

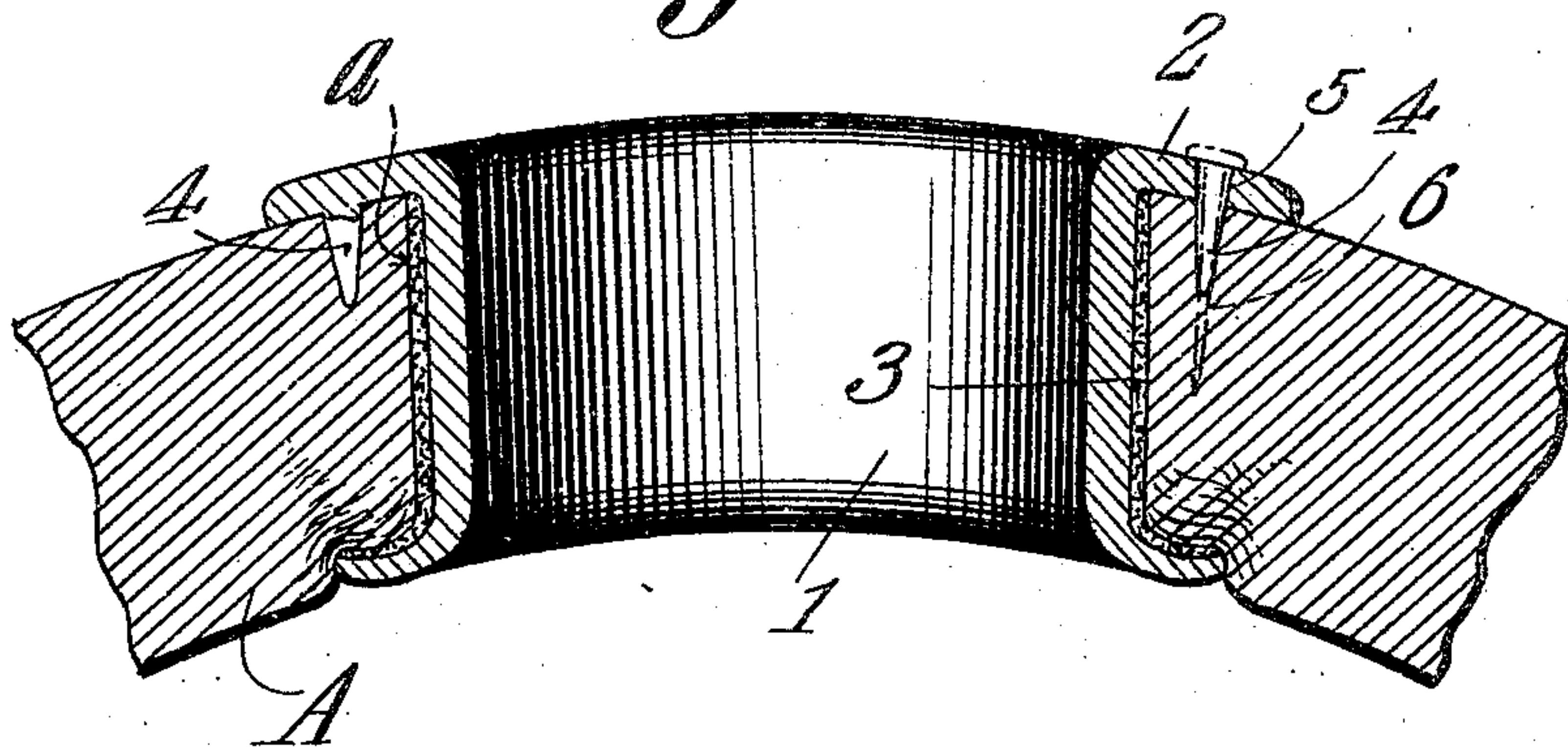
F. PFLUGER & E. CHRISTENSEN.  
BUNG BUSHING.

APPLICATION FILED JAN. 29, 1909.

