

Feb. 28, 1939.

J. M. HOTHERSALL

2,148,468

CONTAINER

Filed Dec. 7, 1934

Fig. 1

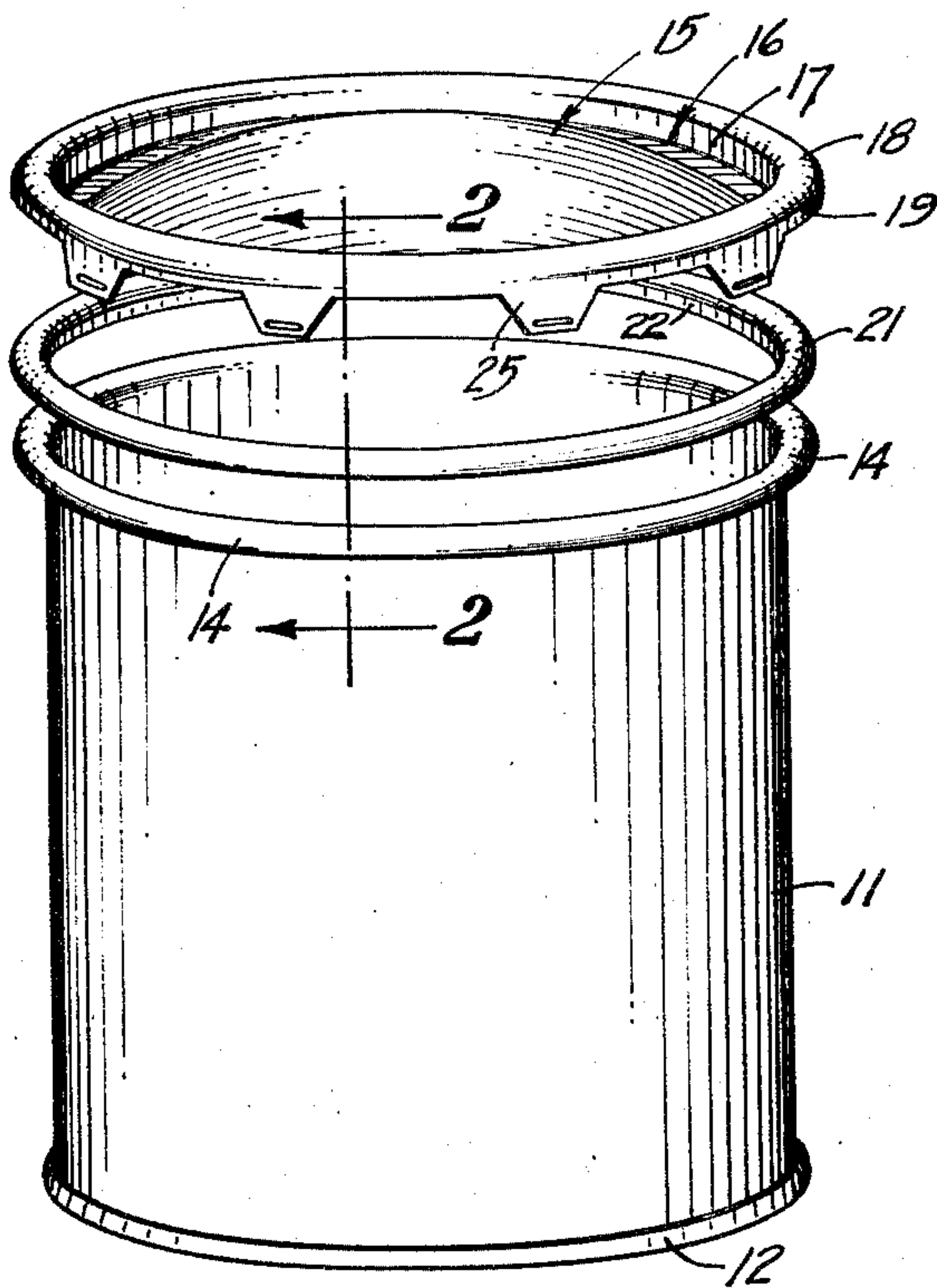


Fig. 2

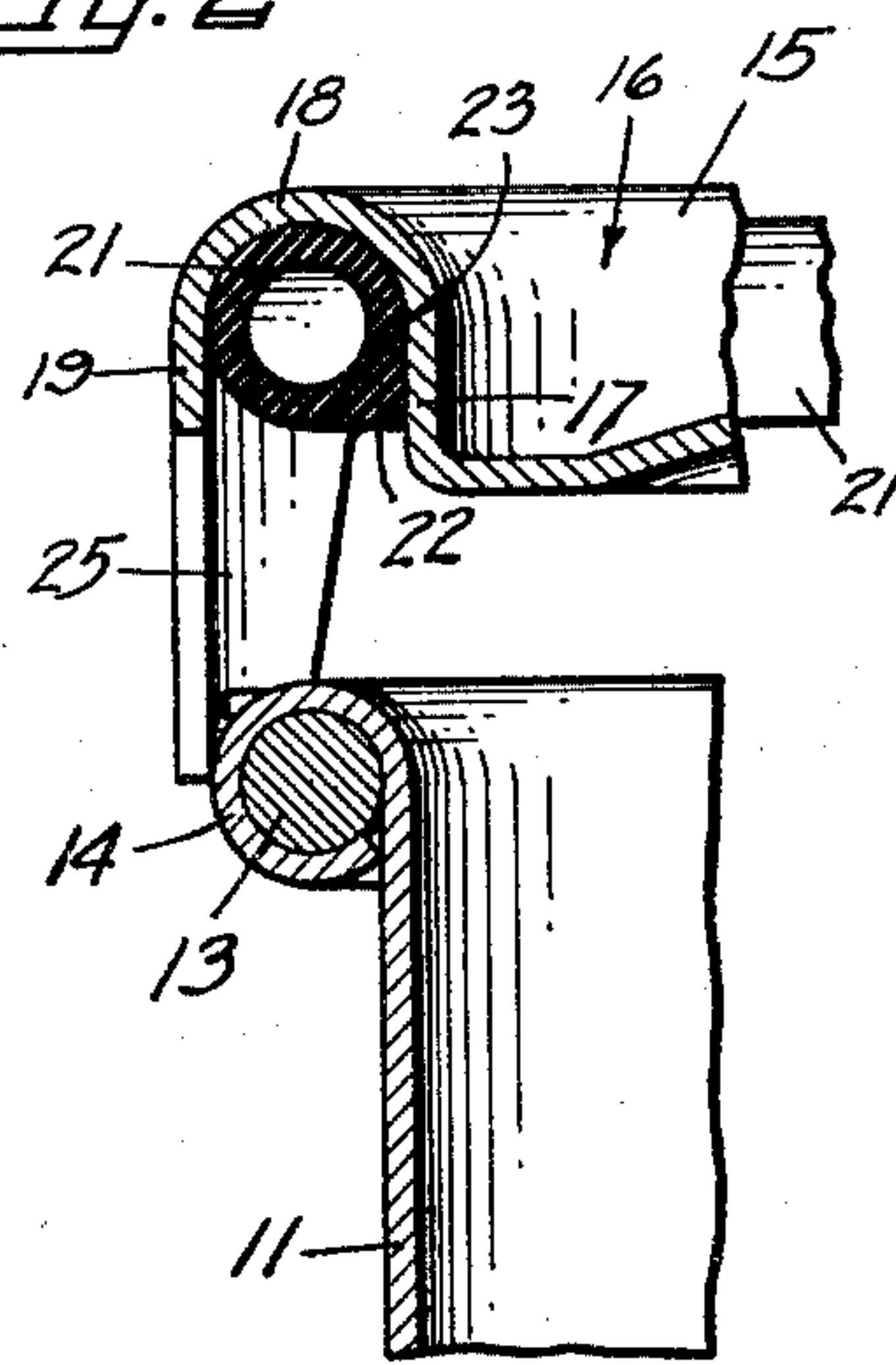
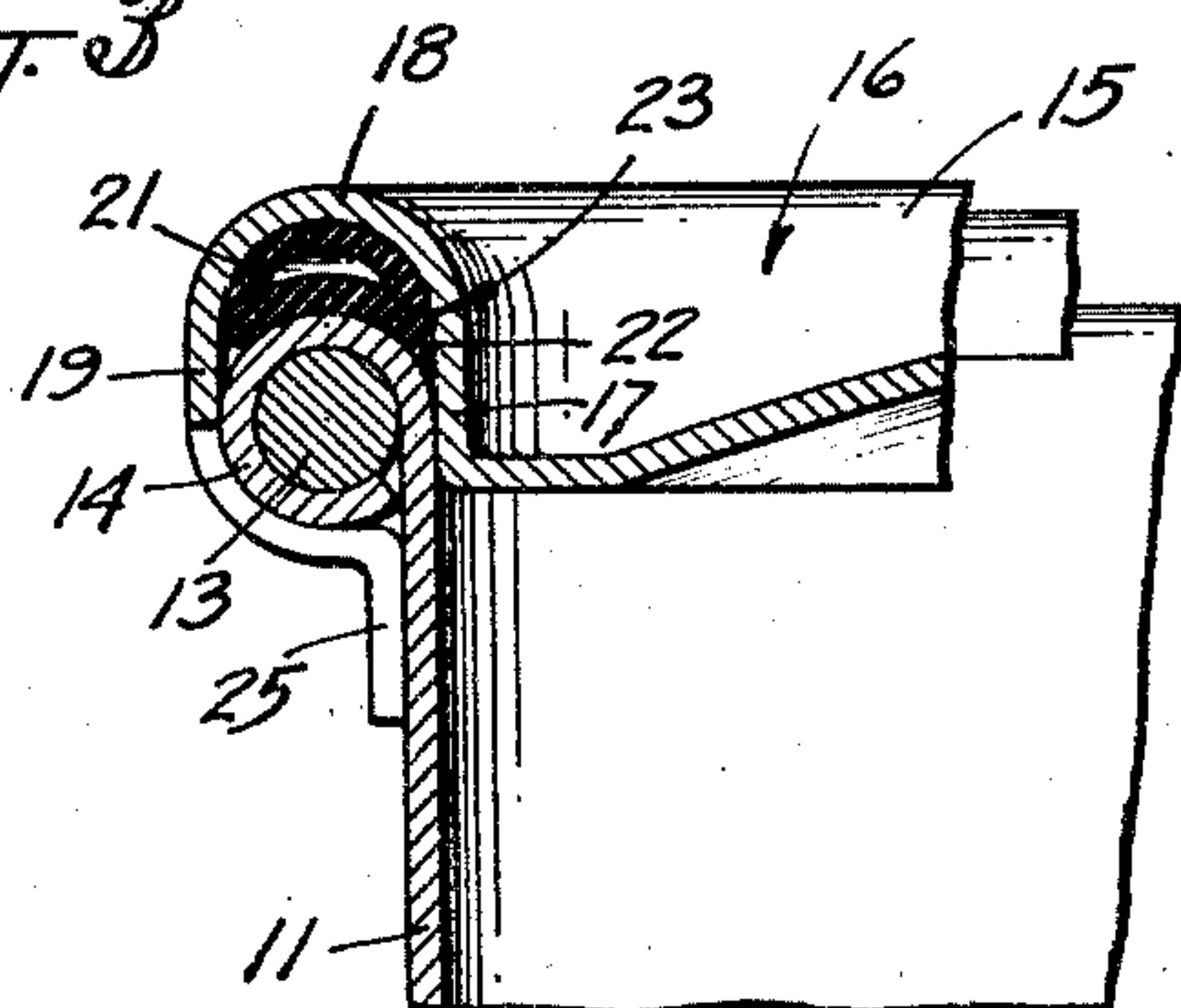


Fig. 3



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## UNITED STATES PATENT OFFICE

2,148,468

## CONTAINER

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Application December 7, 1934, Serial No. 756,546

4 Claims. (Cl. 220—46)

The present invention relates to containers and has particular reference to substantially self-seating, self-holding gasket or liner for hermetically sealing the joint between a container and its end closure.

