

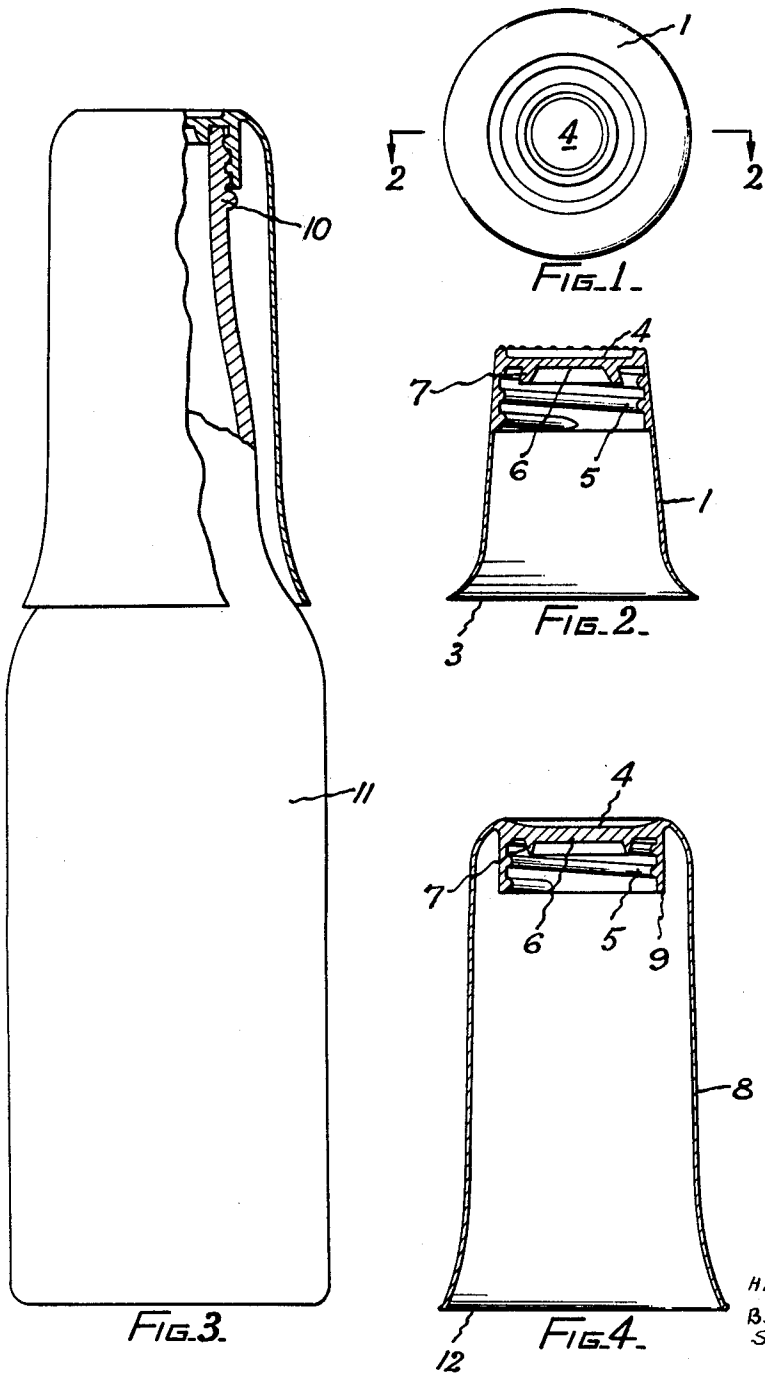
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COMBINED SEALING CAP AND DRINKING VESSEL

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3,159,298 COMBINED SEALING CAP AND DRINKING VESSEL

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This invention relates to closure means for bottles or other containers and has particular reference to a bottle sealing cap which also serves as a drinking vessel.

It is known to provide glass bottles and the like with moulded screw threads around the outer extremity of the neck, and it is also known to close such bottles by means of a so-called screw top or cap which may be constructed of any suitable material and provided upon an inner part of its substantially cylindrical surface with a screw thread which corresponds approximately in shape and size with a screw thread formed upon the neck of a bottle, to which it is adapted to be fastened by turning. However, to achieve a satisfactory seal with respect to a bottle neck, such a cap is normally provided with a resilient insert located so as to be squeezed between the top of a bottle and the base of the cap.

It is an object of the present invention to provide a bottle closing cap of the above described general kind but which is formed in such a manner as to dispense with the necessity for a resilient insert. In addition, it is an object of the invention to provide a cap which also serves as a drinking vessel or cup for consumption of, say, the beverage which is contained in the bottle from which it has been removed.

