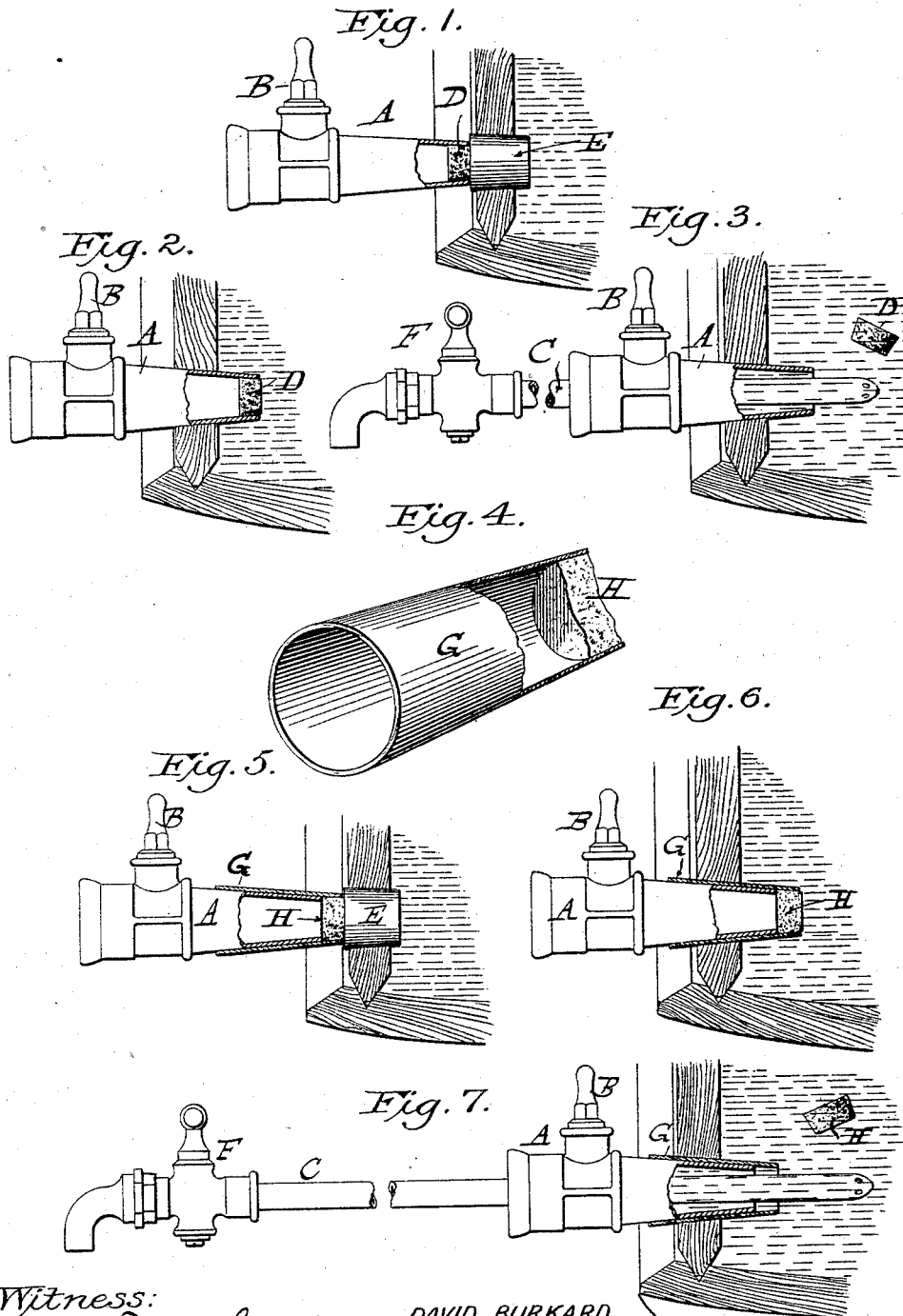


(No Model.)

D. BURKARD.
BUSHING.

No. 488,982.

Patented Jan. 3, 1893.



Witness:
James F. Duhamel
Horace A. Dodge.

DAVID BURKARD,
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UNITED STATES PATENT OFFICE.

DAVID BURKARD, OF WAVERLY, MARYLAND.

BUSHING.

SPECIFICATION forming part of Letters Patent No. 488,982, dated January 3, 1893.

Application filed March 9, 1892. Serial No. 424,287. (No model.)

To all whom it may concern:

Be it known that I, DAVID BURKARD, a citizen of the United States, residing at Waverly, in the county of Baltimore, in the State of Maryland, have invented certain new and useful Improvements in Bushings, of which the following is a specification.

My invention consists in a bushing designed for use in connection with devices for tapping casks and barrels, said bushing comprising a tapering or conical shell or body preferably of paper or paper stock, and a plug, cap, or other closure applied to the smaller end of the shell, all as hereinafter more fully explained.

For the purpose of better illustrating my invention, I have in the accompanying drawings represented in Figures 1, 2, and 3, the construction and mode of using tapping devices for use with which the present invention is more particularly designed, said tapping device being now in common and extensive use. Fig. 4 is a perspective view of my improved bushing partially broken away to better show the details; Figs. 5, 6, and 7 illustrate the manner of using my improved bushing in connection with the aforesaid tapping device.

