G. W. HARRIS.

Wrenches for Bung-Bushings.

No. 143,757. Patented Oct. 21, 1873.

Fig. 1.

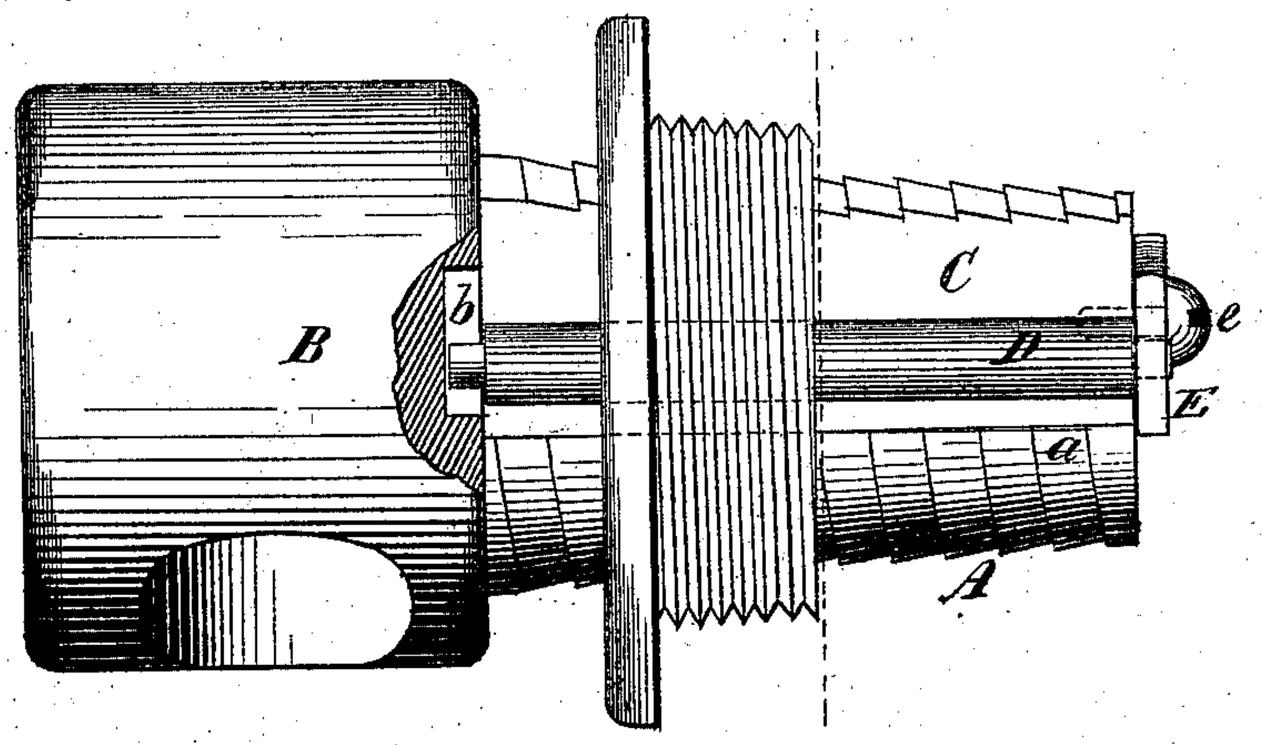


Fig. 2.

