Oct. 11, 1949. J. COYLE 2,484,271

METAL CONTAINER

Filed July 24, 1946

Fig. 1.

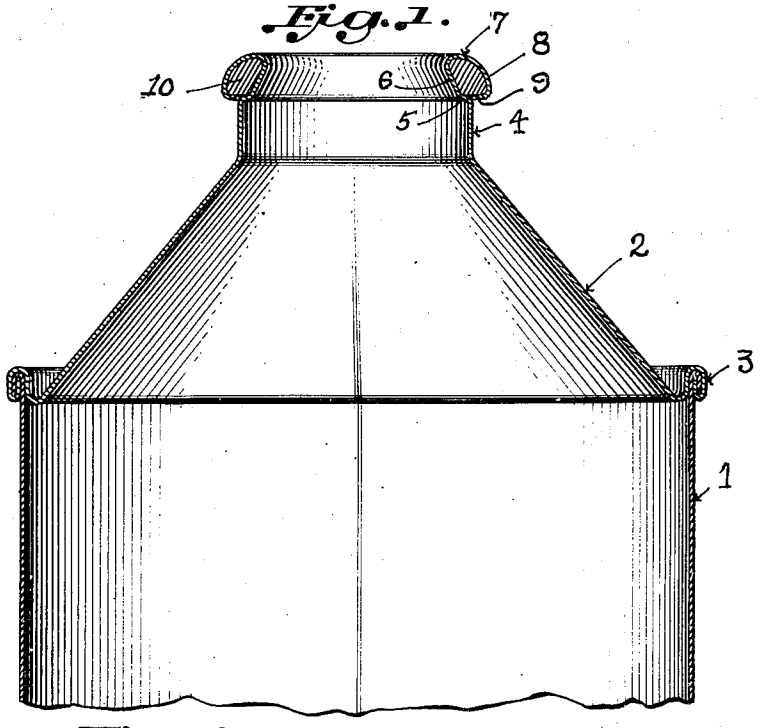


Fig. 3.

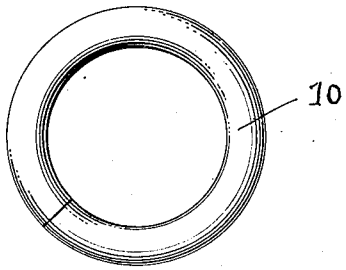


Fig. 2.

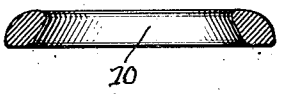


Fig. 4.

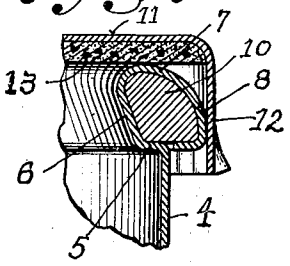
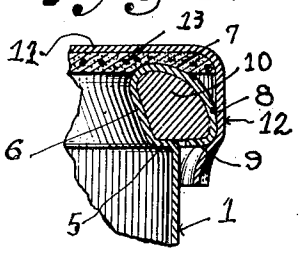


Fig. 5.



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METAL CONTAINER

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2 Claims. (Cl. 220—73)

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The invention relates to new and useful improvements in a metal container for carbonated beverages.

An object of the invention is to provide a container having a neck portion with the metal at the upper end thereof shaped so as to provide a sealing lip and a retaining shoulder for a crown cap wherein said shaped portion is reinforced and supported by a metal core.

A further object of the invention is to provide a container of the above type wherein the metal of the upper end of the neck portion is offset inwardly, extends upwardly therefrom and is thence rolled outwardly, downwardly and inwardly to form a sealing lip and a retaining shoulder for a crown cap, and wherein a metal reinforcing member is disposed within said rolled portion, rests on said offset shoulder and contacts with the sealing lip for supporting the same.

In the drawings which show by way of illustration one embodiment of the invention,

Figure 1 is a sectional view through the upper portion of a container embodying the improvements;

Figure 2 is an enlarged sectional view through the reinforcing metal ring;

Figure 3 is a plan view of said reinforcing ring;

Figure 4 is a view showing a crown cap resting on the lip of the container embodying the improvements, and

Figure 5 is a view similar to Figure 4 but showing the cap as locked to the container for sealing the same.

