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SHEET METAL CONTAINER

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BY MANUSCRIPT

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The invention relates to new and useful improvements in sheet metal containers wherein the end members are secured to the container body by rolling a flange on the can body and the projecting portion of the end closure overlying the same into a double seam.

An object of the invention is to provide a double seam which is hermetically sealed by the usual sealing compound, and wherein a fiber gasket is disposed within the double seam so as to separate the outer wall of the double seam from the can body flange to facilitate the severing of the double seam for releasing of the closure end from the can body.

In the drawing—

Figure 1 is a vertical sectional view through a portion of a container embodying the improvements, showing the end closure assembled on the can body preliminary to the rolling of the end closure flange and body flange into a double seam;

Fig. 2 is a view similar to Figure 1, showing the initial rolling of the end closure flange and body flange;

Fig. 3 is a view similar to Figure 2, showing the double seam completed and also showing one position of a cutter which may be used for cutting the outer wall of the double seam to release the closure end from the container;

Fig. 4 is a view similar to Figure 3, but showing a slightly modified form of the invention, and also showing the cutter positioned in full lines for cutting the wall of the double seam adjacent the upper side thereof, and in dotted lines showing the cutter positioned for cutting the wall of the double seam at the lower side thereof, and

Fig. 5 is a view similar to Figure 4, but showing a further modification of the invention.

Fig. 6 is a view similar to Fig. 5, but showing the further modified form of shaping of the flange on the body wall.

The invention is embodied in a sheet metal container which is flanged and the closure ends are secured thereto by double-seaming. Only the portion of the container is shown in the drawing which contains the improvements. The container includes a body 1 which may be of any desired construction, but is preferably cylindrical. The body is provided with a flange 2 to which an end closure 3 is secured by double-seaming. Said end closure has a depression formed therein which is of the usual type and which provides a vertical wall 4 fitting within the can body. The end closure 3 has a flange 5 extending outwardly over the body flange 2, and said flange 5 is curled at the outer edge thereof as indicated at 6. This is a preformed curl which assists in the forming of the double seam joining the end closure to the body flange. The inner surface of the flange of the end closure is coated with a sealing compound which is usually employed in the forming of hermetically sealed double seams. A fiber gasket 7 is secured to the under face of the flange 5 of the closure end 3.

As shown in Figures 1 to 3, this fiber gasket is annular in shape and extends from a point 8 adjacent the curl 6 to a point 9 which is located inward from the end 10 of the flange 2. When the end closure flange 8 and the body flange 2 are rolled into a double seam, this fiber gasket 7 will extend along the outer surface of the lower portion of the body flange and around the end thereof to a slight extent as indicated in Figure 2. In the finished double seam, the fiber gasket 7 will separate the outer wall 11 of the double seam from the flange 2 of the body wall. The sealing compound will extend as usual throughout the greater portion of the metal contacting surfaces of the double seam so as to hermetically seal the same. The body flange provides a cushion which greatly facilitates the cutting of the outer wall of the double seam so as to release the closure end from the can body.

This fiber gasket does not interfere with the forming of a tightly rolled double seam which is hermetically sealed by the sealing compound.

As shown in Figure 3, the closure end may be released from the body by means of a cutter 12 which is disposed so as to cut through the double seam wall along the line 13 which is at the under side of the double seam. This line of cutting is so disposed relative to the flange 2 that the closure end 3 may be lifted from the container after the metal is cut through.

As shown in Figure 4, the fiber gasket 7 extends throughout the greater portion of the double seam so that the flange 2 of the body wall is separated from the outer wall 11 of the double seam. When the fiber gasket extends throughout the limits of the double seam, as shown in Figure 4, then the cutter 14 may be positioned so as to cut the outer wall 11 of the double seam along the line 15, and this will release the end closure 3 from the container. In this form of double seam, the cutter may be positioned as indicated in dotted lines, and never the outer wall of the double seam at the lower side thereof. In fact, the cutter may be positioned anywhere along the double seam from that shown in full lines in this figure, to
that shown in dotted lines. When the cutter penetrates the metal, the fiber gasket will serve as the cushioning means so as to enable the metal to be cut all the way through, that is, completely severed, so that the closure end can be removed. In the form of the invention shown in Figure 4, the sealing compound extends throughout the entire limits of the double seam and this enables a very tight double seam to be formed.

As shown in Figure 5, the outer edge portion of the flange 2 of the body wall is turned inward upon itself as indicated at 17. The fiber gasket separates the body flange from the outer wall of the double seam in the region of the folded back portion of the flange. This provides a relatively wide space at the lower side of the double seam for the cutting of the metal when a cutter is positioned as indicated at 18 in this figure.

In Fig. 6 of the drawing there is a slightly modified form of the invention. The flange tube is bent back upon itself or hemmed as indicated at 16. In this form of the invention the paper insert 1 is first applied to the under face of the flange of the cover and then the coating material is applied. While the coating is shown as first applied in the other figures of the drawing, and then the paper insert applied to the coated surface, it will be understood that in connection with any of the forms illustrated the order of applying the coating and paper insert is unessential and either may be first applied. The essential feature consists in the use of the coating to provide a hermetic seal and the use of the paper insert properly located in the double seam to facilitate cutting the outer wall of the double seam for releasing the closure end.

It is obvious that minor changes may be made in the details of construction, the dimensioning of the parts, and the arrangement thereof, without departing from the spirit of the invention as set forth in the appended claim.

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

A sheet metal container comprising a body portion having an outwardly extending flange at the end thereof, a closure end having a depression therein providing a vertical wall fitting within the can body and a portion extending over and rolled into a double seam with the flange of the can body, a sealing compound disposed within the double seam and providing a hermetic seal for said seam, a fiber gasket disposed within the double seam between the outer face of the body flange and the inner face of the outer wall of the double seam for separating the faces of the outer wall from the flange of the body and positioning the same to facilitate the cutting of the outer wall through the space provided by the fiber gasket for releasing the closure end from the container body, said flange on the body portion being bent back upon itself prior to the rolling of the parts into the double seam, thereby to form an outwardly bulge in the rolled seam effective to additionally facilitate cutting of the outer wall through the space provided by said gasket, said fiber gasket also extending between the bent-back portion of the body flange and the inner face of the outer wall of the double seam.

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