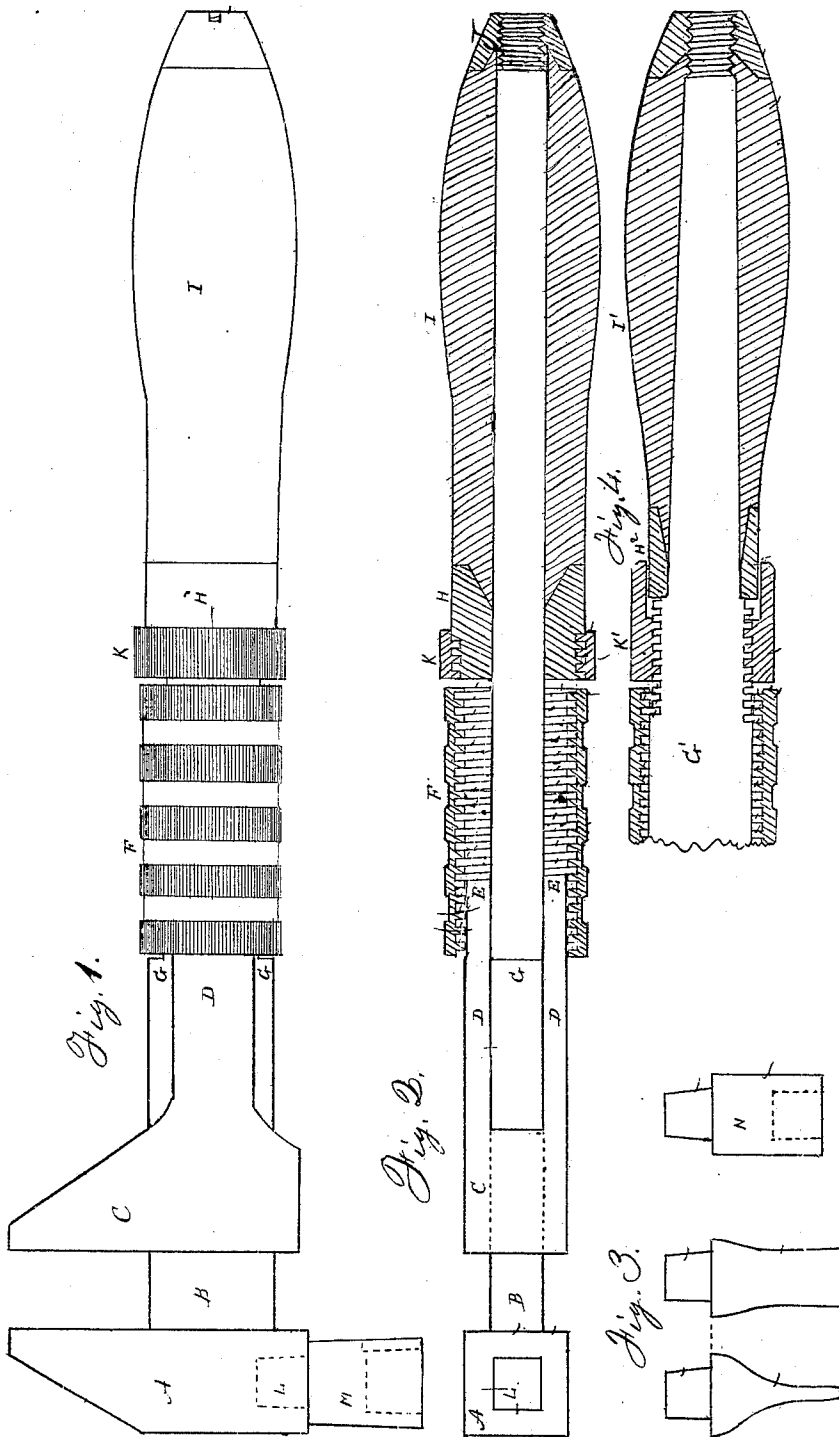


G. B. PHILLIPS.  
WRENCH.

No. 35,740.

