Dec. 30, 1930. G. W. MILLER 1,787,390

LATCH

Filed Oct. 28, 1927

Fig. 1.

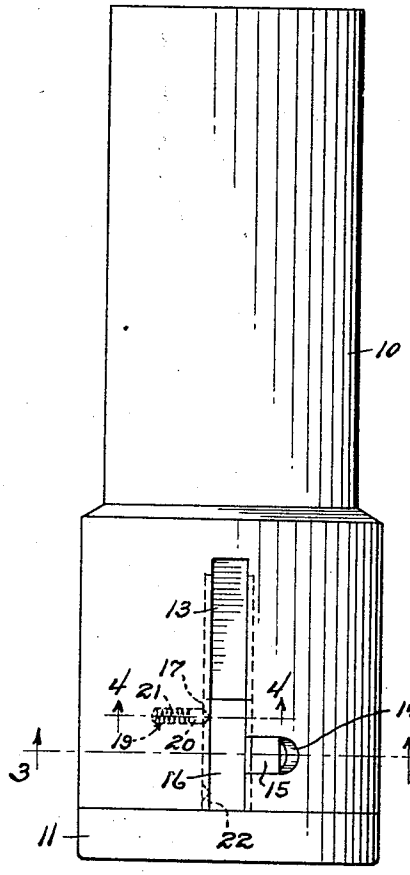


Fig. 2.

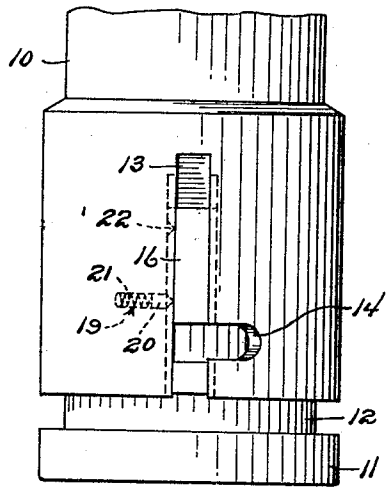


Fig. 3.

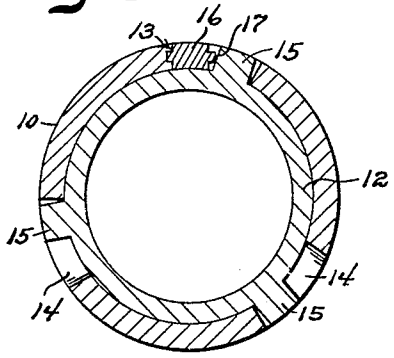
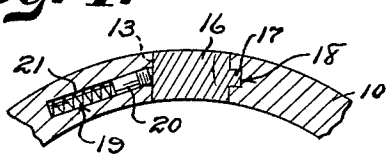


Fig. 4.



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UNITED STATES PATENT OFFICE

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LATCH

Application filed October 28, 1927. Serial No. 229,429.

This invention relates to devices for locking a pair of cylindrical members together in a manner to permit of their ready removal, the invention being primarily designed for detachably securing the bottom in a bucket of the character disclosed in my Patent #1,523,604, granted January 20, 1925, although the invention is adapted for other uses.

Specifically, the invention aims to provide means for preventing relative rotation between inner and outer cylindrical members which are included in the bucket structure, and where one of said members carries a lug or lugs engageable within circumferential notches provided in the other member.

With the above and other objects in view, the invention further includes the following novel features and details of construction, to be hereinafter more fully described, illustrated in the accompanying drawings and pointed out in the appended claims.

In the drawings:—

Figure 1 is an elevation illustrating the invention in locked position.

Figure 2 is a fragmentary elevation with the locking means released.

Figure 3 is a section on the line 3—3 of Figure 1.

Figure 4 is an enlarged fragmentary section on the line 4—4 of Figure 1.

Referring to the drawings in detail wherein like characters of reference denote corresponding parts, the reference character 10 indicates a hollow cylindrical member which may form a part of a bucket of the character shown and described in my patent above mentioned. The bucket is provided with a bottom 11 and the latter carries a sleeve 12 which has a rotatable and sliding fit within the lower end of the member 10 and in addition to carrying the bottom 11, the sleeve 12 may form a reinforcement for the lower end of the bucket. The bucket 10 and sleeve 12 thus provide inner and outer cylindrical members.

The outer cylindrical member or bucket 10 is provided with circumferentially spaced longitudinally disposed slots 13 which are open at one end and with which communicate notches 14, the latter being disposed circumferentially of the member 10. The inner cylindrical member or sleeve 12 is provided with radially extending circumferentially spaced lugs 15 which are adapted to be inserted in the slots 13 as shown in Figure 2 and moved into the notches 14 as shown in Figure 1.

In order to prevent accidental removal of the lugs from the notches and consequently separation of the cylindrical members, there is provided a locking bar 16. This bar is provided along its opposite edges with tongues 17 which operate in grooves 18 provided in the opposed walls of one of the slots 13. This bar is adapted to be arranged across the end of one of the notches 14 as shown in Figure 1 of the drawings and will act to prevent the lug 15 from leaving the notch. As relative rotation of the inner and outer cylindrical members is thus prevented, the other lugs 15 will be held within their respective notches.

Housed within a bore 19 provided in the wall of the outer cylindrical member 10 is a dog 20. This dog is yieldingly forced outward by means of a spring 21 and its outer end is beveled to engage the walls of V-shaped notches 22 provided along one edge of the bar 16. When the dog is engaged in the uppermost notch 22 as shown in Figure 1 of the drawings, the lug 15 will be locked within its notch. In order to release the lug and permit of separation of the inner and outer cylindrical members, the bar 16 is moved to the position shown in Figure 2 so that the dog 20 engages the lowermost notch 22. In this position the inner and outer members may be rotated relative to one another so that the lug 15 may be disengaged and the members separated.

The invention is susceptible of various changes in its form, proportions and minor details of construction and the right is herein reserved to make such changes as properly fall within the scope of the appended claims.

Having described the invention what is claimed is:—

1. A latch comprising inner and outer members, said outer member having a slot in the wall thereof and a notch communicating

with said slot, a lug on said inner member and adapted to enter said slot and pass into the notch, and a locking bar slidably mounted in said slot and adapted to close the notch when in one position for locking the lug therein and when in another position adapted to permit free movement of said lug into and out of the notch.

2. A latch comprising inner and outer members and said outer member having a slot in the wall thereof and a notch communicating with said slot, the walls of said slot having grooves, a lug on said inner member and adapted to enter said slot and pass into the notch, a locking bar slidable in said slot, flanges formed on said bar and received by the grooves, said bar having spaced notches, and a spring pressed latch member carried by the outer member and adapted to engage in either of said pair of notches to hold the locking bar in a position to overlie the first named notch and in a second position to open said first mentioned notch to permit the lug to be moved into and out of said first mentioned notch.

In testimony whereof I affix my signature.

GEORGE W. MILLER.