(No Model.) 2 Sheets—Sheet 1.

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BUNG.

No. 483,035. Patented Sept. 20, 1892.

Fig 1.

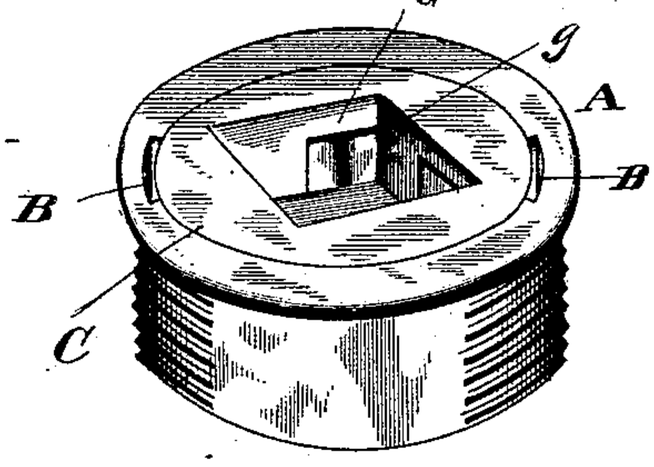


Fig 2.

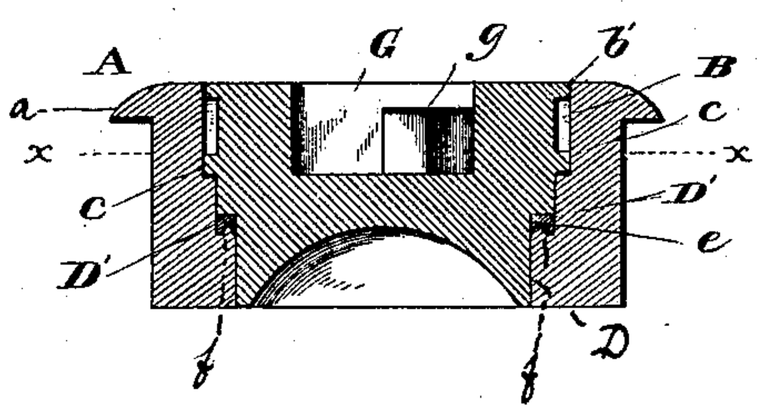
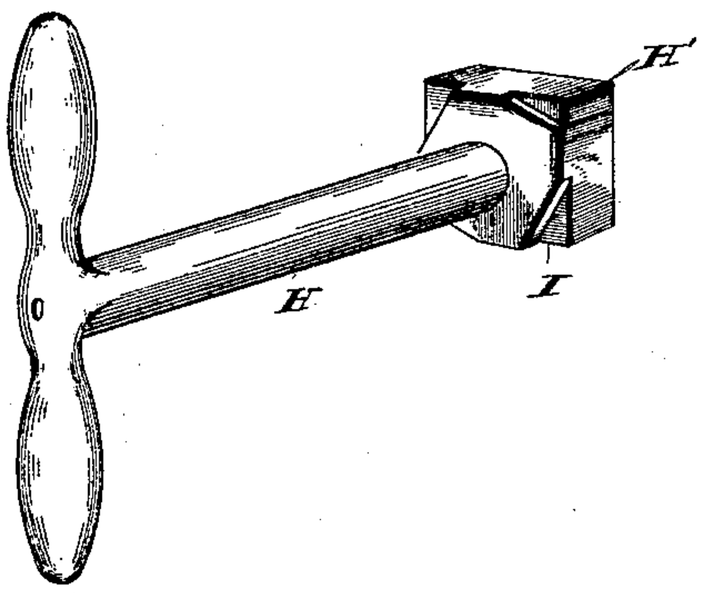


Fig 3.



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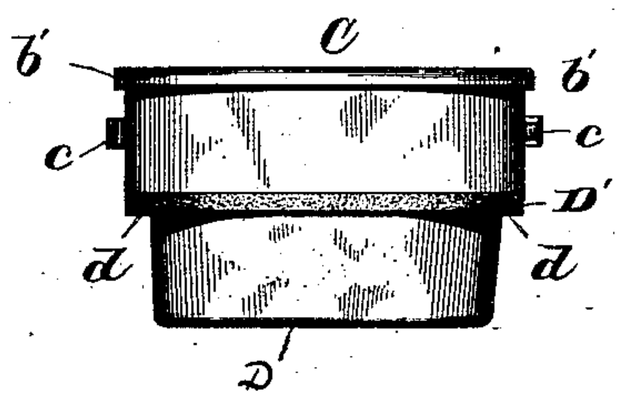

