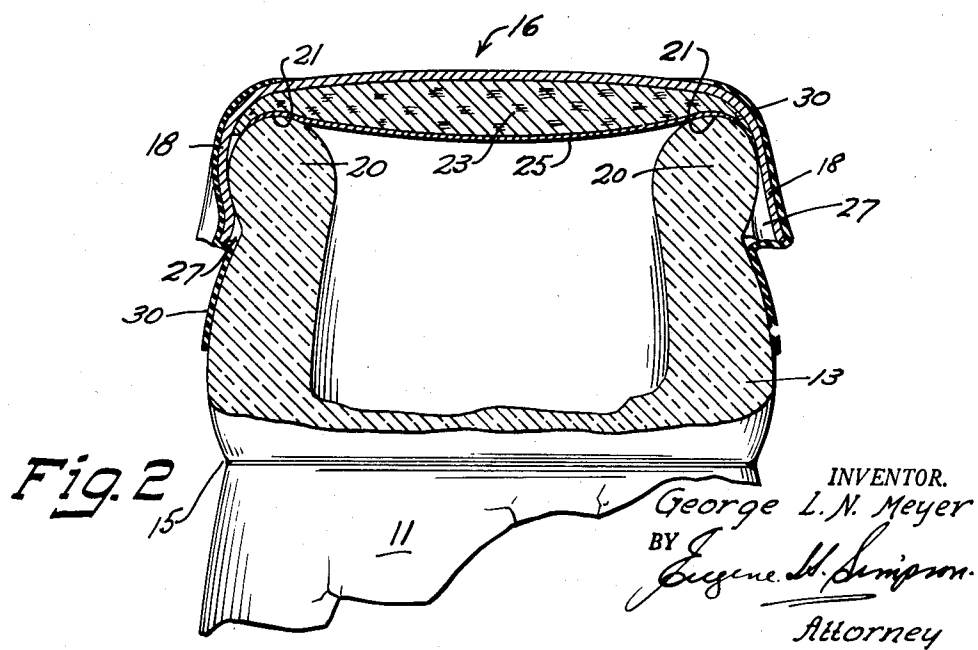
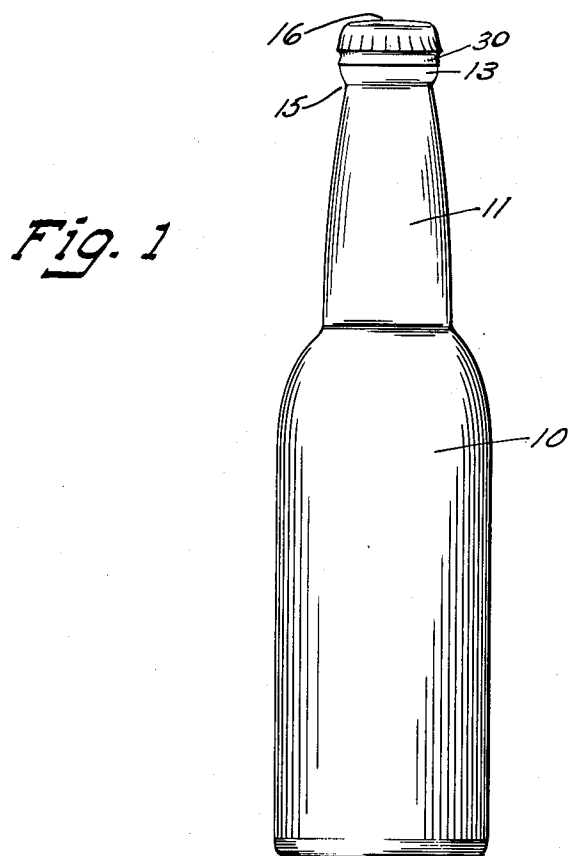


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SANITARY BOTTLE CLOSURES

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SANITARY BOTTLE CLOSURES

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This invention relates to bottle seals and more particularly to a sanitary bottle seal adapted to maintain the neck of the bottle free from dirt and germs.

In the beverage industry it is customary to seal the bottled beverages, such as soft drinks, beer, etc., with what is known in the trade as a crown cork. The crown cork has crimps on the edge which engage the neck of the bottle to hold the crown in place and seal the contents in the bottle.

The crimps in the edge of the crown cork form openings under the crown in which dirt may collect and microbes may accumulate and breed. The breeding of germs is aggravated by the presence of sugar or glucose which may be present from syrup spilled on the exterior of the bottle during filling and prior to capping. When such a bottle is opened the dirt or microbes form a source of contamination to either the consumer who partakes directly from the bottle or to the consumer who pours the beverage into a glass.

It is an object of the present invention to provide a seal that will effectively close the open ends of the crown cork and prevent the entrance of dirt and microbes under the seal.

Another object of the invention is to provide a sanitary seal for a bottle having a crown cork which will retain the mouth of the bottle clean and sanitary.

A further object is to provide a protection for a crown cork which will be removable with the crown.

A still further object is to provide a sanitary seal for a beverage bottle that will reduce the possibility of the transmission of disease.

A still further object is to provide a sanitary seal for bottles employing crown corks that will be removed automatically prior to re-washing of the bottle.

A further object is to provide a sanitary seal for a bottle employing a crown cork which will provide an adequate shoulder to facilitate the removal of the seal with the cork.

