

July 10, 1934.

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1,966,070

DRUM CLOSURE

Filed Oct. 4, 1932

Fig. 2.

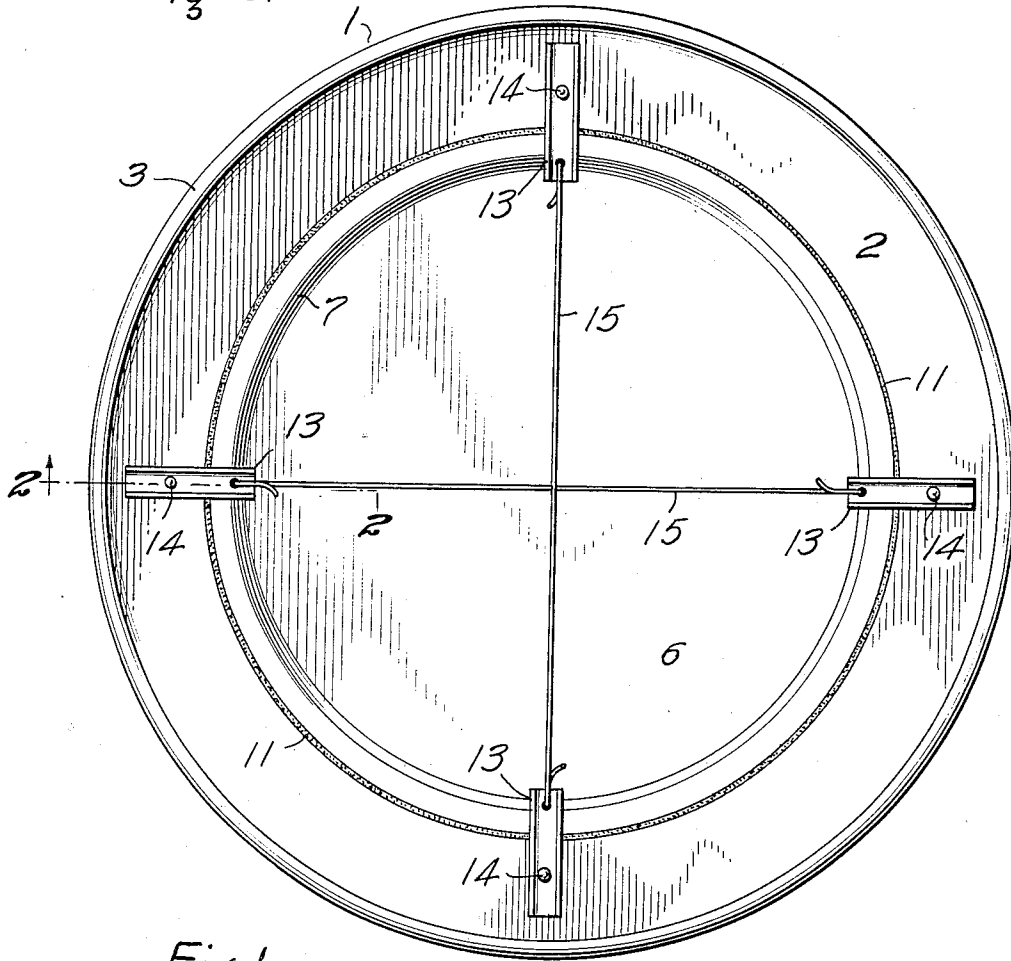
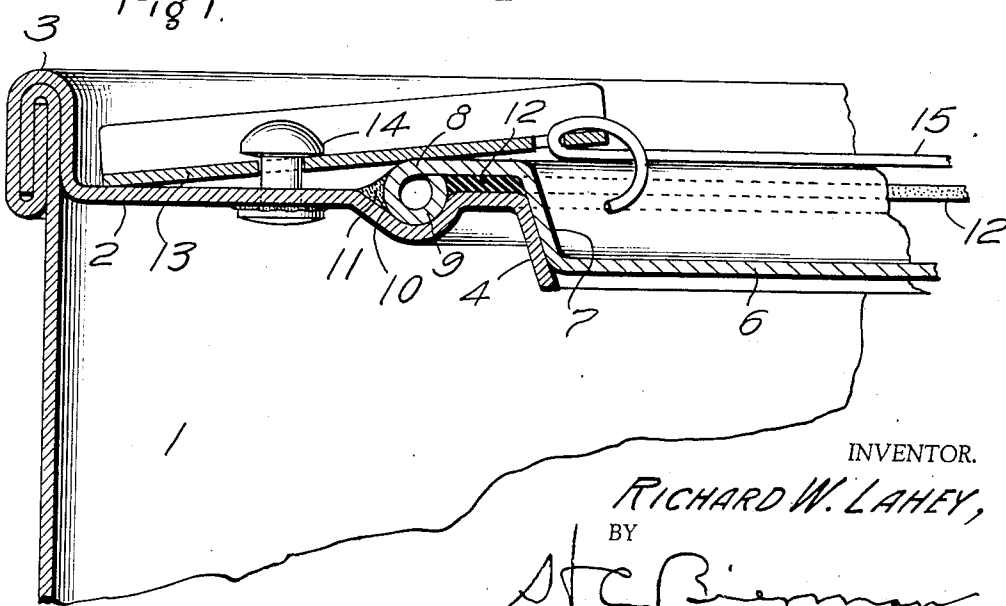


