W. KROMER.

BUNG AND BUNG INSERTER.

No. 190,224. Patented May 1, 1877.

Fig. 1.

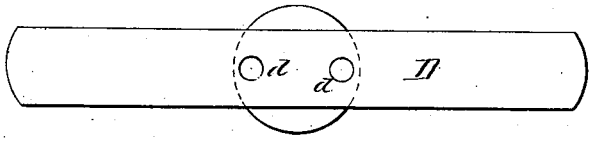


Fig. 2.

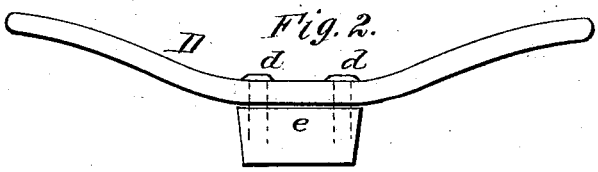


Fig. 3.

Fig. 4.

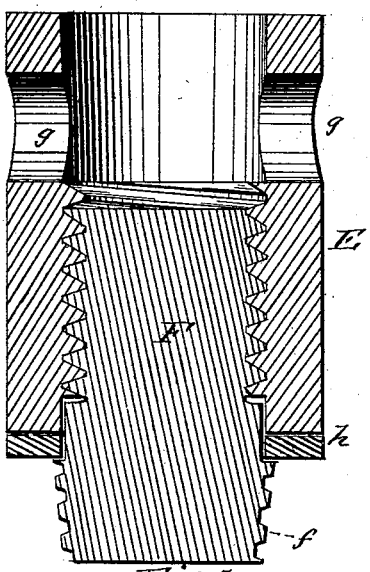


Fig. 5.

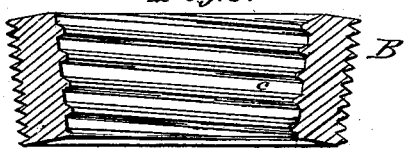


Fig. 6.

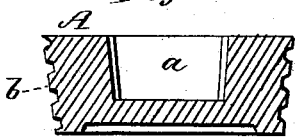


Fig. 7.

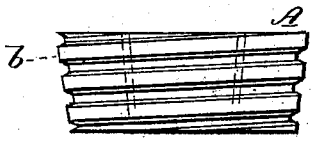
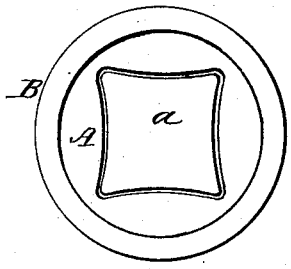


Fig. 8.



Witnesses:

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UNITED STATES PATENT OFFICE.

WILLIAM KROMER, OF SAN FRANCISCO, CALIFORNIA.

IMPROVEMENT IN BUNGS AND BUNG-INSERTERS.

Specification forming part of Letters Patent No. **190,224**, dated May 1, 1877; application filed July 28, 1875.

To all whom it may concern:

Be it known that I, WILLIAM KROMER, of San Francisco, in the county of San Francisco and State of California, have invented certain new and useful Improvements in Bungs and Bushing-Inserters; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, which form a part of this specification.

Figure 1 is a plan top view of a wrench ordinarily used to insert or withdraw the bung from its bushing. Fig. 2 is a side elevation of the same; Fig. 3, a modification of the wrench. Fig. 4 is a longitudinal vertical section of my improved bushing-inserter; Fig. 5, a similar view of the bushing; Fig. 6, a sectional view of the bung. Fig. 7 is a side elevation of the same, and Fig. 8 a top plan view of the bung and bushing.

This invention has relation to metallic bungs, such as are screwed into metallic bushings previously secured in the barrel-stave.

Ordinarily, these bungs are screwed down upon a leather washer, which is placed between a seat in the bushing and the bung, and by pressing said washer tightness is secured. This class of metallic bungs have in their practical use many objections, from the fact that the bung and bushing, acting into each other, being cylindrically formed, it requires from six to eight turns of the bung in order to bring it tightly down upon the leather washer, besides the previously-necessary and often tedious finding of the screw-theads. A perfectly-tight closing-bung being especially needed in barrels which are subject to pressure from inside, is therefore principally advantageous to brewers. The slow and tedious process of securing the bung within the bushing, because of the foaming and steaming of the beer at the time of bunging, is a most serious objection; and the leather washer must frequently be renewed, as in time it becomes worn, and if this renewing is not attended to in the proper time, and by a very careful and attentive person, the whole system proves to be a failure.

The object and purpose of my invention, therefore, is to remedy these difficulties, and to construct a bung simple in its parts, and effective in its operation; and the invention consists in forming the bung and interior of the bushing slightly conical, and forming thereon flat screw-threads.

My invention further consists in a device for inserting the bushing in the barrel-stave, the construction and arrangement thereof being hereinafter described, and subsequently pointed out in the claims.

In the accompanying drawings, A represents a bung, of any suitable metal, having a square or other suitably-formed opening, *a*, for the reception of a wrench, C, as illustrated in Fig. 3.

This bung A is made slightly conical upon its outer periphery, and has formed thereon flat screw-threads *b*, which engage with flat screw-threads *c* upon the interior of the bushing B, said bushing having the ordinary-formed screw-thread upon its exterior, for the insertion of it in the barrel-stave, the bushing also being made conical, to receive the conical bung A.

It will be seen that as the screw-threads are flat upon their edges the bung can be pushed down into the opening in the bushing three-fourths of its thickness without requiring any turning, and one single full turn of the bung will then accomplish a perfect action of the two, bringing every part of the conical surfaces of the bung and bush in action, making a most complete connection. If any lard or other fatty thick substances should be smeared on the bung or into the bushing, or if a piece of rag is laid between them before being connected together, there can be left no space for either airy or fluid matter to pass, for the pressure accomplished by the peculiar form of the screw-threads acting sidewise, as a wedge must be very considerable when force is brought to bear with a wrench in completing the connection between the bung and bushing. Besides, it will be noticed that as the bung is of one solid piece with a strong and flat screw-thread, it will stand rough handling without the danger of injury to the same. The bushing also, as constructed, admits of many advantages, being used with a wooden bung turned conically across the grain, it being pushed into the bushing, and turned by a suitable wrench, D, hav-

ing two lugs, *d*, which fit within holes formed in the bung, as illustrated at *e*, the screw-threads in the bushing cutting into the bung.

The second part of my invention has relation to a means employed for the ready insertion of the bushing in the barrel-stave, as will be seen by reference to Fig. 4 of the drawing, in which E represents a cylindrical standard or tubing, having screw-threads upon its interior for the reception of screw-threads formed upon the upper end of a steel plug, F, the lower portion projecting below the tubing E, having screw-threads *f*, and formed slightly conical to correspond in shape and size to the bung A. Between the lower face of the tubing and the bung-shaped part of the plug F is interposed a metallic washer, which prevents a wearing friction on the standard or tubing E, when the bushing is forced into the barrel-stave. Upon the upper end, or near the same, of the tubing E are suitable openings *g* for the reception of a steel rod or other means that may be found most convenient for operating the inserter.

Having now fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. The conical bung A, having formed upon its exterior flat screw-threads *b*, in combination with the bushing B, with flat screw-threads *c*, substantially as and for the purpose set forth.

2. The combination, with the standard or tubing E, having screw-threads upon its interior, of the screw-threaded plug F, when constructed to operate substantially as and for the purpose described.

In witness whereof I have hereunto set my hand and seal.

Freiburg, 25th July, 1874.

WM. KROMER.

Witnesses:

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FRIEDRICK KROMER.