March 30, 1937. H. G. VAUGHN 2,075,382

CONTAINER

Filed April 20, 1935

FIG. 1.

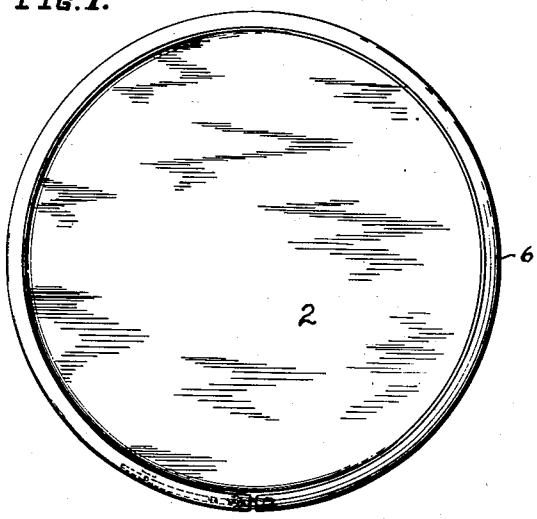


FIG. 3.

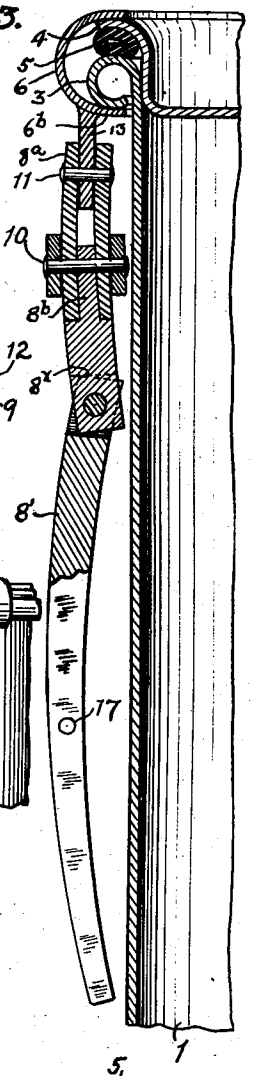
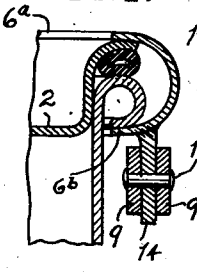


FIG. 4.



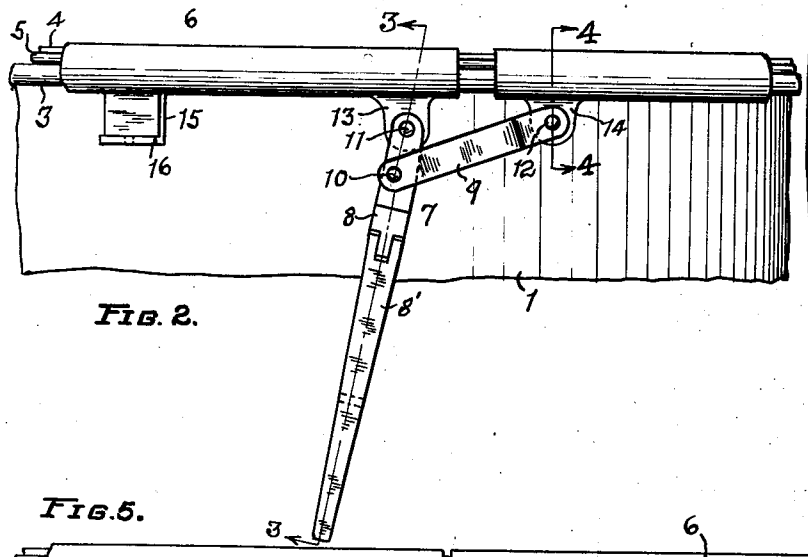


FIG. 2.

FIG. 5.

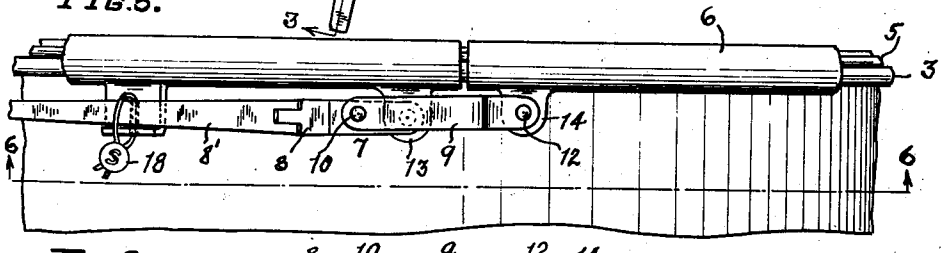
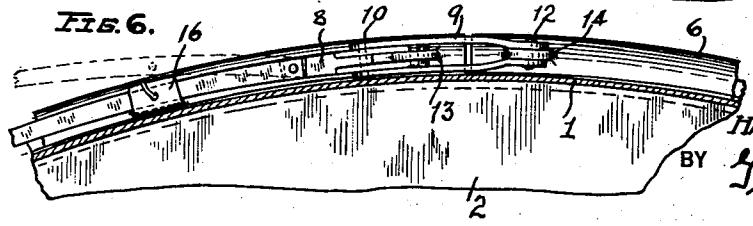


FIG. 6.



