have found that quite thin resin material can be caused to adhere quite firmly to the metal and will provide a considerable increase in strength of the band so that it tears cleanly off at the position desired whilst the capsule can still be strong enough along the lines for normal purposes. The synthetic resin material may be a thermoplastic such as a cellulose derivative, polyvinyl chloride, copolymers of vinyl chloride and vinyl acetate, or methylmethacrylate.

The resin material may be pre-formed as a film or tape and attached to the metal by a separate adhesive or the resin material may be applied in liquid condi-

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tion so as to adhere to the material without the use of a separate adhesive.

For example, a cellulose acetate type of material of about 2 to 5 thousandths of an inch thickness can be fixed around the band by a suitable adhesive. Alternatively a liquid resin material such as a methacrylate composition may be brushed or sprayed on to the capsule and when dry forms a tough film strip.

The synthetic resin material can be coloured by either adding dyes or pigments, and it may incorporate plasticisers, fillers or other ingredients.

The resin band may conveniently be of suitable colour to facilitate ready location of the tear off band. The band will also serve to tear through a paper seal, such as is sometimes used as an excise duty seal, without completely destroying it.

Instead of this thin material being of resinous nature it may be made of a metal or alloy, for example, aluminium foil; paper attached to the capsule by any suitable adhesive; textile; or any other material which can be secured to the capsule as a thin sheet capable of strengthening the said area of the capsule.

In a preferred form of the invention the capsule has an end wall at one end, spaced lines of reduced substance around the capsule in planes parallel to the plane of the end wall, said capsule having a gap at one part around the area of the spaced lines, tongues comprising continuations of the area between said lines, said tongues projecting into said gap, and a thin band of material attached to the outer surface of the capsule only between said lines including the tongues.

The invention will now be further described by way of example with reference to the accompanying diagrammatic drawings wherein:

Figure 1 is a front elevation of a capsule made in accordance with the invention;

Figure 2 is a rear elevation thereof;

Figure 3 is a sectional view on the line 3—3 on Figure 1;

Figure 4 is a front elevation of a modified form of capsule;

Figures 5 and 6 are sectional views of capsules showing different kinds of bands;

Figure 7 is a sectional view of the neck of a bottle having a capsule attached thereto; and

Figures 8 and 9 are elevational views of further modified forms of the capsule.

The capsule shown in Figure 1 has a closed end wall 10 and two lines 11, 12 of reduced substance located in planes parallel to the plane of the wall 10. The lines may be formed by continuous indentations, or a series of depressions or holes. At one part of the area between the lines a gap 13 is cut out of the capsule leaving two tabs 14, 15 which can be gripped between the forefinger and thumb. A thin band 16 is attached to the outside surface of the capsule between said lines so as to extend over the tabs 14, 15 without extending beyond the edges of the tabs. This can be conveniently achieved by applying the band around the capsule and subsequently cutting out the gap 13 preferably at the position where the ends of the band meet or overlap. If the capsule is to be used with lever caps, it may be provided with slots 20, 21 offset about 180° from the gap 13 through which the usual loops of the lever cap can project. Alternatively as shown in Figure 4 the gap 13a may be considerably enlarged to enable said loops to project through the gap. The tabs in this case project at 24, 25 beyond the band 16 to facilitate gripping of the tabs.

As shown in Figure 3 the lines 11, 12 may be formed by continuously indenting the exterior of the capsule

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to a depth of thirty-five to sixty percent (preferably forty-five to fifty-five percent) of the thickness 26 of the capsule metal which may be three to five thousandths of an inch. This indenting may form outward bulges 27, 28 and 29, 30 and the adjacent bulges 28, 29 will serve to locate the band 16.

As shown in Figure 5 the band 16 may include a backing 30 of textile mesh and an adhesive 31 whereby the mesh is attached to the capsule 32 and to the band 16. As shown in Figure 6 the textile may be omitted.

The application of the capsule 32 to a corked bottle 33 is shown in Figure 7. The cork 34 is covered by the capsule 32 which is tightly pressed around the neck of the bottle. When band 16 is removed the top part of the capsule above the band is removed so that the cork can be taken out while the remainder of the capsule, which may carry the name of the manufacturer or other information, remains on the bottle.

We may have a portion of the band free from lines of reduced substance as shown for example in Figure 8, which is a rear elevation of the capsule similar to Fig. 2, in which the lines 11, 12 end at 40, 41 and 42, 43 so that a somewhat jagged tear line will occur as shown at 45, 46. A strip 47 having the tape 16 thereon in this case remains across an opening 13b which thus forms two openings through which the lever of a lever cap protrudes. Additionally or alternatively one or both of the lines 11a, 12a may be wholly or partly other than straight, e. g. serrated or undulating as shown in Figure 9, the undulations being of regular pattern or irregular if desired.

I claim:

1. A soft non-ferrous metal capsule for covering a closure on a container and having an end wall at one end, a non-threaded skirt having a thickness of three to five thousandths of an inch, spaced lines around the skirt lying in planes parallel to the plane of the end wall, the skirt at said lines being reduced in thickness, said capsule having a gap at one part around the area

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of the spaced lines, tongues comprising continuations of the area between said lines, said tongues projecting into said gap, and a thin band of material attached to the outer surface of the capsule only between said lines including the tongues.

2. A metal capsule as claimed in claim 1 wherein the band is made of synthetic plastics material secured to the capsule by an adhesive.

3. A capsule as claimed in claim 1 wherein said lines are continuous indentations reducing the thickness of the capsule by thirty-five to sixty percent.

4. A capsule as claimed in claim 1 attached to a bottle by adhesive that extends only from the open end of the capsule to within a short distance of said lines.

5. A metal capsule as claimed in claim 1 wherein said lines are continuous indentations with adjacent outward bulges serving to locate said band.

6. A capsule as claimed in claim 1 wherein the spaced lines extend only partly around the capsule leaving a part adapted to be torn jaggedly.

7. A capsule as claimed in claim 1 wherein the spaced lines extend only partly around the capsule leaving a part adapted to be torn jaggedly, and said part is adjacent openings through which a lever of a lever cap can protrude, a strip of the capsule with the band thereon continuing between the openings.

8. A capsule as claimed in claim 1 wherein at least one of the said lines at least partly is of undulating shape.

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