June 12, 1934. J. S. TOWNSEND 1,962,626

BARREL

Filed Aug. 14, 1933

Fig. 1

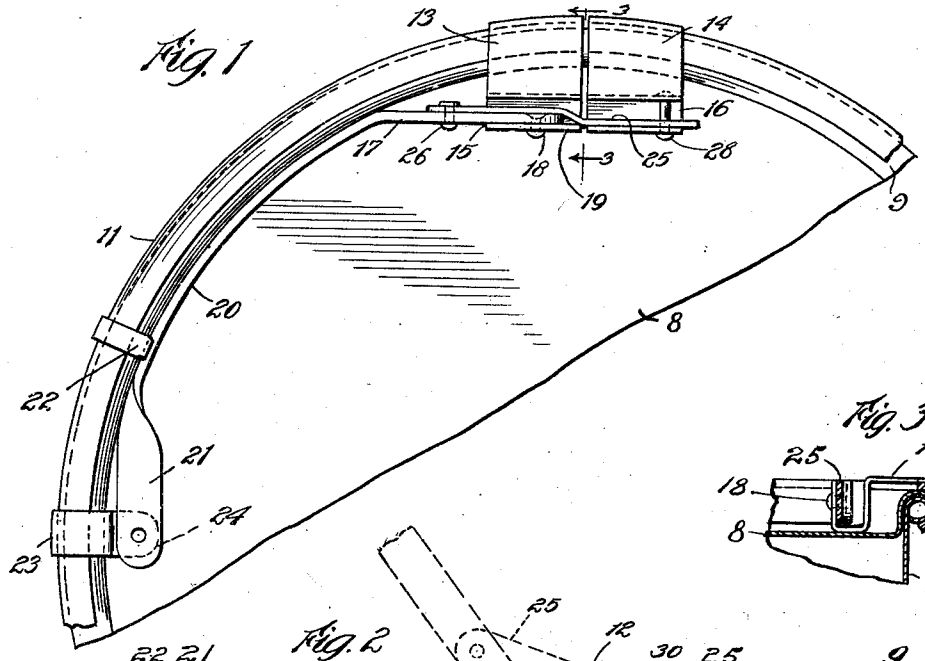


Fig. 3

Fig. 2

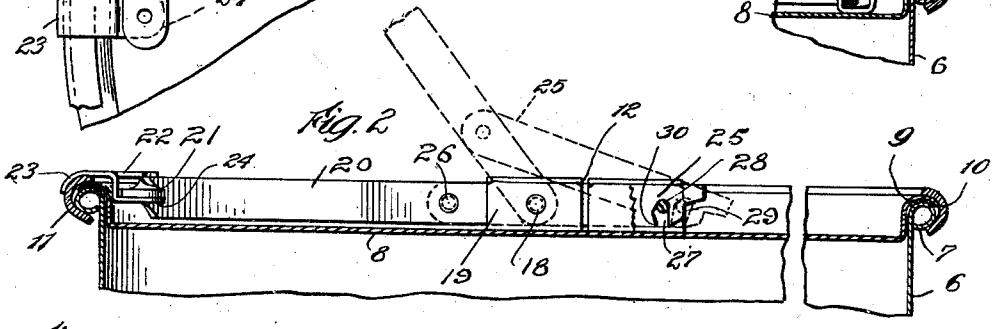


Fig. 4

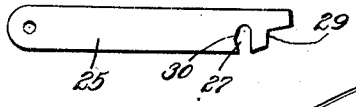
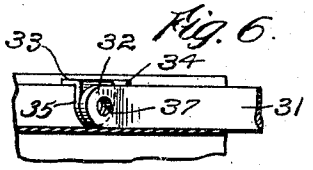


Fig. 5

Fig. 6.



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UNITED STATES PATENT OFFICE

1,962,626

BARREL

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Application August 14, 1933, Serial No. 684,994

6 Claims. (Cl. 220—61)

This invention relates to the type of barrels sometimes known as "full open top barrels", thus indicating a head or closure which may be entirely removed, thus leaving a smooth surface around the open end of the barrel. In barrels or drums of this type the head is usually adapted to project downwardly into the top of the barrel and is provided with a flange for engagement with the bead. Various devices have heretofore tirely removed, thus leaving a smooth surface in position but I have found that such devices have not proven satisfactory, in some instances being difficult or objectionable to manipulate and in other instances failing to make a secure closure.