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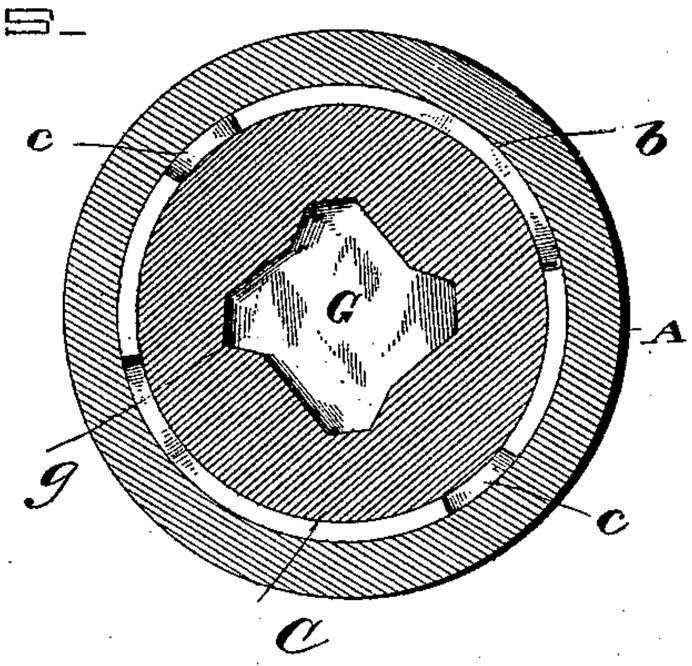

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(No Model.) 2 Sheets—Sheet 2.

M. ANTHONY & W. C. SAVAGE.

BUNG.

No. 483,035. Patented Sept. 20, 1892.

Fig 6.

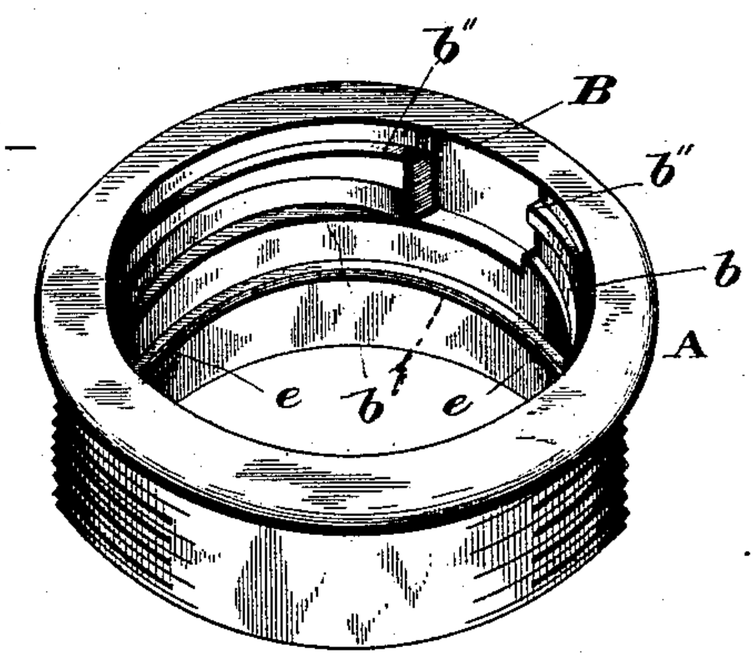


Fig 7.

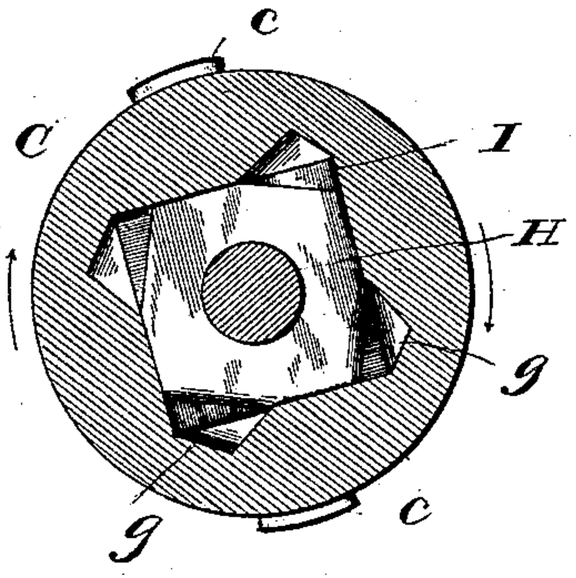


Fig 8.

