

Nov. 17, 1942.

I. L. WILCOX

2,302,083

CONTAINER

Filed April 1, 1940

3 Sheets-Sheet 1

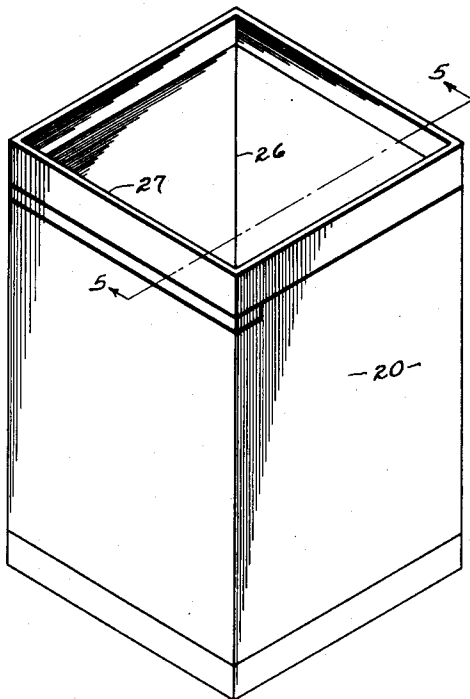


FIG. 1

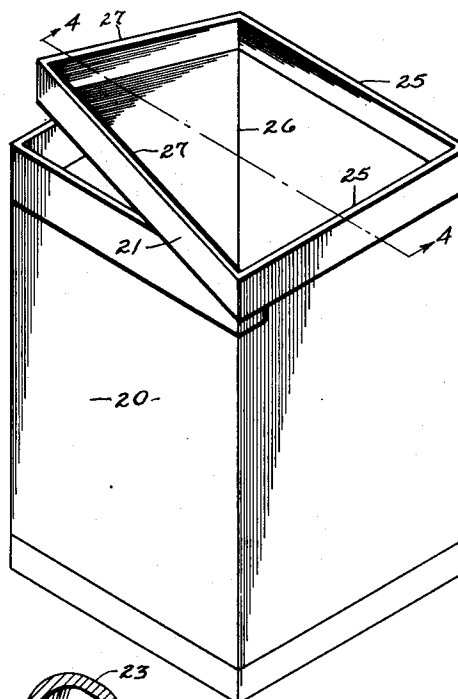


FIG. 2

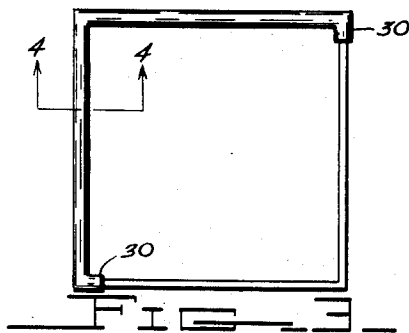


FIG. 3

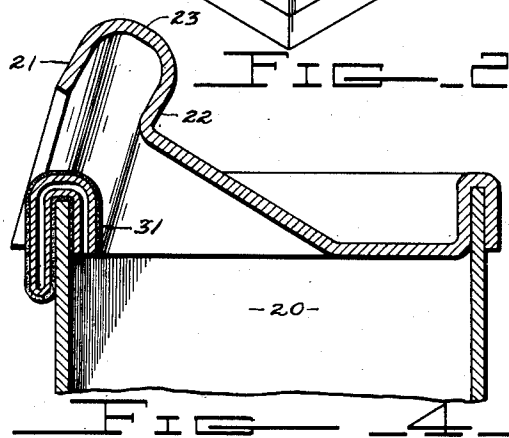


FIG. 4

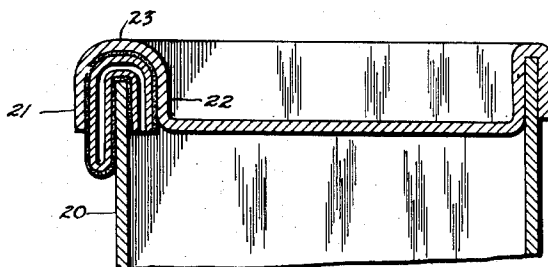


FIG. 5

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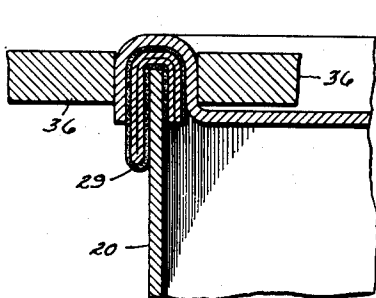


