(No Model.)

J. HOULEHAN.

WRENCH.

No. 278,553. Patented May 29, 1883.

Fig. 1

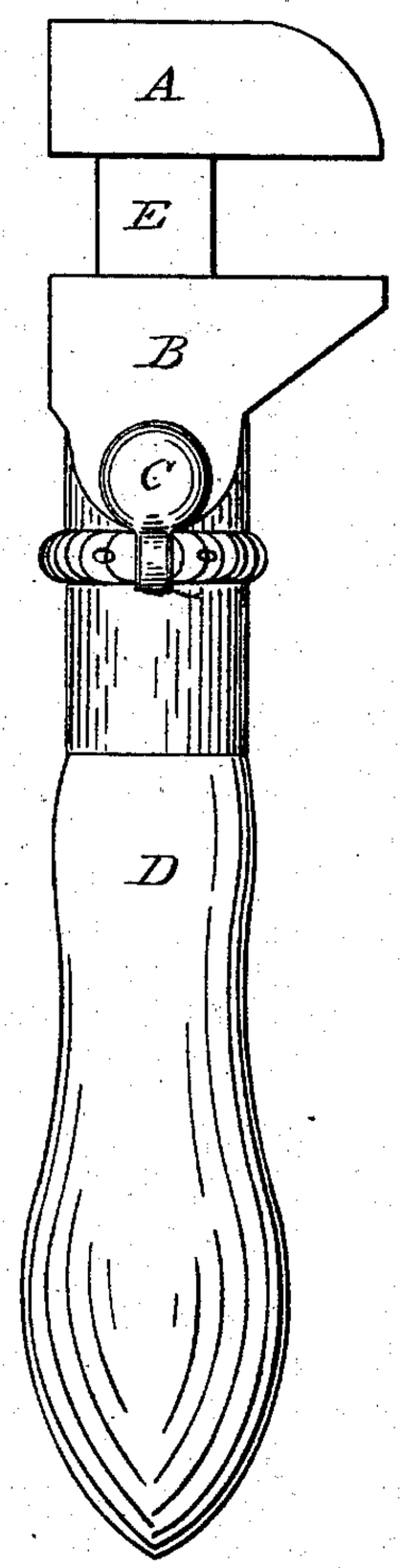
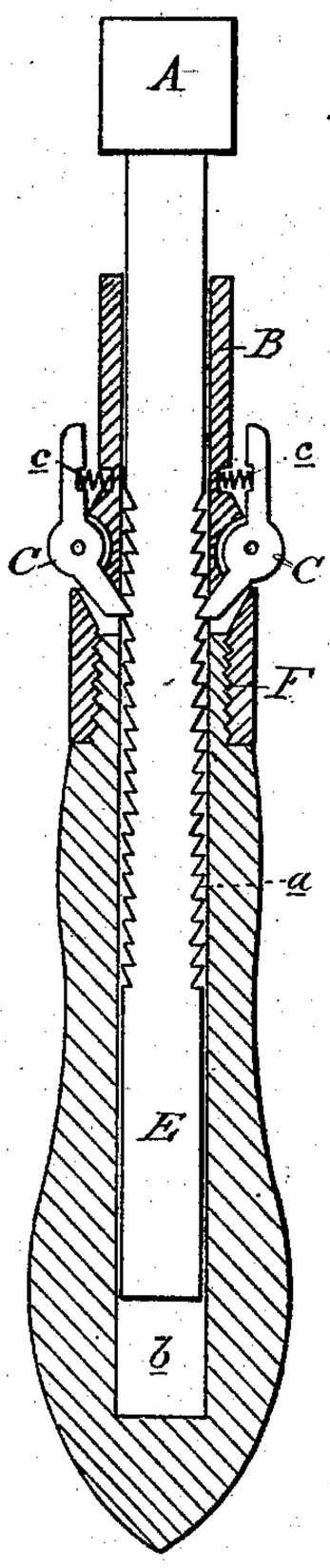


Fig. 2



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UNITED STATES PATENT OFFICE.

JAMES HOULEHAN, OF TOLEDO, OHIO, ASSIGNOR OF ONE-HALF TO CHARLES W. HIGGINS, OF SAME PLACE.

WRENCH.

SPECIFICATION forming part of Letters Patent No. 278,553, dated May 29, 1883.

Application filed January 22, 1883. (No model.)

To all whom it may concern:

Be it known that I, JAMES HOULEHAN, of Toledo, in the county of Lucas and State of Ohio, have invented new and useful Improvements in Wrenches; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, which form a part of this specification.

This invention relates to certain new and useful improvements in the construction of wrenches of that class usually denominated "monkey-wrenches," or those wherein one jaw of the wrench is fixed and the other adjustable.

The invention consists in the peculiar construction of parts and their combination, by means of which much greater strength may be had in an implement of a given size than can be found in the ordinary constructions, and as more fully hereinafter described.

Figure 1 is a side elevation, and Fig. 2 is a central longitudinal section, showing the arrangement of parts by means of which the varying adjustments required are obtained.

In the accompanying drawings, which form a part of this specification, A represents the movable jaw of the wrench, rigidly secured at the outer extremity of the rectangular shaft E, and upon two of the opposite sides of this shaft, and for a part of its length, it is provided with ratchet-teeth *a*.

D is the handle, to one extremity of which is secured the fixed jaw B. This handle is provided with a rectangular recess, *b*, to receive the shaft E, and this recess is of sufficient depth to allow the entire closing of the adjustable jaw upon the fixed jaw, a rectangular hole through such fixed jaw, corresponding with the recess in the handle, allowing the shaft of the adjustable jaw to be inserted in the handle.

C are two pawls pivotally secured upon each side of the handle, so that the pawls project through the walls of the recess to engage upon opposite sides with the ratchets upon the shaft, and it will be noticed that these pawls do not engage with ratchet-teeth immediately opposite each other, but one of the pawls engages with a ratchet-tooth in advance or in rear of the like engagement upon the other side. Small springs *c* between the lever part of such pawls and the outer side of the handle compel the engagement of the pawls with the ratchets, except when the springs are compressed, when the pawls are disengaged, and allow the adjustments to be made as desired.

The fixed head B may be secured to the handle in any desired manner, the preferable way, however, being to cast the rigid head with a ferrule, F, into which the wooden part of the handle extends, and to which it is secured.

If preferred, the handle and rigid head may be cast in one piece of gray or malleable iron, cored out to form the recess and slots through which the pawls operate. By this construction a more rapid adjustment may be had of the movable jaw than can be had in tools of ordinary construction, and it is easy to be seen that this tool possesses extraordinary strength.

What I claim as my invention is—

A wrench wherein the movable jaw A, shaft E, fixed jaw B, handle D, and pawls C are constructed, combined, and operate substantially as and for the purposes set forth.

JAMES HOULEHAN.

Witnesses:
H. S. SPRAGUE,
E. SCULLY.