May 16, 1944. C. F. PECK 2,348,750

CONTAINER

Filed Oct. 7, 1941

Fig. 1

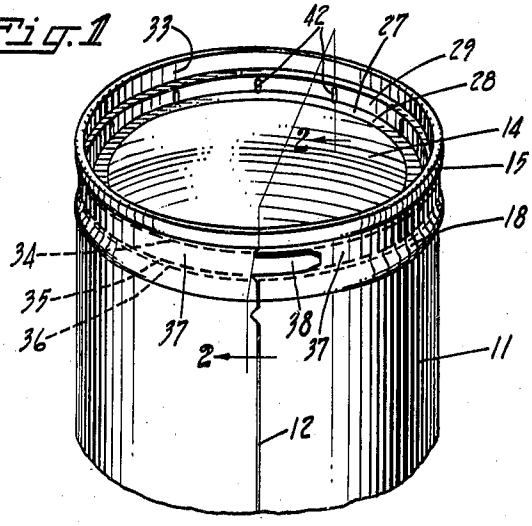
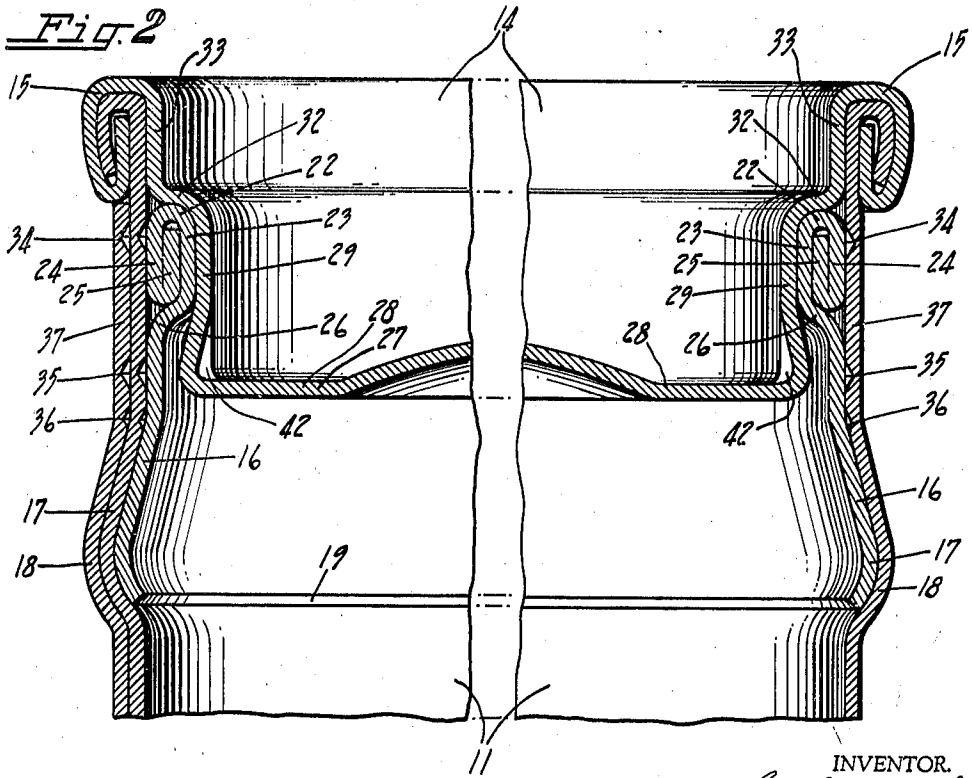


Fig. 2



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CONTAINER

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3 Claims. (Cl. 220—54)

This invention relates to sheet metal cans or containers with interior collars, the body having a tearing strip set off by score lines and has particular reference to a yieldable area disposed between a score line and an offset section of the body to eliminate undue strain and possible fracture of the score line when such offset section is formed.

In the manufacture of tearing strip cans having a friction plug type of cover after opening which is adapted to fit with an interior collar or band in the can as a reclosure, it is necessary to secure such an interior collar within a container body by beading or by reforming both the collar and the body while they are in assembly and before the cover is attached. The position of such a bead preferably is located on the body adjacent the tearing strip. This sometimes causes a strain in the lowermost score line section, such a score line being made in the body while in the flat, particularly at the lapped portion of the side seam which often cracks the metal and which ultimately may result in a leak in the container.