The invention is directed to a metal container for carbonated beverages. The container includes a body portion which is preferably provided with a cone-shaped top terminating in a cylindrical neck which serves as a filling and pouring opening.

The neck portion at the upper end thereof is offset inwardly and is thence tapered inwardly to a point adjacent the upper end of the container where the tapered portion extends into an outwardly and upwardly curved portion forming a sealing lip, and thence downwardly and inwardly to form a retaining shoulder. Disposed within and shaped to conform to the curled portion forming the lip and the shoulder is a metal core. This metal core rests on the offset shoulder and contacts with the lip so as to support the lip when the crown cap is forced into sealing contact therewith. It also supports the retaining shoulder under which the skirt of the crown cap is locked.

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In the present embodiment of the invention, the container includes a metal body portion 1 to which a cone-shaped top 2 is secured by a double seam 3. These parts, however, may be made in one piece from drawn metal. At the upper end of the cone-shaped top is a cylindrical neck 4. At the upper end of the neck portion, the metal is offset inwardly at 5. It then extends upwardly, tapering inwardly slightly as indicated at 6. From the upper end of the tapered portion, the metal curves upwardly and thence outwardly to form a sealing lip 7. Beyond the sealing lip the metal extends downwardly as indicated at 8 and thence inwardly at 9 to form a retaining shoulder. This in-turned part is preferably substantially in alignment with the offset shoulder 5. Disposed within this shaped upper end of the neck portion is a metal ring 10. This metal ring may be made from a wire which is rolled to give a proper cross section to the ring so that it will conform to the shape of the neck, as defined above. The wire after it is bent into ring shape may have its ends joined if desired. This reinforcing member 10 rests on the offset shoulder 5. It conforms to the under face of the sealing lip 7 and it also conforms to the retaining shoulder 9.

The container is closed by an ordinary crown cap consisting of a metal top 11 and a depending skirt 12 which is corrugated in the usual manner. Within the crown cap is a sealing disc 13. When the cap is placed on the container, the sealing disc 13 rests on the sealing neck 7 and the skirt extends down along the portion 8 of the neck. In order to seal the container in which is packaged a carbonated beverage, considerable pressure is necessary to retain the seal. This is accomplished by pressing the cap against the sealing lip with a very heavy pressure.

The sealing lip is supported by the reinforcing wire 10 and this reinforcing wire 10 rests on the offset shoulder 5 in the body wall and this makes a very firm durable support for the sealing lip so that the cap may be pressed against the same with a pressure sufficient to bring about a sealing of the container that will withstand any internal pressure developing thereon from the carbonated beverage.

After the cap has been firmly pressed against the sealing lip, the skirt is bent underneath the retaining shoulder 9 in the usual manner and this locks the cap firmly to the container.

While applicant prefers a solid wire which is shaped to conform to the sealing lip and retaining shoulder, it will be understood that the metal

reinforcement may be formed and shaped from hollow tubing or a plastic mould ring may be employed. It is essential, however, that it will support both the sealing lip and the retaining shoulder so as to enable a very tight seal to be made and the cap locked in such tight sealed contact.

It is also understood that while a crown cap is preferred as a closing means for the container, other forms of caps may be used, again it being essential that the cap shall be pressed against the sealing lip and held by forcing the skirt underneath the retaining shoulder.

I claim:

1. A metal container having a rigid sealing lip for a crown closure cap comprising a body portion terminating in a neck adapted to receive a crown cap, a ring having a substantially flat base, said neck at the upper end thereof being shaped to provide a bead tightly surrounding the ring and conforming to the contour thereof, a portion of said bead being offset inwardly to provide a supporting shoulder for the flat base of the ring, said ring and bead being dimensioned and disposed so as to extend outwardly beyond said ring supporting shoulder to provide a holding shoulder for the crown closure cap.

2. A metal container having a rigid sealing lip

for a crown closure cap comprising a body portion terminating in a neck adapted to receive a crown cap, a ring having a substantially flat base, an upwardly and inwardly inclined inner face, and an arcuate face joining the inner face to said base, said neck at the upper end thereof being shaped to provide a bead tightly surrounding the ring and conforming to the contour thereof, a portion of said bead being offset inwardly to provide a supporting shoulder for the flat base of the ring, said ring and bead being dimensioned and disposed so as to extend outwardly beyond said ring supporting shoulder to provide a holding shoulder for the crown closure cap.

JOHN COYLE.

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