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J. COYLE

1,985,818

SHEET METAL CONTAINER

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FIG. 1.

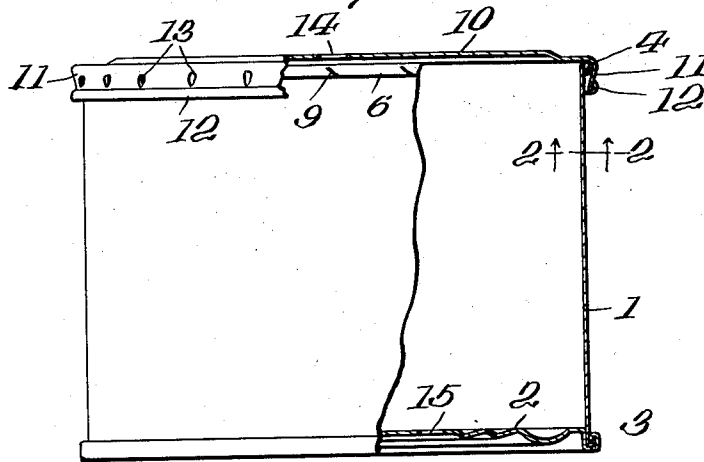


FIG. 2.

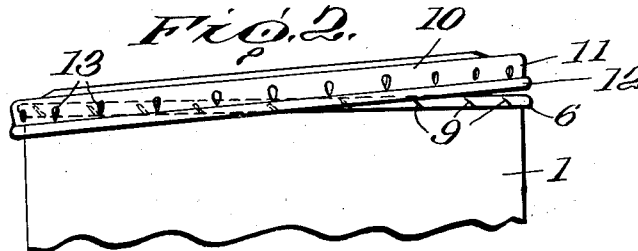


FIG. 3.

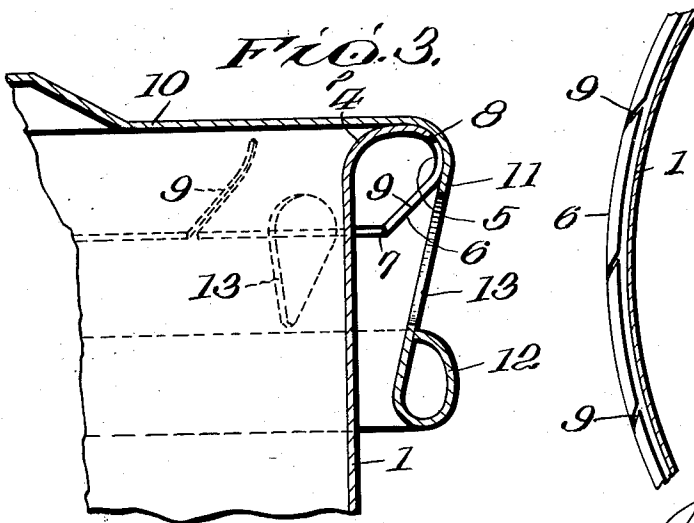
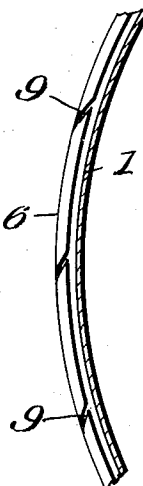


FIG. 4.



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SHEET METAL CONTAINER

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4 Claims. (Cl. 220—60)

The invention relates to new and useful improvements in sheet metal containers and more particularly to an end closure for a container and the means for connecting said end closure to the body portion of the container.

An object of the invention is to provide an end closure which may be attached to the container body by pressure applied to the end closure for forcing the same onto the container body and wherein said closure is held in engagement with the container body by frictional gripping means capable of being released by hand manipulation of the container body and end closure.

In the drawing:

Fig. 1 is a view partly in side elevation and partly in section showing a container embodying the improvements.

Fig. 2 is a view showing the closure end as it is sprung onto the container body.

Fig. 3 is a vertical sectional view through the container body and closure end showing the end attached to the container body.

Fig. 4 is a sectional view through the container body on the line 2—2 of Fig. 1, the closure end being removed.

The container embodying the improvement is particularly designed for packing food products such as crab meat, wherein the product, after it is packed, is placed in ice for shipment. The particular feature embodying the invention is the manner of frictionally attaching the closure end to the body portion of the container so that the closure end may be put onto the container body merely by pressure applied thereto. This is accomplished by providing the container body with an outwardly extending rolled hollow bead, which is preferably cut through from the extreme lower end thereof substantially to the crown of the bead, to render said bead more flexible. The closure end for the container has a depending flange which is rolled into a hollow bead at the lower end thereof. This flange decreases in diameter from a point adjacent the top of the end closure to the bead at the lower end of the flange and the flange is so dimensioned that the bead on the closure end lies very close to the body wall when said end closure is fully seated on the container body. This flange is also provided with openings at spaced intervals to render the closure end more flexible to facilitate the removal of the end closure from the container body.

