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RE-USABLE BOTTLE CAP

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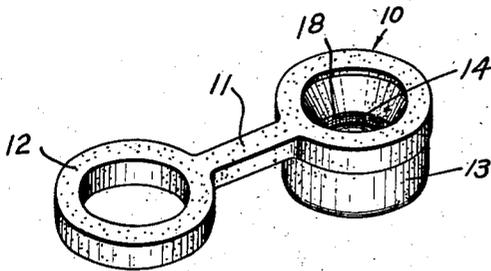
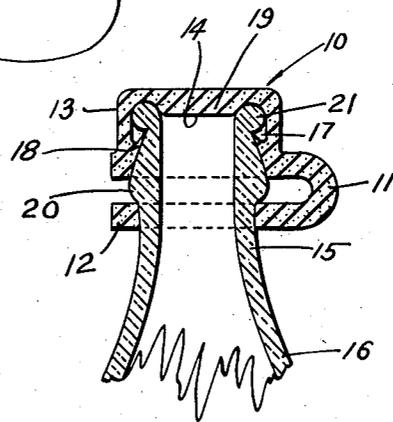
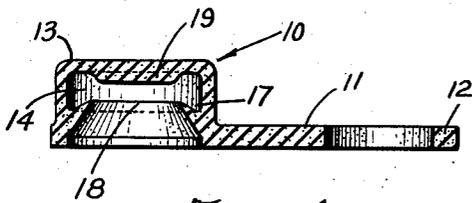
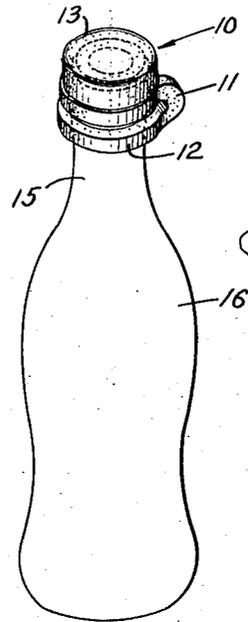
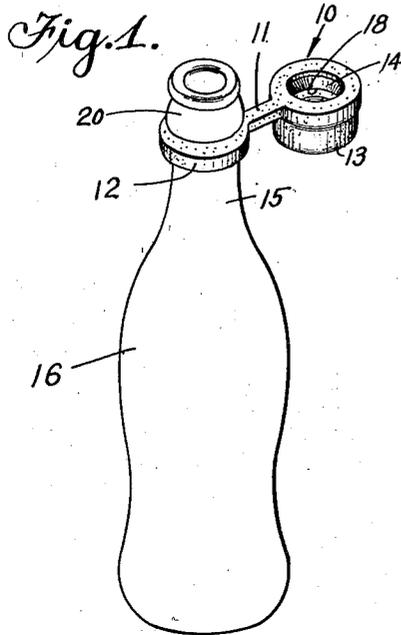


Fig. 3.

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2,789,717

RE-USABLE BOTTLE CAP

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1 Claim. (Cl. 215—41)

This invention relates to closures for containers and more especially to improvements in bottle caps. The present invention is directed to bottle caps, particularly for use with beverage bottles, the contents of which may be carbonated or effervescent such that when exposed to the atmosphere or atmospheric pressure a gas is evolved, and this gas produces a substantial pressure when the container of the beverage is capped. Bottle caps for this type of beverage as produced by the manufacturer have been satisfactory but are usually so deformed when initially removed from the bottle that re-use is not possible. Such types of caps which are re-usable do not provide an adequate seal for maintaining the gas pressure of the effervescent material when only a portion of the contents of the bottle has been removed.

It is, therefore, an object of the present invention to provide a novel and improved re-usable cap for bottles of effervescent type beverages.

Another object of the invention is to provide a bottle cap of the character described that is inexpensive to manufacture, and can be kept in a sanitary condition and is normally retained attached to the bottle when in open position.

An additional object of the invention is to provide an improved re-usable cap for effervescent type beverage bottles so formed as to provide a fluid and gas type seal therewith, which seal becomes more effective if the pressure of the contained gas increases.

Other objects and advantages will appear and be brought out more fully in the following specification, reference being had to the accompanying drawing wherein:

Figure 1 is a perspective view of the bottle cap of the invention shown secured to a bottle, but in open condition.

Figure 2 is a view similar to Figure 1 with the bottle cap in closed position.

Figure 3 is a perspective view of the closure comprising the invention.

Figure 4 is a longitudinal sectional view of the same.

Figure 5 is a sectional elevation view of the closure and the neck portion of the bottle to which it is connected.

Referring more particularly to the drawing, the numeral 10 designates generally the bottle cap of the invention which comprises a single piece element of flexible deformable live rubber having a central elongated portion 11, one end thereof being enlarged forming a loop 12, the other end portion 13 being enlarged and having a cavity 14 which receives the neck end portion 15 of a beverage bottle 16, loop 12 being of such size as to receive neck 15 of the bottle. Cavity 14 is formed with an annular groove 17 and an annular lip 18 which is normally inclined upwardly and inwardly, and the top portion 19 of the cap 13 may have a thickened central portion, as clearly seen in Figures 4 and 5, which extends downwardly into the end portion 15 of the bottle during use and to enhance the sealing characteristics of the cap.

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Figure 5 shows the cap in closed and sealed relation to the end portion 15 of the bottle 16. Figure 1 shows the initial step in the attachment of the closure to the bottle with the neck 15 extending through the loop 12, which loop is normally stretched when being so positioned so as to hold the article on the neck of the bottle and normally below the usual annular enlargement 20 of the bottle end.

Many types of bottle necks have an end enlargement 21 providing a shoulder under which the lip 18 may be positioned to provide a portion of the mechanical seal of the cap 10 with the end portion 15 of the bottle. It will be understood, however, that the pressure of an effervescent gas within the bottle will, in annular groove 17, be effective to press lip 18 radially inward against the neck of the bottle and effect a seal which will vary and increase with this gas pressure.

It will therefore be evident that an effective pressure seal is provided by the invention as shown and described, and that the article achieves the hereinabove stated objects.

Having described my invention what I claim is:

A closure for a bottle for containing a carbonated beverage and having an annular enlargement at the outer side of the mouth thereof with an upwardly and inwardly inclined annular exterior face portion directly adjoining said enlargement, the closure comprising an elongate resilient element having at one end an apertured portion to receive the neck portion of the bottle, and having at its other end a cap to receive therein the dispensing end of the bottle, said cap having a top wall and an annular side wall, the top wall being provided with a slightly thickened central part projecting downwardly a short distance from the under side thereof to fit a short distance within the bottle mouth and having a flat bottom face, and an annular flexible relatively thin lip portion normally extending inwardly and upwardly from the inner side of the side wall of the cap and spaced downwardly from the inner face of the top wall of the cap and engaging said upwardly and inwardly inclined annular exterior face portion of the bottle neck below the annular enlargement on the outer side of the bottle mouth and providing an annular chamber between the underside of said enlargement and the upper face of the lip portion, said lip portion tapering inwardly, the upper and lower faces of the lip portion both being inclined and converging one with the other and terminating in a knife edge, the upper inclined face of said lip portion being exposed to gas pressure accumulating in the annular chamber between the annular enlargement on the outer side of the bottle mouth and the upper face of said lip portion whereby the latter will be pressed laterally by the gas pressure against said inclined face portion of the bottle neck when the cap is applied to the bottle, and the lower inclined face of said lip portion throughout the same fitting against said upwardly and inwardly inclined face portion of the bottle neck to effect a seal therewith.

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