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2,075,382

CONTAINER

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5 Claims. (Cl. 220—61)

This invention relates to a container of the type in which one end is open and the head for such end constitutes a removable cover adapted to be sealed to form a liquid tight container for foods, fluids, semi-fluids, greases and other materials. By preference all portions of the container are formed of sheet steel.

One object of the invention is to provide for a container of this type an improved cover closing and sealing means comprising a split ring having on and below its lower wall devices of simple and economical construction for contracting the ring and circumferentially applying through the ring walls uniform pressure to the container cover to effect a sealing thereof.

Another object of the invention is to provide for a container of this type an improved cover sealing means comprising a split ring having below the ring and connected to its ends devices for contracting and expanding the ring, these devices being so mounted that very little space is required for operating them.

Another object of the invention is to provide for a container of this type a cover closing means comprising an exteriorly mounted split ring and an operating means therefor disposed below and concentric to the ring, one operating element being of sectional construction to permit operation of said means in a plane substantially concentric to the axis of the ring.

Other objects of the invention will be apparent to those skilled in the art to which my invention relates from the following description, taken in connection with the accompanying drawing, wherein

Fig. 1 is a plan view of a container showing thereon a cover closing and sealing means embodying my invention.

Fig. 2 is a fragmentary side elevation, enlarged showing the position of the ring and operating means when the ring is ready to be clamped or contracted into final position.

Figs. 3 and 4 are sections on the lines 3—3 and 4—4, respectively, of Fig. 2.

Fig. 5 is a view similar to Fig. 2, but showing the contracting devices in operated position and the ring in final position.

Fig. 6 is a fragmentary section on the line 6—6 of Fig. 5.

The container illustrated is of the steel drum or barrel type, having a side wall 1, a cover 2 and a bottom wall or head (not shown). The upper end of the side wall is rolled over outwardly to form a continuous circumferential bead 3 and the cover 2 has a circumferential wall or flange 4 arranged to engage a packing or gasket 5 seated on the bead 3 and effect a closing and sealing of the container. The cover is preferably cup-shaped so as to fit or telescope within the open end of the side wall 1, the flange 4 projecting outwardly to lie over the packing 5.

6 indicates a split ring substantially U-shape in cross section and when positioned, the ring surrounds the bead 3 and its upper and lower circumferential terminating walls 6a, 6b, engage the flange 4 and lower side of the bead 3. The ring 6 is preferably formed of resilient material to permit it to be expanded substantially circumferentially sufficiently to be positioned around the bead 3 and then contracted to effect compressing of the gasket 5 and sealing of the cover flange 4 to the bead 3.

7 indicates as an entirety an operating means comprising a lever 8 and a link 9, the latter being pivotally connected at 10 on a horizontal axis to the lever near its inner end, so that the outer end portion of the lever may serve as an operating handle. The inner end of the lever 8 and outer end of the link 9 are pivotally connected on horizontal pivots 11, 12, respectively, to walls 13, 14, respectively, depending vertically from the lower ring wall 6b. The lever 8 and link 9 are so proportioned and connected one to the other that when the lever is operated toward the right as viewed in Fig. 2, the ring is expanded and may be positioned over and around the bead 3 and flange 4; thereafter, movement of the lever to the left to the position shown in Fig. 5 will contract the ring circumferentially, the effect of which is to force the cover flange 4 in the direction of the bead 3, thereby compressing the gasket 5 and sealing the cover. When the lever 8 is moved to the Fig. 5 position, the ring is locked in position. In this position, a line extending between the pivots 11, 12, lies inwardly of the pivot 10 to normally maintain the lever in its operated position. The inner portion of the lever 8 terminates in two spaced strips 8a suitably secured (as by welding) at their outer ends to the opposite sides of a tongue 8b. The inner ends of the strips 8a straddle the wall 13 to which they are pivoted, as above set forth. I prefer to provide two links 9 which, at their outer ends, straddle the wall 14 to which they are pivoted as already described. The inner end portions of the links 9 are bent laterally to be disposed on the outer sides of the strips 8a and support the opposite ends of the pivot pin 10, which extends through alined openings formed in the inner end portions of the strips. In this arrangement the applied force in

contracting or expanding the ring is in line with the walls 13, 14, so that twisting of the ring ends is avoided. The pivots for connecting the lever to the wall 13 and links to the wall 14 and for connecting the links to the lever are preferably riveted over at their ends so that these parts are permanently but loosely connected.

