Nov. 17, 1953 T. A. NYGAARD 2,659,508

CONTAINER CAP

Filed May 10, 1951

Fig. 1.

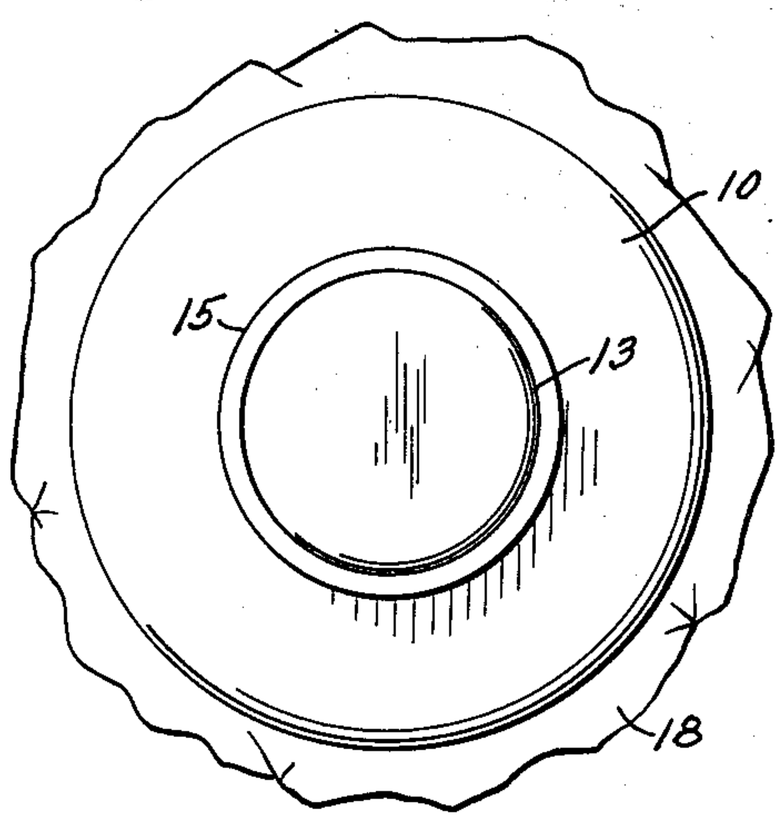


Fig. 2.

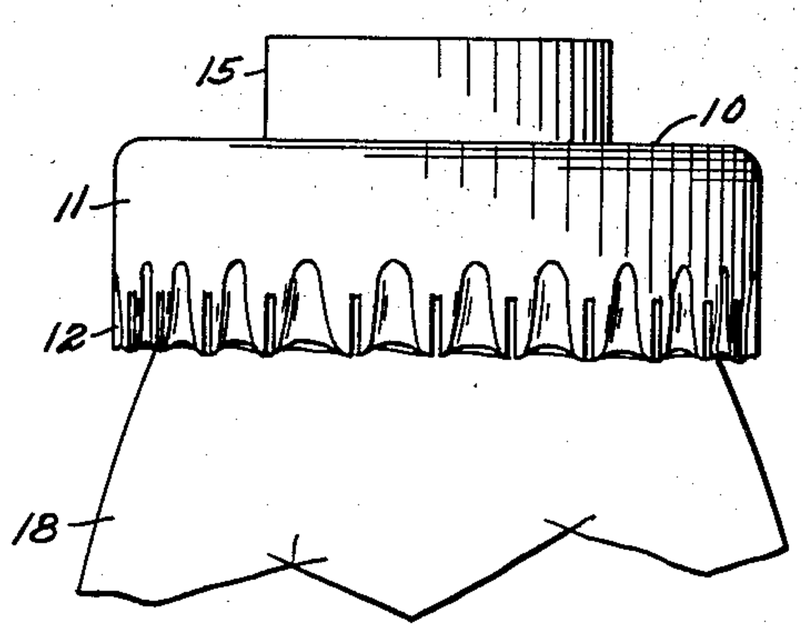


Fig. 3.