An object of the invention is the provision of an improved gasket or liner for container closures which is of such a shape and dimension that it is substantially self-seating and self-holding and will remain in seated position within a closure recess without utilizing a binding agent or adhesive such as cement and without requiring any special closure construction or special mechanical holding means.

Another object is the provision of such a gasket preferably of hollow construction and resilient material, such as tubular rubber, which has a shape substantially corresponding to the shape of the flange or channel or recess of a standard container closure and which has an extension to prevent rolling or shifting of the gasket during assembly with the closure or when seated in the channel or recess before and during the application of the closure to the container.

Another object is the provision of a substantially circular gasket with an angular extension which has the further function of guiding the gasket into proper assembly with the cover and also providing a greater effective sealing surface to insure more uniform and effective sealing.

Numerous other objects and advantages of the invention will be apparent as it is better understood from the following description, which, taken in connection with the accompanying drawing, discloses a preferred embodiment thereof.

Referring to the drawing:

Figure 1 is a perspective view of a container embodying the instant invention and showing the container sealing parts in exploded superposed position;

Fig. 2 is an enlarged fragmentary sectional view taken substantially along the line 2—2 in Fig. 1 showing the gasket in position in the closure prior to sealing the closure onto the container; and

Fig. 3 is a similar view showing the gasket when the closure is fully seated and sealed onto the container.

As a preferred embodiment of the invention the drawing illustrates a container of the lead keg type having an annular body wall 11 (Fig. 1), the lower edge of which is united with a bottom end closure in any suitable manner as by a seam 12. The upper edge of the body wall is preferably rolled outwardly over a stiffening wire 13 (Fig. 2) in a closure receiving curl or bead or seat 14, thus

providing a wide open, unobstructed mouth for the upper end of the container.

This end of the container is preferably closed by a detachable closure or cover 15. The closure fits within the container mouth and for this purpose is provided with a countersunk central panel 16 which merges into a vertical annular wall 17 adapted to engage the interior upper surface of the body wall 11 in back of the curl or bead 14 when the closure is fully seated and clinched as shown in Fig. 3. The vertical wall 17 merges into a curved wall 18 which terminates in a vertical depending wall 19. The walls 17, 18 and 19 form an inverted U-shaped annular recess or channel which overlies the bead 14 when the closure is in place and which is adapted to hold an annular hollow gasket 21 for engagement with the top of the container bead or closure seat 14.

The gasket 21 is preferably made of a resilient material such as rubber or the like and in cross-section is substantially circular in shape corresponding to the shape of the closure channel or recess so that it closely hugs the curved wall 18 of the closure when in place. A portion of the substantially circular cross-section of the gasket, approximately a quadrant in the embodiment illustrated, is extended to provide a substantially square or angular section or corner 22 which provides a straight gasket wall 23 adapted to tightly engage the vertical wall 17 of the closure.

This corner or ridge 22 serves as a guide for the proper insertion of the gasket within the channel as it is slid or stretched annularly over the wall 17, so that it cannot readily twist out of proper alignment with the closure channel. Also any tendency on the part of the gasket to roll is overcome by the corner extension or ridge 22 when it hugs the wall part 17, as shown in Fig. 2, which prevents the substantially cylindrical part of the gasket from rolling or turning. The gasket is thus held tightly within the channel by its own clinging and wedging action without utilizing cement or other adhesives between the gasket and the cover channel or without requiring a specially constructed cover or adding gasket holding means thereto. As thus constructed and assembled the gasket is held securely in position and is able to withstand considerable rough handling during shipment and during the sealing operation.

