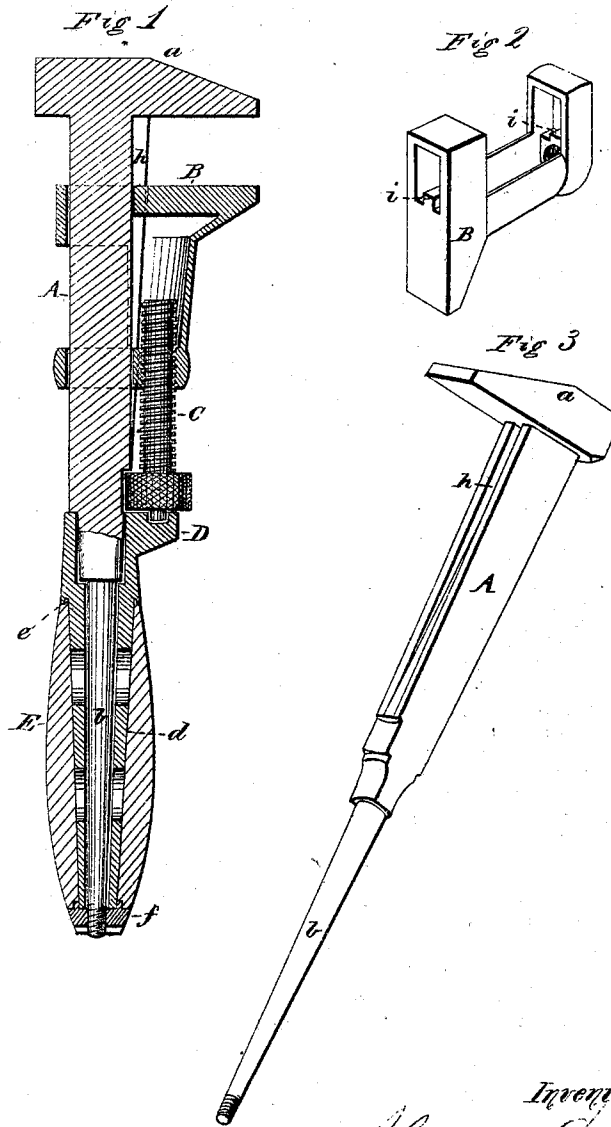


ALONZO WHITCOMB.

Improvement in Wrenches.

No. 120,687.

Patented Nov. 7, 1871.



Witnesses

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UNITED STATES PATENT OFFICE.

ALONZO WHITCOMB, OF WORCESTER, MASSACHUSETTS.

IMPROVEMENT IN WRENCHES.

Specification forming part of Letters Patent No. 120,687, dated November 7, 1871.

To all whom it may concern:

Be it known that I, ALONZO WHITCOMB, of Worcester, in the county of Worcester and State of Massachusetts, have invented certain Improvements in Wrenches, of which the following is a specification, reference being had to the accompanying drawing.

My invention relates to the ordinary style of adjustable wrenches in which a sliding jaw is mounted on a straight bar and moved by means of a screw; and the invention consists in extending the metal piece which serves as the ferrule for the handle and bearing for the screw lengthwise through the wooden handle; and also in making the bar or body of the wrench of a tapering form and providing it with a groove in which studs on the movable jaw slide, as hereinafter fully described.

Figure 1 is a longitudinal section through the middle of my improved wrench. Fig. 2 is a perspective view of the sliding jaw, and Fig. 3 is a perspective view of the body or bar of the wrench.

A represents the body, consisting of a straight square bar, having the head or jaw *a* formed on one end and having the opposite end shaped into a shank, *b*, to receive the handle, and provided with a screw-thread at its extremity, as shown in Figs. 1 and 3. B is the movable jaw, mounted so as to slide on the bar A; and C is the screw for moving the jaw, one end of the screw entering the jaw and the other end bearing in a metal block, D, which is slipped onto the shank, and which also serves as a ferrule for the wooden handle in the usual manner. On the side of the block D I form a long quill or tube, *d*, which incloses the shank of the bar A, as shown, the tube being a trifle shorter than the shank, the threaded end of which protrudes therefrom. E is the wooden handle, which is slipped over the tube or quill *d* and then secured in place by screwing the nut *f* onto the end of the shank, the nut also bearing against the end of the tube or quill and serving to hold it in place. In this way the block D, which receives the entire strain brought upon the screw, is supported firmly in place by the quill and nut, so as not to become loose by use, as is the case when the block is supported by the wooden handle alone in the usual manner. The bar A is made tapering or decreasing in width

from the head *a* toward the opposite end, and in its inner face there is formed a longitudinal groove, *h*, the bottom of which is parallel with the opposite side or face of the bar. The sliding jaw has its openings made of such size that it can be moved up on the large end of the bar against the fixed head or jaw *a*; and, to prevent it from rattling when drawn back on the small end of the bar, it is provided with studs *i*, which slide in the groove *h* of the bar and remain in contact with the bottom of the same at all times. By tapering the bar, as described, the wrench is reduced in weight and rendered more symmetrical in appearance, and at the same time the different points of the bar are given strength proportional to the strain they receive, it being obvious that the outer end of the bar receives less strain than the inner, and that, consequently, it may be made lighter. Instead of making the groove as described, it may be made in two sections, one deeper than the other, and the lugs or studs at the opposite ends of the jaw made of different lengths, one to slide in one section and the other in the other section or end of the groove. The groove may be made in either the front or back face of the bar, although the former is considered the best arrangement. The quill or tube may be made solid, or provided with openings, as shown, for the purpose of lightening it.

Having thus described my invention, what I claim is—

1. The block or screw-support D having a quill or tube, *d*, extending through the wooden handle E, substantially as described.
2. Said tube provided with an annular recess, *e*, to form a ferrule for the front end of the handle, as shown and described.
3. A monkey-wrench having its bar A made tapering from the fixed jaw *a* backward to the handle, substantially as described.
4. In combination with the tapering grooved bar A, the sliding jaw B provided with the tongues *i* to work in said groove and hold the jaw snugly in place, as set forth.

ALONZO WHITCOMB.

Witnesses:

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