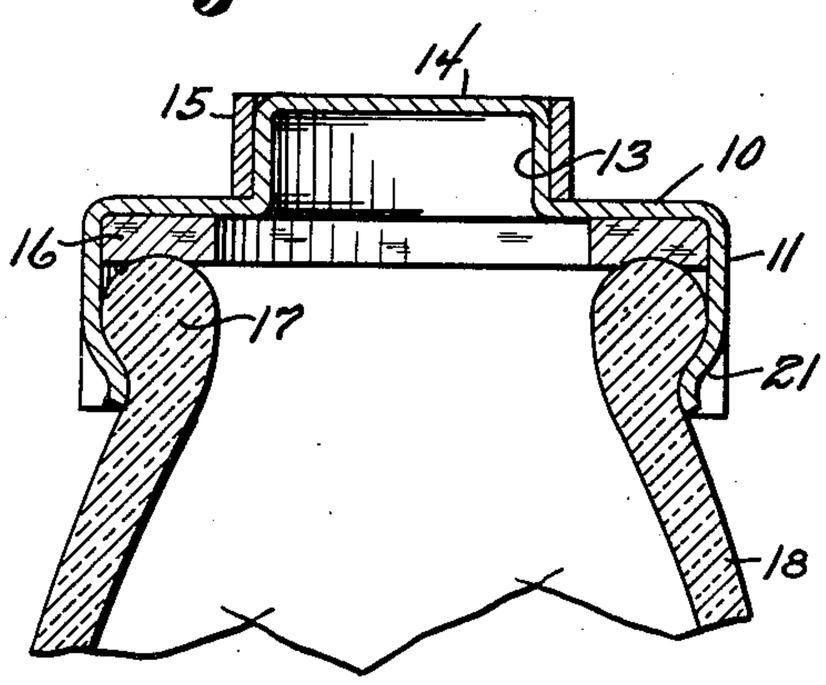


Fig. 5.

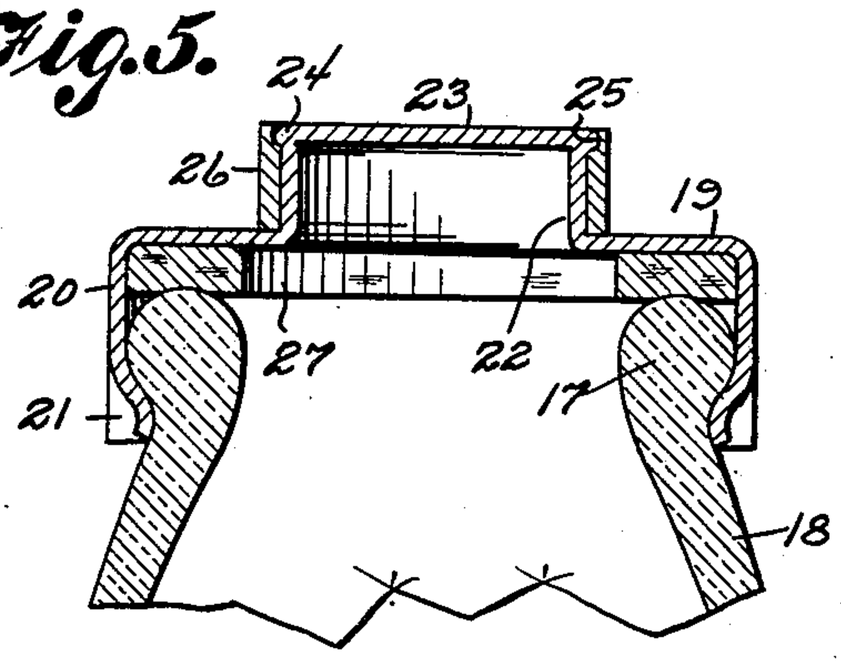


Fig. 4.