The principal object of the present invention is to provide an improved device for fastening such covers in position.

Other objects are to provide an improved closure for barrels having means for conveniently applying and fastening the closure; to provide a closing ring with novel tightening and fastening means; to provide means whereby an open ring may be readily placed in fastening position and the ends drawn together and held in position, the holding means also providing an instrumentality for again opening the ring; and to provide such other novel features and such advantages as will appear from the following description.

In the accompanying drawing illustrating this invention,

Figure 1 is a top plan view of a portion of a barrel or a drum showing my improved fastening mechanism;

Figure 2 is a cross sectional view;

Figure 3 is a sectional view taken on the line 3—3 of Figure 1;

Figure 4 is a detail of the combined closing link and opening or releasing member;

Figure 5 is a plan view showing a slightly modified form of construction; and

Figure 6 is a sectional view taken on the line 5—5 of Figure 4.

The drum or barrel 6 is formed of metal such as sheet steel and is provided with a bead 7 around the top. The cover 8 has a depressed portion which fits into the open end of the barrel and is provided with an outwardly projecting flange 9 which engages with the bead 7 or with a gasket 10 which is inserted between the flange and the top of the barrel. In order to press the cover down tightly into closing position, or to draw the flange and bead together, I provide a ring 11, which is approximately semi-circular in cross section, but which has beveled or converging engaging surfaces which engage with the bead and the flange respectively so that when the ring is tightened around the head it will draw these parts together as will be readily seen from Figures 2 and 3.

The ring 11 is split or open at one side as shown at 12 and two lugs or brackets 13 and 14 are secured to the adjacent ends in any suitable manner as by welding or brazing. These brackets have channel shaped portions 15 and 16 respectively which extend downwardly into the depressed portion of the head as shown particularly in Figure 3. A lever 17 is pivoted at 18 to the upwardly extending flange or lip 19 of the bracket 13 and has a curved portion 20 which is adapted to fit closely against the inner wall of the cover and which terminates in a handle portion 21 which is preferably formed by twisting the lever at right angles so that the handle portion 21 will be horizontal when the cover is closed. A catch 22 is secured to the ring 11 and is adapted to engage with the curved portion 20 which springs under the same after it has been swung down to closing position. Another bracket or lug 23 is secured to the ring adjacent to the handle 21 and has a horizontal portion 24 with which the handle engages when in closed position, the handle and horizontal portion having holes therethrough for receiving a seal or lock of any suitable character.

A combined link and releasing member 25 is pivoted at 26 to the lever 17 and is provided with a notch or recess 27 at its opposite end for engagement with a pin or rivet 28 in the channel portion 16 of the bracket 14. The link 25 is also cut away or notched at the end thereof to provide a shoulder 29 beyond the notch 27 which is also adapted to engage with the pin 28 for forcing the ends of the ring apart.

With this form of construction, it will be seen that the end of the link may be disengaged from the pin, thus leaving the ends of the ring entirely free so that they may be spread apart to any desired distance in order to fit the ring over the flange and bead. This is an important feature as in devices heretofore suggested a limited opening movement has been provided which makes it difficult to fit the ring in position on the barrel. After the ring has been placed in position and the ends drawn together by hand, the lever 17 is raised to approximately vertical position or sufficiently so that the link 25 may be hooked on to the pin 28. Then by pressing down on the handle 21 the link is drawn over and the ends of the ring are drawn together as will be readily understood. It will be noted that on account of the pressing down on the lever the closing operation may be more easily performed than with such devices as have horizontal closing movement. When the lever has been swung downwardly to closing position the end of the curved portion will engage with the projection or catch 22 to hold it down and if desired the parts may be further fastened by passing a padlock or seal through the handle and the projection 24.

From this description it will be seen that a powerful leverage action or toggle movement is provided for drawing the closing ring to closing position, and the cover will be tightly pressed against the gasket so that a substantially air or liquid-tight closure is provided.

After a barrel has been closed, and particularly after it has been closed for some time, the ring is apt to stick so that it may be somewhat difficult to release the same. With my improved device, it is only necessary to raise the handle a short distance as shown in dotted lines in Figure 2, to cause the link to push against the pin 28 and spread the ends of the ring apart. It will be noted that one side of the notch or recess 27 is cut away or provided with an angular recess 30 so that the link is not apt to slip off from the pin. After the ring has been opened as far as possible in this manner, the end of the link may be released from the pin 28 and the handle swung back and the notch or shoulder 29 brought into engagement with the pin and the handle again swung upwardly to force the ends of the ring still farther apart.

