

(No Model.)

A. E. PETTICREW.

RATCHET WRENCH.

No. 285,669.

Patented Sept. 25, 1883.

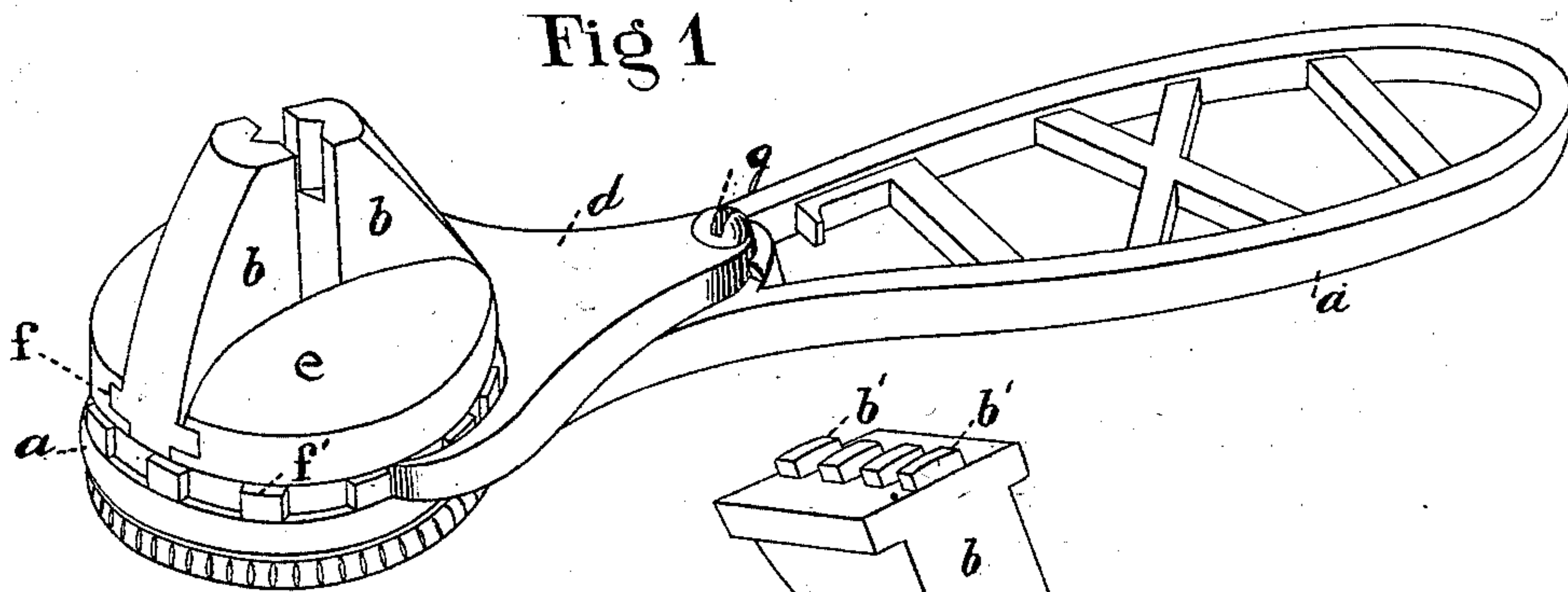