Fig. 1.



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1,966,070

DRUM CLOSURE

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Application October 4, 1932, Serial No. 636,126

4 Claims. (Cl. 220—55)

The present invention relates to a closure for drums or barrels.

The principal object of the invention is the provision of a cover or closure for containers of the barrel or drum type, which has a series of independent means for hermetically sealing the same either against the escape of gases from the interior or the entrance of air or moisture from the outside.

Another object of the invention is to provide a drum of the above type having a removable closure in the head thereof, which is particularly adapted to receive solder or the like by the provision of a guiding channel for the same which insures the proper location of the solder in minimum quantities.

Another important object of the invention is the provision of a hermetically sealed closure for a drum which upon having the seal ruptured may be again substantially hermetically sealed without difficulty.

In the preferred form of the invention the drum head is provided with an aperture having substantially frusto conical walls in the form of a depending flange. A closure is provided having similar frusto conical walls adapted to engage the depending walls of the drum aperture in a friction tight joint and an outwardly projecting flange at the top thereof, the periphery of which is beaded. In the head of the drum and arranged concentrically with the opening therein is a shallow groove adapted to receive the bead on the flange. It is contemplated that the bead will substantially fill the groove, leaving, however, at the same time, a guiding channel beyond the bead for the reception of solder or the like. Where desired a gasket may be located beneath the flange of the closure to insure sealing of the closure and the drum head. Where necessary, swinging latches may be provided secured to the drum head and adapted upon rotation to overlie the flange of the closure, tending to force contact between the closure and the drum head, and these latches may be secured together as by tie wires or the like to prevent rotation.

The invention further consists in the novel arrangement, combination and construction of parts more fully hereinafter shown and described.

In the drawing—

Fig. 1 is a sectional elevation of a device embodying the invention.

Fig. 2 is a plan view of a drum head and a closure in place.

Referring now with more particularity to the embodiment shown in the drawing, there is illus-

trated in Fig. 1 a drum having a sheet metal body 1 to which is crimped a head 2, the crimped joint being shown at 3.

The head 2 is provided with a filling and emptying aperture, defined by substantially frusto conical walls 4. A substantial distance beyond the walls 4 is a groove 5 concentric with the filling opening. It will be noted that the outer section of this groove has a radius greater than that of the inner section, in order to provide a guiding channel for solder.

A closure 6 is provided for the head opening which has substantially frusto conical walls 7 adapted to engage in a tight friction joint the similarly shaped walls of the opening in the head 2. Beyond the wall 7 the closure 6 is provided with an outwardly projecting flange 8, the periphery of which is beaded as at 9. It is preferable to have the bead located within the groove 5 and substantially fitting and filling the same, leaving at the same time an annular guiding channel 10 into which solder 11 may be flowed to hermetically seal the closure and the head. Where desired a gasket 12 may be located beneath the flange 8 which cooperates with the flat gasket seat to assist in the sealing operation.