The lever 8 is provided with a hingedly connected outer section 8', which permits it to clear the container wall 1 when operated in either direction.

The adjacent walls of the hinged lever sections are so related, as shown at 8x, that the swinging movement of the outer lever section is limited. The lever 10 and links 9 are curved laterally to conform to the shape of the container wall 1.

As will be understood from Figs. 1, 4 and 6, the operating means, when in operated position, are entirely below and parallel to the ring wall 6b and lie within an imaginary circle the diameter of which is equal to the diameter of the outer wall of the ring; accordingly, the operating means do not prevent the container from being stored and rolled in the usual manner.

By locating the ring operating means below the ring and around the side wall of the container, the means are protected from the elements and the cover is left free for painting, lithographing or embossing.

The ring wall 6b is provided with a depending member 15 having at its lower end a lug 16 formed with an opening which substantially registers with an opening 17 formed in the lever 10 near its outer end, so that a wire may be threaded through the openings and its ends connected by a slug 18 to prevent unauthorized operation of the operating devices. The hinge section of the lever permits it to be positioned over the lug 16 as shown in Figs. 1, 5, and 6.

To those skilled in the art to which my invention relates, many changes in construction and widely differing embodiments and applications of the invention will suggest themselves without departing from the spirit and scope of the invention. My disclosures and the description herein are purely illustrative and not intended to be in any sense limiting.

What I claim is:

1. The combination with a container the side wall of which is provided at its upper end with a circumferential bead and a cover having a circumferential marginal edge arranged to engage said bead, of a resilient split ring substantially U-shape in cross section to provide upper and lower terminating walls arranged to be expanded over said bead and edge, walls depending vertically from said lower terminating wall adjacent the ends of said ring, a lever pivoted on a horizontal axis on one of said depending walls, and a link pivoted at its inner end to said lever on a horizontal axis and at its outer end to the other depending wall on a horizontal axis, said lever and link being operable to expand and contract said ring and said vertical walls being arranged to support said link and lever below said ring and within the circle defined by its side wall.

2. The combination with a container the side wall of which is provided at its upper end with a circumferential bead and a cover having a circumferential marginal edge arranged to engage said bead, of a resilient split ring substantially U-shape in cross section to provide upper and lower terminating walls arranged to be expanded over said bead and edge, walls depending vertically from said lower wall adjacent the ends of said ring, a lever pivoted on a horizontal axis on one of said depending walls, and a link pivoted at its inner end to said lever on a horizontal axis and at its outer end to the other depending wall on a horizontal axis, said lever and link being operable to expand and contract said ring and curved laterally and said vertical walls being arranged to support said link and lever below said ring and within the circle defined by its side wall.

3. The combination with a container the side wall of which is provided at its upper end with a circumferential bead and a cover having a circumferential marginal edge arranged to engage said bead, of a resilient split ring substantially U-shape in cross section to provide upper and lower terminating walls arranged to be expanded over said bead and edge, walls depending vertically from said lower terminating wall adjacent the ends of said ring, a lever having a bifurcated inner end straddling one of said depending walls and pivoted thereto on a horizontal axis, and a pair of links disposed at their inner ends on opposite sides of said lever and pivoted thereto on a horizontal axis, the other ends of said links straddling the other depending wall and pivoted thereto on a horizontal axis, said depending walls being arranged to support said lever and links within the circle defined by the side wall of said ring.

4. The combination with a container the side wall of which is provided at its upper end with a circumferential bead and a cover having a circumferential marginal edge arranged to engage said bead, of a resilient split ring substantially U-shape in cross section to provide upper and lower terminating walls arranged to be expanded over said bead and edge, walls depending vertically from said lower terminating wall adjacent the ends of said ring, a lever having a bifurcated inner end straddling one of said depending walls and pivoted thereto on a horizontal axis, and a pair of links disposed at their inner ends on opposite sides of said lever and pivoted thereto on a horizontal axis, the other ends of said links straddling the other depending wall and pivoted thereto on a horizontal axis, said depending walls being arranged to support said lever and links within the circle defined by the side wall of said ring, the outer end of said lever having a hinged section.

5. In a steel container of the type in which there is an outwardly extending rim and a head overlapping the rim with a gasket interposed between them, means for closing and sealing the container comprising a contractible split ring substantially U-shape in cross section to provide upper and lower terminating walls arranged to be expanded over said bead and edge, vertical walls depending from said lower terminating wall adjacent the ends of said ring, a lever pivoted at its inner end on a horizontal axis on one of said depending walls, said lever being curved on an arc substantially concentric to the side wall of the container when in operated position, and a link pivoted at its inner end to said lever on a horizontal axis and at its outer end to the other depending wall on a horizontal axis, said lever and link being operable to expand and contract said ring and said vertical walls extending downwardly in a plane between the inner edge of said lower wall and the side wall of said ring and arranged to support said lever and link within the circle defined by said side wall.

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