In accordance with the invention in one of its aspects therefore, a closure cap for a container, comprises a frusto-conical body open at one end and closed at its other end, and is provided near its closed end with a screw thread moulded on the inner curved surface thereof, said closed end having formed upon its interior face a substantially circular flexible lip, said body being provided with such a taper upon its frusto-conical surface that the open end thereof is able to clear the outer surface of the container to which said screw thread is applied, and said flexible lip being so dimensioned that it forms a seal within the bore of the neck of said container when said cap is attached thereto.

Certain particular embodiments of the present invention will now be described with reference to the accompanying drawings, in which similar references indicate similar parts, and in which:

FIG. 1 shows, in plan, a closure cap constructed in accordance with the invention.

FIG. 2 shows a vertical section along the line 2—2 of FIG. 1.

FIG. 3 shows a modified form of the cap, mounted upon a bottle, and

FIG. 4 shows a vertical section through the cap shown in FIG. 3.

Referring now to FIGS. 1 and 2, the closure cap shown therein, and adapted for fastening to a bottle or other vessel, comprises a frusto-conical, but nearly cylindrical, body 1 formed in one piece from plastic or other material such as polypropylene which is both tough and flexible. Said body is tapered throughout its length so that its open end or mouth 3 possesses a slightly larger diameter than its closed end 4. Within the bore of the cap so formed a screw thread 5 is moulded near the closed end 4, said thread being of approximately the same shape and size as the thread upon the neck of a bottle or the like to which it is adapted to be fitted. Said closed end 4 has

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formed upon its interior face 6 a substantially circular flexible lip 7 whose diameter at its upstanding extremity (when the open end of the cap is uppermost) is somewhat greater than that at its lower extremity, at which it is attached to said inner face.

In use, a cap constructed in accordance with the invention may thus be attached to a screwed neck of a bottle top or the like in known manner by twisting with respect thereto, and upon tightening with respect to said neck, the interior face 6 of the cap is brought to bear upon the outer face of the top of the bottle. At the same time, the flexible lip 7 aforesaid has its outermost or peripheral region pressed against the bore of the bottle neck. That is to say, even when no removable insert of the kind normally employed in the prior art is provided in contact with said interior face, the cap is effectively sealed with respect to the bottle neck at three regions, namely, the interior face 6, the flexible lip 7 and the co-acting screw threads themselves. A further advantage of a cap constructed in accordance with the invention is that when removed from the top of a bottle by unscrewing, the cap may be inverted and used as a cup, especially since it is a homogeneous structure which does not contain any insert which is likely to be of a kind which could absorb or otherwise interfere with a liquid such as, for example, the liquid within the bottle from which the cap has been removed.

The amount of taper given to the frusto-conical body 1 is not critical so far as its use as a cup is concerned, but should be sufficient to enable its use as a cap, that is, it should be sufficient to clear the neck of the bottle to which it is applied.

Referring now to FIGS. 3 and 4, a modification of the invention is shown, in which a coaxial outer frusto-conical portion 8 surrounds a substantially cylindrical inner boss 9 which supports the screw thread 5. Apart from the presence of the portion 8, the configuration of the boss 9 is similar to that of the closed end of the cap shown in FIGS. 1 and 2.

As shown in FIG. 3, the spacing of the portion 8 from the boss 9, when the latter is fastened by screwing to the coating thread 10 upon the neck of a bottle 11, is sufficient to permit the portion 8 to stand clear from the upper region of the bottle, but allows the entire closure cap, consisting of the portion 8 and the integral boss 9, to be faired smoothly with respect to the body of the bottle, when the latter is engaged upon its upwardly facing shoulder by the mouth 12 of the portion 8.

When inverted from their positions as shown in the drawings, both embodiments of the closure cap may be employed as drinking cups. In particular, the more compact cup of FIGS. 1 and 2 is adapted for "short" or potent drinks, whilst the larger capacity cup of FIGS. 3 and 4 is better adapted for "long" drinks, including those which may consist of mixtures of the bottle contents and other liquid diluents.

It will be seen therefore that the invention provides a useful and relatively inexpensive article not only on account of its dual purpose, but in view of the fact that when it is used as a cap, it does not require the provision of an insert composed of cork or other relatively expensive sealing material, and also its production is attended by a reduction in labour costs since it is not necessary to interrupt production of the article in order to install any inserts after the caps have been removed from an injection moulding press or other similar device in which they may be manufactured.

I claim:

1. A closure cap for a container having a neck and body portions comprising a frusto-conical body having an open end and a closed end,

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an interiorly threaded annular boss member attached to said closed end for engaging said neck portion, and an annular flexible lip positioned within said boss and also attached to said closed end, said frusto-conical body being positioned outward from said boss and having such a taper upon its frusto-conical surface that the open end thereof is able to clear the outer surface of the container; and said lip, closed end, and threaded boss being so dimensioned that they form a seal with the neck of said container when said cap is attached thereto.

2. The closure cap of claim 1 wherein the cap is composed of plastic material.

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3. The closure of claim 2 wherein the plastic material is polypropylene.

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