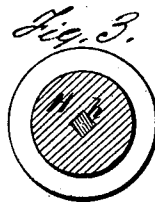
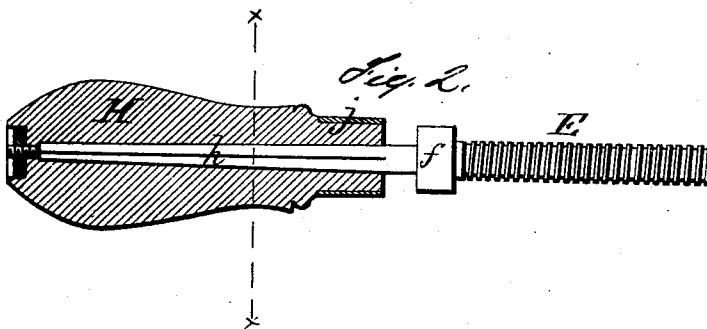
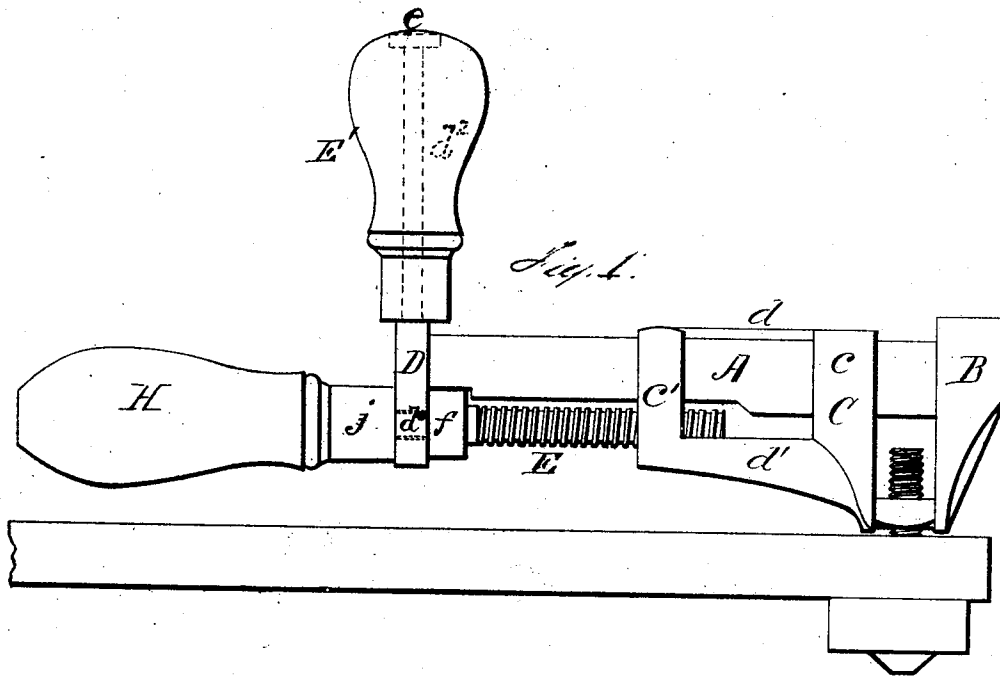


S. E. ROBINSON.

Wrench.

No. 159,119.

Patented Jan. 26, 1875.



WITNESSES  
*Robert Everett*  
*F. J. Chasi*

INVENTOR  
*Sylvanus E. Robinson*  
*Chipman & Co*  
ATTORNEYS

# UNITED STATES PATENT OFFICE

SYLVANUS EDWARD ROBINSON, OF MARSHFIELD, WISCONSIN.

## IMPROVEMENT IN WRENCHES.

Specification forming part of Letters Patent No. **159,119**, dated January 26, 1875; application filed December 5, 1874.

*To all whom it may concern:*

Be it known that I, SYLVANUS E. ROBINSON, of Marshfield, in the county of Fond du Lac and State of Wisconsin, have invented a new and valuable Improvement in Wrenches; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings, making a part of this specification, and to the letters and figures of reference marked thereon.

Figure 1 of the drawing is a representation of a plan view of my wrench. Fig. 2 is a sectional detail view of the same, and Fig. 3 is a cross-sectional view of the handle.

This invention has relation to wrenches with movable jaws; and it consists in the construction of the parts, as will be hereinafter described and set forth.

In the annexed drawings, A designates the main shank of the fixed jaw B, which also serves as a guide, upon which a movable jaw, C, slides in being adjusted to and from the fixed jaw, for the purpose of grasping nuts of different sizes. The movable jaw consists of a main part, C, having through its upper portion a slot to embrace the shank A, and of an auxiliary loop, C', which is connected with the first part by longitudinal strips *d d'*, the said loop being also slotted to embrace the handle, and provided below the said slot with a threaded perforation to engage the threaded tang of the handle. D indicates a cross-piece, rigidly secured in any suitable manner to the free end of the shank A, and at right angles thereto, having upon its upper end a spindle, *d*<sup>2</sup>, and through its lower part a circular perforation, *d*<sup>3</sup>, for the purpose of serving as a bearing for the cylindrical extension of an actuating-screw, E.

The spindle *d*<sup>2</sup> is designed to serve as a crank-arm. A rotating handle, E', may be applied thereon by means of a nut, *e*, which, while it allows the said handle to pivot freely thereon, will yet prevent its casual detachment therefrom.

The screw E, before alluded to, is passed through the bearing *d*<sup>3</sup> of cross-piece D, its screw-thread end engaging with a corresponding thread in the movable jaw C, and is provided with a collar, *f*, rigidly secured to, or forming a component part of, the said screw,

affording a purchase, whereby the loose jaw is moved toward the fixed jaw. This screw extends through its journal-bearing *d*<sup>3</sup> a suitable distance, thereby affording a shank, *h*, upon which is rigidly secured a suitable handle, H. When the said handle is turned in a given direction its rotation actuates the screw E to move the jaw C toward the fixed jaw, and a reverse motion of the said handle will, of course, separate it therefrom.

Instead of the handle H I may, at pleasure, substitute a thumb-piece somewhat similar in appearance to a thumb-screw, but differing therefrom essentially, in that it is rigidly keyed or otherwise suitably secured to the end of the screw close up against its journal-bearing *d*<sup>3</sup> in the cross-piece D.

Whether the handle be used or the thumb-piece is indifferent, as far as the working of the device is concerned, the ferrule *j* upon the handle in the one case, and the thumb-piece itself in the other, affording a bearing-purchase to the screw to separate the movable jaw from the fixed jaw.

The advantages gained in this manner of constructing a wrench are, first, it affords the greatest facility in the adjustment of the jaws, at the same time extending the screw into a thumb-piece or a handle to a point at which adequate power may be applied to it for applying the jaws with a rigid gripe to the object to be turned; second, it enables me to use the spindle-extension of the cross-piece as a crank-handle, thereby greatly facilitating and accelerating the turning of the wrench with a nut in its jaws.

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

The cross-piece D, spindle *d*<sup>2</sup>, and handle E', in connection with the shank A of the wrench, with the extension of the screw E through the said cross-piece, to terminate either in a thumb-piece or in a handle, H, substantially as specified, and for the purpose set forth.

In testimony that I claim the above I have hereunto subscribed my name in the presence of two witnesses.

SYLVANUS EDWARD ROBINSON.

Witnesses:

D. BABCOCK,

J. HENRY MCNEEL.