May 5, 1936. G. ROBERTS 2,040,024

CONTAINER

Filed March 5, 1935

Fig. 1.

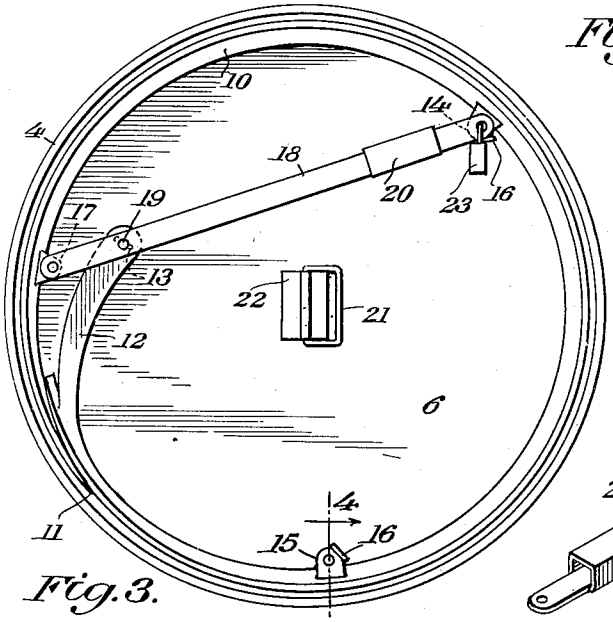


Fig. 5.

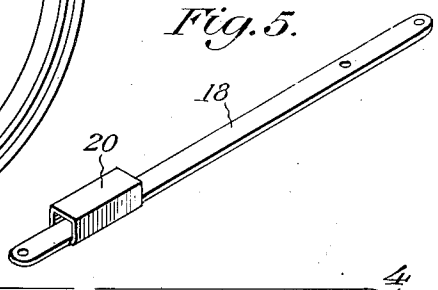


Fig. 3.

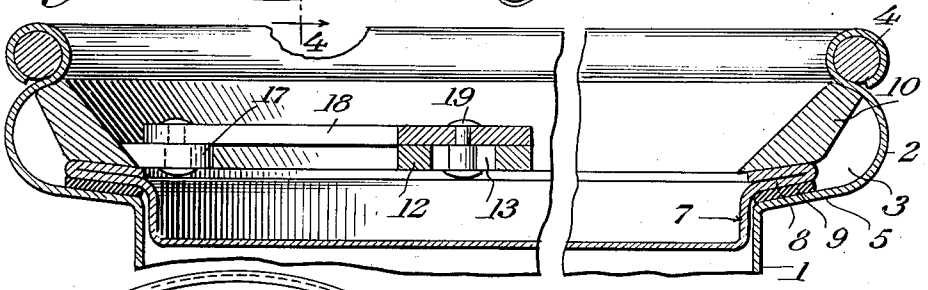


Fig. 2.

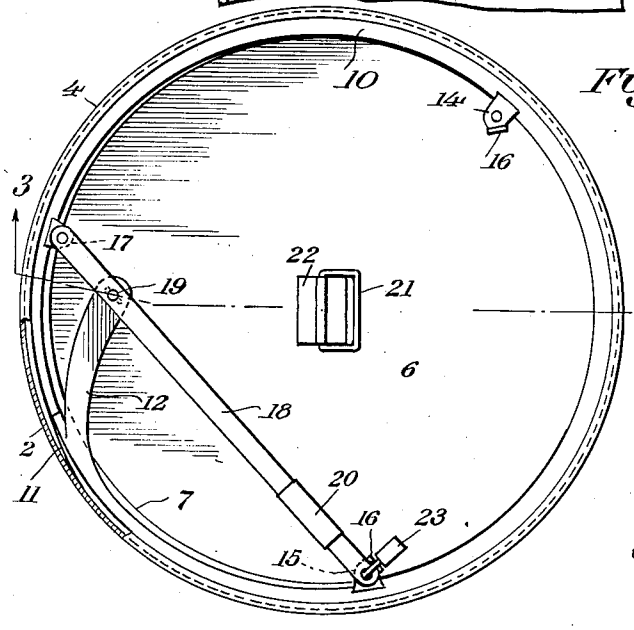
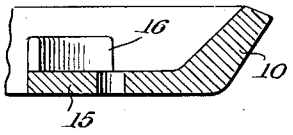


Fig. 4.