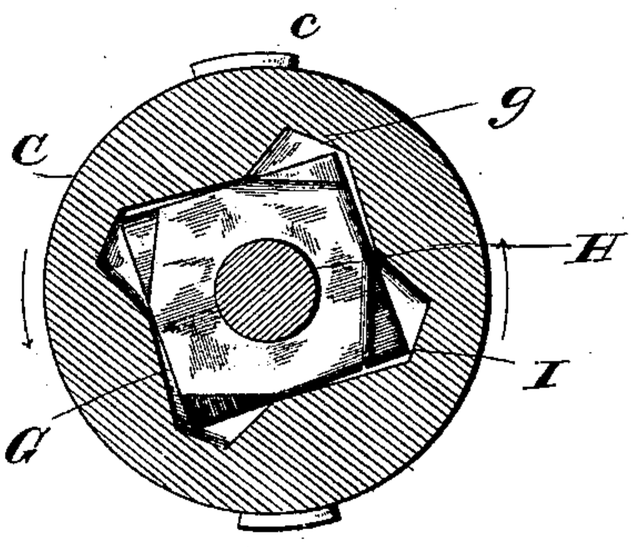


Fig 9.

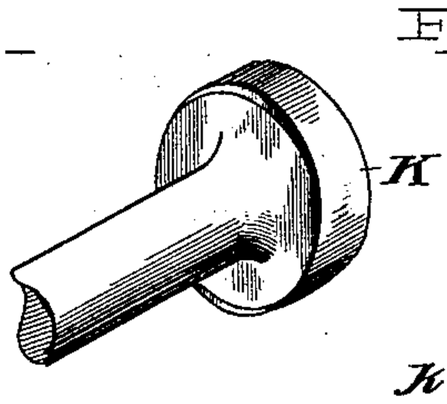
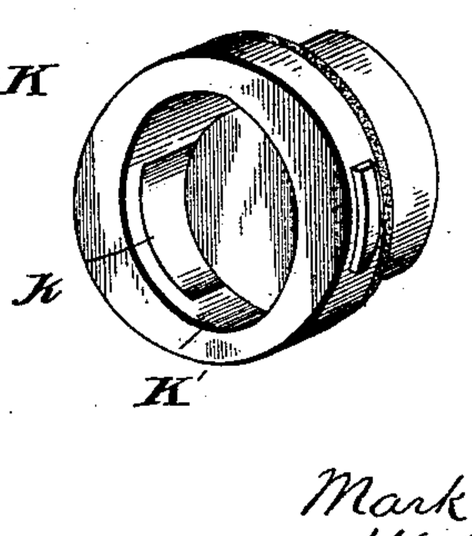


Fig 10.



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UNITED STATES PATENT OFFICE.

MARK ANTHONY, OF BERKELEY, AND WILLIAM C. SAVAGE, OF OAKLAND, CALIFORNIA.

BUNG.

SPECIFICATION forming part of Letters Patent No. 483,035, dated September 20, 1892.

Application filed January 21, 1892. Serial No. 418,849. (No model.)

To all whom it may concern:

Be it known that we, MARK ANTHONY, of Berkeley, county of Alameda, and WILLIAM C. SAVAGE, of Oakland, in the county of Alameda, State of California, citizens of the United States, have invented certain new and useful Improvements in Bungs; and we do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification.

Figure 1 is a perspective view of the bung. Fig. 2 is a vertical section through the bung. Fig. 3 is a perspective view of the key. Fig. 4 is a side view of the plug. Fig. 5 is a horizontal section on the line *x x* of Fig. 2. Fig. 6 is a perspective view of the bushing. Figs. 7 and 8 are horizontal sections through the bung, showing the key in different positions. Fig. 9 is a perspective showing a modified form of the key, and Fig. 10 is a perspective showing a plug adapted thereto.

This invention has relation to certain new and useful improvements in bungs; and it consists in the novel construction and combination of parts as hereinafter specified.

In the accompanying drawings, the letter A designates the hollow cylindrical shell or bushing of the bung, which is provided with an exterior thread and is designed to be screwed tightly into the bung-hole of a barrel or keg, and formed with a surrounding flange *a* at its upper end to fit closely around the edges of said hole. The interior wall of the bushing is formed with the annular ways or grooves *b b*, formed along opposite sides thereof, and each of which is inclined or tapered from its highest point downwardly and communicating each at the upper end with a vertical slot or recess B.

C designates the plug of cylindrical form and fitting snugly within the bushing, but in such a manner as to permit a partial rotary movement therein. The upper or outer end of the plug is flanged, as shown at *b'*, and seats in a rabbet *b''*, formed on the upper inner end of the bushing, so that the surface of the upper end of the plug is flush with the surface of the flanged upper end of the bushing. The advantage of this feature of construction will be fully described hereinafter.

At diametrically-opposite points on the plug C are formed segmental lugs *c c*, which engage and travel in the inclined ways or guides *b b* and form the lock, it being evident that the plug can be removed only when it is turned into such position that said lugs are in alignment with the vertical slots or recesses B, which extend outwardly to the surface of the bushing or of the rabbet, and provide means, also, for the insertion of the plug.

