O. T. BEDELL.

Wrenches.

No. 158,668. Patented Jan. 12, 1875.

Fig. 1.

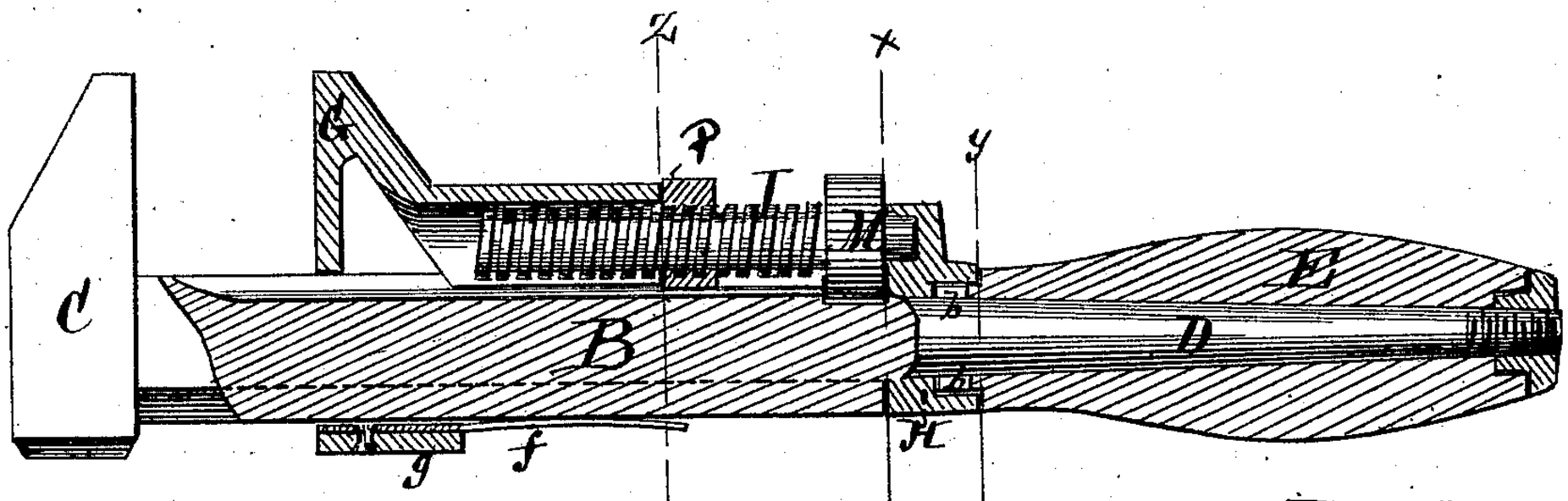


Fig. 2.

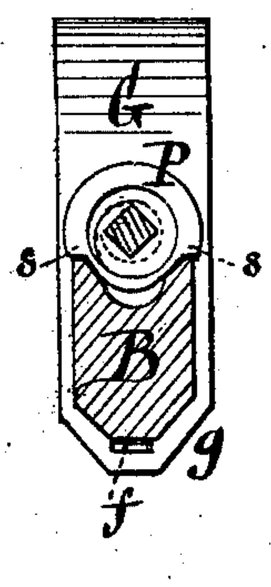


Fig. 3.

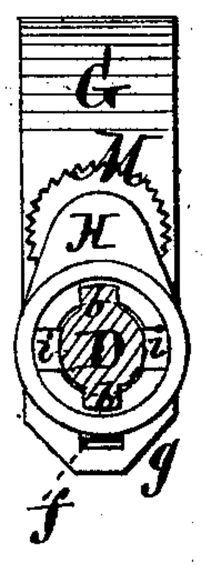


Fig. 4.

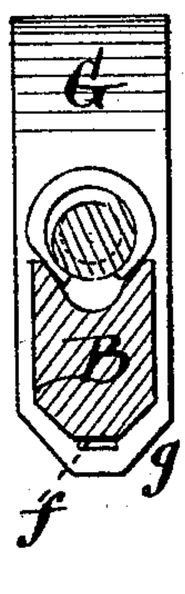


Fig. 5.

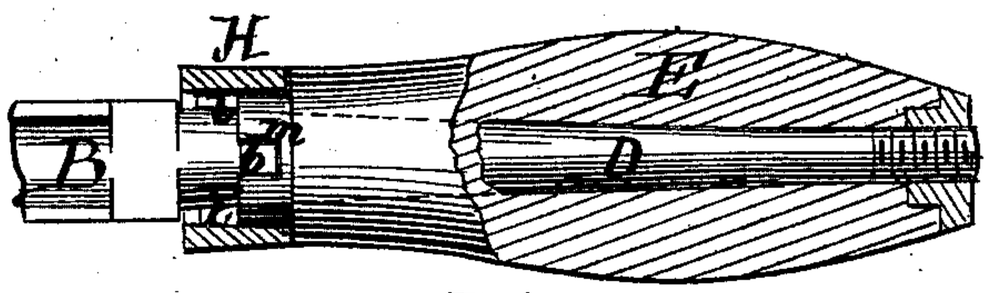
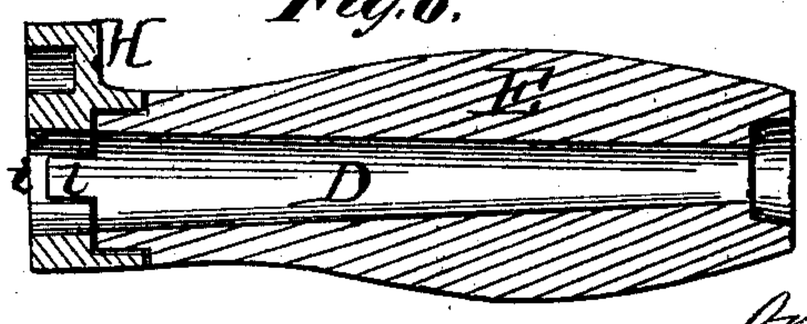


Fig. 6.



