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G. J. KESSENICH

2,044,004

CONTAINER

Filed Sept. 7, 1933

Fig. - 1 -

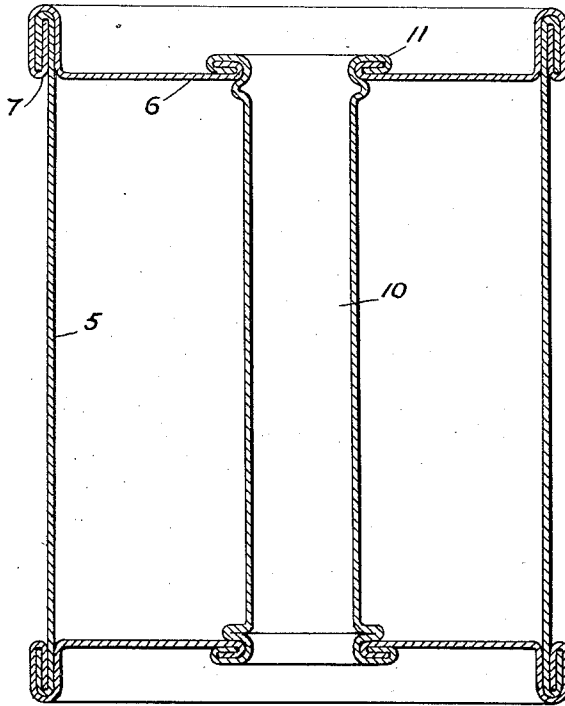


Fig. - 2 -

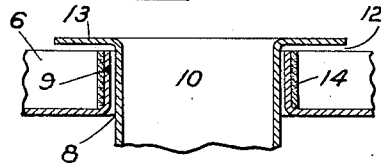


Fig. - 3 -

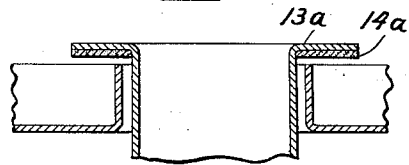


Fig. - 4 -

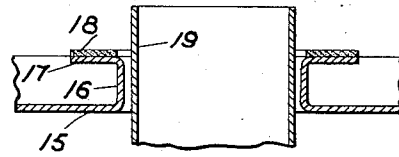


Fig. - 5 -

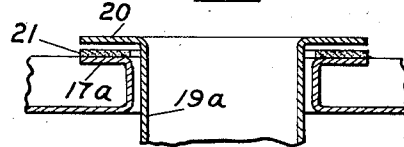


Fig. - 7 -

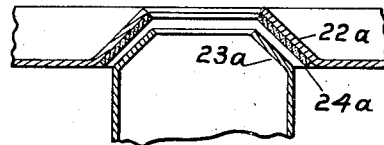


Fig. - 6 -

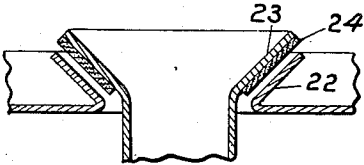
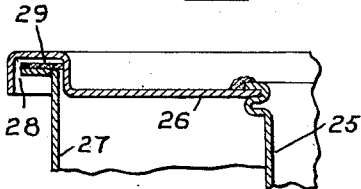


Fig. - 8 -



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2,044,004

CONTAINER

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Application September 7, 1933, Serial No. 688,482

3 Claims. (Cl. 220—44)

(Granted under the act of March 3, 1883, as amended April 30, 1928; 370 O. G. 757)

The invention described herein may be manufactured and used by or for the Government for governmental purposes, without the payment to me of any royalty thereon.

This invention relates to a container and to a method of processing the same and is a continuation-in-part of copending application Serial No. 567,168 filed October 6, 1931.

In the parent application, an open-ended tube is secured to the ends of an hermetically sealed container for the purpose of transmitting temperature variations to the contents of the container and to permit circulation of a fluid medium.

The improvements of the present application are directed to a novel arrangement between the tube and one end of the container by which advantage may be taken of the tube to establish a vent that may be readily and effectively closed.

Several embodiments of the invention are illustrated in the accompanying drawing in which:

Fig. 1 is a vertical sectional view of a sealed container constructed in accordance with the invention.

Fig. 2 is a fragmentary vertical sectional view with exaggerated clearances showing one manner of forming the joint between the cover and the tube.

Figs. 3 to 7 are views similar to Fig. 2 and illustrating variations of the joint.