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CONTAINER

George Roberts, Ann Arbor, Mich.

Application March 5, 1935, Serial No. 9,489

3 Claims. (Cl. 220—61)

This invention relates to containers, and its general object is to provide a closure for a container such as a metallic barrel or the like, that can be easily and expeditiously applied and removed with respect to the container, yet casual removal or displacement is impossible and a leak proof connection is assured.

Another object of the invention is to provide a closure for a barrel or the like, that forms the head thereof, and which includes a split resilient ring member normally expanded for holding the closure in sealed position, with means for contracting the ring member to allow the removal of the closure.

Another object of the invention is to provide a closure of the character set forth, that includes means for holding and locking the ring member in contracted or expanded positions, and the container end is so designed to bear against the ring member when the latter is in operative position to set up a clamping action.

A still further object of the invention is to provide a closure that is simple in construction, inexpensive to manufacture, and extremely efficient in use and service.

This invention also consists in certain other features of construction and in the combination and arrangement of the several parts, to be hereinafter fully described, illustrated in the accompanying drawing and specifically pointed out in the appended claims.

In describing my invention in detail, reference will be had to the accompanying drawing wherein like characters denote like or corresponding parts throughout the several views, and in which:

Figure 1 is a top plan view showing my closure applied to a container with the ring member thereof contracted or in unsealed position and held and locked accordingly.

Figure 2 is a similar view showing the ring member expanded.

Figure 3 is a sectional view taken approximately on line 3—3 of Figure 2, looking in the direction of the arrows.

Figure 4 is a sectional view taken approximately on line 4—4 of Figure 1, looking in the direction of the arrows.

Figure 5 is a perspective view of the handle for contracting and expanding the ring member.

Referring to the drawing in detail, the reference numeral 1 indicates a container which as shown is in the form of a metallic barrel, but I want it understood that my closure can be utilized with any type of container that can be adapted therefor. The upper end of the container is outwardly bulged in rounded formation as at 2 to provide an annular channel 3 and the outwardly bulged portion terminates at its upper end in a reinforced bead 4. The upper wall of the channel is curved upwardly and inwardly and terminates in the bead outwardly of the lower wall which is slightly upwardly inclined and provides a seat 5.

The cap of my closure includes a disk like body 6 that has formed with the periphery thereof an upwardly directed flange 7 which in turn has formed therewith an outwardly inclined crimped flange 8 received by the seat 5, but disposed between the flange 8 and the seat 5 is a gasket 9, so as to provide a leak proof connection between the cap and the container, as will be apparent.

The essential feature of my closure lies in the resilient or expansion ring 10 which as best shown in Figure 3 is provided with beveled side faces and an inwardly and downwardly inclined bottom face and a slightly curved downwardly and outwardly inclined upper face.

The ring is transversely split as at 11 and formed on one end thereof is an inwardly curved arm 12, the latter increasing in width toward its free end and has arranged therein a slot 13. Extending inwardly from the ring and diagonally with respect to each other are apertured ears 14 and 15, each of which has formed thereon an upstanding lug 16. An ear 17 is likewise formed with the ring 10 and extends inwardly thereof, and has pivotally secured thereto one end of a lever 18 which is of a length to be received by either of the apertured ears 14 and 15 and has an opening in its free end for registration with the apertures of the last mentioned ears for a purpose which will be presently described. The lever is also provided with an opening adjacent its pivoted end for the purpose of receiving a pivot pin 19 that is mounted in the slot 13 of the arm 12.