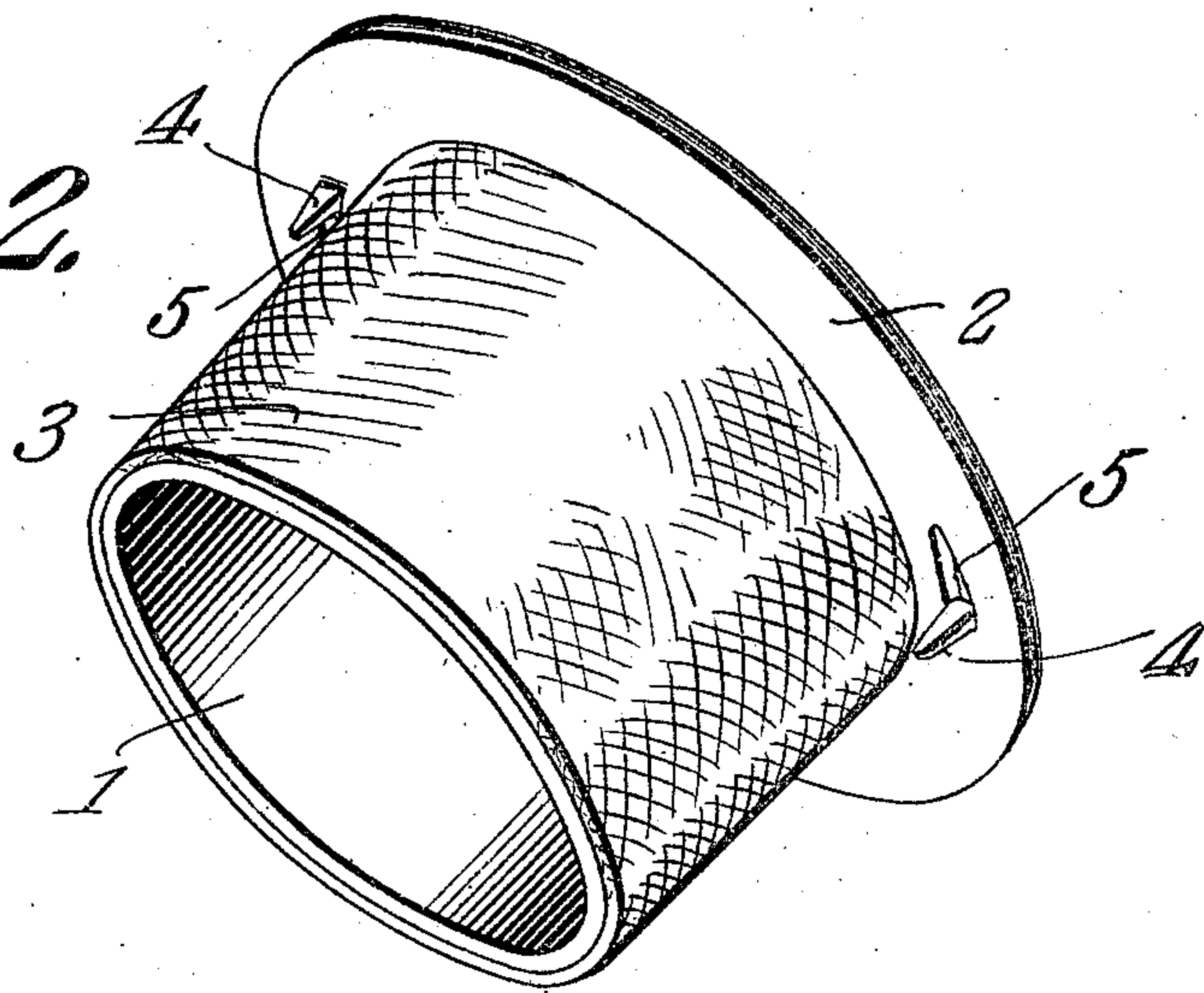
944,378.

Patented Dec. 28, 1909.

*Fig. 1.*



*Fig. 2.*



Witnesses

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# UNITED STATES PATENT OFFICE.

FRANK PFLUGER AND EMIL CHRISTENSEN, OF PORTLAND, OREGON.

## BUNG-BUSHING.

944,378.

Specification of Letters Patent.

Patented Dec. 28, 1909.

Application filed January 29, 1909. Serial No. 474,970.

*To all whom it may concern:*

Be it known that we, FRANK PFLUGER and EMIL CHRISTENSEN, citizens of the United States, residing at Portland, in the county of Multnomah, State of Oregon, have invented a new and useful Bung-Bushing, of which the following is a specification.

This invention relates to bung bushings of that type shown, for example, in Patent No. 810,430, issued to us on January 23rd, 1906.

The object of the invention is to provide a bushing of this character having a heat non-conducting lining cemented or otherwise secured thereto and designed to be expanded simultaneously with the bushing during the application of said bushing to a keg or the like, said lining thus protecting all portions of the stave which would otherwise be contacted by the bushing. It has been found that when superheated steam is directed into a keg for the purpose of melting out the old pitch contained therein, the wood immediately surrounding the bung bushing becomes charred to such an extent that the bushing soon loosens and thus renders the keg unfit for use.

