E. J. Worcester,

Wrench.

No. 17,531. Patented June 9, 1857.

Fig. 4.

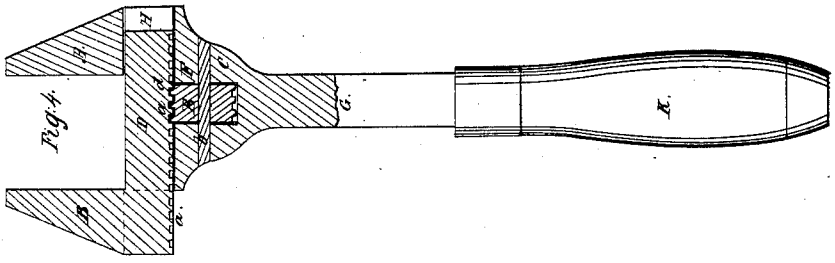


Fig. 3.

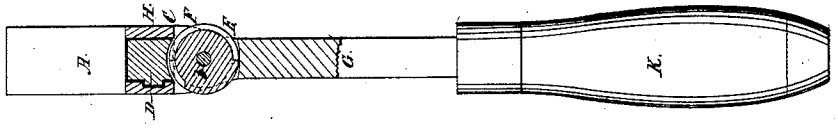


Fig. 2.

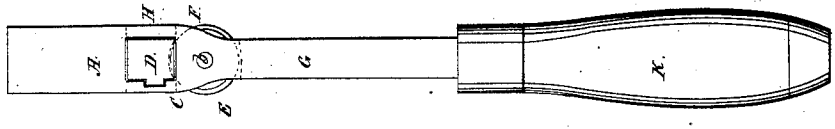
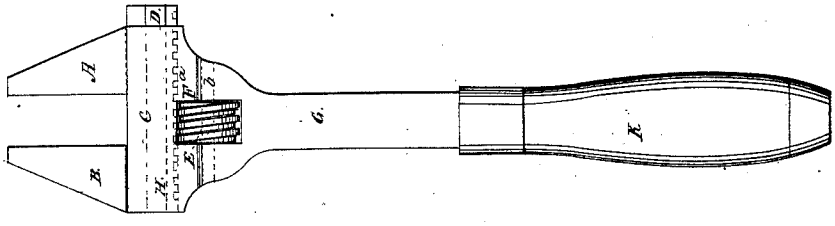


Fig. 1.



N. PETERS, PHOTO-LITHOGRAPHER, WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

EDWARD J. WORCESTER, OF WORCESTER, MASSACHUSETTS.

WRENCH.

Specification of Letters Patent No. 17,531, dated June 9, 1857.

To all whom it may concern:

Be it known that I, EDWARD J. WORCESTER, of Worcester, in the county of Worcester and State of Massachusetts, have invented an Improved Screw-Wrench; and I do hereby declare that the same is fully described and represented in the following specification and the accompanying drawings, of which—

Figure 1 is a side view of the said wrench, Fig. 2 an edge view of it. Fig. 3 a transverse and longitudinal section of it. Fig. 4, a longitudinal section taken parallel to the side of the wrench.

In the drawings A, denotes the stationary jaw as projecting from a stock or head C, which is formed as shown in the figures, and so as to have two passages, F and H, extended through it at right angles to one another, the passage F, being arranged between them and so as to enter the passage H.

B is the movable jaw which extends from a rack bar D, D, which plays or slides in the passage H, and has screw teeth *a*, *a*, cut on its lower edge and to match with the thread of a screw, E, which is placed in the passage, F, and rotates freely on a pin *b*, passing through the stock. This screw, E, projects beyond the sides of the stock as shown in Figs. 2 and 3 in order that it may be rotated by the thumb and fore finger of a person's hand when the instrument is held by its handle in his other hand. The shank G, of the handle, K, projects from the stock at a right angle or thereabout to the rack bar D, this arrangement of it causing the jaws to stand with reference to the shank and handle essentially as the prongs of a common fork do to their handle or shank. Such a construction of the wrench renders it oftentimes much more convenient than the common one, wherein the jaws stand at right angles to the shank. Therefore in my arrangement the rack moves transversely of the handle or shank.

I do not claim the application of a screw and rack to the movable jaw and the stock of a wrench in order to produce the required movements of the movable jaw with respect to the stationary jaw extended from the stock. Nor do I claim a wrench having its movable jaw affixed to a tenon or slide made to work through a mortise in the other jaw and to be clamped in position by the handle, as the same is set forth in the patent of Orin O. Witherell, dated December, 1856. My wrench by having a rack and screw to operate its jaw and a handle stationary relatively to the stationary jaw presents advantages over this latter, as the movable jaw can be better supported and the handle being in one piece with the stationary jaw is not so liable to break or separate from the same as when it acts as a lever and turns on a fulcrum attached to each jaw.

Therefore I claim—

My improved adjustable fork jaw wrench, as made with its jaws arranged and applied to its handle as described and with a rack and rotary screw arranged in the handle and applied to the slide of the movable jaw as specified.

In testimony whereof I have hereunto set my signature.

EDWARD J. WORCESTER.

Witnesses:

C. M. BROOK,

JNO. A. DANA.