J. A. RUTSCHMAN.

Bung and Bushing.

No. 220,871. Patented Oct. 21, 1879.

Fig. 1

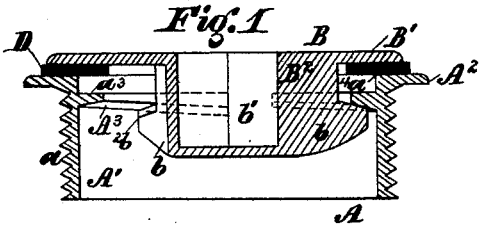


Fig. 3

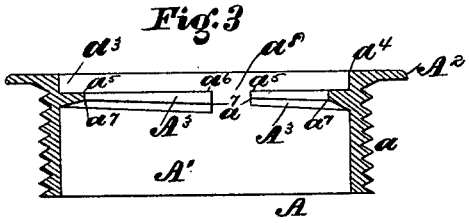


Fig. 2

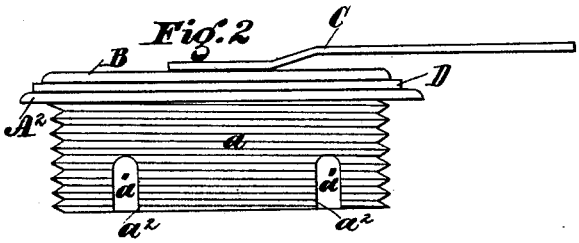
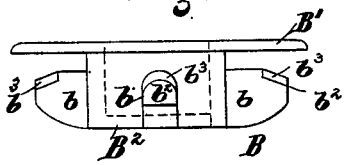


Fig. 4



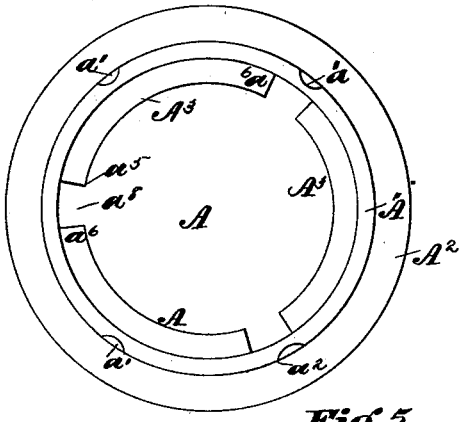


Fig. 5

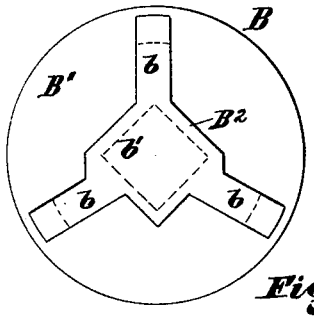


Fig. 6

WITNESSES:

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JOHN A. RUTSCHMAN, OF PHILADELPHIA, PENNSYLVANIA.

IMPROVEMENT IN BUNGS AND BUSHINGS.

Specification forming part of Letters Patent No. **220,871**, dated October 21, 1879; application filed June 25, 1879.

To all whom it may concern:

Be it known that I, JOHN A. RUTSCHMAN, of Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented certain new and useful Improvements in Bungs and Bushings; and I do hereby 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 pertains to make and use it, reference being had to the accompanying drawings, which form part of this specification, in which—

Figure 1 is a vertical transverse section of my improvements; Fig. 2, a side elevation. Fig. 3 is a detail vertical transverse section of the bushing. Fig. 5 is a plan of the same. Fig. 4 is a detail side elevation of the bung, and Fig. 6 is a plan of the same.

My invention has relation to that class of bungs and bushings in which a metallic bushing with external screw-thread and internal lugs, and a metal bung with cap-plate, hub, flaring lugs, and key-socket, are employed; and my improvements have reference to certain details of construction whereby said parts are rendered more effective and durable.

My invention accordingly consists of a combined bung and bushing embracing the bushing having internal lugs inclined laterally and longitudinally, the lateral inclination being on the under side, and the bung having a centrally-recessed hub with radial lugs, having their upper edges rounded laterally and beveled or inclined longitudinally, all as hereinafter described and claimed.

