May 22, 1928. 1,670,442

R. S. FETTER

BARREL CLOSURE

Filed Jan. 21, 1927

Fig. 1.

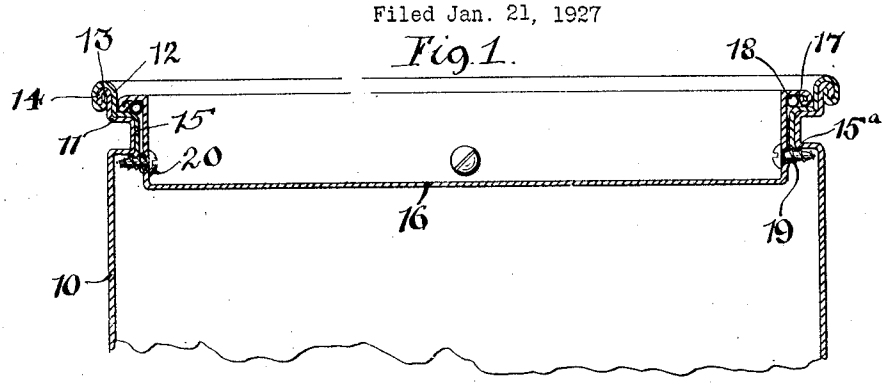


Fig. 2.

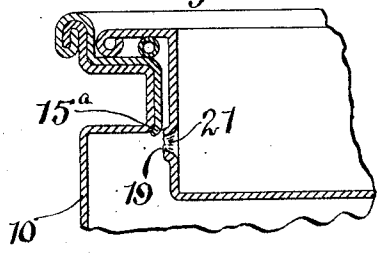


Fig. 3.

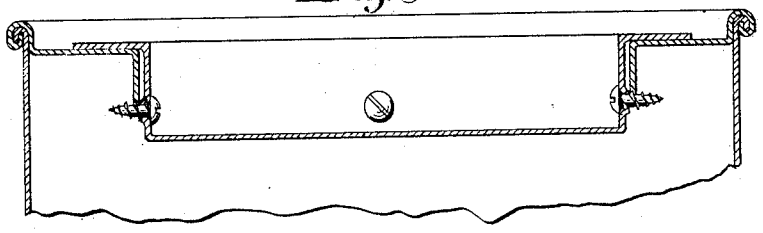
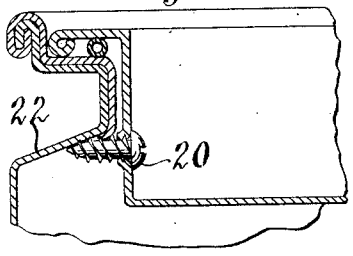


Fig. 4.



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UNITED STATES PATENT OFFICE.

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BARREL CLOSURE.

Application filed January 21, 1927. Serial No. 162,647.

This invention relates to a closure designed more particularly for steel barrels, such as are used, for example, for shipping chemicals in bulk. In loading and unloading such containers, they are subjected to severe shocks and rough usage liable to loosen and release their covers.

One object of the invention is the provision of a simple and positive lock which will reliably retain the barrel cover in place under all conditions of use and at the same time permit its quick and convenient release for emptying the barrel.

Another object is to so construct the barrel as to prevent pocketing of any of its contents in emptying it.

In the accompanying drawings:—

Figure 1 is a vertical section of the upper part of a barrel embodying the improvement. Figure 2 is a similar section of a fragment of the barrel with the locking device removed. Figure 3 is a section similar to Fig. 1, showing a modified form of the barrel. Figure 4 is a fragmentary vertical section of the barrel showing another modification.

Similar characters of reference indicate corresponding parts throughout the several views.

