

(No Model.)

A. B. STONE.
WRENCH.

No. 550,144.

Patented Nov. 19, 1895.

Fig. 1.

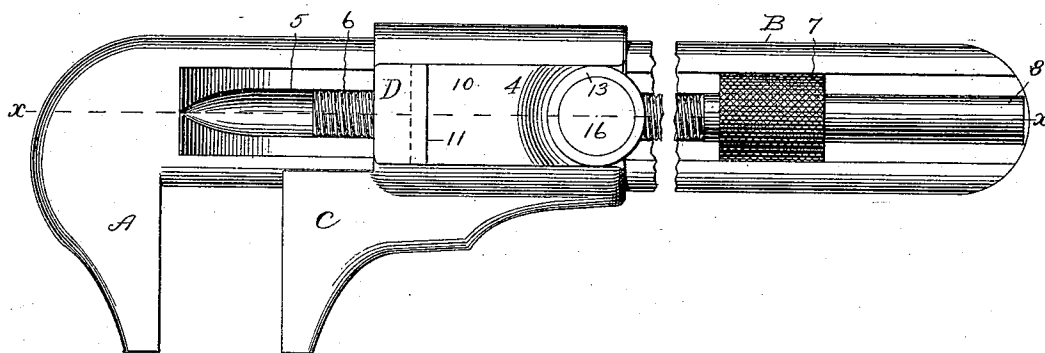


Fig. 2.

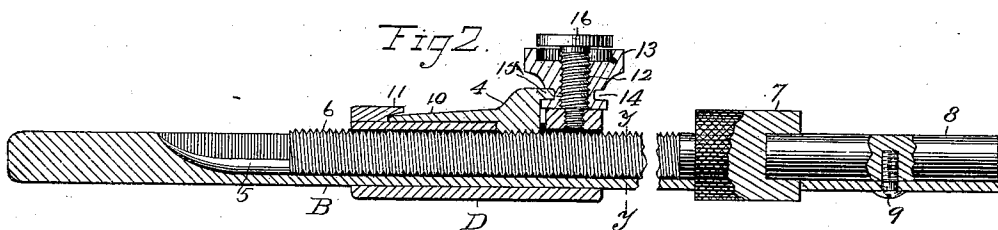
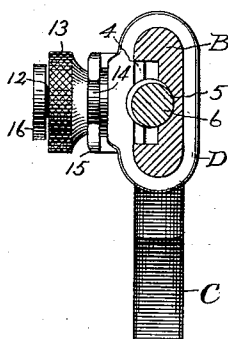


Fig. 3.



Witnesses

W. J. E. J. E.
C. J. Loomis Jr.

Inventor

Arthur B. Stone

By *James Shepard*

Att'y.

UNITED STATES PATENT OFFICE.

ARTHUR B. STONE, OF WINDSOR, CONNECTICUT.

WRENCH.

SPECIFICATION forming part of Letters Patent No. 550,144, dated November 19, 1895.

Application filed February 27, 1895. Serial No. 539,895. (No model.)

To all whom it may concern:

Be it known that I, ARTHUR B. STONE, a citizen of the United States, residing at Windsor, in the county of Hartford and State of Connecticut, have invented certain new and useful Improvements in Wrenches, of which the following is a specification.

My invention relates to improvements in wrenches; and the chief objects of my improvement are to provide means for positively locking the moving jaw in place, to permit the moving jaw to have a quick sliding movement over the jaw-adjusting screw, while it may, when desired, be moved by the screw, and to furnish a firm support for the screw throughout its length.

In the accompanying drawings, Figure 1 is a side elevation of my wrench with a part broken out to make the view of proportionally less length than the wrench. Fig. 2 is a sectional view on the line *xx* of Fig. 1 with some of the parts in elevation; and Fig. 3 is a transverse section of the same on the line *yy* of Fig. 2, looking toward the jaws.

