Dec. 26, 1933. J. COYLE 1,940,664

PROCESS OF FORMING METAL CONTAINERS

Filed April 7, 1932

FIG. 1.

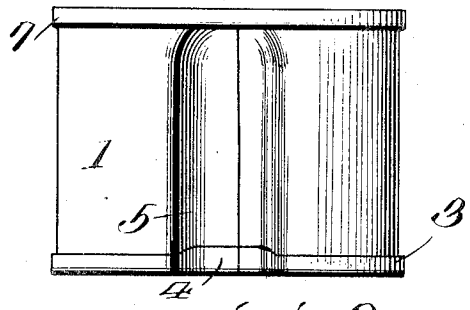


FIG. 2.

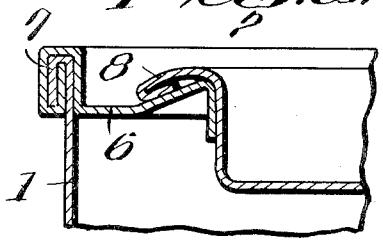


FIG. 3.

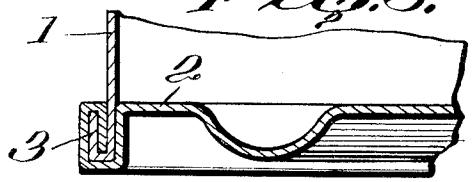


FIG. 6.

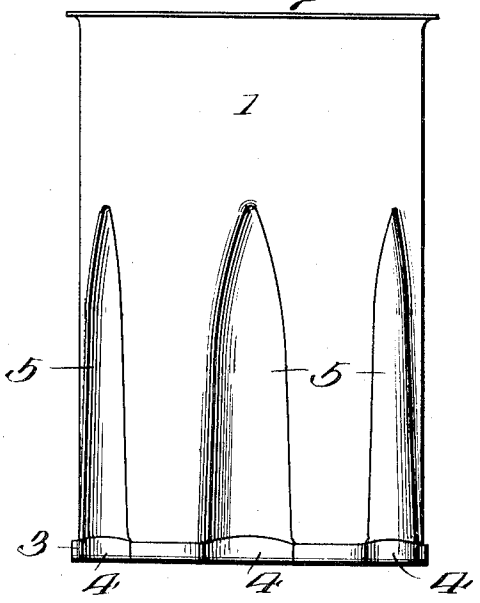


FIG. 4.

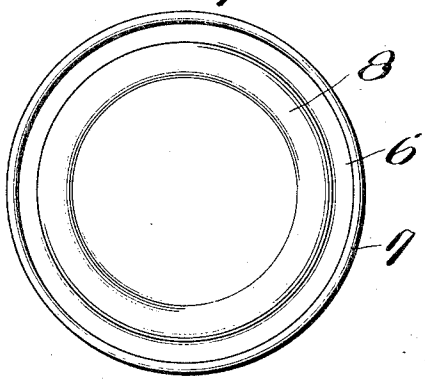


FIG. 7.

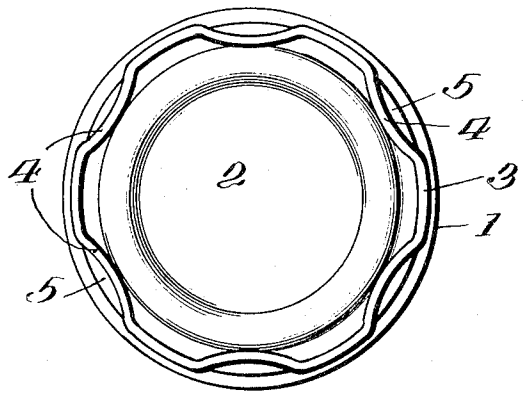
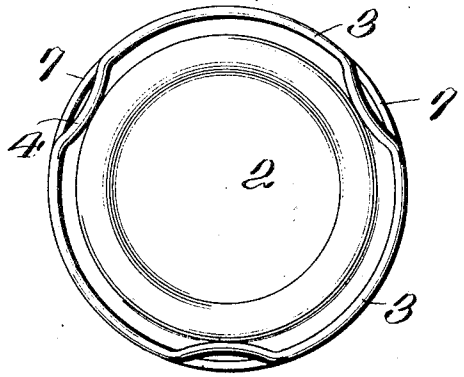


FIG. 5.



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UNITED STATES PATENT OFFICE

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PROCESS OF FORMING METAL CONTAINERS

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Application April 7, 1932. Serial No. 603,879

1 Claim. (Cl. 113—120)

The invention relates to new and useful improvements in a method of forming metal containers of fanciful shape. In my co-pending application Serial No. 431,837, filed February 27, 1930, there is shown and described a container shaped by my improved method, and the present application is a continuation in part thereof.