Referring to the preferred embodiment of the invention, illustrated in Figs. 1 and 2, 10 indicates the body of the barrel having a wide or deep internal bead 11 near its upper end, and 12 is a head or head-ring secured in the end of the body by interlocking flanges 13, 14 or other suitable means. This head has a relatively large central opening bounded by a depending neck 15 in which the removable cover 16 is fitted. This neck bears against the vertical portion of the bead 11 and its lower edge is bent outwardly to form a lip or flange 15^a which bears against the bead, forming a tight joint at this point which prevents any of the contents of the barrel from entering between said bead and the cover-neck. The cover 16 is cupped or dished and has a closed bottom. At its upper end, it is provided with an outwardly-extending stop-flange 17 between which and the face of the head a packing gasket 18 may be interposed. The wall of the cover extends below the neck 15 and is provided below and adjacent to its lower edge with unthreaded transverse openings 19 arranged at suitable intervals around its circumference. Through these openings pass locking members which extend outwardly under the lower edge of the neck 15 so as to reliably retain the cover in place in the barrel-head. In their preferred form, these locking members consist of tapering screws 20 having sharp threads, as shown, which cut into the walls of the smooth openings when the screws are driven home, thereby positively holding them from longitudinal displacement in the openings. To afford a more extensive bearing for the screws, smooth-bored collars 21 preferably extend from the outer edges of said openings, the screws cutting their own threads into these collars as well as the walls of the openings. The threads of the screws preferably extend to their heads, so that the latter are clamped against the inner side of the cover-wall upon tightening them, holding them more securely in place.

To remove the cover, it is only necessary to unscrew the screws far enough to clear the lower edge of the neck 15.

This forms an exceedingly simple and inexpensive lock which is positive and reliable and yet permits ready unlocking of the cover.

The bead 11 fills and closes the space between the wall of the barrel and the neck of the barrel-head, avoiding the formation of a trap or pocket under the head which is liable to catch material in emptying the barrel. To facilitate the discharge of the contents, the lower side of the bead 11 may be inclined, as shown at 22 in Fig. 4.

The construction shown in Figs. 1 and 2 is designed for barrels having comparatively large covers.

Figure 3 shows a modified construction embodying the improvement and intended for containers with a smaller cover. In this case, the head-ring of the barrel is wider than that of the first-described construction and the body-bead 11 is omitted.

I claim as my invention:—

1. A barrel having a head provided with an opening bounded by a depending neck, the wall of the barrel being provided adjacent to said head with an internal bead extending from said wall to said depending neck to fill the space between said parts and prevent pocketing of the contents under the head.

2. A barrel having a head provided with an opening bounded by a depending neck, the wall of the barrel being provided ad-

jacent to said head with an internal bead extending from said wall to said depending neck, said neck having at its lower end an outwardly-extending lip which bears against the underside of said bead.

3. A barrel having a head provided with an opening bounded by a depending neck, the wall of the barrel being provided adjacent to said head with an internal bead extending from said wall to said depending neck, said neck having at its lower end an outwardly-extending lip which bears against the underside of said bead, a dished removable cover fitting in said neck and having in its upright wall an opening located adjacent to the lower edge of the neck, and a lock-screw for said cover passing through said opening, engaging under said neck and having its thread interlocked with the opening.

4. The combination with a barrel-head having an opening bounded by a depending neck, a removable cover having an upright wall fitted in said neck and extending below it, said wall having an opening located below and adjacent to the lower edge of the neck, and a removable locking member for the cover passing through said opening and engaging under said neck, said locking member having means interlocking with said opening to positively hold it from longitudinal displacement therein.

5. The combination with a barrel-head having an opening bounded by a depending neck, a removable cover having an upright wall fitted in said neck and provided at its upper end with a projecting flange, said cover-wall extending below said neck and having an opening located below and adjacent to the lower edge thereof, and a lock-screw passing through said opening and having sharp threads which cut into the edge of the opening when the screw is driven home.

6. The combination with a barrel-head having an opening bounded by a depending neck, a removable cover having an upright wall fitted in said neck and provided at its upper end with a projecting flange, said cover-wall extending below said neck and having an opening located below and adjacent to the lower edge thereof and a collar extending from the outer edge of said opening, said opening and collar being unthreaded, and a lock-screw passing through said opening and said collar and having sharp threads which cut into the walls thereof when the screw is driven home.

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