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E. SCOFIELD

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CAP AND PACKAGE

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Fig. 1.

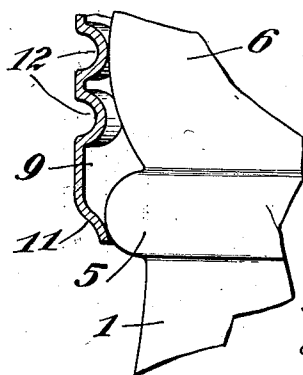
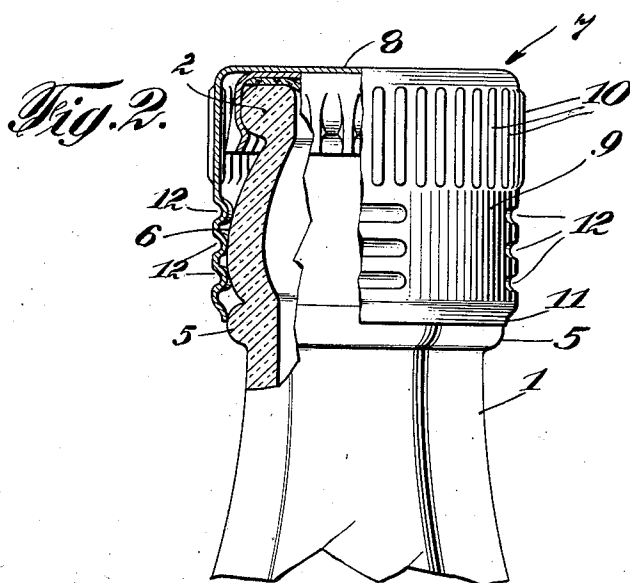
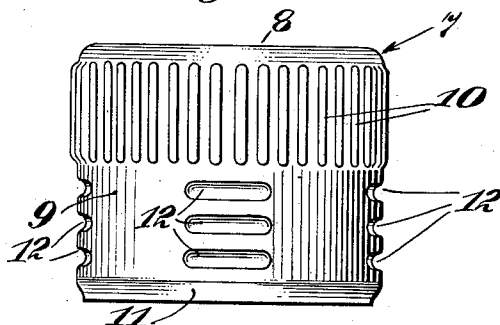


Fig. 3.

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CAP AND PACKAGE

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4 Claims. (Cl. 215—38)

The present invention relates to the sealing art and more particularly to sealed packages and closure caps therefor.

In packing ketchup, chili sauce and the like, it is customary, at the present time, to utilize a bottle which is sealed by means of the well known "crown cork" cap or by means of a cork disc which is held in place by a strip of ductile metal spun thereabout. Such closure caps cannot be used for reseal purposes or for cover caps. For convenience in dispensing the contents of the bottle, a cover cap is provided which fits over the sealing cap and is attached to the neck of the bottle. Such cover cap must be readily applicable and easily removable. In some cases, the cover cap is threaded to the neck of the container, and in other cases, a friction grip is provided between the cover cap and container; the latter is preferred by a number of packers because of the ease of repeated application and removal. Such caps may be made in one piece or in two pieces and, usually, the lower edge of the cap is rolled outwardly to form a wire edge. Such caps have to be large enough to fit over the sealing cap and, therefore, appear cumbersome. In addition, the friction seals used at the present time do not consistently retain the caps in upright position. They may, during shipment, become tilted to one side and impair the appearance of the package. This tendency is increased by the use of the ball finish, which facilitates application and removal of the cap.

The present invention aims to overcome the above difficulties by providing a cover cap which is adapted to frictionally engage the usual finishes, including the ball finish, on commercial bottles, to hold the cap rigidly in proper position. The construction of the cap is such that it conforms to the shape of the bottle to give the appearance of a neat and accurate fit and to avoid the appearance of a cumbersome, loose fit.

An object of the present invention is to provide an improved closure cap for ketchup bottles and the like.

Another object of the invention is to provide an inexpensive closure cap which may be easily manufactured and readily applied to present types of ketchup bottles.

Another object of the invention is to provide a one-piece closure cap having a series of sealing zones spaced above each other, which are adapted to engage the neck of a container effectively at any point about the periphery thereof.

Another object of the invention is to provide a closure cap having a resilient skirt adapted to

grip the neck of a bottle circumferentially at two different zones spaced a substantial distance above each other.

Another object of the invention is to provide a one-piece closure cap which improves the appearance of a package adapted to contain ketchup and the like.