In the making of a container which is to be hermetically closed by the interfolding of metal parts to form a double seam between the end and side walls of the container, it is desirable that the parts to be interfolded shall be circular in form. This greatly aids in the forming of a double seam which will be tight and free from leaks. An object of the present invention is to produce a fanciful shaped container which is out of round along the line of the double seam, but which, when the parts are joined, are circular in form to aid in the seaming.

A further object of the invention is to provide a method for forming a fanciful shaped container wherein spaced sections of the container at the double seam and for a portion of the wall of the body in alinement therewith are curved inwardly, while the remaining parts of the container curve outwardly.

In the drawing—

Figure 1 is a side view of a container made in accordance with the present invention;

Fig. 2 is a detail in section through the upper portion of the container shown in Fig. 1;

Fig. 3 is a section through the double seam joining the body wall to the bottom end of the container;

Fig. 4 is a bottom view of the lower end of the container before it is shaped into fanciful form;

Fig. 5 is a bottom plan view of the container shown in Fig. 1;

Fig. 6 is a side view of a portion of a container showing a modified form of shaping; and

Fig. 7 is a bottom view thereof.

In the carrying out of the invention, a container is made which is preferably cylindrical in shape. This is accomplished by making a cylindrical body from a blank and the joining of the edges in the usual way. The body is then flanged and the end secured thereto by double seaming. The portion of the container to which the end has been attached is then given a fanciful shape by applying pressure to the double seam and the walls of the container in the region thereof at spaced intervals. The pressure is gradually applied so as to change the shaping of the double seam without in any way disturbing the interfolded relation of the metal parts. In other words, the double seam in the fanciful shaped container is of practically the same peripheral length as the double seam in the container before pressure is applied thereto.

Referring to the drawing, a container made in accordance with the improved process is shown in Fig. 1. It consists of a body portion 1 which is cylindrical. The bottom end 2 is secured to the body portion by an interfolding of the metal parts at the end and body portion by double seaming, as indicated at 3. This is the usual method of forming a container which may be hermetically closed. The interfolded parts of the metal include a sealing material so that when the metal parts are rolled into this seam, a sealed connection is formed. Inasmuch as the can body is cylindrical in shape, as indicated in Fig. 4, the double seam which is formed is circular and can be made of uniform tightness throughout. After the cylindrical body has been formed and the end attached thereto by a double seam, it is subjected to pressure, preferably by rollers. The pressure is applied as shown in Fig. 5, at three equally spaced intervals. The roller extends lengthwise of the container, and not only bears on the double seam, but also on the wall of the container body in the region of the double seam. The pressure is gradually applied to the roller, and the double seam will be gradually forced inward until it partakes of the curved shape as indicated at 4 in the drawing. It will be noted that the double seam has been shifted radially inwardly of the container until it curves inwardly, joining the outwardly curved portions between where the pressure is applied in a curve, so that the length of the double seam has not been changed. The peripheral distance around the double seam of the container shown in Fig. 5 is the same as that shown in Fig. 4. This shifting of the double seam bodily to its new shape is accomplished without the causing of any sliding of the metal parts which are interfolded one on the other so that the double seam is not in any way disturbed. It is still a tight seal that will not leak. During the inward shaping of the double seam portion of the container, the body wall is also curved inwardly as indicated at 5. This inwardly curved portion preferably vanishes in the wall of the container and only extends for a portion of the height of the container, or it may extend all the way up to the upper double seam.

The container is intended to be used for various purposes. In my prior co-pending application, it is used in connection with the storing and burning of fuel, and the container is provided

with a top portion 6 which is secured to the body wall by a double seam 7. This double seam has not been disturbed in the shaping of the container. The container is closed by a friction top cover 8.

In the construction shown in Figures 6 and 7, the double seam is curved at six spaced intervals, and the curved sections in the wall of the container gradually vanish in the side wall. The container shown in Figures 6 and 7 is particularly designed for the packaging of jellied products. When the jellied product is removed from the container it has the same fanciful form as the container.

It will be understood that the process may be used for producing other shapes of containers. The essential feature consists in the completing of the container by the joining of the parts thereof, and then subjecting the container to pressure for giving a fanciful shape thereto. This greatly facilitates the joining of the parts as they are united when the container is of uniform circular cross section. It will be understood that the body wall of the container may be shaped as the frustrum of a cone so as to facilitate the removal of the jellied products therefrom, if desired.

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

A process of forming a metal container of fanciful shape consisting in forming a body portion which is of uniform cylindrical cross-section, connecting a bottom end thereto by interfolding the metal of the body and the end to form a hermetically sealed double seam, subsequently subjecting the double seam and container body to a pressure at opposed and widely spaced points and gradually increasing said pressure for curving the double seam inwardly and uniformly at equally spaced intervals while maintaining the peripheral length of the double seam substantially uniform, whereby the interfolded parts forming the hermetically sealed double seam are undisturbed, the curved portions of the body wall being in register with the curved portions of the double seam and vanishing at their upper ends in the body wall.

JOHN COYLE.