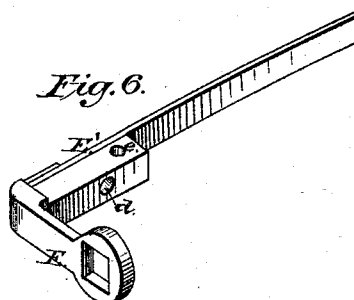
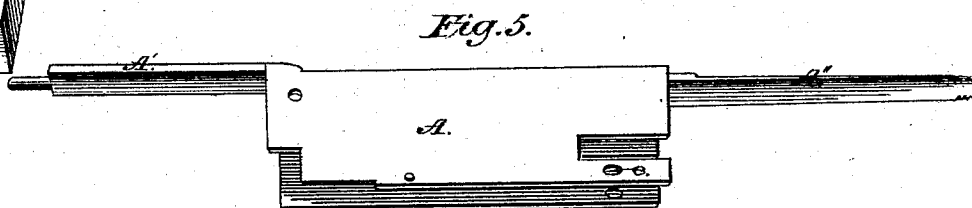
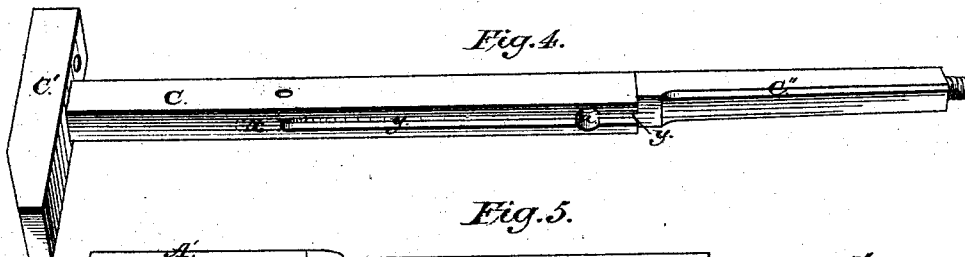
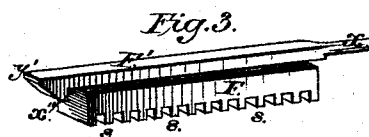
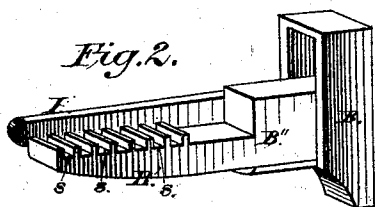
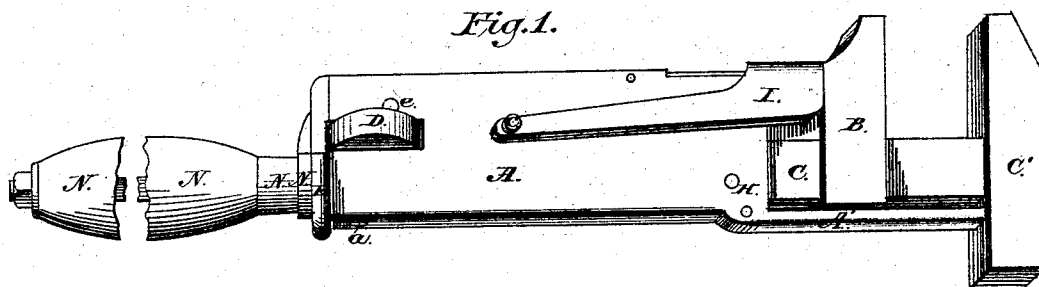


E. T. BARLOW.
MONKEY-WRENCH.

No. 172,241.

Patented Jan. 11, 1876.



Attest:
W. Forbes
A. Sterling

Inventor:
Elisha T. Barlow
By His Attorney
A. Hayes

UNITED STATES PATENT OFFICE.

ELISHA T. BARLOW, OF SAN FRANCISCO, CALIFORNIA.

IMPROVEMENT IN MONKEY-WRENCHES.

Specification forming part of Letters Patent No. 172,241, dated January 11, 1876; application filed January 8, 1876.

CASE C.

To all whom it may concern:

Be it known that I, ELISHA T. BARLOW, of San Francisco, county of San Francisco and State of California, have invented a new and useful Improvement in Wrenches; and I do hereby declare the following to be a full and exact description thereof, reference being had to the accompanying drawing forming a part of this specification.