Patented June 24, 1862.



*Witnesses J. Dennis  
H. B. Loomis*

*G. B. Phillips*

# UNITED STATES PATENT OFFICE.

GEORGE B. PHILLIPS, OF NEWARK, NEW JERSEY, ASSIGNOR TO JOHN R. CROCKETT, OF SAME PLACE.

## IMPROVEMENT IN WRENCHES.

Specification forming part of Letters Patent No. 35,740, dated June 24, 1862.

*To all whom it may concern:*

Be it known that I, GEORGE B. PHILLIPS, of Newark, in the county of Essex and State of New Jersey, have invented certain new and useful Improvements in Wrenches; and I do hereby declare that the same are described and represented in the following specifications and drawings.

To enable others skilled in the art to make and use my improvements, I will proceed to describe their construction and use, referring to the drawings, in which the same letters indicate like parts in each of the figures.

Figure 1 is an elevation of wrench with my improvements. Fig. 2 is a plan of the lower edge of Fig. 1, showing the nuts and handle in section.

The nature of my invention and improvements in wrenches consists in a jam or holding nut arranged to be screwed against the nut that traverses the sliding jaw, so that when the jaw is adjusted it may be fastened and held in its place by screwing the jam-nut against the nut that traverses the jaw; also, in a socket in the head to receive the shanks of sockets of various sizes, or a screw-driver or other tools.

In the accompanying drawings, A is the head of the wrench; B, the bar, C the sliding jaw, provided with two arms, D D, which extend along each side of the bar B, and are provided with segments of a male screw, E E, about one inch in length, to which the nut F is fitted to traverse the jaw C, the edges of the bar B being round and made smooth, so that the nut F will turn freely on it between the shoulders G G and the ferrule H of the handle I, which surrounds the bar B, and is fastened by the nut J, as shown in Fig. 2. There is a male screw on the ferrule H, to which the jam or holding nut K is fitted. The use of this nut is that when the sliding jaw C has been set in the required position by turning the nut F the jam-nut K is screwed against the nut F to press it against the shoulders G G and clamp it fast and prevent it from being turned by handling the wrench when using it. This jam-nut is a very great and a very im-

portant improvement in screw-wrenches, and supplies a defect which has always existed in the screw-wrenches heretofore made.

I make a socket, L, in the head A, (shown by dotted lines,) which may be used to turn small square-headed bolts, and to this socket L, I fit a series of sockets, like M and N, of different sizes, adapted to turn screws with small square heads in cavities, or otherwise. I also fit to the socket L the screw driver shown in Fig. 3. Reamers, screw-taps, and other tools may also be fitted to this socket, so as to prove a great convenience and of great utility to the workman who uses this wrench.

By making a wrench in the manner above described the bar may be made much wider and stronger without materially increasing the size of the nut which operates the traversing jaw; and, further, the male portions of the screw are always covered and protected, which prevents it from being battered or otherwise injured in being knocked and thrown about, as wrenches usually are treated or handled.

Fig. 4 is a central section of a modification of my improvement, the line of section being at a right angle to that shown in Fig. 2. The male screw for the jam-nut K' is cut on the main bar G', instead of the ferrule H<sup>2</sup> of the handle I'. This jam-nut is bored out part way, so as to work over the ferrule H<sup>2</sup>, and make the milled surface of the nut longer, so that it can be turned more easily with the fingers.

I believe I have described and represented my improvements in wrenches so as to enable any person skilled in the art to make and use them. I will now state what I desire to secure by Letters Patent.

I claim—

1. The jam or holding nut arranged, substantially as described, for the purpose set forth.

2. The socket L in the head A, in combination with the removable sockets of various sizes, or screw-driver or other tools used in it.

GEORGE B. PHILLIPS.

Witnesses:

J. DENNIS, Jr.,  
W. THOMPSON.