A further object of the invention is to provide a closure cap adapted to grip the container circumferentially at the bottom of the skirt of the cap to frictionally hold the cap in proper position and to make the cap appear sized to the neck of the container.

Other and further objects of the invention will be obvious upon an understanding of the illustrative embodiment about to be described, or will be indicated in the appended claims, and various advantages not referred to herein will occur to one skilled in the art upon employment of the invention in practice.

A preferred embodiment of the invention has been chosen for purposes of illustration and description and is shown in the accompanying drawing, forming a part of the specification, wherein

Fig. 1 is a side elevational view of a preferred embodiment of the invention;

Fig. 2 is a side elevational view, partly in section, illustrating the cap in Fig. 1 applied to a container; and

Fig. 3 is a view similar to Fig. 2, showing a slightly different arrangement of the cap and container.

Referring more particularly to the drawing, there is shown a container 1 having an annular bead or shoulder 2 adjacent the mouth thereof, which is shaped to provide the usual crown finish. A suitable closure cap 4 which may, for convenience, be the usual crown cork cap used on soda pop bottles and the like, is applied to the mouth of the container and secured to the shoulder 2 in the usual manner to effect a hermetic seal on the bottle. It will be understood that other types of hermetic seals may be utilized, if desired. An annular shoulder 5 is provided about the neck of the container a substantial distance below the shoulder 2.

Intermediate these two shoulders is an arcuate surface 6, when viewed in vertical cross section, and a circular surface, when viewed in horizontal cross-section. This finish is commonly known as the ball finish, and its maximum diameter is substantially greater than the diameter of the shoulder 2 and is substantially equal to the diameter of the shoulder 5. The shoulder 5 has been uti-

lized more for appearance than for utilitarian purposes, while the shoulder 6, constituting the ball finish, has been utilized to co-operate with the closure cap 7 to frictionally retain it on the container.

The cap illustrated herein preferably comprises a cover portion 8 and a depending skirt 9. The upper part of the skirt may be corrugated or knurled vertically at 10 to facilitate a grip for the cap. Intermediate the corrugations and the lower edge 11 of the cap are groups of projections 12 adapted to engage the ball finish to hold the cap in position. Preferably, the groups are arranged at intervals about the circumference of the cap and constitute at least three projections arranged one above another and extending circumferentially of the cap, each projection being several times as long as it is wide. The projections may be spaced from each other a distance substantially equal to their width. This permits the projection to snap over the ball finish and enables the finish to engage between two projections to hold the cap in proper position. Due to irregularities in the shape of the container, it is desirable that at least three projections be utilized so that the ball may engage intermediate the lower two projections, or intermediate the two upper projections, to hold the cap with equal efficiency. In fact, if the ball should engage above the three projections forming the groups, the cap, by means of the construction of the lower edge thereof, would be held in proper position.

The lower edge of the cap, instead of being rolled outwardly to form a wire edge, is bent inwardly throughout its circumference, as shown at 11. The edge itself is substantially smaller in size than the body part of the cap. The length of the skirt of the cap is such that, when the cap is applied to a container with a suitable hermetic sealing cap thereon, the lower edge of the cap will terminate substantially at, or slightly above, the maximum diameter or central portion of the shoulder 5. By reason of the lower edge of the cap being reduced in size, this portion of the cap will grip the shoulder 5 and co-operate with the projections 12 to retain the cap in position and to prevent the cap from tilting from one side to the other. It will be noted that the cover cap 7 engages the container at the center of the ball finish and also at the shoulder 5, which provides two engaging zones spaced a substantial distance, one above the other. These zones are more capable of holding the cap rigidly in position than the single sealing zone used heretofore. Another advantage of the construction is that the inturned lower edge of the cap fits snugly against the shoulder 5 of the container, giving the cap and container a snug fit. The inturned edge is substantially in line with the lower arcuate side of the shoulder 5, giving a continuous line between the skirt of the cap and the container side wall, instead of a broken line. If the lower edge of the closure cap should, by any chance, be slightly smaller than either the ball finish or the finish of shoulder 5, this edge will be stretched sufficiently in application to permit ready removal.