Witnesses
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Fred. Haynes

O. T. Bedell
by his Attorneys
Brown & Allen

UNITED STATES PATENT OFFICE

OTIS T. BEDELL, OF NEW YORK, N. Y.

IMPROVEMENT IN WRENCHES.

Specification forming part of Letters-Patent No. **158,668**, dated January 12, 1875; application filed May 29, 1874.

To all whom it may concern:

Be it known that I, OTIS T. BEDELL, of New York, in the county and State of New York, have invented certain Improvements in Wrenches, of which the following is a specification:

My invention relates to certain improvements in screw-wrenches, whereby the movable jaw may be readily and quickly adjusted to different-sized nuts or bolt-heads.

The invention consists in a bar having an angular back and a concave front edge, and a movable jaw, having a tubular portion adapted to the concave front edge of said bar, and an angular keeper adapted to the angular back edge of the bar, whereby the jaw is provided with a firm and steady bearing on the bar, as hereinafter described.

In the accompanying drawing, Figure 1 is a central longitudinal section of my improved wrench. Fig. 2 is a transverse section taken in the line *x x* of Fig. 1. Fig. 3 is a similar view taken in the line *y y* of Fig. 1. Fig. 4 is a similar view taken in the line *z z* of Fig. 1. Fig. 5 is a view of the handle and shank, partly in section. Fig. 6 is a similar view at right angles to Fig. 5.

The main bar B is formed with the fixed jaw C at one end, and the shank D at the other end, for engagement with the handle E. The back edge of the bar B is of convex angular form from the fixed jaw to the point where it joins the handle, said convex angular portion forming three sides of a hexagon. The front edge of the bar is also made angular, but concave, the bottom of the concave portion being rounded. The movable jaw G is formed with a keeper, *g*, which surrounds the bar B in the usual manner, and is of angular form, corresponding with the angular back edge of the bar. The bottom of the inner surface of the angular portion of the keeper is provided with a groove for the reception of the friction-spring *f*, which bears against the bar B, to hold the jaw in position when no pressure is brought to bear upon it by the nut or carriage. The tubular portion of the jaw is made without a screw-thread, and is open at the bottom to facilitate its attachment to the bar, and also to prevent friction against the bottom of the concave angular portion of the bar B. The shank of the main bar is formed with two lugs, *b b*, diametrically opposite to each other. The ferrule and pressure-bar are made in one piece, H, with grooves or notches *i i*, corresponding in form and size with the lugs *b b*. The combined ferrule and pressure-bar is attached and secured in place by passing the notches *i i* over the lugs *b b*, and then turning it one-fourth of the way around to the position shown in Figs. 1, 3, and 6, when it is ready to receive and form a bearing for the pivot of the screw J, which works loosely in the tubular portion of the jaw G. The handle E is formed with lugs *l* and notches *m* on the part which enters the ferrule, the lugs *l* engaging with the grooves *i*, and the notches *m* engaging with the lugs *b*, by which means the handle and the combined ferrule and pressure-bar are held in place and prevented from turning. The milled head M is made separate from the screw J, and is attached thereto by means of an angular opening, or a set-screw, as may be desired, whereby the attaching and detaching of the parts is facilitated. The nut or carriage P consists of a block of metal with a female screw-thread formed in it for engagement with the screw J, so as to travel thereon as the screw is turned to the right or left. This carriage is of a nearly circular form, with shoulders *s s* for engagement with the edges of the concave angular front edge of the bar B, so that there is no friction of its lower edge against the bottom of the grooved or concave angular front edge of the bar. When the milled head M is turned to the right or left, the carriage P travels on the screw J either toward or away from the movable jaw, according to the direction in which the screw is turned.

In using this wrench, the movable jaw is adjusted to the desired distance from the fixed jaw, and the milled head is then turned until the nut or carriage bears against the movable jaw, which is held in any position in which it is placed by means of the spring *f*, the tension of which is just sufficient to sustain the weight of the jaw, and at the same time allow it to be easily moved by the thumb and finger.

In consequence of the angular form of the convex back edge and concave front edge of the bar B, and the corresponding form of the

keeper and tubular portion of the movable jaw, the bearing is entirely upon said angular portions, and is more effective than if the contiguous bearings were plane surfaces.

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

The combination of the bar B, having the angular back edge and concave front edge, with the movable jaw G, having the tubular portion adapted to the said concave edge of the bar, and the angular keeper *g* adapted to the angular edge of the bar, as herein shown and described.

OTIS T. BEDELL.

Witnesses:
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