It will be noted from the drawing that the expansion ring increases in width from its split ends and gradually tapers so that its greatest width or thickness is diametrically opposite the split. That feature retains the ring in substantially true circular formation at all times to assure proper sealing action and easy removal and application with respect to the container. The end portions of the ring are beveled as shown for a sliding fitting engagement with each other.

The lever 18 may have formed thereon or otherwise secured thereto a collar member 20 of rectangular configuration for the purpose of receiving an extension lever not shown, for increasing the leverage for expanding and contracting the expansion ring, as will be apparent.

The cap is preferably provided with a handle 21 of the bail type and which is secured to the body thereof by a flanged barrel member 22.

From the above description and disclosure of the drawing, it will be obvious that I have provided a closure for metallic barrels and the like, that can be easily and expeditiously applied and removed with respect to the barrel, and when applied thereto, in sealed position, a leak proof connection is assured. However, it might be stated that the cap is disposed within the channel and against the gasket 9. The ring is then arranged in the channel to bear against the crimped flange 8, with its curved upper face disposed for engagement with the upper wall of the channel. It will of course be understood that the ring is in its contracted condition when applying it within the channel and is held accordingly by the lever 18 having its free end received by the lug of the apertured ear 14, as shown in Figure 1. After the expansion ring is so disposed, the free end of the lever 18 is removed from the lug of the ear 14 and disposed on the ear 15 to contact the lug 16 thereof, as shown in Figure 2. This action allows the ring to expand or be expanded against the crimped flange 8 and the upper wall of the channel, the latter setting up a resilient action against the upper face of the ring, which is curved as above set forth in order to fit the upper wall and as clearly shown in Figure 3.

The lever may be locked in either of its positions, through the instrumentality of a padlock 23.

It is thought from the foregoing description that the advantages and novel features of my invention will be readily apparent.

I desire it to be understood that I may make changes in the construction and in the combination and arrangement of the several parts, provided that such changes fall within the scope of the appended claims.

What I claim is:

1. A container comprising a channeled upper end providing an overhanging portion and a seat, a closure for the container and received by the seat, sealing means between the closure and seat, a transversely split expansible ring disposed in the channel to contact the overhanging portion and the closure respectively for holding the latter in sealed position, an arm extending inwardly from one end of the ring, a lever pivotally secured to the arm and having one end pivotally secured to the ring, ears formed on the ring and extending inwardly therefrom, lugs formed on the ears and disposed in the path of the free end of the lever to be received thereby for holding the ring in contracted or expanded positions, locking means received by the free end of the lever and the ears respectively for holding the ring in said positions, a handle for the closure and means included in the lever for receiving an extension therefor.

2. A container comprising a channeled upper end, a closure for the container, sealing means between the closure and the lower portion of the channel, expansible means for disposal in the channel to contact the upper portion thereof and closure respectively for holding the latter in sealed position, means for contracting and expanding said expansible means and including a lever having an opening therein and slidably and pivotally secured to the expansible means, means for holding the lever with the expansible means in contracted or expanded positions and including apertured ears secured to the expansible means, lugs secured to the ears and arranged in the path of the lever, and means for passage through the opening of the lever and the apertures of the ears respectively for locking the expansible means in either of the said positions.

3. A container comprising a channeled upper end providing an overhanging portion and seat, a closure for the container and receivable by the seat, sealing means between the closure and seat, a transversely split expansible ring for disposal in the channel to contact the overhanging portion and the closure for holding the latter in sealed position, said ring having beveled interfitting slidably associated end portions and increasing in width therefrom, an arm formed on the ring adjacent one end thereof and having a slot therein, a lever for contracting and expanding said ring and pivotally secured thereto adjacent its opposite end, means pivotally securing the lever to the arm and mounted for slidable movement in the slot, means formed on the ring and arranged in the path of the lever to receive the latter for holding the ring in contracted or expanded positions, locking means for securing the ring in the said positions and received in the lever and the said means arranged in the path thereof respectively, and a handle for the closure.

GEORGE ROBERTS.