Fig. 8 is a sectional view showing a final joint between the tube and end closure and a vent between the end closure and body.

Referring to Figs. 1 and 2, the container consists of an imperforate body 5 and end closures 6—6 which are seamed or jointed thereto in any approved manner, the joint 7 preferably extending above the plane of the ends. The ends 6 are provided with an aperture 8 preferably located centrally and defined by a flange 9. A tube 10 having an imperforate wall passes through the aligned apertures 8 in the end closures 6 and is adapted to be connected to the ends 6 as by the joint 11.

One of the ends of the tube is finally jointed to its corresponding end closure 6, preferably the bottom end, in order to provide for holding the contents of the container. As seen in Fig. 2 the other end of the tube is associated with its end closure 6 to provide a vent 12. Such a vent is to be used for example, to permit the introduction of fluid mediums into the container prior to closing it, to permit vacuumization of the container, or for applying compressed air to test for leakage at the joints of the container.

In Fig. 2 the flange 9 of the end closure 6 is turned up at a right angle so that it is parallel to the tube 10. The tube 10 is formed with a flange 13 overlying the flange 9 and spaced therefrom. A sealing material 14 is applied to the exterior of the flange 9. The joint is closed by bending the flange 13 into parallel relationship with the flange 9 and applying pressure. The associated flanges may then be again turned to provide a double seam as shown in Fig. 1.

In Fig. 3 the construction is the same but the sealing material 14a is applied to the under side of the flange 13a.

In Fig. 4 the cover or end 15 includes a perpendicular flange 16 which is turned over to provide a flange 17 parallel to the end. A sealing material 18 is placed on the outer side of the flange 17. The tube 19 extends beyond the flange 17 so that it may be bent over onto the flange 17.

In Fig. 5 the arrangement is similar to Fig. 4 except that the tube 19a is provided with a preformed flange 20 parallel to the flange 17a and a sealing material 21 is placed on either or both of these flanges.

In Fig. 6 the flange 22 on the end closure and the flange 23 on the tube are parallel and inclined away from the tube. A sealing material 24 is preferably placed on the flange 23.

In Fig. 7 the arrangement of Fig. 6 is reversed, the flanges 22a and 23a being inclined towards the axis of the tube and the sealing material 24a being preferably carried by the flange 22a.

When a fluid medium is introduced into the container to establish an internal pressure in excess of the external pressure the arrangements of Figs. 3, 5 and 6 are employed because when the fluid medium is cut off the cover will be moved by the excess internal pressure into contact with the tube to effect a temporary seal until the flanges can be united by mechanical means.

When the container is vacuumized the excess external pressure will tend to move the cover inwardly and accordingly the arrangement of Fig. 7 is employed to obtain a temporary seal.

When a larger vent is desired as shown in Fig. 8 the tube 25 is finally jointed to the cover 26 in order to hold the same in a proper position relative to the body 27. The margins of the cover and body are arranged in unsealed or spaced relation as suggested in Figs. 2 to 7 to establish a peripheral vent 28 through which a fluid medium is introduced or removed from the container. The usual sealing material 29 is present on one of the margins.

From the foregoing it will be seen that while the cover is positively held in position with respect to the container its inner or outer periphery is capable of limited movement in one direction to establish a vent for the introduction or removal of a fluid medium and is then capable of automatic return movement under the influence of differential pressures to provide a temporary joint.

10 For the sake of brevity the container will be referred to in the claims as an annular container inasmuch as such a container has spaced walls, one within the other.

I claim:

15 1. A container comprising spaced walls, one within the other, an apertured closure at one end marginally secured to both walls, an apertured valve-acting closure for the other end having one margin finally secured to only one of the walls, the marginal meeting ends of the closure
20 and the other wall being spaced and in temporary

unsealed relation to provide a vent, a sealing material on one of said meeting ends whereby a temporary joint is established when the meeting ends are brought together on movement of the closure.

2. A container comprising spaced walls, one within the other, an apertured closure at one end marginally secured to both walls, an apertured valve-acting closure for the other end having one margin finally secured to only one of the walls, the marginal meeting ends of the closure and the other wall being spaced and in temporary unsealed relation to provide a vent.

3. In a container including a bottom, inner and outer spaced walls fixed to the bottom, an apertured cover having a margin adjacent each wall, one margin finally secured to one of the walls and the other margin cooperating with the other wall when unsecured thereto to constitute a valve for use in processing the container.

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