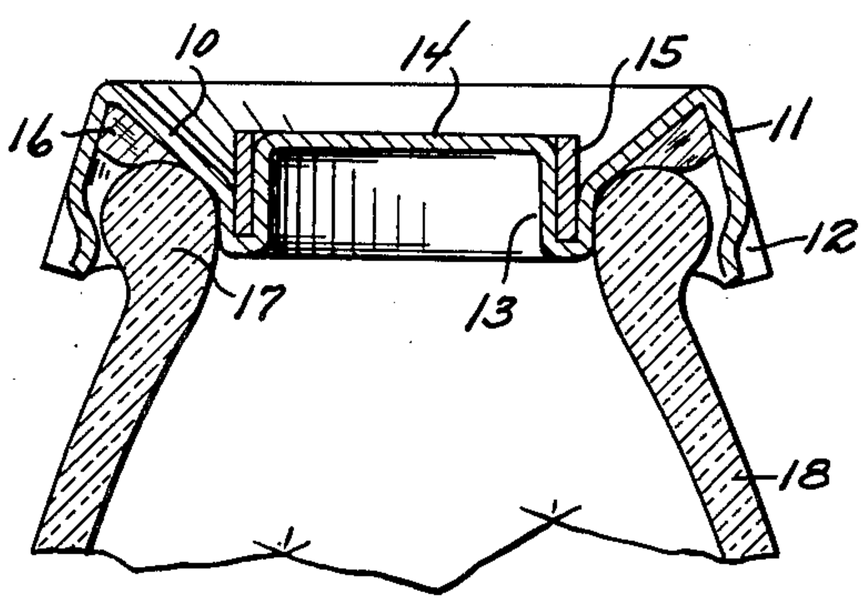
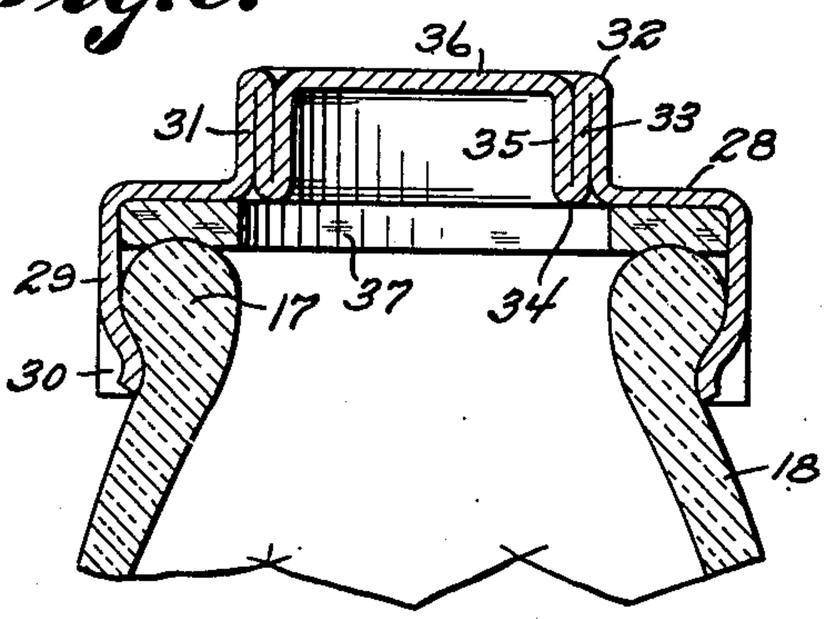


Fig. 6.



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CONTAINER CAP

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Application May 10, 1951, Serial No. 225,506

1 Claim. (Cl. 215—39)

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This invention relates to bottle caps of the type used on soft drink bottles and the like and particularly the type where the edges of the cap are crimped over a bead on the end of a bottle or other container, and in particular this invention relates to a cap for use on bottles and containers wherein an upwardly extended section is provided in the center so that when the end of a bottle is struck, such as with a hammer or other tool, or the end of the bottle is forced against a rigid object, the extended central portion of the cap presses downwardly in the end of the bottle or container whereby the crimped outer edge is sprung outwardly, releasing the cap from the bottle or container.

The purpose of this invention is to provide an improved bottle cap that can be removed without a bottle opener or other tool and which, may also be opened with the conventional bottle opener.

In the conventional type of crimped bottle cap or container cover it is necessary to pry the cap from the end of the bottle and, in numerous instances, it is desired to open bottles of this type when a bottle opener is not at hand. With this thought in mind this invention contemplates an improved form of bottle cap that may be opened with the conventional bottle opener and that may also be opened by striking the end of the cap with a rigid object.

The object of this invention is, therefore, to provide an improved method for forming a bottle cap whereby the cap may be removed without tools or other devices.

Another object of the invention is to provide a bottle or container cap that may be removed by striking the end of the cap or by striking an object with the cap that may be used on bottles or containers without changing the bottles or containers.

A further object of the invention is to provide an improved bottle cap that is adapted to be opened without a bottle opener or other tool, which is of a simple and economical construction.

With these and other objects and advantages in view the invention embodies an improved bottle cap formed with a disc having the conventional gripping flange and also having an extended cylindrical shaped section in the center that is adapted to be driven into the end of the bottle.