The instant invention contemplates overcoming this difficulty by scoring an area between the lowermost tearing strip score line and the place where the annular bead will be made later in the can body. This additional score line provides a yieldable section at the top of the bead during the beading operation thus permitting bending of the material without setting up a strain in the lowermost score line particularly at the double layer or the lapped section of the side seam region which is the most vulnerable.

An object of the invention is the provision of a tubular can or container with a tearing strip set off by score lines and with a bent offset section disposed adjacent thereto, the body being formed with a weakened area at a line of bend which provides a yieldable region in the body effective for preventing strains set up during the bending of the offset section from reaching a tearing strip score line and from breaking the metal in the body wall.

Another object of the invention is the provision of a tearing strip can or container of the internal collar variety, the collar having a smooth reenforced hemmed edge at one end and being secured within the container body at the other by an outwardly rolled bead. The container body is provided with a plurality of spaced score lines for setting off a tearing strip bordering upon the internal collar and for providing a yieldable annular region between the tearing strip score and the outwardly rolled bead. The described structure minimizes any possible strains in the material and prevents fracture of the lowermost tearing strip score particularly at the junction of the beaded section and the lapped side seam.

Another object of the invention is the provision in a tearing strip can of the character described of a friction plug reclosure section which has an easy open fit within a reenforced triple layer folded edge of internal collar. The extended section of such a plug is preferably provided with small projections which engage under a shoulder formed in the collar bordering the reenforced edge and these projections hold the cover part against accidental opening when the cover is used as a reclosure.

Numerous other objects and advantages of the invention will be apparent as it is better understood from the following description, which, taken in connection with the accompanying drawing, discloses a preferred embodiment thereof.

Referring to the drawing:

Figure 1 is a perspective view of the upper part of a tearing strip container embodying the instant invention; and

Fig. 2 is an enlarged fragmentary view in vertical section showing the container parts of Fig. 1 as viewed substantially along the line 2—2 in said figure.

As a preferred embodiment of the invention there is illustrated in the drawing a sheet metal can or container comprising a tubular body 11 having its longitudinal edges joined in a lock and lap side seam 12, the upper portion of which is lapped as best seen at the left in Fig. 2. A top end or cover 14 is secured to the body by an end seam 15.

On the inside of the can and adjacent the upper end, an interior collar or band 16 is disposed which closely hugs the inside surface of the body 11. Such a collar is held securely within the can by an outwardly projecting annular bead 17 which is formed adjacent the lower edge of the collar. This bead fits tightly within a cooperating outwardly extending bead 18 which is formed in the can body 11. The beading of such a collar and body is performed in the conventional manner while the parts are in assembled relation.

The lower edge of the collar band terminates in a raw edge as at 19 while the upper edge of the band is formed into a smooth, reenforced edge or rim 22. Such an edge preferably is folded into a triple layer section comprising an inner stepped

wall 23, an outer wall 24 and an intermediate wall 25. The folded edge 22 greatly strengthens the mouth of the opened container, being stepped inwardly to produce a shoulder 26 where it borders upon the triple layer fold thus maintaining a uniform external fit in the body 11.

The end or cover 14 extends down into the body 11 and over the edge 22 of the collar 16. The end is formed with a double step countersunk panel 27 having a bottom wall 28. The outer edge of the panel bottom wall merges into an upwardly extended friction wall 29 which frictionally engages against the surface on the inner wall fold 23 when the end is in place on the container body 11. This constitutes an effective friction fit for the cover.

The upper edge of the friction wall 29 merges into an outwardly extending horizontal stepped wall 32 which engages against the curved top surface of the collar rim 22. This rim serves as a seat for the stepped wall of the cover. The stepped wall 32 merges into an upright wall 33 which extends upwardly along the body wall 11 in close engagement therewith and is thereafter incorporated in the top end seam 15 for holding the top cover in place on the container.

Adjacent the collar band 16 and spaced below the top end seam 15, are a plurality of spaced and parallel score lines 34, 35 and 36 which are formed in the body 11. These score lines commence at the lap section 13 of the side seam 12 and terminate in an overlapped arrangement as best seen in Fig. 2.

The score lines 34 and 35 define a removable tearing strip 37, the outer overlapping terminal end of which forms a tearing tongue 38. This tongue is adapted for engagement with a conventional type of opening key used for tearing off the strip in a well known manner.