In some cases, due to irregularities in the finish and to differences in the thickness of the cork in the crown cork cap, the lower edge of the cover cap may engage the shoulder 5 slightly above the central portion thereof, that is, slightly higher than shown in Fig. 2. In other cases, the cap may go down further on the container and extend over, to a slight extent, the central portion of the

shoulder 5, as shown in Fig. 3. In either case, the contact between the inturned edge 11 and the shoulder is sufficient to position the cap properly on the container and to co-operate with the projections 12 to hold the cap in that position. In addition, the inturned edge gives the cap the appearance of being a continuation of the container surface.

In packing products by utilizing the present cap, the bottle is first filled and the crown cork cap applied to effect a hermetic seal and, thereafter, the present cover cap is applied merely by vertical pressure upon the cap. The projections 12 engage the ball finish, or a suitable cylindrical finish, to hold the cap in position. The shoulder 5 on the container is engaged by the inturned lower edge 11 of the cap to co-operate with the projections 12 in holding the cap in upright position and preventing accidental removal thereof. If the lower edge of the cap is slightly smaller than the finish on the container, this edge may be stretched slightly, during the application of the cap, without materially increasing the effort required to remove the cap. The lower edge, by reason of its resiliency, holds the cap in proper position irrespective of whether it engages slightly above the maximum diameter of the shoulder 5 or slightly below. The consumer buys the ketchup, removes the crown cork or other cap forming the hermetic seal, and thereafter uses the cover cap 7 for reseal purposes while the contents of the container are being dispensed.

It will be seen that the present invention provides a cap which may be readily and inexpensively manufactured. It is adapted to be used as a cover cap in combination with a crown cork sealing cap, or in combination with other suitable closures, to provide a very effective reseal after the package has been opened. The projections and the inturned flange co-operate to seal the cap tightly upon the container, thereby minimizing the tendency of the caps to be removed prematurely during shipment. The manufacture and sealing operation of the cap are greatly simplified and are adapted to be performed by automatic machinery. The caps are attractive and enhance the appearance of the package. The inturned lower edge forms, virtually, a continuation of the arcuate lower side of the shoulder 5 when the cover cap is applied to the container.

As various changes may be made in the form, construction and arrangement of the parts herein without departing from the spirit and scope of the invention and without sacrificing any of its advantages, it is to be understood that all matter herein is to be interpreted as illustrative and not in a limiting sense.

Having thus described my invention, I claim:

1. In a sealed package, the combination of a container having a pair of arcuate cap engaging shoulders and a closure cap having indentations in the skirt thereof adapted to engage one of said shoulders, the lower portion of the skirt of the cap being continuous and being constricted inwardly to reinforce the skirt and adapted to lock with the second sealing shoulder substantially below its maximum diameter to prevent the cap from tilting.

2. In a package, the combination of a container having a ball finish at the upper end thereof, a shoulder below said ball finish, a closure cap having groups of projections for engaging said ball finish, each of said groups of projections having a series of horizontally disposed projecting ribs positioned one above another at least two

of which engage with said ball finish above and below its maximum diameter, the lower edge of the skirt of the cap being continuous and being flanged inwardly to engage and lock with the 5 shoulder of the container below the maximum diameter of the shoulder, and said lower edge being adapted to cooperate with said projections to hold the cap in upright position on the container when forced completely downward into sealed position. 10

3. In a package, the combination of a container having a ball finish substantially at the upper end thereof and an annular arcuate shoulder below said finish, and a closure cap having a series of 15 projections spaced circumferentially of the skirt thereof adapted to engage said ball finish substantially at the maximum diameter, a second series of projections spaced circumferentially of the skirt and spaced above said first series, a third 20 series of projections spaced below said first series, whereby the ball finish may engage between either the upper two or lower two projections, and a continuous annular inwardly inclined flange at the lower edge of the skirt of the cap, and having

an inner diameter substantially equal to the maximum diameter of the shoulder and adapted to engage and grip the under side of said shoulder and cooperate with said series of projections to lock said cap on said container, said inwardly inclined flange being also adapted to merge with 5 the curvature of the shoulder to improve the appearance of the package.

4. A closure cap formed of a single piece of material comprising a cover portion, an elongated 10 continuous depending skirt, a series of groups of projections spaced circumferentially about the skirt of the cap, each of said groups of projections comprising three circumferentially extending ribs positioned one upon another, said projections 15 being adapted to engage a ball finish on a container, and an annular continuous inwardly extending flange on the bottom of the skirt adapted to reinforce the skirt of the cap, said inwardly extending flange being adapted to lock under an 20 annular continuous bead provided on the container to cooperate with said projections in holding a cap upon a container.

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