The object of the present invention is to provide a lining designed to prevent this charring, the lining forming a part of the bushing, which may be placed upon the market as an article of manufacture to be applied to kegs and the like as needed.

Another object of the invention is to provide means integral with the bushing whereby the same may be prevented from rotating within the opening of the keg, there being one or more holes formed within the bushing by striking these fastening devices therefrom, said holes being designed, if necessary, to receive nails which may be used as auxiliary fastening means.

With these and other objects in view the invention consists of certain novel details of construction and combinations of parts hereinafter more fully described and pointed out in the claims.

In the accompanying drawings the preferred form of the invention has been shown.

In said drawings:—Figure 1 is a transverse section through a bushing embodying the present improvements, the same being shown in position within a stave of a keg or the like. Fig. 2 is a perspective view of the bushing.

Referring to the figures by characters of reference A designates a stave of a keg or

the like, the same being provided with an opening *a* of the ordinary form for the reception of the bung bushing constituting the present invention. The bushing consists of a cylindrical body 1, formed of metal and having an annular flange 2 at one end and designed, when the bushing is in position, to bear against the outer face of the stave A. Secured to the outer face of the body 1 is a lining or packing 3 formed of asbestos or other suitable material constituting a non-conductor of heat, said lining being held in place by means of cement, or in any other preferred manner. Triangular studs 4 are struck inwardly from the flange 2, leaving corresponding openings 5 for the purpose hereinafter set forth.

It is to be understood that bushings as herein described are to be manufactured and sold with the studs 4 projecting perpendicularly of the inner face of each flange 2 and with the lining 3 cemented or otherwise secured to the body of the bushing.

When it is desired to place the bushing in position the cylindrical portion thereof is inserted into the opening *a* until the flange 2 is brought into contact with the outer face of the stave A. This will of course necessitate driving the studs 4 into the outer face of the stave. If the stave is an old one and the studs 4 do not properly hold the bushing against rotation, nails, one of which has been shown by dotted lines at 6 in Fig. 1, may be inserted into the openings 5 and driven into the stave. After the bushing has thus been placed a suitable tool may be inserted therethrough and the inner projecting end of the bushing expanded and rolled against the inner surface of the stave. It is designed to subject the inner or expanded end of the bushing to sufficient pressure to force the said expanded and rounded portion into the inner face of the stave, thus compressing the fibers of the stave as shown in Fig. 1 and obviating the necessity of counterboring the stave as heretofore.

The asbestos 3 constitutes a packing for completely filling the space between the bushing and the wall of the opening in the sleeve.

By providing a bushing such as herein described the same can be placed in position as expeditiously as other bushings of the same type, and moreover there is no danger of the lining or packing becoming separated from the bushing before the device is se-



cured in place. By employing this lining or packing there is no danger of charring the stave when a tube utilized for directing superheated steam into the keg, is inserted  
5 into the bushing.

It will be noted that the bushing is very simple, durable and compact in construction and has no parts likely to become misplaced or lost. The bushings can therefore be  
10 shipped in large quantities to the places where they are to be used without requiring any special care in packing them in order to prevent separation of the parts.

It is of course to be understood that various changes can be made in the construction and arrangement of the parts without departing from the spirit or sacrificing the advantages of the invention.

What is claimed is:—

20 1. A bushing for bungs comprising a tubular portion having an annular flange at one end, there being an inwardly struck prong upon the flange and perpendicular thereto and a fastener receiving opener adjacent each prong, that end of the tubular  
25 portion farthest removed from the flange being of reduced thickness, and a packing of heat non-conducting material extending

around the tubular portion and extending from the flange to the reduced end of the  
30 tubular portion.

2. The combination with a structure having an opening therein, of a bushing comprising a tubular portion insertible into the opening, said portion having an integral  
35 annular flange bearing upon one face of the structure, one end of said tubular portion being of reduced thickness and flared and pressed into the other face of the structure and below the surface of said structure, and  
40 a packing upon the convex face of the tubular portion and filling the space between said portion and the wall of the opening, said packing being formed of heat non-conducting material, there being a fastener receiving aperture within the flange and a  
45 prong integral with the flange and adjacent the aperture.

In testimony that we claim the foregoing as our own, we have hereto affixed our signatures in the presence of two witnesses.

FRANK PFLUGER.

EMIL CHRISTENSEN.

Witnesses:

OTTO J. KRAEMER,  
S. LOWENGARDT.