The innermost score line 36 is not embodied in the tearing strip 37 but is designed to effect a weakened yieldable section in the body wall 11 at the outer line of beading bend, which in the present embodiment occurs at the region between the annular bead 18 and the lowermost tearing strip score line 35. The score line 36 therefore is not cut as deeply as score lines 34 and 35 since the latter are for the purpose of severing the body wall in removing the tearing strip. The score line 36 is designed primarily to prevent a strain, such as is set up at the time of forming the bead 18, from breaking through in the region of the score line 35, particularly at the side seam lap section where the greatest drawing action takes place during the beading of the body and the collar. Such a weakened yieldable area formed by the shallow cut score line serves as an interposed barrier in absorbing the strains due to beading or bending the body wall, and preventing such strains from reaching the lowermost tearing strip score line 35.

The form of container construction described facilitates closer positioning of the body bead 18 relative to the tearing strip 37. This permits the use in the container of a reenforced folded type of collar having the described multiple layer rim edge 22. This rim edge may be formed from the same width of material as is required for the standard type collar band since a narrower collar band may be used in this container construction with such a reenforced modified rim edge.

Removal of the tearing strip 37 produces a completely separated friction plug cover for the can which includes the can top 14 and a short depending portion of the body 11. This provides a reclosure cover with the friction plug section 29 of the can top 14 extending down into the collar band 16 in substantially the same position as before the tearing strip is removed. The described construction permits the horizontal stepped wall 32 to serve as a stop in properly locating the reclosure cover in the reenforced band 16, said wall seating on the collar rim 22.

The friction plug section 29 of the can end 14 may be altered adjacent its lower end to provide a snap reclosure. For this purpose the plug section preferably is formed with a plurality of outwardly extending projections or nodes 42 which are disposed in peripherally spaced relation in the wall 29 where said wall merges into the bottom panel 28.

When the cover is in closed position the projections 42 extend under and frictionally engage beneath the shoulder 26 of the collar band 16. The friction wall 29 of the cover is smaller in diameter than the inner stepped wall 23 of the collar thus providing a slip fit between these walls. The described construction permits the projections to readily snap beyond the shouldered edge 26 when the cover is removed and when the can is closed the cover is held firmly in its reclosing position.

It is thought that the invention and many of its attendant advantages will be understood from the foregoing description, and it will be apparent that various changes may be made in the form, construction and arrangement of the parts without departing from the spirit and scope of the invention or sacrificing all of its material advantages, the form hereinbefore described being merely a preferred embodiment thereof.

I claim:

1. A sheet metal tearing strip container, comprising a tubular body having a tearing strip set off by score lines, an interior collar secured in said body by means of cooperating beads formed at the bottom of said collar and in the engaged body wall below said score lines, and an end member secured to said body above said collar and having an annular wall section disposed in frictional engagement with the interior of said collar, said body wall having an additional score line of less depth disposed between said body wall bead and said tearing strip, whereby to provide a yieldable barrier to prevent strains in the body wall set up in the beading of the body and collar from reaching and breaking the body wall at the nearest tearing strip score line.

2. A sheet metal tearing strip container, comprising a tubular body having a tearing strip set off by score lines, an interior collar having a reenforced triple folded upper edge defining a shoulder within the body, said collar being secured in said body by means of cooperating beads formed at the bottom of said collar and in the engaged body wall below said score lines, and an end member secured to said body above said collar and having frictional engagement with the inside of the collar and also having an offset wall for engagement with said shoulder, said body wall having an additional score line of less depth disposed between said body wall bead and said tearing strip, whereby to provide a yieldable barrier to prevent strains in the body wall set up in the beading of the body and collar from reaching and breaking the body wall at the adjacent tearing strip score line, said end having projections which snap under said triple collar fold

when the tearing strip has been removed and the said end has been applied as a reclosure.

3. A sheet metal tearing strip container, comprising a tubular body having a tearing strip set off by score lines, an interior collar secured in said body by means of cooperating beads formed at the bottom of said collar and in the engaged body wall below said score lines, and an end member secured to said body above said collar and having an annular wall section disposed in frictional engagement with said collar, said body wall having an additional score line of less depth disposed between said body wall bead and said tearing strip, whereby to provide a yieldable barrier to prevent strains in the body wall set up in the beading of the body and collar from reaching and breaking the body wall at the nearest tearing strip score line.

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