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A. L. KRONQUEST

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INTERIOR COLLAR CAN

Filed June 4, 1930

FIG. 1.

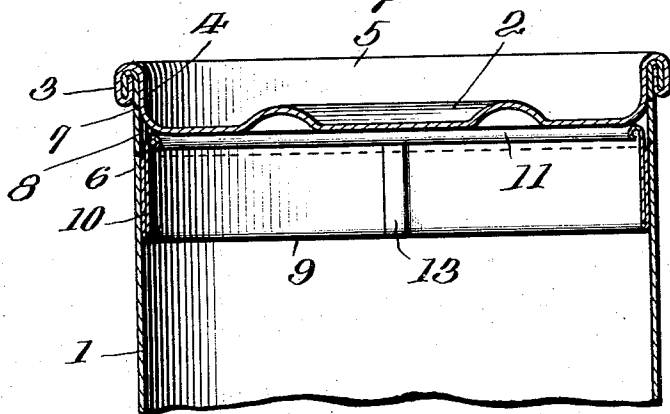


FIG. 2.

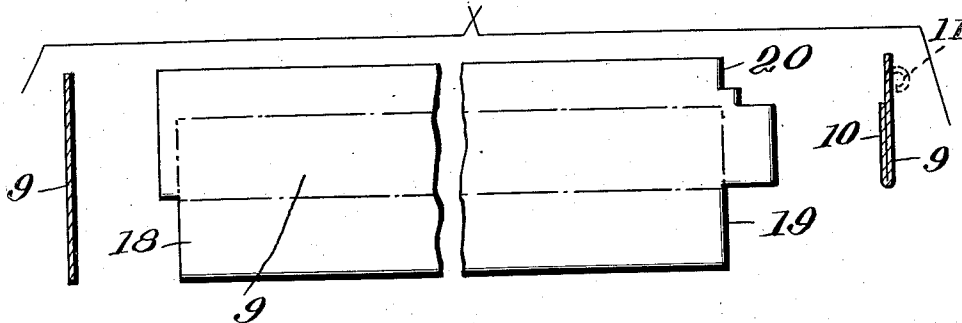
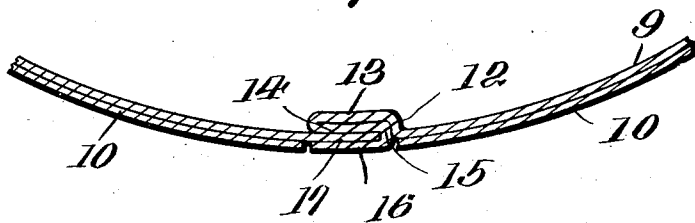


FIG. 3.



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INTERIOR COLLAR CAN

Application filed June 4, 1930. Serial No. 459,202.

The invention relates to new and useful improvements in metal containers and more particularly to a container that is easily opened.

In my prior application, Serial Number 356,741, filed April 20, 1929, I have shown and described a container having a collar frictionally secured within the container body, which receives and holds the inverted cover after it has been released by the rip strip.

An object of the present invention is to provide means for adjoining the ends of the blank or band forming the collar so that the end portions will be held firmly in abutted relation.

A further object is to provide a connection of the above type for the ends wherein the metal at the outer face of the collar is so disposed that the collar is of uniform outside diameter throughout.

Referring to the drawings which show by way of illustration one embodiment of the present invention:—

Fig. 1 is a vertical sectional view through a container, showing the collar in place.

Fig. 2 is a plan view of the metal blank which forms the collar as it is not notched before folding.

Fig. 3 is an enlarged sectional view through the portion of the collar where the ends are joined, showing diagrammatically the interlocking and overlapping of the ends.

The invention is directed broadly to means for joining the ends of the collar disposed within a rip strip type of container. The container consists of a body portion having its ends double seamed thereto. The body portion is provided with score lines adjacent the upper double seam which form a rip strip adapted to be torn away by a turning key to release the cover. The collar is disposed with the container so as to project above the lower score line. The collar is preferably held in the container body by a frictional grip between the collar and the body wall. This requires that the ends of the collar be firmly joined and held in abutted relation. This joining is accomplished

by an interlocking and overlapping of the ends of the collar. One of the end portions is offset and then bent back upon itself for a distance and again bent so that the end is substantially on a line with the first bend that is formed. This provides a housing between the two folded back portions for the other end. When the other end is inserted into the housing and gripped between its retaining walls an interlocking and overlapping of the ends is accomplished wherein the ends cannot shift laterally and slip by each other, but are held firmly in abutted relation. Therefore, the collar may be made slightly larger in diameter than the inner diameter of the container and forced into the container for a firm frictional grip. The blank or band is bent longitudinally upon itself before the ends are bent and shaped, so as to inset the upper portion thereof to facilitate reclosing.

Referring more in detail to the drawings, the improved container includes a body portion 1 which is preferably cylindrical and of uniform cross-section throughout. Each end of the body portion is flanged in the usual manner and closing ends are secured thereto by double seam. The upper end 2 as shown in the drawings, is secured to the body portion 1 by a double seam 3. This upper end 2 has a central depressed portion providing a substantially vertical wall 4 directly in rear of the double seam. This central depressed portion is enlarged and the vertical wall 4 extends further down the inner face of the body portion of the container. This central depressed portion forms a recess 5. The body portion is provided with score lines 6 and 7. The score line 7 is located just beneath the double seam 3, the score line 6 is further down the container and a rip strip 8 is formed by these score lines provided with the usual means, whereby said rip strip may be torn out thus releasing the end 2 from the container body. As described in the prior application noted before, this end may be reversed and placed in frictional engagement on the container body for reclosure of the same.