The fixed jaw A is made rigid with the wrench-bar B, said bar having rounded edges so that it may also serve as a handle. Upon one side it is provided with a wide groove, partly for the purpose of decreasing its weight and partly for forming ways or guides for the half-nut 4. In the middle of this wide groove there is a rounded groove 5 to serve as a seat or support for the jaw-adjusting screw 6, and upon the bottom of which groove said screw bears for substantially its whole length. This screw is provided with the usual knurled head 7, which projects into a hole in the wrench-bar, the walls of which hole limit the longitudinal movement of the screw, while at the same time it is free to rotate when not locked against rotation, as hereinafter described. The outer end of the knurled head 7 is bored out centrally or recessed, as shown in Fig. 2, and that end of the screw is held in the groove by means of a holding-rod 8, resting in said groove, and secured by a rivet or screw 9 with one end of said rod in the bore of said head.

C designates the sliding jaw with substantially the usual frame D on the wrench-bar, excepting that said frame is not provided with a fixed nut for the screw. This frame

is recessed upon one side to receive the shank 10 of the swinging half-nut 4, the front end of said shank working under the lip 11. A threaded post 12 is secured to a cross-bar of the frame D of the sliding jaw, and on this threaded post is a nut 13, having a peripheral groove 14, into which the forked end or lip 15 of the half-nut fits. I prefer to secure the post 12 by screwing its shouldered end firmly into the frame D, as shown in Fig. 2, and to provide its outer end with a head 16 to limit the outward movement of the nut 13; but the manner of affixing the threaded post to the frame is not essential.

The parts may be assembled by turning the nut 13 to draw the half-nut out of the way of the screw, sliding the jaw C and frame D on the wrench-bar, inserting the jaw-adjusting screw 6 and dropping its knurled head into the hole or recess in the wrench-bar, inserting the holding-rod 8 and securing it in place by means of the screw 9.

In use the half-nut may be withdrawn from the screw 6 far enough to permit it to pass the screw without engagement, and thereby enable the sliding jaw to be slipped along on the wrench-bar for a quick adjustment. The half-nut may at any time be forced into proper engagement with the screw, while at the same time the screw is free to rotate for the purpose of more slowly adjusting the sliding jaw, as in the ordinary screw-wrench. When so adjusted, it will, in common with the ordinary wrench, be very liable to have the sliding jaw set back a little and loosen or partially loosen its hold on the nut or bolt head to which the wrench-jaws may be applied. In order to overcome this defect, I arrange my half-nut in connection with power-applying devices—that is, the threaded post 12 and the nut 13, so that by turning said nut with considerable force to bind the half-nut firmly upon the screw and forcing said screw firmly upon its seat in the bottom of the rounded groove in the wrench-bar the sliding jaw may be rigidly locked in place and made practically as firm as a fixed jaw. Thus it will be seen that I can use my wrench with a quick movement of the sliding jaw with the ordinary screw-movement, and, when desired, may lock the sliding jaw rigidly in place. In addition to this the screw is so sup-

ported as to be free from all liability of bending.

I claim as my invention—

- 5 1. A wrench comprising a fixed jaw and wrench bar, a sliding jaw and its frame, the jaw adjusting screw, the half nut for engaging one side of said screw and means for adjusting said half nut to loosely fit said screw or to bind it thereon with sufficient force to
10 prevent the rotation of said screw and thereby to lock the sliding jaw against movement in either direction, substantially as described.
2. A wrench comprising a wrench bar, jaws, jaw frame, and jaw adjusting screw, and hav-
15 ing an outwardly swinging half nut, the threaded post, the grooved nut on said post and a lip on the half nut for engaging the nut groove, substantially as described and for the purpose specified.
- 20 3. A wrench having wrench bar, jaws, and jaw frame, and having also the screw seat or support extending longitudinally of said

wrench bar, the jaw adjusting screw, the half nut on that side of said screw which is opposite said seat, and power applying devices for
25 firmly binding the said screw between said half nut and the screw-seat, substantially as described and for the purpose specified.

4. A wrench having bar and jaws, the bar being provided with a screw head-receiving-
30 recess and with an open-sided longitudinal groove extended in both directions from said recess, the jaw adjusting screw having an enlarged head fitted to said head-receiving-recess and the screw holding rod secured in the
35 bottom of said open-sided groove, in contradistinction to being inclosed on all sides, as when in a hole, substantially as described and for the purpose specified.

ARTHUR B. STONE.

Witnesses:

AUSTIN HART,

CHAS. H. BEATON.