Other features and advantages of the invention will appear from the following description taken in connection with the drawings wherein:

Figure 1 is an end elevational view showing the improved bottle cap with parts of the bottle on which the cap is positioned broken away.

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Figure 2 is a side elevational view of the improved bottle cap also with parts of the bottle broken away.

Figure 3 is a vertical section through the upper end of a bottle showing the improved cap thereon illustrating a reinforcing band positioned around the extended section of the cap.

Figure 4 is a similar view showing the band and center section of the cap driven into the end of a bottle whereby the crimped flange and outer portion of the cap is forced upwardly.

Figure 5 is a view similar to that shown in Figure 3 illustrating a modification wherein the upper edge of the band around the center of the cap is provided with a recess for receiving the bead on the upper edge of the central portion of the cap.

Figure 6 is a similar view showing a further modification wherein the intermediate part of the cap is folded to provide reinforcing in the center section thereof.

Referring now to the drawings wherein like reference characters denote corresponding parts the improved bottle or container cap of this invention includes a disc 10 having a depending flange 11 with a crimped lower edge 12, and having an upwardly extended cylindrical section 13 extended from the intermediate part of the disc 10 and a closure web or wall 14 extended across the upper end of the cylindrical section 13.

In the design illustrated in Figures 1, 2 and 3 the cylindrical section 13 is provided with a reinforcing band 15 and a cork washer 16 is positioned against the inner surface of the flat section or disc 10.

With the parts arranged in this manner the cap is crimped over the conventional bead 17 on the end of a bottle or other container 18, as illustrated in Figure 3 whereby the bottle is sealed, and when it is desired to remove the cap the outer end 14 is struck with a hammer or other tool, or by holding the bottle in the hand the end of the cap is struck against a surface or the like whereby the extended end of the cap is driven into the bottle as shown in Figure 4.

In this movement the outer edge of the disc section 10 is forced upwardly and the depending flange 11 is forced outwardly with the crimped edge 12 freed from the outer surface of the bead 17 of the bottle. With the parts in this position the cap is readily removed from the end of the bottle.

In the design illustrated in Figure 5 a disc 19, provided with a depending flange 20 having a crimped lower edge 21 is provided with a cylindrical section 22 the upper end of which is closed

with a web 23. In this design the peripheral edge of the web 23 is provided with a bead 24 that extends into a recess 25 in a reinforcing band 26, similar to the band 15. This cap is also provided with a cork washer, as indicated by the numeral 27. By striking the outer end of the center section of the cap the end of the cap is driven into the end of the bottle similar to the cap shown in Figure 4.

In the design illustrated in Figure 6 the cap is formed with a flat section 28, similar to the disc 10 and this is provided with a depending flange 29 having a crimped lower edge 30. In this cap the center section is formed by extending a tubular section outwardly forming a cylindrical web 31, the end of which is folded at the point 32 and from the point 32 the web is extended downwardly against the inner surface of the web 31 providing a section 33 which extends downwardly to the point 34 where an annular fold is provided from which the section extends upwardly providing a cylindrical wall 35 and this wall is provided with a closure web 36. This cap is also provided with a cork lining washer 37, similar to the washer 16. This cap is also adapted to be struck for opening wherein the center section is driven downwardly into the end of the bottle or container, similar to corresponding parts of the cap illustrated in Figure 4.

A cap formed in this manner is crimped on the end of a bottle or container with conventional means and when it is desired to remove the cap from the bottle or container it is only necessary to strike the end of the cap in order to pry the crimped flange free so that cap is free from the container and may readily be removed therefrom.

It will be understood that other modifications may be made in the design and arrangement of

the parts without departing from the spirit of the invention.

What is claimed is:

In a cap for a container neck having an annular bead and an annular groove contiguous to said bead, a disk having a depending annular flange, a portion of the lower edge of said flange being crimped inwardly for engaging said groove, a cylindrical section extending upwardly from said disk, a closure wall extending across the upper end of said cylindrical section, said cylindrical section and flange being arranged concentrically, and said cylindrical section being of less diameter than the neck of the container to which it is applied, a reinforcing band surrounding said cylindrical section, and a washer interposed between said disk and the neck of the container, said band and cylindrical section being mounted for telescoping movement into the open neck of the container when force is applied to said closure wall whereby a portion of said disk assumes a frustro-conical form to cause the crimped portion of said flange to move out of its engagement with said groove.

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