E. A. LELAND.

WRENCH.

No. 187,287. Patented Feb. 13, 1877.

Fig. 1.

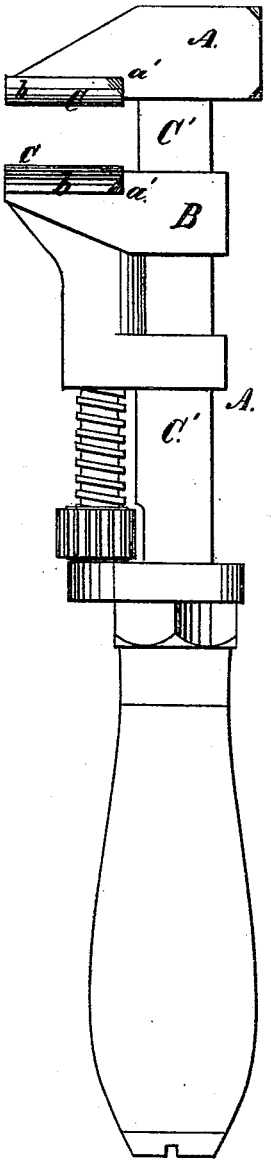


Fig. 2.

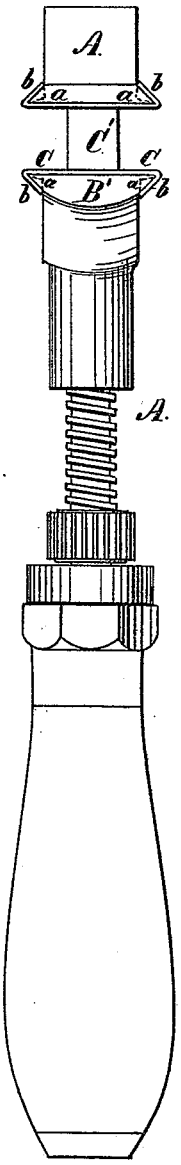
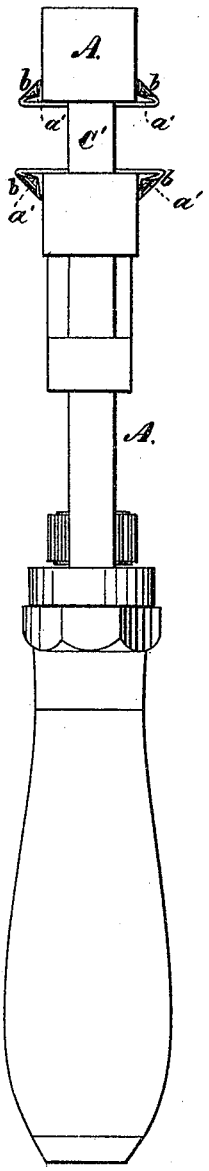


Fig. 3.



Witnesses:
Henry Eichling.
H. Wells Jr

Inventor:
Edwin A. Leland
per James A Whitney
Atty.

UNITED STATES PATENT OFFICE.

EDWIN A. LELAND, OF NEW YORK, ASSIGNOR TO LEONARD RICHARDSON, OF BROOKLYN, NEW YORK.

IMPROVEMENT IN WRENCHES.

Specification forming part of Letters Patent No. **187,287**, dated February 13, 1877; application filed June 7, 1876.

To all whom it may concern:

Be it known that I, EDWIN A. LELAND, of the city, county, and State of New York, have invented an Improvement in Wrenches, of which the following is a specification:

It is well known that in the use of an ordinary wrench in turning brightly-polished brass work and the like, such work is liable to be marred and injured by the contact of the hardened edges of the wrench.

The object of this invention is to provide a means whereby this drawback is obviated, without materially enhancing the cost of the wrench.

To this end, my invention comprises a wrench constructed with ribs, projecting laterally from the opposite sides of its two jaws, in combination with flanged plates of soft metal, in such manner that said soft metal plates can be readily attached to or detached from the jaws, whereby, when the wrench is to be applied in turning finished brass work and the like, which would be injured by the wrench as ordinarily applied, a soft metal surface is brought in contact with such work, and all defacement of or injury to the same is avoided.

The invention further comprises a novel arrangement of shoulders, with reference to the aforesaid ribs of the jaws, and the soft metal plates applied to said jaws, whereby the flanges of the plates may be readily bent over said shoulders, in order to retain the plates in position upon the jaws without requiring any speceial shaping of the plates other than is requisite to their attachment upon the jaws with their flanges lapping over and holding upon the lateral ribs.

Figure 1 is a side view of a wrench made according to my invention. Fig. 2 is a view of the front of the same; and Fig. 3 is a view of the back thereof.

The wrench A itself may, with the exception of the arrangement of the ribs hereinafter fully set forth, be of the ordinary monkey variety, with the fixed jaw A′, and the sliding or movable jaw B′. Upon each of the jaws A′ B′, flush with the inner face thereof, and projecting laterally outward from each side of said jaw is a rib, *a*. The inner portion of each side of each jaw projects in a triangular or other suitable shape from the flat sides of the main portion of said jaw, as more plainly indicated in Fig. 2. C are plates, which may be made of sheet copper, soft brass, or, in some cases, india-rubber, more or less hardened, in order that it may have sufficient stiffness to be retained in place, the same as the soft metal plates herein fully described. Each of these plates C has its lateral edge turned over to form a flange, *b*, in such manner that it may be readily slipped upon one of the jaws A′ or B′, the flanges C holding on the rib *a*, so as to retain the plate upon the flat inner surface of the jaw.

It will be observed that as each jaw is thus provided with a thickness or layer of soft metal, or other comparatively soft material, which, in the use of the wrench, is interposed between the hardened metal of the jaw and the surface of the brass work, or work to be turned, such work is kept from being bruised, abraded or disfigured by the application of the wrench.

It will be noticed that, as shown in Fig. 1, the ribs *a* are extended inward or backward not quite to the shank C′, so that the plates C, being straight across at their inner edges, when the said edges rest against the shank C′, the inner or rearmost edge of the flanges *b* extends beyond the shoulders of the corresponding ends of the ribs *a*.

This being the case, it is only necessary to tap lightly upon projecting inner edges of the flanges *b* aforesaid, in order to bend the same over the shoulders, constituted as just described, as represented at *a′* in Fig. 1, in order to insure the retention of the plates C against any tendency to slip forward and off the jaws.

When it is desired to remove the plates C it is only necessary to pry back the soft metal at *a′* with a knife blade or the like, whereupon the plates C may be slipped lengthwise from the rib *a*, and consequently from the jaws.

This done, the wrench may be used in the ordinary manner for any purpose in which

the use of the soft metal plates C is not especially desirable or necessary.

What I claim as my invention is—

1. A wrench, having the lateral ribs *a*, provided upon its jaws in combination with the soft metal plate C, substantially as and for the purpose herein set forth.

2. The shoulders *a'*, provided on the rib *a*, in combination with the stem C' and the soft metal plates C, whereby provision is made for the retention of said plates upon the jaws of the wrench, substantially as described.

EDWIN A. LELAND.

Witnesses:

H. WELLS, Jr.,

EDWARD HOLLY.