My invention relates to a type of wrench technically known as monkey-wrenches; and it consists in the construction and arrangement of the several parts hereinafter described, and pointed out in the claims.

In the drawing, Figure 1 shows a side elevation; Fig. 2, a view, in perspective, of the movable jaw. Fig. 3 shows a segment of cog-teeth, provided with a spline that fits within a groove on the main bar, and is capable of a slight longitudinal movement, fully explained hereafter. Fig. 4 shows the main bar and hammer-head jaw. Fig. 5 is a detached view of the shield, inclosing the adjusting mechanism. Fig. 6 shows a spring for keeping the cog-teeth of the movable jaw in connection with the teeth of the segment referred to, and an arm and socket for attachment to the shield and main bar. Fig. 7 shows a disk for setting up the movable jaw snugly after the adjustment.

A is the shield, securely attached to the main bar C and arm E by the rivets *e e*. It embraces the main bar, and extends sufficiently to include the adjusting devices, a slot being provided to accommodate the horizontally-arranged disk D. B is the movable jaw, having an arm, B' B', provided with cog-teeth *s s s*, having vertical sides and flat ends, that engage with the corresponding-shaped teeth on the segment F, Fig. 3. An arm, I, is also connected to the shank of the jaw B, and arranged to move outside the shield A, as shown in Fig. 1, for the purpose of engaging and disengaging the cog-teeth, and also to adjust the jaw. A projection or button, *c*, is arranged upon the end thereof, to serve as a thumb-piece. C C' is the main bar and hammer-head jaw, C'' being the portion to receive the wood-

en handle N. *g* is a groove or slot to receive the spline F' on the segment F. A cavity, *x*, is also provided for the extension *x'* of the spline. D is a pivoted disk, having a spiral thread, *y*, surrounding the cavity or recess upon its under side, Fig. 7. The hook *y'* on the spline F' engages with the thread *y*, the end *x''* of the segment F bearing against the cam-shaped periphery of the disk D. The segment F is allowed a slight longitudinal movement in the groove *g*, so that when the cog-teeth are engaged with the corresponding ones on the movable jaw, and the disk D, which bears upon the end *x''*, is turned in one direction, the cam-periphery of the disk forces the movable jaw forward, and when the cam is moved in the opposite direction the hook *y'* relieves the jaw, and the adjusting parts are easily operated. The object of this arrangement is to force the jaw snugly against the nut after it has been adjusted by the lever I.

It is found, in practice, that, owing to the wear of the adjusting parts, considerable lost motion exists, and, in consequence, the jaws do not compress the nut tightly. This inconvenience is completely remedied by this device.

E is an arm connected to the main bar of the wrench and to the shield. It supports a spring, E', that bears upon the shank of the movable jaw, and keeps the cog-teeth in engagement.

It will be observed that the disk D and handle-lever I are very conveniently arranged to be operated by the same hand that grasps and holds the wrench.

The bar A' is connected to the hammer-head and shield, and is also securely attached to the under side of the main bar. This adds greatly to the strength of the wrench at this portion. This supplemental bar may extend the entire length of the main bar, and its external surface threaded at the end to engage with the nut that secures the handle, as shown in Fig. 5.

I am aware that wrenches have been constructed with corresponding cog-teeth arranged upon the main bar and movable jaw, and I am also aware that cam-levers have

been used to force the jaws tightly together, and, therefore, I do not broadly claim such devices; but

What I do claim; and desire to secure by Letters Patent, is—

1. In a wrench constructed as described, the movable jaw B B' B'', provided with the cog-teeth *s s* and handle-lever I, in combination with the toothed segment F, having spline F', and the main bar C, provided with the groove *g*, the parts being arranged and operated substantially as shown and described.

2. The segment F, having spline F', tenon

x', and hook *y'*, in combination with the cam-disk D, for the purpose specified.

3. The combination of the main bar C, provided with the hammer-head O' and the bar A', constructed and arranged as shown and described.

4. The combination of the shield A, the arm E, carrying the spring E', and the main bar C, as shown and described.

ELISHA T. BARLOW.

In presence of—

F. O. WEGENER,
GEO. A. WORZ.