For a container having an open end and a radially outwardly projecting ridge on the exterior of the neck and spaced downwardly from the open end thereof defining a pair of radially spaced rims, a closure cap of resilient flexible material comprising a top overlying the open end of the container, a skirt depending from the outer peripheral edge of the top, fracturable means connecting the top to the skirt to permit removal of the top, said skirt having a circumferentially extending section of greater cross section and of an axial depth greater than the ridge on the container neck said section having an internal diameter slightly less than the outside diameter of the ridge on the container, means defining a circumferential groove in said thickened section of said skirt spaced from the top a predetermined distance so that it engages the lower rim of the ridge when the top is seated on the axial end face of the container, the outer portion of the thickened section extending beyond the rims of the ridge to hold the cap in place on the container.

A protective cap of synthetic material, with a substantially cylindrical shell and a seal plate, for closed container mouths having an outer ridge (band), in particular for corked wine bottles, characterized in that the shell has at its inside a substantially cylindrical thickening, which, when the protective cap is set on the mouth opening, extends over the rim of the ridge turned away from the mouth, and in that the inner width of the thickened shell section is smaller than the outer diameter of the ridge or band.
PROTECTIVE CAP OF SYNTHETIC MATERIAL FOR MOUTHS OF CONTAINERS, PARTICULARLY CORKED WINE BOTTLES

The invention concerns a protective cap of synthetic material, and having a substantially cylindrical shell and a seal plate for closed container mouths having an outside ridge, particularly for corked wine-bottles.

The protective caps of the invention are intended for use chiefly with wine-bottles, but they may also be used for other containers for other, and even non-fluid substances, chemicals for example, as well as for containers whose wall does not consist of glass but of a synthetic material or of metal.

In the following, therefore, the protective cap will be described only in the case of its use for a wine-bottle. Hereby the terms "above" and "below" refer to a bottle standing upright.

There are already known protective caps of synthetic material which have a cylindrical shell of uniform wall thickness. After being put on, they are seated relatively loosely on the bottle neck, and can easily be pulled off as a whole.

If on the other hand the protective caps are made so narrow that they sit tightly on the bottle ridge, then a complicated capping tool is needed that by means of a number of claws in the first place widens the cap, and this tool's claws must during the pushing-on of the cap be moved away without damaging the cap. Each bottle-filling apparatus then has to be equipped with such an expensive tool.

There are furthermore known protective caps which have an outside bead corresponding to the ridge on the bottle, and which have on their inside a circular groove that, during the pushing-on of the cap, snaps over the neck ridge. It is true that such caps are put on in a relatively simple way; however, because of their inner groove they require a complicated extruding tool. Production therefore becomes relatively expensive.

The present invention provides a cap for a container which can be easily and economically manufactured, is adapted for application to a container such as a bottle relatively simple means, and which after assembly engages snugly over the neck of the bottle.

In the case of a protective cap of the type named at the outset, this is achieved in that the shell 4 has at its inside a substantially cylindrical thickening 6, which, when the protective cap is set on the mouth opening, extends over the rim 8a of the ridge 8 turned away from the mouth, and in that the inner width of the thickened shell section 6 is smaller than the outer diameter of the ridge or band 8.

Because the thickening is provided at the inside, the shell outside the thickening has a larger inner diameter, so that it can be pushed on the bottle neck without folding up concertina fashion, while on the other hand, at least in its lower part, it rests snugly against the bottle neck.

Because the inner width of the thickened section is smaller than the outer diameter of the neck ridge, the thickened section during the pushing over the ridge becomes expanded. Hereby a rim region of the thickened section becomes pushed out over the ridge, and becomes contracted again to approximately its original diameter. Through this the cap has imparted to it, at the underside of the ridge, a rounding similar to that of a metal cap, and the cap is secured against pulling off.

One advantageous further development of the invention resides in that at the inside of the thickened section 6 is provided, as an aid to bending, a relatively shallow groove 13, which has approximately the same spacing from the inside of the seal plate 2 as from the rim 8a of the ridge or band turned away from the mouth opening. After the pushing-on, the groove engages the lower edge of the ridge, and enables the lower part of the thickened section of the cap to bend inward, or in any event to form a rounding of a very small radius of curvature. Through this the protective cap holds extraordinarily tightly to the neck ridge, so that a sealing is formed which at least approximates an original seal. In spite of this, the cap can be pulled off the extruding tool regardless of the undercut formed by the groove, because this groove is a relatively shallow one. Thus no complicated core is needed for the extruding tool.