FIG. 6

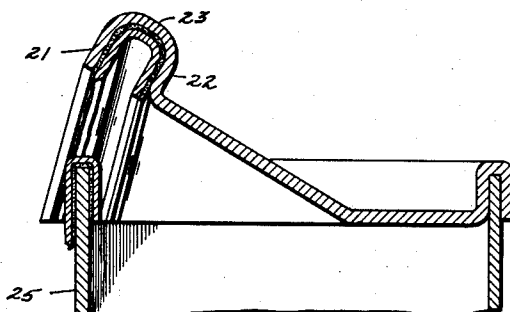


FIG. 7

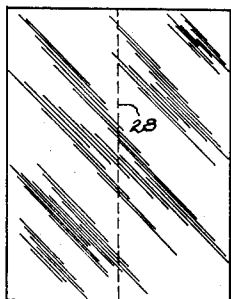


FIG. 8

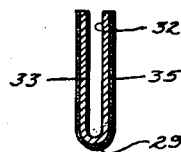


FIG. 9

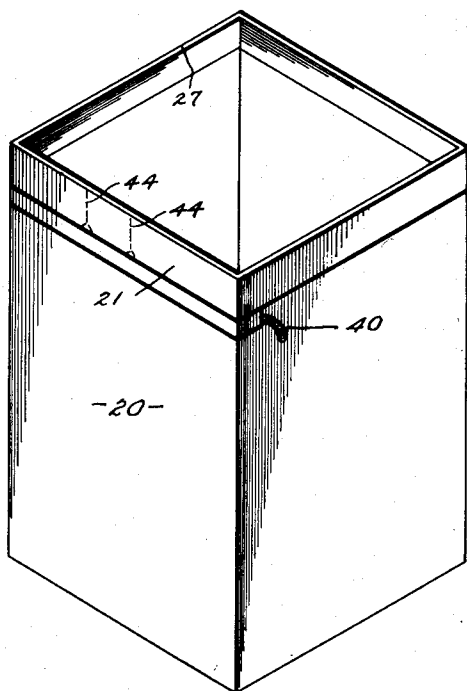


FIG. 10

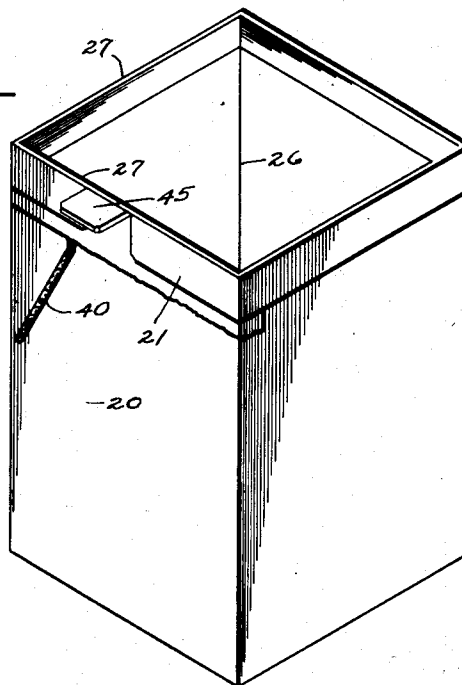


FIG. 11

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3 Sheets-Sheet 3

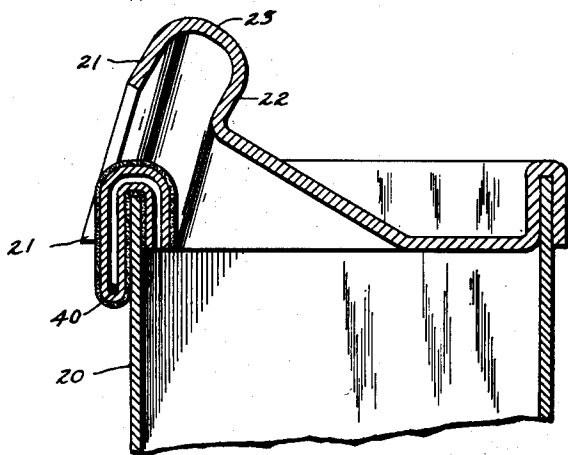


FIG. 12

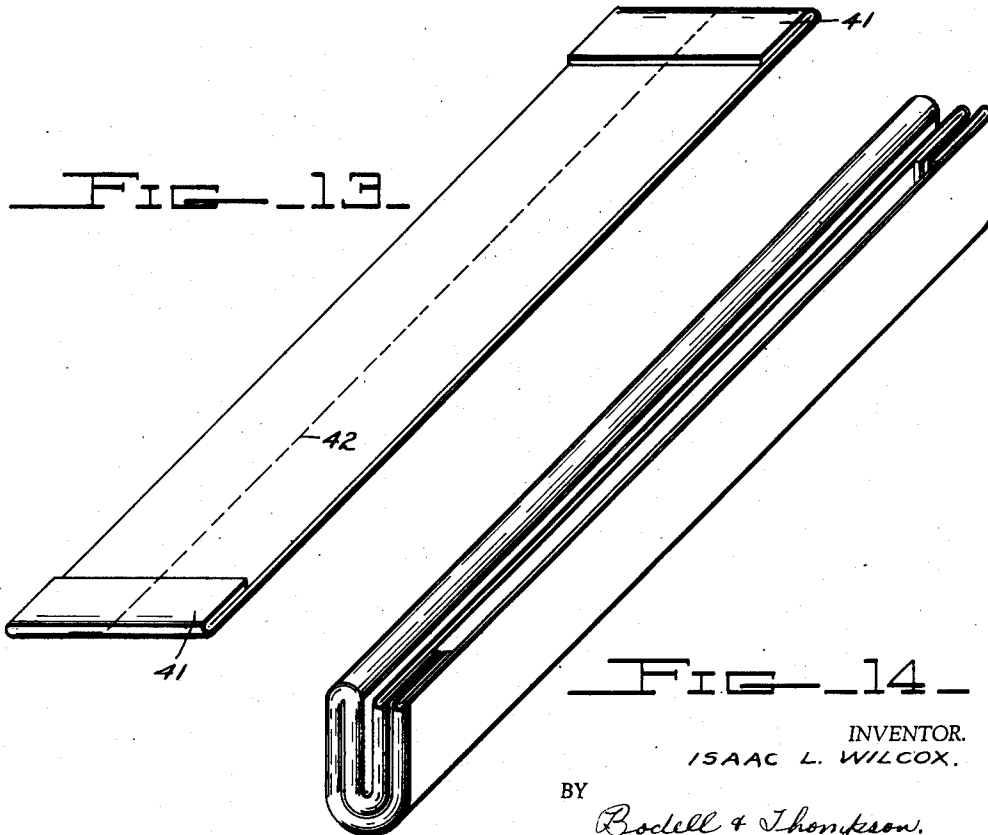


FIG. 13

FIG. 14

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UNITED STATES PATENT OFFICE

2,302,083

CONTAINER

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Application April 1, 1940, Serial No. 327,220

10 Claims. (Cl. 229—51)

This invention relates to containers and more particularly to a structure for sealing the cover member to the body of a container formed of sheet fibrous material, such as paper-board, which structure serves to permit the container to be conveniently opened and serves the further purpose of providing a sanitary impervious edge over which the contents of the container is poured, or passed, in removing the contents from the container.

It is a matter of common knowledge that the use of fibrous containers is being expanded, and such containers are now used extensively for liquid products, such for example as milk. While such containers possess certain desirable advantages, they also possess certain inherent disadvantages. After these containers have been manufactured and shipped to the user, it is not practical to wash or otherwise sterilize the containers with the result that it is not practical to sterilize or sanitize the interior of the container or the edge over which the contents is poured when the container has been opened. After the contents has been placed in the container, the problem of effectively sealing the container is a troublesome one, and one of the major disadvantages of these containers is the absence of any means whereby they may be conveniently opened and when opened, the contents may be poured over a sterile or clean portion of the container.

This invention has as an object a container construction of such a nature that the interior of the container and the pouring edge thereof is fully and completely protected from the time the container is manufactured until it is opened by the ultimate user.

The invention consists in the novel features and in the combinations and constructions hereinafter set forth and claimed.

In describing this invention, reference is had to the accompanying drawings in which like characters designate corresponding parts in all the views.

Figure 1 is a perspective view of a container embodying my invention.

Figure 2 is a view, similar to Figure 1, illustrating the cover member opened, or moved out of engagement with the body of the container, to permit the same to be filled.

Figure 3 is a top plan view of the container body with the sealing strip arranged thereon and with the cover member removed.