The tapping device in question consists essentially of a conical or tapering shell or body A, open from end to end, and provided with a lateral nipple or inlet B for the attachment of a pipe or tube through which to introduce air under pressure. The forward end of the shell or body A is provided with a packing gland to produce a tight joint around a delivery tube C which is passed longitudinally through the shell or body A, after the latter is properly inserted into the bung hole or opening of the cask or vessel. The shell or body A is, under present practice, provided at its rear end with a cork or stopper D, preparatory to its insertion into the bung hole or opening of the cask, as indicated in Figs. 1 and 2. Thus provided, the shell or body A is placed in the position indicated in Fig. 1 with its small end in contact with the outer end of the bung or closure E of the cask, and is subjected to a sharp quick blow or to a series of blows by a mallet sufficient to drive the bung inward, and to force the shell or body A into close contact with the sides of the bung hole or opening as shown in Fig. 2, the cork or

stopper D remaining in position in the end of the shell or body.

After the shell or body A is introduced into the cask and made tight as indicated in Fig. 2, the delivery tube C, which is provided at its outer end with a suitable cock or faucet F, is passed centrally through the shell or body from the outer end and through the packing gland therein, whereby a close joint is made around said tube.

The tube C is ordinarily made long enough to reach the farther end of the cask or vessel from that through which it is introduced, and in being driven or forced inward through the shell or body A it forces out the cork or stopper D which naturally floats to the top of the liquid within the cask. The packing around the tube C is then further compressed if necessary, to make an absolutely tight joint around the tube C; the nipple B is connected with the pressure apparatus, and the whole is ready for use.

In practice it is found difficult to produce a tight joint between the shell or body A and the walls of the bung hole or opening into which it is introduced. It is also found in practice that the necessity of providing each time a cork or stopper of the precise size required to close the end of shell or body A, is a serious drawback to the practical and convenient use of the tapping apparatus. My invention is designed to overcome this objection, and to this end it consists in combining in one structure a bushing which shall produce a tight and perfect joint between the exterior of the shell or casing A and the walls of the bung hole or opening into which said shell is inserted, and a closure which shall effectually seal the inner end of the shell or casing A until the parts are in position, and the delivery tube C is forced inward to drive out the closure.

The improved bushing and closure as represented in Fig. 4 comprises a conical or tapering shell or body G of circular form in cross section, and a sealing plug, disk or closure H, which latter is advisably glued, cemented or otherwise secured in position in the smaller end of the body G. It is not, however, essential that it be thus secured, as it is found in practice that if the body and the plug or closure be made of proper size rela-

tively to each other and to the shell or body A of the tapping device, the plug will be held in place by friction, and the body G of the bushing will bind so firmly upon the body A of the tapping device that the parts will maintain their proper form and position while the driving of the bung is being effected.

The plug or closure H is represented in the drawings as made of cork, but it may be of wood or of any other suitable material adapted to the purpose, and may be flush with the end of the shell or body G or otherwise, as found convenient.

The body or shell G is advisably made of paper or thin straw board, wrapped in successive layers and cemented at the edges of the strip, but it may be made of papier maché molded to form, or of any other suitable material capable of forming a proper backing or joint between the two surfaces between which it is interposed.

The device being constructed as above set forth, is applied to the exterior of the shell or body A of the tapping device as represented in Fig. 5, the plug or closure H in such case resting against and covering the smaller end of the shell or body A. The smaller end of the device is then set against the end of the bung E, as represented in Fig. 5, and the shell or body A being subjected to a blow or blows, the bung E is driven inward in much the same manner as is now done by the direct action of the shell A, the bushing passing inward with the shell or body A until a perfect joint is effected around the shell or body A. The parts being then in the position represented in Fig. 6, the tube C is passed through the shell or body A in precisely the same way as is now done, and the plug or closure H is thereby forced through over the end of the shell or body A and the latter is thereby unsealed, leaving the tube C free to pass to its proper position, and affording the usual an-

nular opening between the tube C and shell or body A for the introduction of the air which enters through nipple B.

Owing to their form, the bushings can be readily nested and a large number packed in small compass for storage or shipment. They are cheap, easily applied and used, and quite efficient in use.

Having thus described my invention, what I claim is:—

1. A combined bushing and seal for cask-tapping devices, consisting of a conical shell or body adapted to fit snugly upon and to be driven with the tapping device, and a plug or disk independent of the cask bung, closing the smaller end of the shell, and serving, when the latter is applied to the tapping device, to seal the same during the driving operation.

2. As a new article of manufacture, a combined bushing and seal to be applied to and driven with a tapping device, the same consisting of a conical shell or body of compressible material to fit upon the tapping device, and a seal or plug closing the smaller end of the shell and serving to seal the tapping device and to bear upon the bung when the tapping device is driven.

3. In combination with the tapping device A, the faucet F provided with tube C, and the removable bushing G fitting upon and projecting beyond the end of the tapping device, and of a size to fit within the bung hole of the cask, and a plug H applied to the smaller end of the bushing and adapted to be removed by the tube C after the bung has been removed, all substantially as shown and described.

In witness whereof I hereunto set my hand in the presence of two witnesses.

DAVID BURKARD.

Witnesses:

JOHN T. MATTHEWS,
GEO. C. SENER.