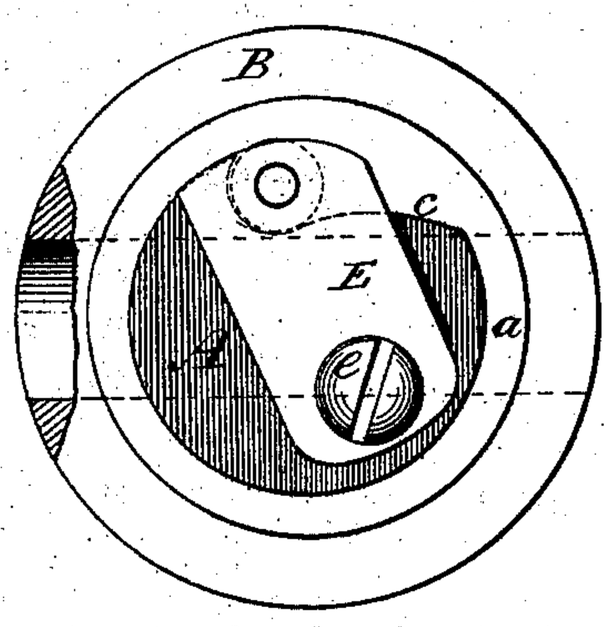
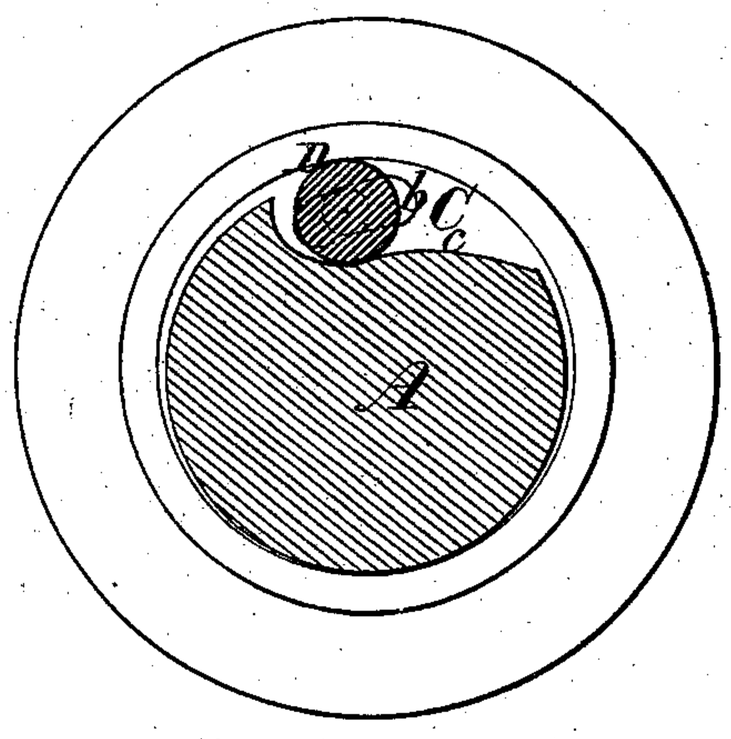


Fig. 3.



Witnesses.
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UNITED STATES PATENT OFFICE.

GEORGE W. HARRIS, OF NEW YORK, N. Y., ASSIGNOR TO GEORGE W. GILLETTE, OF SAME PLACE.

IMPROVEMENT IN WRENCHES FOR BUNG-BUSHINGS.

Specification forming part of Letters Patent No. **143,757**, dated October 21, 1873; application filed April 19, 1873.

To all whom it may concern:

Be it known that I, GEORGE W. HARRIS, of the city, county, and State of New York, have invented certain Improvements on Friction-Wrenches, of which the following is a specification:

This invention relates to that class of wrenches or keys which are more especially designed for screwing bung-bushes into barrels, but are also applicable for screwing rings, &c., into wood and metal, and which consist, mainly, of a tapering plug, operated by a handle, and provided with an eccentrically-movable device for pressing it forcibly against the inner surface of a bush or ring to cause the latter to move with the key in turning it. My improvement consists in the combination, with such a tapering plug, of a roller moving upon an eccentric surface of a longitudinal furrow formed in one side of the plug, and providing the concentric surface of the latter with spiral threads, which not only prevent the circular slipping of the plug in the bush or ring, but also counteract its tendency to endwise movement, in which latter respect such spiral threads are substantially different from longitudinal corrugations heretofore used.

Figure 1 is an elevation of my improved friction wrench or key. Fig. 2 is an end view of the same. Fig. 3 is a transverse section thereof.

The same letters of reference are used in all the figures in the designation of identical parts.

The tapering plug A terminates at its larger end in a strong head, B, provided with a transverse aperture for the reception of an iron bar, by which the device is to be turned. In one side of the plug is formed a longitudinal furrow, C, made of sufficient depth along one side to let the top of the roller D, when it is in this deepest part of this furrow, come about flush with the concentric surface of the plug. The bottom *c* of the furrow runs from this deep side to the surface of the plug in the arc of a circle described over the center *e* of an arm, E, which is pivoted eccentrically upon the smaller end of the plug. This arm E carries one end of the roller D, the other end of which rests and plays in a curved groove, *b*, in the under side of the head B. The concentric surface of the plug A is provided with spiral threads *a*, for the twofold purpose above set forth.

In using this instrument, the plug is dropped into a bush or ring, when, by turning it from right to left, the roller is caused to move along the eccentric surface *c* of the furrow, and gradually forces the opposite side of the plug into such firm contact with the inner surface of the bush or ring that it will move with it, and the greater the force necessary to screw it home the tighter the plug will bind on it.

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

1. The combination, with the tapering plug A having a longitudinal furrow, C, in one side, of the roller D, connected to the plug, and moving on the eccentric surface *c* in its furrow, substantially as and for the purpose specified.

2. A friction wrench or key, of the character described, the tapering plug A of which is provided with spiral threads *a*, substantially as and for the purpose specified.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

GEO. W. HARRIS. [L. S.]

Witnesses:

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T. B. GOODALE.