Figure 4 is a transverse sectional view of the upper portion of the container taken substantially

on line 4—4, Figure 2, illustrating the cover in raised position.

Figure 5 is a view, similar to Figure 4, with the cover moved to closed position.

Figure 6 is a fragmentary sectional view illustrating the sealing of the cover to the body of the container.

Figure 7 is a view, similar to Figure 4, illustrating the cover in open position, the sealing strip having been severed.

Figure 8 is a plan view of the sealing strip.

Figure 9 is an endwise view of the sealing strip folded upon itself.

Figure 10 is a perspective view, similar to Figure 1, illustrating a modification of the invention including a severing member arranged in the sealing strip.

Figure 11 is a view, similar to Figure 10, illustrating the sealing strip being partially severed.

Figure 12 is a view, similar to Figure 4, including the severing member.

Figure 13 is a perspective view of the sealing strip of the modified form.

Figure 14 is a perspective view of the sealing strip in folded form and arranged in inverted position.

The invention consists of a container including a tubular body provided with a suitable bottom member. The body member 20 here shown is of rectangular cross section. However, it will be apparent that the body may be of various cross sectional forms. The top member here shown is of rectangular form complementary to the cross section of the body and is provided with a depending flange 21 encircling the upper or top portion of the side walls of the body, and with an inner flange 22 arranged in spaced apart parallel relationship to the outer flange 21, the flanges being connected by a top wall 23 forming an inverted channel to receive the top edge of the body 20. The flange 21, or flanges 21, 22, and the top of the body walls form confronting surfaces between which a sealing strip is disposed and the particular arrangement and structure of which forms the important feature of the invention.

The cover may be sealed to the body throughout its entire periphery by the sealing strip. However, I prefer to initially secure a portion of the periphery of the cover to the body at the time the container is fabricated. In the structure disclosed, the cover member is initially secured along two sides as 25, Figures 1 and 2, the cover being scored diagonally as indicated by the line 20. That portion of the cover defined by the sides 27

may be moved toward and from the body to effect opening and closing of the container. With this arrangement, the contents is poured from the corner of the container when the same is opened, the corner acting as a spout to make the pouring operation more convenient.

The movable portion of the cover is sealed to the top of the body by a sealing strip formed of impervious sheet material such as metal foil, cellophane, or paper treated to render the same impervious. The strip is folded upon itself along the dotted line 28, Figure 8, to the folded form shown in Figure 9. This folded strip is disposed or arranged between the confronting surfaces of the cover and body members with the bight 29 of the strip positioned externally of the body where it is available to be conveniently severed.

The folded sealing strip is initially sealed to the cover member, or the body member, and the container is shipped to the user in this manner, whereby the confronting surfaces of the folded strip are completely protected against contamination. After the container has been filled, the movable portion of the cover member is closed and the free side of the folded strip is then sealed to the other member thus sealing the cover member to the body member. This seal is broken by severing the bight portion of the strip and thereafter the movable portion of the cover may be raised and the contents poured from the container over the then exposed surface of the side of the strip sealed to the body.

Preferably the sealing strip is applied to the top of the side walls adjacent the sides 27 of the cover and with the cover construction disclosed, the folded strip is continued about diagonal corners of the body and extends a short distance along the sides of the body adjacent the sides 25 of the cover as illustrated at 30, Figure 3, the folded strip extending across the top edge of the body walls and downwardly overlapping the inner surface thereof as indicated at 31, Figure 4.

The inner side 32 of the strip is sealed to the side walls of the body and the container is shipped to the user with the cover construction positioned as shown in Figure 5. Accordingly, dust and other contaminating material is excluded from the interior of the container and the confronting surfaces of the folded strip are completely protected.

When the container is to be filled, the movable portion of the cover is elevated, as shown in Figures 2 and 4, the container filled, the cover moved to closed position, as shown in Figure 5, and the outer side 33 of the sealing strip is sealed to the confronting surface of the cover member. These sealing operations may be carried out with any suitable adhesive, such as a thermoplastic. For convenience in manufacture, one side of the sealing strip may be coated with a thermoplastic, as indicated at 35, the strip being folded so as to bring the coated surfaces in engagement with the confronting surfaces of the body and cover members. The sealing of the outer side 33 of the strip to the cover member may be effected in any suitable manner as by the use of heated sealing irons 36, as indicated in Figure 6, and manipulated to effect a squeezing pressure against the inner and outer flanges 21, 22 of the cover.