In the modified form of construction shown in Figures 5 and 6, the locking lever 31 has its outer or free end bent to provide a fastening portion 32. An angular shaped bracket or catch 33 is welded or otherwise secured to the ring 11 and has a projecting portion 34 which engages with the top of the handle or lever to hold it in fastening position. The bracket also has a downwardly turned portion 35 which has a hole 36 that registers with a hole 37 in the end of a handle for receiving a seal or other fastening member.

As shown in this form, one end of the ring 11 which is secured to the bracket 13 terminates at some distance from the end of the bracket and the other end of the ring which is fastened to the bracket 14 extends beyond such bracket so that the break or opening between the ends of the ring comes within the ends of the bracket 13. By means of this arrangement the bracket 13 provides a socket or guide for the projecting end which fits therein and a stronger joint will be made on account of having the ends covered by the bracket. Of course the opening between the rings could likewise be arranged within the bracket 14 with equal facility.

From this description it will be seen that I provide a particularly effective and substantial fastening or lock for a full open head type of barrel or drum and also provide means to facilitate the removal of the locking ring from the container. While I have shown practical embodiments of my invention it will be noted that changes may be made in order to adapt the same for different types of containers or for different conditions and therefore I do not wish to limit the invention to the particular structure shown and described except as specified in the following claims, in which I claim:

1. The combination with a barrel having a bead around the top thereof, and a cover having a flange fitting over the bead, of a split locking ring adapted to engage with the bead and flange to press the same together, brackets secured to the ends of the ring and having channels projecting downwardly toward the head, a closing lever pivoted to the inner wall of the channel of one of said brackets and adapted to swing in a substantially vertical plane, a pin secured to the channel of the other bracket, and a combined closing and opening member pivoted to said lever and having a notch adjacent to the end for engagement with the pin and also having a shoulder at the end thereof which is also adapted to engage with the pin for forcing the ends of the ring apart.

2. The combination with a barrel and cover, of a closing ring of the character set forth, brackets secured to the ends of said ring, a lever pivoted at one end to one of said brackets and adapted to swing in a substantially vertical plane, a pin secured to the other bracket, a link having one end pivoted to the lever at a short distance from the pivot thereof, said link having a notch adjacent to the opposite end for engagement with the pin, the arrangement being such that the notch may be engaged with the pin when the ends of the ring are at some distance apart and the link will draw the ends together when the lever is moved downwardly to closed position.

3. The combination with a split closing ring for a barrel, of brackets secured to the ends of the ring and having inwardly extending channel portions, a closing lever pivoted to one of said channel portions, said lever being curved to conform to the inner curvature of the cover and having the end turned to provide a handle, a rivet extending across the channel of the second bracket, a link pivoted at one end to said lever and having an open slot or recess at the other end for engagement with the rivet.

4. A device for fastening a cover on a barrel comprising a split ring of substantially semicircular cross section with inner converging surfaces, with brackets secured to the ends of the ring, a lever pivoted on a substantially horizontal pivot on one of said brackets and curved to conform to the periphery of the barrel, means secured to the ring for holding the lever in closed position, a pin or the like on the opposite bracket and an arm pivoted at one end to said lever between its pivotal support and the end thereof, said arm having a notch at the free end for engagement with the pin to draw the ends of the ring together and also having a shoulder beyond the notch for engagement with the pin to force the ends of the ring apart.

5. The combination with a barrel having a head with a depressed portion extending into the barrel and a flange projecting over the top of the barrel, of a ring of suitable cross section for drawing the flange toward the top, a plate secured to one end of the ring and having a channel shaped portion extending downwardly into the head below the upper surface of the ring, a lever having one end pivoted to the inner flange portion of said channel and adapted to lie in the channel when in horizontal closing position, a second plate secured to the opposite end of the ring and having a channel portion similar to the first named plate, a pin extending across said channel portion, a bar pivoted to the lever and having a recess at the end thereof for engagement with the pin, the arrangement being such that the lever may be swung downwardly to draw the ends of the ring together and the bar will lie mainly in said channels when in closed position.

6. A device as per claim 5 in which one of the plates projects over the corresponding end of the ring and the other plate is spaced from its end of the ring whereby both ends of the ring will underlie one of said plates when in closed position.

JOHN S. TOWNSEND.