Referring to the accompanying drawings, A indicates the bushing, consisting of a screw-threaded neck, A′, with annular flange or cap-plate A^2. The screw-threads *a* are grooved or notched transversely, as shown at *a′*, this construction facilitating the insertion of the bushing into the barrel, the ends a^2 of the threads serving to cut the wood of said barrel in screwing said bushing into it. After the bushing has been inserted the fibers of the wood spring or swell into said grooves *a′*, and thus aid in holding said bushing firmly and securely in the barrel.

A^3 represents internal lugs, of which there are three, formed in the bushing A. Said lugs have their top surface, a^3, below the plane of the flange A^2, thus forming shoulders a^4, the purpose of which will be hereinafter more fully described.

The lugs A^3 are inclined from their ends a^5 to a^6, in the usual manner, and are also beveled from their front edges, a^7, backwardly, so as to increase in thickness as they approach their connection with the body of the bushing.

B represents the bung, consisting of a cap-plate, B′, with hub B^2, having projecting lugs *b b b*. Said plate and hub are recessed at *b′*, to form an angular socket for the reception of a key, (shown at C in Fig. 2,) whereby said bung is turned to insert it securely in and withdraw it from engagement with the bushing A.

The lugs *b b* incline from their outer edges, b^2, so as to increase in thickness as they approach their connection with the hub B^2, and their top surfaces are rounded or convex, as shown at b^3.

D is a gum ring or gasket, which surrounds the hub B^2 between the cap-plate B′ and lugs *b*, and is designed to form a tight joint between said cap-plate and the flange A^2 when the bung is made fast in the bushing.

The operation is as follows: A bung-hole being bored in the barrel or other vessel to which the devices are to be applied, the bushing is screwed therein, the entrance of the threads being facilitated by the cutting action due to the formation of the notches *a′*. The bushing is screwed in until the cap-plate A^2 rests upon the stave in which it is inserted, and the fibers of the wood composing the barrel or vessel then spring or swell into the notches *a′*, thus tightening the bushing A in place. The bung is next inserted in the bushing, the lugs *b b* passing down through the openings a^8 between the lugs A^3 A^3 of the bushing. By means of the key C the bung is now turned, bringing the lugs *b* beneath the lugs A^3, and compressing the gasket D between the flange A and cap-plate B, forming a perfectly tight joint.

By reason of the top surface of the lugs A^3 being below the plane or top of the flange A^2, on which the gasket D rests, when the bung B is turned, said gasket revolving with it, the ends of said lugs A^3 are prevented from

coming in contact with said gasket, and injury to the latter is thereby avoided. Were the lugs A^3 and flange A^2 in the same plane, the former would engage with and injure said gasket when the bung is rotated to fasten it. So, too, by reason of the top of the lugs *b* being rounded, they present no sharp edge or abrupt shoulder to come into contact with the under sides of the lugs A^3 when the bung is rotated. Were they brought out perfectly square or flat, they would present sharp edges, which, when the bung is rotated, would cut shoulders on the under side of the lugs A^3, and thereby very soon impair the security of the fastening.

Owing to the lateral taper or bevel of the lugs A^3, the lugs *b* (which have a corresponding but reverse taper) will inevitably find their seats truly and firmly, the tendency of each lug A^3 being, when the bung is rotated, to press it (the bung) over against the other two lugs A^3, the bung being thus moved or wedged radially (so to speak) until each of the lugs *b* is firmly seated on a lug, A^3. Were the lugs A^3 and *b* of even thickness laterally, (though inclined longitudinally,) it is obvious that while the circumferential winding or wedging might be perfect as regards one of the lugs *b*, the other two, or one of them, might not be seated at all—a defect which the lateral tapering described obviates.

What I claim as my invention is—

The combined bung and bushing herein described and shown, consisting of the bushing A, having internal lugs, A^3, inclined laterally and longitudinally, the lateral inclination being on the under side, and the bung B, having the centrally-recessed hub *b'*, provided with radial lugs *b*, having their upper edges rounded at b^3, and beveled or inclined longitudinally, as and for the purpose specified.

In testimony that I claim the foregoing I have hereunto set my hand this 20th day of June, 1879.

JOHN A. RUTSCHMAN.

Witnesses:
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