In order to prevent any undue strain in handling or shipping being placed upon the soldered joint between the head 6 and the filling opening in the head 2, swinging latches 13 are provided, pivoted as at 14 to the head 2. These swinging latches when in proper position are adapted to overlie the flange 8 and bear the major portion of the strain. During shipment the latches 13 may be joined by tie wires 15 to prevent their swinging away from the closure.

From the above it will be seen that a particularly tight joint may be secured between the closure and the drum head, first, by reason of the friction joint between the walls 4 and 7; second, by reason of the gasket 12; third, by reason of the beaded edge 9 of the flange 8 closely fitting and seated in the groove 5; fourth, by means of the solder 11 which is flowed into the guiding channel between the beaded edge 9 and the groove 5; and fifth, by reason of the swinging latches 13. Moreover, the gasket seat is thermally isolated from contact with hot solder by the intervening bead and groove, so there is no possibility of deterioration of the gasket material thereby.

When the consumer desires to use the material within the drum, the closure 6 may be readily removed and the contents emptied from the drum. If the entire contents are not to be used at once, the closure 6 may be replaced and because of the

gasket and friction joint between the walls 4 and 7, an efficient hermetically sealed container results. The swinging latches 13 may be used to insure a gas tight joint between the parts.

- 5 As will be seen above, the closure has two bearing surfaces if no washer is used, and three if the gasket is used, which provides a gas tight and water tight seal.

I claim:

- 10 1. A drum container having a sheet metal head, a depending friction flange defining an aperture in the head, an arcuate groove in said head depressed below the plane thereof and surrounding said aperture, a flat gasket seated in the plane
15 of the head between said groove and said aperture, a closure comprising a central web portion and a friction flange extending upwardly therefrom, a plane portion extending outwardly from the upper edge of said flange to cooperate with
20 said gasket and a bead on the outer edge of said plane portion adapted to seat in said groove.

2. A drum container having a sheet metal head, a depending friction flange defining an aperture
25 in the head, an arcuate groove in the head and surrounding said aperture, the outer section of said groove having a radius greater than that of the inner section, a flat gasket seated in the plane of the head between the aperture and said groove and thermally isolated from the outer portion of
30 the latter, a closure including depending friction walls and an outer plane portion extending from the upper edge thereof to cooperate with said gasket, and a bead substantially circular in cross section on the outer edge of said plane portion
35 and adapted to seat in the inner section of said arcuate groove, whereby a channel for solder is left in the outer section of the groove that is thermally remote from the gasket.

3. A drum container having a sheet metal head, a depending friction flange defining an aperture in the head, an arcuate groove in said head depressed below the plane thereof and surrounding said aperture, a flat gasket seated in the plane
80 of the head between said groove and said aperture, a closure comprising a central web portion and a friction flange extending upwardly therefrom, a plane portion extending outwardly from the upper edge of said flange to cooperate with
85 said gasket, a bead on the outer edge of said plane portion adapted to seat in said groove, and means for exerting pressure on said head to force said plane portion into operative relation with
90 said gasket.

4. A container of the drum type having a sheet metal body and a sheet metal head, the metal forming the edges of said head being struck outwardly a substantial distance and overturned to form a crimped joint with the edges of the body,
95 a depending frusto-conical flange defining an aperture in said head, a groove in said head surrounding said aperture and spaced a substantial distance therefrom to provide a flat gasket seat in the plane of said head, a gasket on said seat, a
100 closure including depending frusto-conical walls and an outer plane portion extending from the upper edge thereof to cooperate with said gasket, the edge of said plane section terminating in a bead adapted to fit into said groove, and swinging
105 latches operative to force said plane section towards said gasket, said closure and latches lying entirely within a plane defined by the outer edges of the joint between the head and body portions of said drum.

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