The lower portion of the plug is diametrically reduced, as shown at D, forming an annular surrounding shoulder *d*, which is designed to seat upon an interior surrounding flange *e* of the bushing.

Between the under surface of the shoulder *d* and the upper surface of the seat-flange *e* is a washer or packing-ring D', fitting closely around the reduced portion D of the plug and held, preferably, in a surrounding groove *d'*, formed therein. As this packing-ring must be of comparatively hard material in order to form a tight joint with the smooth metallic bearing-surfaces on the plug and bushing, in order to insure its proper seating to form an absolutely tight joint we form an annular bead *f* on the upper surface of the flange *e*. This bead is provided with a comparatively sharp edge, so that as the washer is forced downwardly thereon it will embed itself into said washer to a sufficient extent to insure a perfect joint. The flange *e* being formed near the inner end of the bushing and provided with the packing arranged as described, any yeast or sediment from the contents of the barrel will be prevented from entering the bushing above said flange. This is regarded as an important advantage, as any matter of this character which enters the bushing is to a large extent retained therein and is likely to cause the fermentation or working of the contents of the barrel when refilled.

It will be evident that when the plug is inserted in the bushing and given a partial rotation therein the lugs *c c* enter the inclined ways or grooves *b b*, and traveling downwardly therein, securely lock the plug in place, so that it cannot be accidentally loosened.

To provide means for imparting this rotary movement to the plug, both for locking and to effect the unlocking and removal when desired, the outer end thereof is formed with an angular socket or wrench-seat G. In the lower right-hand corner of each wall of this slot or seat is an under-cut or recess *g*, the sides of which are beveled, as shown.

H is a wrench having a corresponding angular form to that of the slot, which it is designed to enter somewhat loosely, so as to permit it to be partially turned therein, in order that its angles may come into engagement with the under-cuts *g*, and thus effect a rigid connection between the parts.

It will be observed that by the location of the under-cuts in the right-hand corners in turning the plug to effect the lock the angles of the wrench are not in engagement therewith, said angles merely binding against the walls. This permits the wrench to be removed without necessitating a backward turn, thereby effecting a saving of time, which is an important feature, as it is required in barreling or kegging beer or similar liquors that the bungs be inserted as soon as possible after filling. When, however, the wrench is inserted and turned to the right for the purpose of unlocking and removing the plug, the angles engage the under-cuts, so that when the lugs are disengaged from their ways or grooves the plug is removed from the wrench.

We usually prefer to make the wrench as shown in Fig. 3, wherein an additional bearing I is formed above the head H′, said bearing having its angles beveled off or cut obliquely, so that as the wrench is turned they will take a bearing against the walls of the seat. This additional bearing is provided for the reason that the angles of the head H′ may become after a time worn and rounded to such an extent as to impair their operation. This construction also strengthens the wrench by increasing the bearing-surface.

In Figs. 9 and 10 we have shown a modified form of wrench and wrench-seat. In this construction the plug is formed with an oval head or bearing K, instead of an angular one, the socket or seat K′ in the plug being similarly shaped and formed with segmental under-cuts *k*.

By forming the flange *b′* on the outer end of the plug, seating in the rabbet *b″*, as hereinbefore described, if for any reason the plug is struck or driven inwardly the concussion will be received by the lower wall of said rabbet instead of upon the packing-ring and the flange *e* and upon the lugs *c c*, which latter might be otherwise broken off by a severe blow; also, by seating the plug flush with the bushing the danger of its receiving such a blow is lessened.

Having described this invention, what we claim as new, and desire to secure by Letters Patent, is—

1. In a bung, the combination, with the bushing A, having an interior shoulder or flange *e* near its inner end and an annular bead on the upper face of said flange, of the plug having the segmental engaging inclined ways or guides in said bushing, said plug having a diametrically-reduced portion at its inner end below a shoulder *a*, and an annular packing-ring held between said flange *e* and the shoulder *d* and engaged by said bead, substantially as specified.

2. The combination, with the bushing having an interior rabbet near its upper end, of the plug fitting in said bushing and having means whereby it is locked therein, said plug having a flanged head seated flush in said rabbet, and a socket or seat G in the said head, said seat or socket having the lower right-hand corner of each wall formed with a recess or under-cut *g*, substantially as specified.

3. In a bung, the combination, with the bushing, of the rotary plug locking therein, said plug having an angular socket or seat G in its outer end, beveled under-cuts or recesses *g* in the lower right-hand corner of each wall, and a wrench having an angular head H′, adapted to enter said socket, and a bearing I above said head, said bearing having its angles cut obliquely and adapted to engage said under-cuts or recesses, substantially as specified.

In testimony whereof we affix our signatures in presence of two witnesses.

MARK ANTHONY.
WILLIAM C. SAVAGE.

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GEO. H. PARMELEE.

Witnesses for William C. Savage:
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