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2,718,322

BOTTLE CAP

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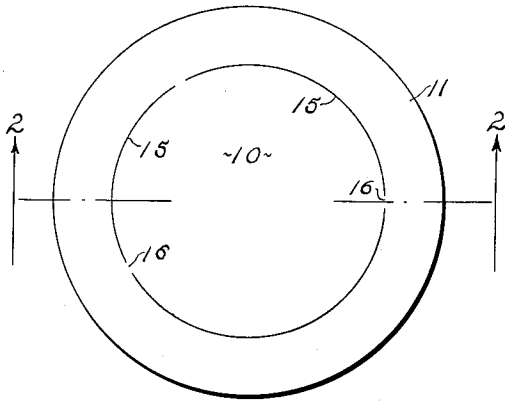


Fig. 1

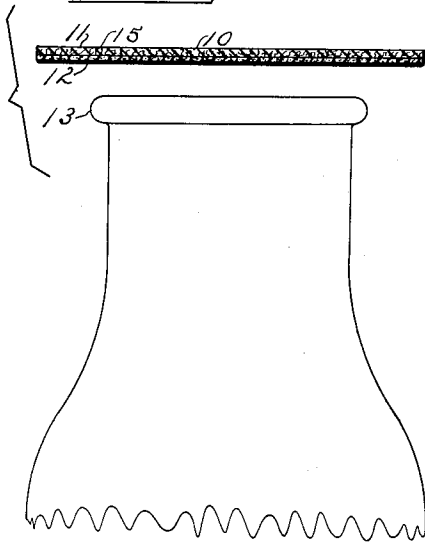


Fig. 2

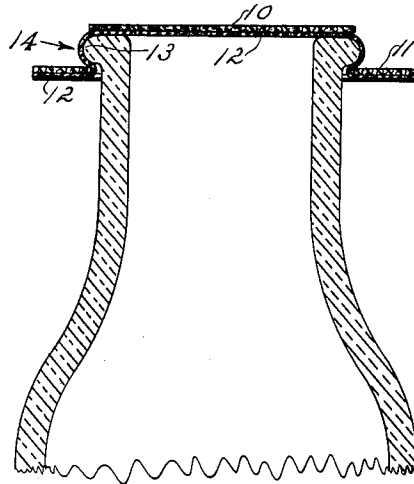


Fig. 3

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BOTTLE CAP

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4 Claims. (Cl. 215—38)

This invention relates to bottle caps of the hood or cover-all type, and particularly to such caps for use on the tops of milk bottles.

The invention has as an object a bottle cap of the type referred to which is adapted to be economically manufactured in large volume and which may be readily applied to the top of the bottle by a particularly simple capping head structure and without necessitating preheating or otherwise conditioning the cap prior to its application to the bottle, whereby the cap may be applied to the top of the bottle by a substantially instantaneous operation.

The invention has as a further object a bottle cap of the type referred to of flat disk formation permitting the caps to be arranged in stack formation and fed over the tops of the bottles in cap applying position by ordinary shuttle feed mechanism, the cap embodying a structure wherein it serves as a complete liquidtight closure for the bottle, obviating the use of a plug cap, or other additional closure.

The invention consists in the novel features and in the combinations and constructions hereinafter set forth and claimed.

In describing this invention, reference is had to the accompanying drawings in which like characters designate corresponding parts in all the views.

Figure 1 is a top plan view of a cap embodying my invention.

Figure 2 is a sectional view of the cap on line 2—2, Figure 1, illustrating the cap positioned above a bottle top shown in side elevation.

Figure 3 is a sectional view of the cap and bottle top illustrating the cap applied to the bottle.

The cap consists of a flat disk 10 substantially coextensive in area with the top of the bottle. The disk 10 is encircled by an annular member 11, and a disk 12 of stretchable sheet material is adhered to the under surface of the disk 10 and the annular member 11.

The annular member 11 is readily severable from the disk 10. The disk 10 has a diameter slightly less than the diameter of the bead 13 of the bottle top. The cap is applied to the bottle top by positioning the cap on the bottle top with the disk 10 arranged coaxially therewith and then applying pressure to the annular member 11, moving it downwardly and stretching the marginal portion of the disk 12 downwardly about the bead 13, as indicated at 14, Figure 3. During this operation, the annular member 11 is moved in snug engagement with the bead 13 and functions to contract and retain the disk 12 against the bead of the bottle.

Preferably, the disk 10 and the annular member 11 are formed of the same material, such as paper-board, the disk 10 being defined by arcuate scores 15 having their ends spaced apart slightly to form connecting portions 16 which serve to retain the central discoidal disk portion 10 within the annular portion 11. Or, the paperboard material may be provided with a circular score, or otherwise

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weakened, to render the annular portion 11 readily severable from the disk portion 10.

With this structural arrangement, the cap can be economically made by scoring or cutting, as at 15, paperboard material in the web form. The upper surface of the disk portion 10 and annular portion 11 may be printed while the sheet is in the web after the manner conventionally used in printing plug and cover-all paper caps. Thereafter, the disk 12 may be formed on the underside of the members 10, 11. This may be readily accomplished by casting or coating the material from which the disk 12 is formed on the under side of the paper web, or the material in sheet form may be laminated to the web. Thereafter, the flat circular completed cap disk may be readily blanked from the web. Such a process will be well understood by those familiar with the bottle cap manufacturing art. The material from which the under disk 12 is formed may consist of any of the synthetic plastic materials having the property of being stretchable, such as polyethylene or "Vinylite."

The flat completed disk shaped caps may be packaged and shipped in stack formation and be fed from a supply magazine to the capping head structure by ordinary and conventional shuttle feed mechanism.

The disk 12 of stretchable material is drawn tightly about the bead 13 of the bottle top and is maintained in snug engagement therewith by the annular portion 11, the engagement between the disk 12 and the bottle top being liquid tight and not requiring any additional closure, such as a plug cap. The disk 10, in addition to forming a convenient area for the conventional milk bottle cap printing, serves to reinforce and protect the discoidal portion of the disk 12.

What I claim is:

1. A bottle cap comprising a flat circular disk of relatively stiff sheet material, a disk of stretchable sheet material having an area coextensive with the area of said first disk and adhered to the under surface thereof, said first disk being formed with an annular marginal portion encircling the central discoidal portion thereof and being readily separable from said discoidal portion.

2. A bottle cap comprising a flat disk formed of relatively stiff sheet material having an area substantially coextensive with the area of the top of the bottle, an annular member encircling said disk and being formed of relatively stiff sheet material, a disk formed of stretchable material adhered to the surface of the under side of said first disk and annular member, said annular member being readily severable from said first disk.

3. A bottle cap comprising a disk of stretchable sheet material adapted to overlie the top of the bottle and encircle the bead thereof, a reinforcing disk of relatively stiff sheet material adhered to the upper surface of the central discoidal portion of said first disk and having an annular portion adhered to the marginal portion of said first disk, said annular portion being readily severable from said reinforcing disk upon application of the cap to the bottle top and being operable when so severed to stretch and frictionally retain the marginal portion of the first disk about the bead of the bottle.

4. A bottle cap comprising a disk of thin, flexible, stretchable, sheet material dimensioned to overlie the top of the bottle and encircle the bead thereof, a reinforcing disk of relatively stiff sheet material adhered to the upper surface of the central discoidal portion of said first disk and having a diameter slightly less than the diameter of the bead of the bottle, an annular member encircling said reinforcing disk and being readily severable therefrom and being adhered to the marginal portion of said first disk.

(References on following page)

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