(Model.) 2 Sheets—Sheet 1.

C. H. BRADY.

METALLIC BUSH FOR BUNG HOLES.

No. 280,343. Patented July 3, 1883.

Fig. 1.

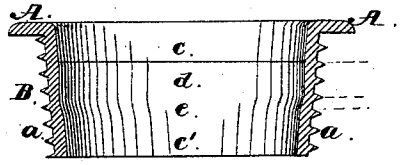


Fig. 2.

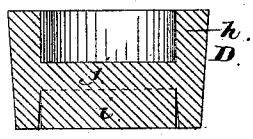
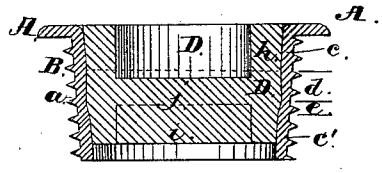
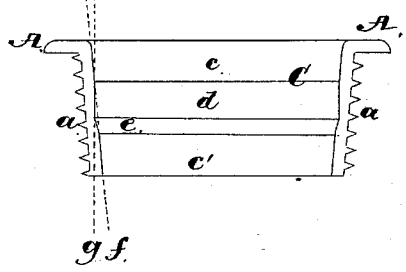


Fig. 3.



f g. Fig. 4.



Witnesses
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(Model.) 2 Sheets—Sheet 2.

C. H. BRADY.

METALLIC BUSH FOR BUNG HOLES.

No. 280,343. Patented July 3, 1883.

Fig. 5

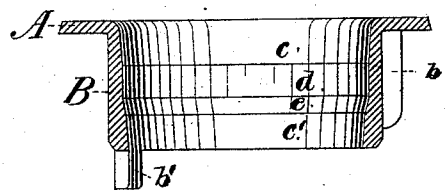
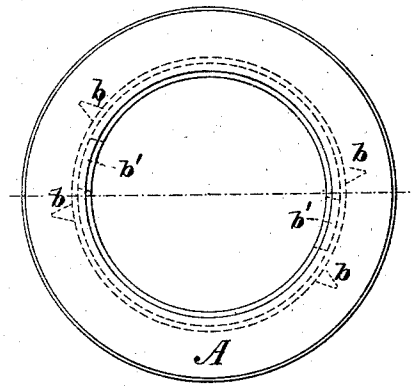


Fig. 6.



WITNESSES

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INVENTOR

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METALLIC BUSH FOR BUNG-HOLES.

SPECIFICATION forming part of Letters Patent No. 280,343, dated July 3, 1883.

Application filed October 20, 1881. (Model.)

To all whom it may concern:

Be it known that I, CHRISTIAN H. BRADY, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented a new and useful Metallic Bush for the Bung-Holes of Casks, Barrels, &c., of which the following is a specification.

This invention relates to metallic bushings for bungs and faucet-holes, or for other purposes where a metallic bushing is desired, to receive and retain a plug or stopper, and has for its objects to form the interior of the bush so as to insure the retention and holding of the plug or stopper firmly in position after it has been driven in or inserted in the bushing; and its nature consists in providing a bushing having an interior of a tapering form from top to bottom, divided or broken by a depression which forms a support for the bung or stopper, and also a lock by which it is held firmly in position when inserted, all as hereinafter more specifically described, and pointed out in the claim.

In the drawings, Figure 1 is a central vertical section of a bush; Fig. 2, a vertical central section of one form of a bung; Fig. 3, a vertical central section of the bush and bung with the bung inserted; and Fig. 4, an outline to show more distinctly the construction of the interior of the bush; Figs. 5 and 6, vertical section and plan view of bush, with another means for holding the bush in place.

The bushing may be made of malleable iron or other suitable material, cast or otherwise formed to have an angular flange or rim, A, which, when the bushing is inserted, comes in contact with and rests upon the stave or head of the barrel, keg, or other vessel with which the bushing is to be used, and a shell, B, the exterior of which may be of a slightly tapering form from the top to the bottom, as shown in Fig. 1 of Sheet 1, and provided with a screw-thread, *a;* or such exterior may be provided with vertical ribs or teeth *b*, as shown in Figs. 5 and 6 of Sheet 2; or the exterior may be vertical or straight and provided with cleats or points *b'* on the lower edge, which can be turned outward and underneath the stave, head, or other part of the barrel, keg, or vessel in which the bush is to inserted, and hold the bush in position; or the exterior may be of any other well-known shape and form of construction, the construction of the exterior forming no part of this invention.