It will be understood that the sectional views Figures 4, 5, 6, 7 and 12 are not true dimensional views, but the thickness of the sealing strip and associated parts are materially increased for the purpose of better illustration.

The container is opened by the customer by

grasping the exposed bight portion of the sealing strip and tearing the same along the bottom edge of the outer cover flange 21. The movable portion of the cover may be then moved out of engagement with the body, as indicated in Figure 7, and the contents poured from the container. The contents is poured over the inner side 32 of the now severed strip and the now exposed surface of said side has been previously protected by the outer side 33 of the sealing strip even during the filling operation of the container.

When the sealing strip is formed of heavier sheet material, I have found it desirable to arrange a severing member in the nature of a tape or string 40 in the fold of the folded strip, see Figures 10 to 14. In order to prevent any possibility of the fluid content of the container passing between the unsealed confronting sides of the folded strip and then wicking through the string 40, the ends of the sealing strip are folded upon themselves as indicated at 41, Figure 13. Thereafter, the strip is folded upon itself along the dotted line 42 presenting the form shown in Figure 14, and this folded strip is applied to the top edge of the container in the manner heretofore explained.

The sealing strip is coated on one side with a suitable adhesive and the end portions 41 are folded on the uncoated side. That is, the exposed surface of the folded ends 41 are coated as indicated in Figure 13 and accordingly, when the strip is folded on the line 42 the then confronting surfaces of the folded ends 41 are sealed together and the string 40 is sealed in the bight or fold of the strip with one end of the string protruding to be available to rip or sever the sealing strip as indicated in Figures 10 and 11. Preferably, the string is coated with an impervious tacky substance such as a wax or resin for complete assurance against non-wicking and to serve as means for securing the concealed portion of the string in the bight and preventing the string from being pulled out of the fold during the tearing operation. The sealing strip is conveniently severed along its fold by grasping the protruding end of the string 40 and pulling it downward and about the circumference of the container.

In order to facilitate the raising of the movable portion of the cover, the flange 21 thereof may be scored as indicated at 44 to provide a flap 45 which serves as a convenient handle or means for manipulating the movable portion of the cover.

I am aware of the fact that sealing strips have been heretofore employed consisting of a flat sheet of severable material folded upon itself and with a severing member such as a wire or string in the fold of the member. However, I have no information that said strips have been arranged in the manner herein described to effect a protected pouring edge for the container when the same has been opened.

What I claim is:

1. A container comprising a tubular body, a suitable bottom member secured in one end of the body, a cover member having a depending flange overlying at least a portion of the side wall of the body adjacent the top thereof, a strip of impervious sheet material folded upon itself and arranged between the flange of the cover and the side wall of the body and extending across the top edge of said wall and downwardly on the inner surface thereof, the bight of the strip being exposed below the lower edge of the cover flange, and the inner side of said folded strip

being permanently secured to the body, and the outer side of the fold being sealed to the inner surface of the flange of the cover, said folded strip serving to seal the cover to the body.

2. A container comprising a tubular body, a suitable bottom member secured in one end of the body, a cover member having a depending flange overlying at least a portion of the side wall of the body adjacent the top thereof, a strip of impervious sheet material folded upon itself and being arranged between the side wall of the body and the flange of the cover with the bight of the strip positioned adjacent the lower edge of said flange, the confronting sides of said folded strip being unsealed, said folded strip extending across the top edge of the body and downwardly overlying the inner surface of the body, the inner side of said folded strip being sealed to the body, and the outer side of said strip being sealed to the cover member, whereby said strip may be torn along its hold to unseal the container.

3. A container comprising a tubular body, a suitable bottom member secured in one end of the body, a cover therefor having a depending flange overlying at least a portion of the side wall of the body adjacent the top thereof, a strip of impervious sheet material folded upon itself and arranged between the flange of the cover and the confronting side wall of the body, said folded strip extending across the top edge of the body and downwardly overlying the inner surface thereof, a severing member positioned in the bight of said strip with one end of said member protruding externally of said strip, one side of said folded strip being sealed to the body and the other side of said strip being sealed to the cover member, all whereby said strip may be torn along its fold by said severing member to unseal the cover from the body.