The closure preferably illustrated is known as the lug type cover which is a well known closure for containers intended to hold heavy material such as white lead. When this closure is to be sealed to the container with the improved self-seating and self-holding gasket in place in the



channel of the closure, as shown in Fig. 2, the closure is first pressed down over the container, thereby first compressing the gasket 21 between the closure wall part 18 and the container bead 14 as shown in Fig. 3. The slotted lugs 25 which depend at spaced intervals from the wall part 19 of the closure are then bent or clinched around the lower outer portion of the bead 14 with the extremities of the lugs 25 assuming a vertical position and hugging the wall 11 of the container body. Thus fully squeezed or compressed between the parts 14, 17, 18 and 19 the gasket 21 has its angular extension 22 completely filling and sealing up the corner formed between the parts 14 and 17, thereby providing a more complete, more effective and more extensive seal than has heretofore been the case.

It will be readily seen that the same effect would be obtained if instead of the lug type cover a ring seal cover were used. In fact, the improved gasket hereinbefore described has a wide application with many different types of container closures.

It is though that the invention and many of its attendant advantages will be understood from the foregoing description, and it will be apparent that various changes may be made in the form, construction and arrangement of the parts without departing from the spirit and scope of the invention or sacrificing all of its material advantages, the form hereinbefore described being merely a preferred embodiment thereof.

I claim:

1. An article of manufacture, comprising an annular gasket having a curved wall portion terminating in straight intersecting wall portions disposed at an angle to one another, the curved wall portion of said gasket being adapted to engage a curved wall portion of a U-shaped container closure channel to make tight contact therewith, one of the straight wall portions of said gasket being adapted to engage a vertical wall portion of said channel to prevent turning movement of said gasket when positioned within said channel.

2. An article of manufacture, comprising an annular tubular gasket adapted to be inserted into a U-shaped substantially uniformly curved channel of a container closure, said gasket having a curved wall portion adapted to snugly engage the curved portion of said U-shaped

channel and having straight intersecting wall portions disposed at an angle to one another, one of the straight wall portions of said gasket being adapted to engage a vertical wall portion of said channel to prevent turning movement of said gasket when positioned therein, said tubular gasket being adapted to be distorted and compressed when the container closure is applied and a vertical wall portion of said U-shaped channel of the closure is forced into tight sealing engagement with a corresponding vertical wall portion of the gasket when the closure is forced home.

3. A gasket lined container, comprising a container body having a closure receiving seat, an end closure having a U-shaped channel of uniform curvature at its base adapted to fit over said seat terminating in an inner vertical wall, and a preformed, resilient, annular gasket arranged within said channel, said gasket having a curved wall portion conforming to the curvature of and snugly engaging said U-shaped channel, the opposite ends of said curved wall terminating in straight wall portions disposed at an angle to one another, one of said straight wall portions conforming to and closely engaging said inner vertical wall of said U-shaped channel, to maintain said gasket within and to prevent rolling of the same relative to and while in said channel.

4. A gasket lined container, comprising in combination, a container body having a vertical sealing wall and a closure receiving seat, an end closure having an annular U-shaped channel of uniform curvature at its base adapted to fit over said seat, and a preformed tubular and resilient gasket fitting within said channel, said gasket having a curved wall portion conforming to the curvature of and snugly engaging said U-shaped channel, the opposite ends of said curved wall terminating in straight wall portions disposed at an angle to one another, one of said straight wall portions conforming to and closely engaging said inner vertical wall of said U-shaped channel, to maintain said gasket within and to prevent turning of the gasket within said recess, said tubular gasket being adapted to be compressed and deformed between said seat and said closure channel and said inner vertical wall of said closure is forced into tight sealing engagement with an adjacent vertical sealing wall portion of the gasket when the closure is forced home.

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