The interior C of the bushing is of a peculiar construction, and constitutes the essential feature of this invention. The upper surface, *c*, and lower surface, *c'*, of this interior are tapered, and the line of taper continues in the same plane for both the upper and lower surfaces, as shown by the dotted line *f*, Fig. 4; but the taper of the surface of the interior of the bush from the top to the bottom is broken or disconnected by a vertical surface, *d*, the line of which is at right angles, or nearly so, with the plane of the upper face of the bush, as indicated by the dotted line *g*, Fig. 4, and this vertical or straight surface *d* is gradually joined with the taper on the lower end of the bush by inclined surfaces *e*, as shown in Fig. 4.

It will be seen from the foregoing description and an inspection of Fig. 4 that the interior C of the bushing has a portion, *c*, of its surface at the upper end tapered or inclined with the line of taper or inclination continued at the lower end, *c'*, and an interposed vertical or nearly vertical section or surface, *d*, which gradually enters the lower taper, *c'*, by an incline, *e*, thus forming a break at the lower end of the upper taper, *c*, and a shoulder at the upper end of the lower taper, *c'*, forming a lock or retaining surface between the upper and lower taper, by which the bung or stopper will be sustained against upward pressure of the contents or downward pressure from the insertion of a faucet, or from other cause, and at the same time the depression is so slight as not to interfere in any manner with the ready insertion of the bung or stopper.

This form of bushing is well adapted for that class of bungs or plugs, shown in Fig. 2 represented by the letter D, which bung or stopper is made of wood having its upper surface or portion removed, so as to leave a sleeve or shell, *h*, and having its lower end slitted or cut, so as to leave an unattached portion, *i*, with an attached core or center, *j*, which is of sufficient rigidity to prevent the pressure of the contents from separating it from the shell, and at the same time is sufficiently weak to be read-

ily broken by a slight blow for the purpose of inserting the faucet or withdrawing the contents.

This form of bung is usually made of soft wood, with the grain running lengthwise, but with a bush having an interior with my form of construction bungs can have the grain of the wood run crosswise without being too weak. This class of bungs shown in Fig. 2, when used with a bush having an interior of the usual form, does not work successfully, especially when the grain runs crosswise, for the reason that in breaking the center or core *j* there is great danger of breaking or separating the portion below the shell *h* from the shell, and thereby rendering the bung almost useless when used with a faucet; but with my bush, having the interior formed as described and shown, it will be seen that a support is formed for the shell on a line, or nearly on a line, with the bottom of the core or center *j*, so that when the core or center is removed the force of the blow will extend to and be received on the shoulder or inclined portion *e*, and not to the shell of the bung, so that the center or core can be removed or broken out without carrying with it the lower portion of the shell of the bung. The depth of the depression between the upper and lower taper on the interior of the shell and its position in relation to the tapers and its width will depend somewhat upon the size of the bush and the form of the bung to be used therewith; but in every case it must be located so as to form a breakage at the top and bottom between the upper and lower end of the bush; and for bungs of the form shown in Fig. 2 the lower shoulder should be in a horizontal plane, on a line or nearly so, where the bottom of the core or center *j* comes, and for facility in casting or molding the depression should be of a form that will readily admit of the bush being so formed.

Other forms of bungs than that shown in Fig. 2 can be used with the bushing, and in use the taper surfaces at the top and bottom of the interior furnish a support for the exterior of the bung with the same effect, so far as a tight joint is concerned, as if the interior was a continuous taper from top to bottom. The width of the taper at top and bottom can be varied to suit the bung and size of bush; but in any form the interior must have a tapered surface of greater or less width at both top and bottom.

What I claim as new, and desire to secure by Letters Patent, is—

A bushing having an interior consisting of an upper and lower tapering surface broken or disconnected by a depressed surface, *d e*, substantially as and for the purposes specified.

CHRISTIAN H. BRADY.

Witnesses:

S. C. BRADY,

DAVID E. HURRY.