4. A container comprising a tubular body, a cover member secured throughout a portion of its periphery to the upper end of the body, the unsecured portion of the cover having a depending flange overlying the upper portion of the adjacent wall of the body, a strip of impervious sheet material folded upon itself and being positioned between said flange of the cover and the adjacent wall of the body with the bight of said strip positioned adjacent the lower edge of said flange, said folded strip extending over the top edge of said side wall and downwardly over the inner surface thereof, the inner side of said folded strip being sealed to the side wall of the body, and the outer side being sealed to the flange of the cover.

5. A container comprising a tubular body, a cover member attached throughout a portion of its periphery to the top of the body, the unattached portion of the cover being movable toward and from the top of the container to open and close the same, said unattached portion of the cover being provided with a depending flange overlying the outer surface of the adjacent side wall of the body, a sealing strip of impervious sheet material folded upon itself and arranged between said flange and the adjacent side wall of the body with the bight of said strip positioned adjacent the lower edge of said flange when the movable portion of the cover is in closed position, said folded strip extending over the top edge of said side wall and downwardly overlying the inner surface thereof, the inner side of said folded strip being sealed to the side wall of the body, and the outer side of said strip being sealed to the flange of the cover, whereby upon sever-

ance of the bight portion of the strip said flange is unsealed from the body wall and the outer side of said severed strip carried by the cover flange is movable into and out of engagement with the other side of said strip upon opening and closing movement of the cover.

6. A container for the reception of liquid products and the subsequent sealing of the container, which container when opened will present a sanitary surface over which the contents may be poured comprising a tubular body member, a bottom member permanently secured in one end of the body, a cover member secured throughout a portion of its length to the opposite end of the body, the unsecured portion of the cover being movable toward and from the body and having a flange overlying the adjacent side wall of the body, a strip of impervious sheet material folded upon itself and arranged between the confronting surfaces of said flange and said side wall of the body and extending across the top edge of said wall and downwardly on the inner surface thereof, the bight of said strip being exposed below the lower edge of the cover flange, one side of said folded strip being permanently secured to the body, and the other side of said strip being coated with a material sealable to the confronting surface of said flange.

7. A container comprising a body member, a suitable bottom member secured in one end of the body member, a top member permanently secured throughout a portion of its periphery to the top member, the unsecured portion of the top member having a depending flange overlying the adjacent side wall of the body and being formed with a tab for manual manipulation of the unsecured portion toward and from the body, a strip of impervious sheet material folded upon itself and disposed between the confronting surfaces of said flange and the adjacent side wall of the body and extending inwardly to the inner surface of said side wall, the bight of said strip being arranged externally of the container adjacent the lower edge of said flange, a tear member positioned in the bight of said strip and having an end portion extending externally thereof, one side of said folded strip being sealed to said wall of the body member, and the other side of said strip being sealed to said flange.

8. A container comprising a body member, a bottom member secured in one end of the body, and a top member, said body and top member being formed with confronting surfaces, a sealing strip of sheet material folded upon itself and disposed between the confronting surfaces of the top and body members and overlying the top edge of the body and the outer surface thereof adjacent said edge, with the bight of the strip arranged outwardly, one side of said folded strip being sealed to the body member and the other side of said strip being sealed to the top member.

9. A container comprising a tubular body, a suitable bottom member secured in one end of the body, a cover member having a depending flange overlying at least a portion of the side wall of the body adjacent the top thereof, a strip of sheet material folded upon itself and arranged between the flange of the cover and the side wall of the body and extending across the top edge of said side wall, and with the bight of the strip positioned adjacent the lower edge of the flange of the cover, the inner side wall of said folded strip being permanently secured to the body, and the outer side wall of the fold being sealed to the inner surface of the flange of the cover, said

folded strip serving to seal the cover to the body.

10. A container comprising a tubular body rectangular in cross section, a suitable bottom member secured in one end of the body, a cover member secured at two adjacent sides to complementary top edges of the body, the opposite sides of the cover being provided with a depending flange overlying the opposite side walls of the body adjacent the top edge thereof, said cover being scored diagonally to permit flexing of the flanged portion of the cover toward and from the body, a strip of sheet material folded upon itself and arranged between the flange of the

cover and the adjacent side walls of the body and extending across the top edge of said walls and downwardly on the outer surface thereof with the bight of the strip arranged outwardly, one side of said folded strip being sealed to the body walls and the other side of said strip being sealed to the flange of the cover, all whereby said strip may be torn along its fold to unseal the flanged portion of the cover and permit it to be flexed upwardly to permit the contents to be poured out of the adjacent corner of the body.

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