Still further objects will become apparent upon considering the following specification which when taken in conjunction with the accompanying drawings illustrate a preferred form of the invention.

In the drawings:

Fig. 1 is an elevational view of a bottle employing the improved sanitary cap; and

Fig. 2 is an enlarged cross-sectional view through the neck of the bottle shown in Fig. 1, showing the seal.

Referring to the drawing, the bottle comprises a body 10 having a neck 11 formed on the upper end thereof. The neck has a bumper or reinforcing ring 13 at its upper end.

The reinforcing ring 13 provides a shoulder 15 which facilitates handling the bottle during the manufacture thereof and reinforces the top of the neck 11.

The bottle having been filled with any desired beverage is sealed with the usual crown cork or cap, 16, the cap comprising a cup-shaped metal shell having crimped sides

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18 which engage over the sealing ring 20 of the bottle 10 adjacent the lip 21 of the bottle. The interior of the cap is provided with a cork liner 23 which in turn may have a covering of metal foil 25.

5 In sealing the bottle the cap 16 is placed over the lip of the bottle and the crimped sides 18 bent inwardly over and around the sealing ring, drawing the cork 23 and the foil 25 into sealing engagement with the lip 21 of the bottle.

10 It will be noted that such a cap when used alone has apertures 27 between the crimps and the bottle, which if not covered would permit the entrance of either dirt or germs to contaminate the lip of the bottle.

15 In order to guard against the possibility of dirt or germs entering the spaces 27 this invention provides a sleeve 30 around the cap and the upper portion of the neck 11 of the bottle. The sleeve may be any suitable material which is adapted to shrink, preferably in two directions, either by the application of heat or upon drying.

Materials that have been found suitable for the sleeves 30 and which are given by way of example only are:

20 (a) Cel-O-Seal, a pure extruded cellulose extruded in the form of a sleeve and shipped in proper lengths in a glycerine solution. This product shrinks in both directions upon drying and is a product of E. I. du Pont de Nemours & Co. (Inc.), Wilmington, Delaware. It is more fully described in that company's pamphlet A-1620 copyright 1951; and

25 (b) Pliofilm, a rubber hydrocarbon product that shrinks in two directions by the application of heat. Pliofilm is a product of the Goodyear Tire & Rubber Company of Akron, Ohio.

30 The sleeve 30 is applied in its expanded state over the top of the cap and neck of the sealed bottle. The sleeve is of such length that when it shrinks the upper edge will cover the periphery of the top of the cap 16 and the lower edge will extend to a point slightly above the maximum diameter of the reinforcing ring 13.

35 When the sleeve 30 is in position it is shrunk into close engagement with the cap 16 and the reinforcing ring 13 either by permitting it to dry as in the case of Cel-O-Seal, or similar products, or by the application of heat as in the use of Pliofilm or similar products.

40 In drying, the sleeve 30 shrinks in both diameter and length until it envelops both the cap 16 and the upper portion of the reinforcing ring 13 snugly, and forms a nearly square corner at the rim of the cap 16. This square corner at the lower end of the cap 16 provides a shoulder which may be gripped readily by a bottle opener, thus facilitating opening of the bottle.

45 In providing a relatively short sleeve 30 which does not extend below the maximum diameter of the reinforcing ring 13 the sleeve 30 will be removed entirely from the bottle with the crown cork 16, thus giving a sanitary bottle top without the necessity of removing the sleeve before removing the crown or preceding the rewashing of the bottle.

50 It will be realized that the hereinbefore described form of the invention is to be taken merely as a preferred embodiment thereof and that whereas only two suitable materials are given with which to carry out the invention, other suitable materials may be used if they are adapted to be shrunk into position either by drying, by heat, or by other means, and it is also realized that the invention, in addition, is susceptible to various changes in size, shape and arrangement of parts without departing from the spirit of the invention or the scope of the subjoined claims.

55 That which is claimed as new and is desired to be secured by United States Letters Patent is:

1. In a bottle having a reinforcing ring on the upper

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end of the bottle neck and a crown closure on said bottle to seal the contents of the bottle therein, a sanitary seal comprising a sleeve insertable wet over the crown closure and reinforcing ring and shrinkable upon drying into tight engagement with both the crown closure and the reinforcing ring the lower edge of the sleeve terminating when shrunk between the lower edge of the crown closure and the maximum diameter of the reinforcing ring, whereby the sleeve is removable with the crown closure.

2. In a bottle having a reinforcing ring on the upper 10
end of the bottle neck and a crown closure on said bottle to seal the contents of the bottle therein, a sanitary seal comprising a sleeve insertable over the crown closure and reinforcing ring and shrinkable into tight engagement with both the crown closure and the reinforcing ring 15
the lower edge of said sleeve terminating between the lower end of the crown closure and the maximum diameter of the reinforcing ring whereby the sleeve is removable with the crown.

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3. In a bottle having a reinforcing ring and a crown closure on said bottle to seal the contents therein, a sanitary bottle seal shrinkable into position and extending over the top of the closure member and tightly embracing both the crown closure and the reinforcing ring with the lower edge thereof extending between the lower edge of the crown closure and the maximum diameter of the reinforcing ring whereby the sanitary seal is removable with the crown closure.

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