Referring more in detail to the drawing, the container includes a body portion 1, to which a bottom end 2 is secured by a double seam 3. The body portion 1 of the container is rolled at its

upper end outwardly at 4, thence downwardly at 5 and inwardly at 6, terminating at 7 to form a hollow bead. The outer wall of this hollow bead from the lower end 7 thereof to the point 8 just below the crown of the bead, is slit as indicated at 9. These slits preferably run diagonally across the bead. The purpose of the slits in the outer wall of the hollow bead is to render the upper end of the container flexible. When pressure is applied to the side wall of the container body just below the hollow bead, the bead can flex inwardly due to the freedom of movement of the side edges of the sections between the slits.

The closure end is indicated at 10. Said closure end is provided with a depending flange 11, which flange is shaped to conform to the outer upper portion of the hollow bead on the container body. The flange 11 decreases in diameter from a point below the maximum horizontal diameter of the hollow bead on the container body to a point adjacent the maximum horizontal diameter of a hollow bead 12 at the lower end of the flange 11. This flange is so dimensioned that when the closure end is attached to the container body, the hollow bead 12 at the inner side thereof is spaced a much less distance from the wall of the container body than the diameter of the hollow bead at the upper end of the wall of the container body.

The flange 11 on the closure end is provided with a series of openings 13. These openings are more or less pear-shaped in outline and extend from a point well up toward the top of the closure to a point just above the hollow bead 12. The purpose of these openings is to permit the end closure to be flexed or manipulated to aid in removing of the end closure from the container body. The end closure is preferably provided with an opening 14 therethrough and the bottom end is also provided with openings 15. These openings are of particular advantage when the container is used for packing crab meat. The containers are placed in ice and the icewater will circulate freely through the container, contacting with the product therein.

In the use of the container the product is placed therein, after which the end closure is placed on the container body. This may be accomplished by lightly placing the closure end on the container body and then applying pressure evenly thereto throughout. It is preferably accomplished, however, by slipping the flange of the closure end over the hollow bead on the container body in the manner shown in Fig. 2 of

the drawing, and by a downward pressure applied to the closure end it will be forced over the hollow bead on the container body. The hollow bead on the container body will yield in part and the flange on the closure end will yield in part to bring about this engagement. This provides a frictional means for holding the closure end on the container body so that it will not be dislodged therefrom during the handling or packing in ice.

When it is desired to open the container body the end closure is pressed on centrally thereof and pressure is applied against the side walls of the container body at spaced points with an upward pressure against the flange of the closure end. This will force the side wall inward slightly and will bend and flex the closure end so that it can be readily released from its engagement with the hollow bead on the container body. This upward pressure will release the closure end along a limited region and by shifting the pressure to another point the closure end is soon released from its frictional engagement with the container body.

By the above construction, a container has been provided wherein the closure end has a firm frictional grip on the container body when seated and is moved to its seated position solely by pressure applied to the closure end. While the closure end will not be dislodged by the handling of the container, it can readily be released by a manipulation of the body wall and closure end in a manner described above.

It will be understood that minor changes in the details of construction and arrangement of parts 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 as new and desire to secure by Letters Patent is:

1. A metal container comprising a body portion having an outwardly projecting hollow bead at the upper end thereof, a closure end for said body portion extending over the hollow bead and having a depending flange extending beneath said hollow bead on the container body, the lower portion of said flange being rolled outwardly into a hollow bead, said flange being dimensioned so that the inner diameter thereof in the region of the hollow bead is less than the outer diameter of the hollow bead on the container body, said hollow bead on the container body having slits formed in the outer wall thereof extending from the lower edge of the hollow bead to a point adjacent the crown of the hollow bead.

2. A metal container comprising a body portion having an outwardly projecting hollow bead at the upper end thereof, a closure end for said body portion extending over the hollow bead and having a depending flange extending beneath said hollow bead on the container body, the lower portion of said flange being rolled outwardly into a hollow bead, said flange being dimensioned so that the inner diameter thereof in the region of the hollow bead is less than the outer diameter of the hollow bead on the container body, said hollow bead on the container body having slits formed in the outer wall thereof extending from the lower edge of the hollow bead to a point adjacent the crown of the hollow bead, said slits being formed so as to extend in a line inclined to the plane of the top portion of the closure end.

3. A metal container comprising a body portion having an outwardly projecting hollow bead at the upper end thereof, a closure end for said body portion extending over the hollow bead and having a depending flange extending beneath said hollow bead on the container body, the lower portion of said flange being rolled outwardly into a hollow bead, said flange being dimensioned so that the inner diameter thereof in the region of the hollow bead is less than the outer diameter of the hollow bead on the container body, said depending flange having openings formed at spaced intervals therethrough extending from a point above the hollow bead on said flange to a point adjacent the maximum diameter of said flange.

4. A metal container comprising a body portion having an outwardly projecting hollow bead at the upper end thereof, a closure end for said body portion extending over the hollow bead and having a depending flange extending beneath said hollow bead on the container body, the lower portion of said flange being rolled outwardly into a hollow bead, said flange being dimensioned so that the inner diameter thereof in the region of the hollow bead is less than the outer diameter of the hollow bead on the container body, said hollow bead on the container body having slits formed in the outer wall thereof extending from the lower edge of the hollow bead to a point adjacent the crown of the hollow bead, said slits being formed so as to extend in a line inclined to the plane of the top portion of the closure end, said depending flange having openings formed at spaced intervals therethrough extending from a point above the hollow bead on said flange to a point adjacent the maximum diameter of said flange.

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