One advantageous further development of the invention consists in that the thickened section 6, when the cap is set on, also extends over the rim (8b) of the ridge or band turned away from the mouth opening. By this means it is ensured that the cap also contracts at the upper rim of the neck ridge, so that here too it is given the form of a metal cap.

One advantageous further development of the invention, which however is also intended to enjoy independent protection, is to be seen in that the cap has a cap 14 that can be torn off along a peripheral line, as is of itself known, and in that the tear-off cap is divided, by two weakening lines 20 running adjacent to one another at a spacing, into one tear-off strip 22 and two segments 24. To open the cap, the tear-off strip is in the first place pulled out, and then the two remaining segments are torn away along the peripheral line.

Examples of carrying out the invention are described in the following by the aid of the drawings.

FIGS. 1 and 1A are lengthwise sections which show different forms of construction;
FIGS. 2 and 2A are plan views of these forms of construction;
FIG. 3 shows another form of construction of a protective cap set on the mouth of a corked bottle, and it is shown at the left in a lengthwise section, and at the right in a side view.

The protective cap consists of a seal plate 2, and of a shell that is as a whole designated by 4. The shell has a section 6 at the level of the neck ridge 8, opposite which it is thickened in comparison with the lower section 10 of the shell. As shown in FIG. 1, this thickening is provided only at the inside of the shell. The inner wall of the thickened section 6 merges, by a conical surface 12, into the inner wall of the lower section 10.

The thickened section 6 may at its inside have a shallow peripheral groove 13, level with the lower rim 8a of the ridge or band 8.

FIG. 3 shows a form of construction of the cap of the invention after the cap is pushed on the corked mouth of a bottle. The thickened section 6 surrounds the ridge or band 8, but projects a piece beyond its upper rim 8b and its lower rim 8a. At both rims the section 6 is drawn inward, so that a form similar to that of a metal cap is produced. The lower section 10 of the shell in its lower region rests snugly against the bottle neck.
Protective caps according to the invention can be pushed on the bottle neck by hand, or else by the aid of a very simple tool.

The seal plate 2 may be integral with the thickened section 6 of the shell. With the illustrated forms of construction there is however provided a tear-off cap designated as a whole by 14. The tear-off line runs, in known wise, when the cap is set on, above the upper rim 8b of the neck ridge or band. The tear-off cap 14 is connected with the thickened section 6 of the shell only by lands or webs 16. With the forms of construction of FIGS. 1 and 2, the webs 16 may be spaced a greater or smaller distance apart in the peripheral direction. The tear-off cap may have at its lower rim an arches structure 18, whereby the webs 16 form so-to-say the columns.

For the purpose of tearing it off, the tear-off cap is divided, by two parallel weakening lines 20, into a middle tear-off section 22 and two segments 24. The weakening lines 20 are prolonged into the cylindrical section of the tear-off cap. By means of a lateral opening 26, provision is made to grip and pull the middle strip 22. The segments left in place can then be torn away by breaking through the individual webs 16.

For the purpose of ventilating the cork, holes 28 may be provided in the seal plate 2.

I claim:

1. For a container having an open end and a radially outwardly projecting ridge on the exterior of the neck and spaced downwardly from the open end thereof defining a pair of radially spaced rims, a closure cap of resilient flexible material comprising a top overlying the open end of the container, a skirt depending from the outer peripheral edge of the top, fracturable means connecting the top to the skirt to permit removal of the top, said skirt having a circumferentially extending section of greater cross section and of an axial depth greater than the ridge on the container neck said section having an internal diameter slightly less than the outside diameter of the ridge on the container, means defining a circumferential groove in said thickened section of said skirt spaced from the top a predetermined distance so that it engages the lower rim of the ridge when the top is seated on the axial end face of the container, the outer portion of the thickened section extending beyond the rims of the ridge to hold the cap in place on the container.

2. A closure cap as claimed in claim 1 wherein said fracturable means is located adjacent said skirt section of greater cross section.

3. A closure cap as claimed in claim 1 wherein said fracturable means includes two weakened score lines in said top extending adjacent to one another at a predetermined space and dividing the top into one tearoff strip and two segments.

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