Located within the container body is a

collar 9. This collar 9 has a portion 10 folded back upon the outer face of the collar. The collar 9 at its upper end is rolled at 11 into a false wire as shown in the drawings, and this provides a smooth upper edge for the collar. The collar is so proportioned that the outer diameter of the folded back portion 10 is substantially the same or slightly greater than the inner diameter of the body portion of the container.

The present invention is directed particularly to the means whereby the ends of the collar 9 are joined so that when this collar is put under compression incident to the forcing of the collar into the container body the ends cannot shift laterally and slip by each other and thus become released. After the collar blank 9 has been longitudinally folded back upon itself to form the fold 10 as stated above one of the end portions is bent laterally at 12 to form an offset, the offset portion 13 is bent back on itself forming the portion 14. This portion 14 is again bent at right angles as indicated at 15 and this right angle portion 15 is so disposed as to engage the inner face of the shoulder formed by the offset 12. This end of the collar is again bent to provide a portion 16, the portions 14 and 16 are spaced the thickness of the metal forming the collar, and the portion 17 of the other end of the collar extends into the housing formed by these space portions 14 and 16. There its end abuts against the right angle portion 15. It will be noted that the portion 17 on the left hand end of the collar as viewed in Fig. 3 is in alinement with the portion of the collar at the other side of the joining seam. It will also be noted that this portion 17 is confined between the portions 14 and 16 and held from lateral shifting movement. After the parts have been placed, then the seam is bumped so that these portions 14 and 16 firmly grip the end 17 of the collar. When the collar is inserted in the body of the container, it is put under pressure which forces the ends into contact with each other, and as it is crowded into the body for the tight frictional grip the collar is under compression. This force, however, cannot in any way disturb the seam joining the ends. The collar portions are in alinement so that there is little or no lateral force applied to the collar at the seam. The overlapping parts cannot shift laterally as they are interlocked, and therefore no slipping of one end by the other thus releasing the collar can occur. The ends of the folded back portions 10 are cut away as indicated in 18 and 19, see Fig. 2 so as to provide a space for the portion 16. The outer face of this portion 16 is in a line with the outer face of the folded back portion 10, thus it is that the collar on its outer face is of substantially uniform diameter throughout and the circumferential

line of contact between the collar and the wall of the can body is continuous. The interfolded parts are of greater thickness than the collar but the parts of greater thickness are on the inner side of the collar.

The blank is cut away as indicated at 20, so that the ends of the rolled portion at the upper end of the collars may be abutted.

While the invention is shown as applied to a collar having a bead at its upper edge and also as having a folded back portion to inset the upper part of the collar from the wall of the container, it will be understood that the collar may be made in other ways. The essential features of the invention reside in the construction, whereby the ends of the collar are overlapped and interlocked and firmly held in abutted relation when the collar is under compression. It will be obvious that minor changes in the shaping of the parts forming the interlocking of the ends may be made without departing from the spirit of the invention as set forth in the appended claims.

Having thus described the invention, what I claim is new, and desire to secure by Letters Patent is:—

1. A metal container comprising a body portion and ends secured thereto by seaming, said body portion having score lines adjacent one end thereof, forming a rip strip for releasing the end, and a collar disposed within the body so that the upper end thereof extends above the lower score line, one end of said collar being straight and the other end being bent upon itself to form a housing for said straight end, whereby said end portions of the collar are firmly held in abutted relation and prevented from shifting laterally and releasing when said collar is under compression.

2. A metal container comprising a body portion and ends secured thereto by seaming, said body portion having score lines adjacent one end thereof, forming a rip strip for releasing the end, and a collar disposed within the body so that the upper end thereof extends above the lower score line, one end of said collar being straight and the other end of said collar being offset laterally to form a shoulder, said offset portion being bent upon itself to form space portions engaging said shoulder and adapted to receive and house therebetween the other end of the collar.

3. A metal container comprising a body portion and ends secured thereto by seaming, said body portion having score lines adjacent one end thereof, forming a rip strip for releasing the end, and a collar disposed within the body so that the upper end thereof extends above the lower score line, one end of said collar being straight and the other end of said collar being offset laterally to form a shoulder, said offset portion

being bent upon itself to form space portions engaging said shoulder and adapted to receive and house there between the other end of the collar, the offset and bent portions of the end of the collar being so disposed that the outer face of the collar is substantially of uniform diameter throughout.

4. A metal container comprising a body portion and ends secured thereto by seaming, said body portion having score lines adjacent one end thereof, forming a rip strip for releasing the end, and a collar disposed within the body so that the upper end thereof extends above the lower score line, said collar having a portion thereof folded longitudinally onto its outer face for contact with the body wall of the container, the ends of said folded back portions being cut away to form a space, one end of the collar having a laterally offset portion forming a shoulder, said offset portion being bent back upon itself, again offset laterally and bent upon itself so that the outer face of the last named bent portion is on a line with the outer face of the collar and the other end of said collar being substantially straight and extending between said spaced portions and abutting against the inner end of the recess between said spaced portions, whereby the ends of the collar are overlapped and interlocked so that one end cannot shift laterally and be released when the collar is under compression.

In testimony whereof, I affix my signature.

ALFRED L. KRONQUEST.