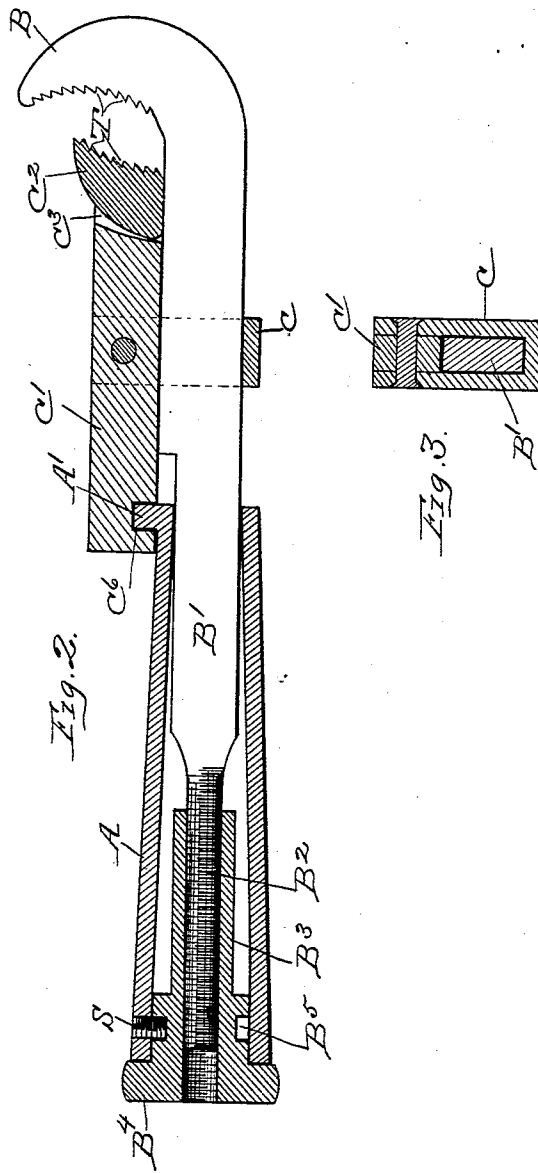
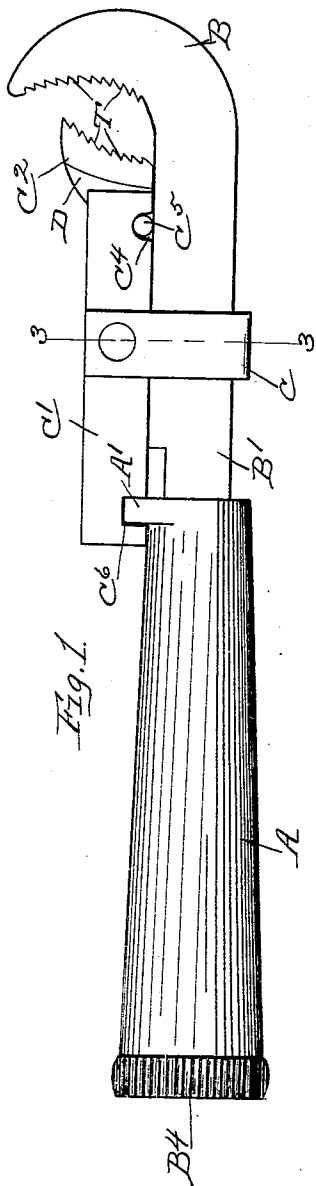


(No Model.)

D. METCALFE.
WRENCH.

No. 563,049.

Patented June 30, 1896.



Witnesses:
G. H. Curtis.
C. H. Curtis.

Inventor:
Daniel Metcalfe
By Mosher & Curtis
attys.

UNITED STATES PATENT OFFICE.

DANIEL METCALFE, OF TROY, NEW YORK.

WRENCH.

SPECIFICATION forming part of Letters Patent No. 563,049, dated June 30, 1896.

Application filed March 10, 1896. Serial No. 582,558. (No model.)

To all whom it may concern:

Be it known that I, DANIEL METCALFE, a citizen of the United States, residing at Troy, county of Rensselaer, and State of New York, have invented certain new and useful Improvements in Wrenches, of which the following is a specification.

The invention relates to such improvements; and it consists of the novel construction and combination of parts hereinafter described and subsequently claimed.

Reference may be had to the accompanying drawings, and the letters of reference marked thereon, which form a part of this specification.

Similar letters refer to similar parts in the several figures therein.

Figure 1 of the drawings is a view in side elevation of my improved wrench. Fig. 2 is a central longitudinal section of the same. Fig. 3 is a cross-section of the same, taken on the broken line 3 3 in Fig. 1.

A is the handle of my improved wrench, and B the outer jaw. The handle comprises a barrel adapted to receive the outer-jaw arm B'. The end of the arm B' is inserted in the barrel and terminates in a screw-threaded shank B², adapted to receive the adjusting-nut B³, located partly within the barrel and provided with a projecting enlarged milled head B⁴, by means of which the nut may be rotated. The inner portion of the nut is provided with an annular groove B⁵, adapted to receive the inner end of a screw S, inserted through the barrel-wall, whereby longitudinal movement of the nut is prevented, while it may be freely rotated. The intermediate portion of the arm B', between the threaded

shank and jaw, is angular in form and adapted to move longitudinally through slideways 40 formed in the inner end wall of the barrel and in the clip C, secured to the arm C', which supports the inner jaw C². The outer end of the inner-jaw arm C is provided with a vertical slot C³, adapted to receive the flat shank 45 D of the inner jaw C², and the slot-walls are provided with bottom edge grooves C⁴, adapted to receive the trunnions C⁵ of the inner jaw, whereby a limited rotary movement of the inner jaw is permitted, while the trunnions 50 are secured between the shank or arm B' of the outer jaw and the supporting-arm of the inner jaw. The arm C' is provided with a slot C⁶, adapted to receive a lug or flange A' on the barrel, whereby the arm is held from 55 longitudinal movement. The jaws may be provided with teeth T when desired.

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

In a wrench, the combination with a barrel- 60 handle A inner and outer jaws and jaw-arms, one of said arms having a slot C⁶ adapted to receive a lug A' on the barrel and a slideway-clip embracing the other arm, said other arm being inserted through an end aperture in the 65 barrel and provided with a screw-threaded shank; of an adjusting-nut rotatively secured within the barrel upon the screw-threaded shank, and having a projecting operating-head, substantially as described. 70

In testimony whereof I have hereunto set my hand this 22d day of February, 1896.

DANIEL METCALFE.

Witnesses:

FRANK C. CURTIS,
HENRY J. CANNON.