Fig 2

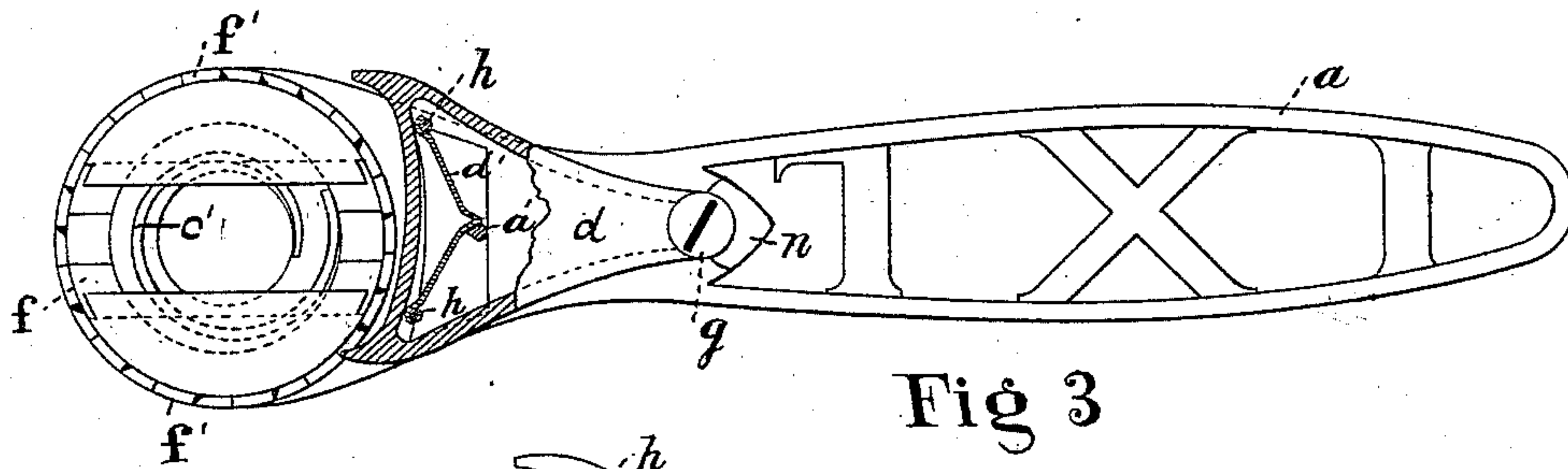
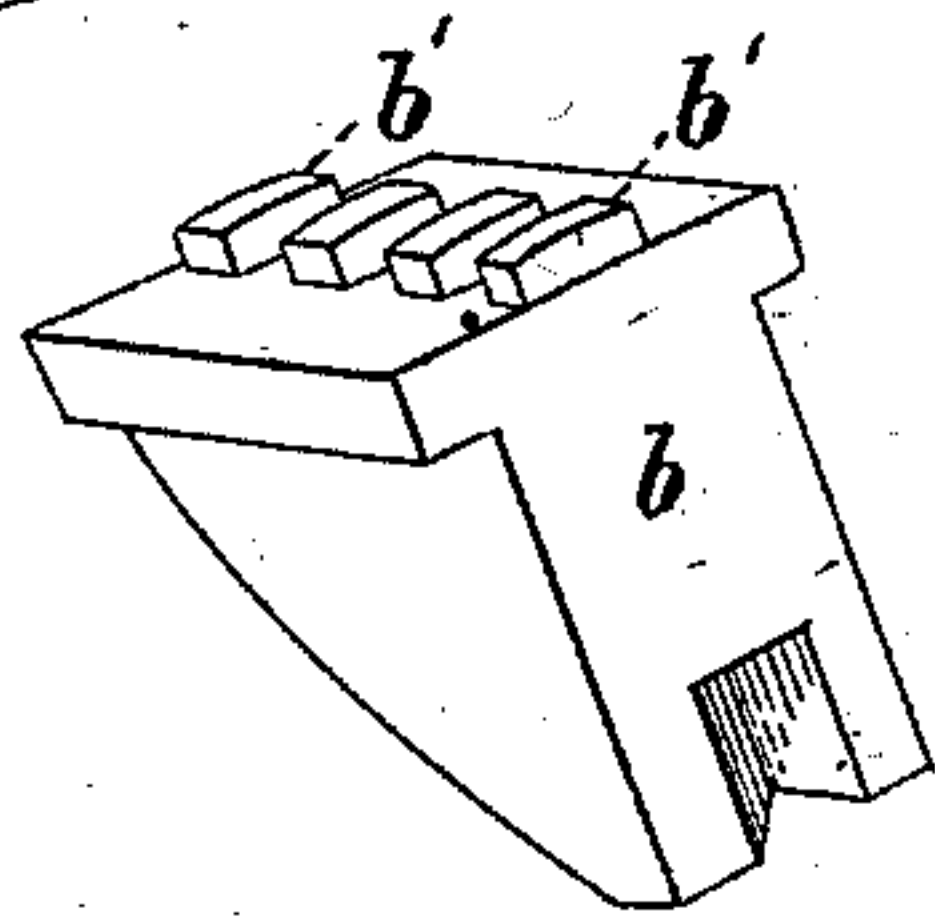
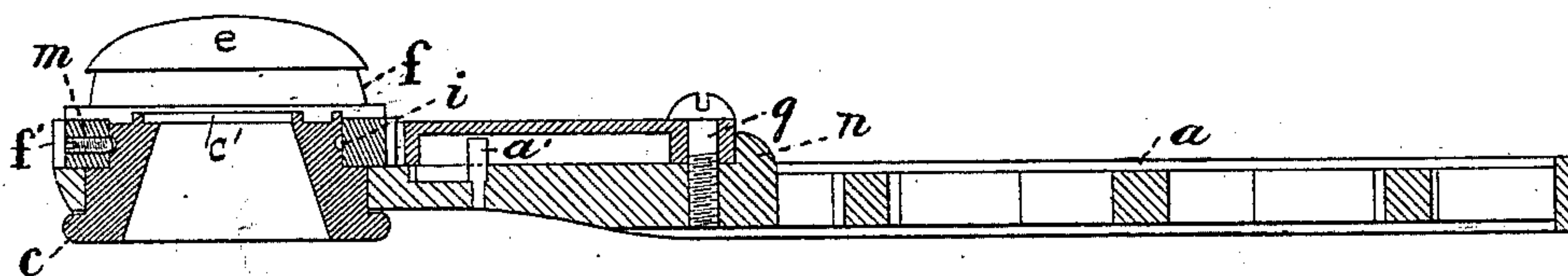
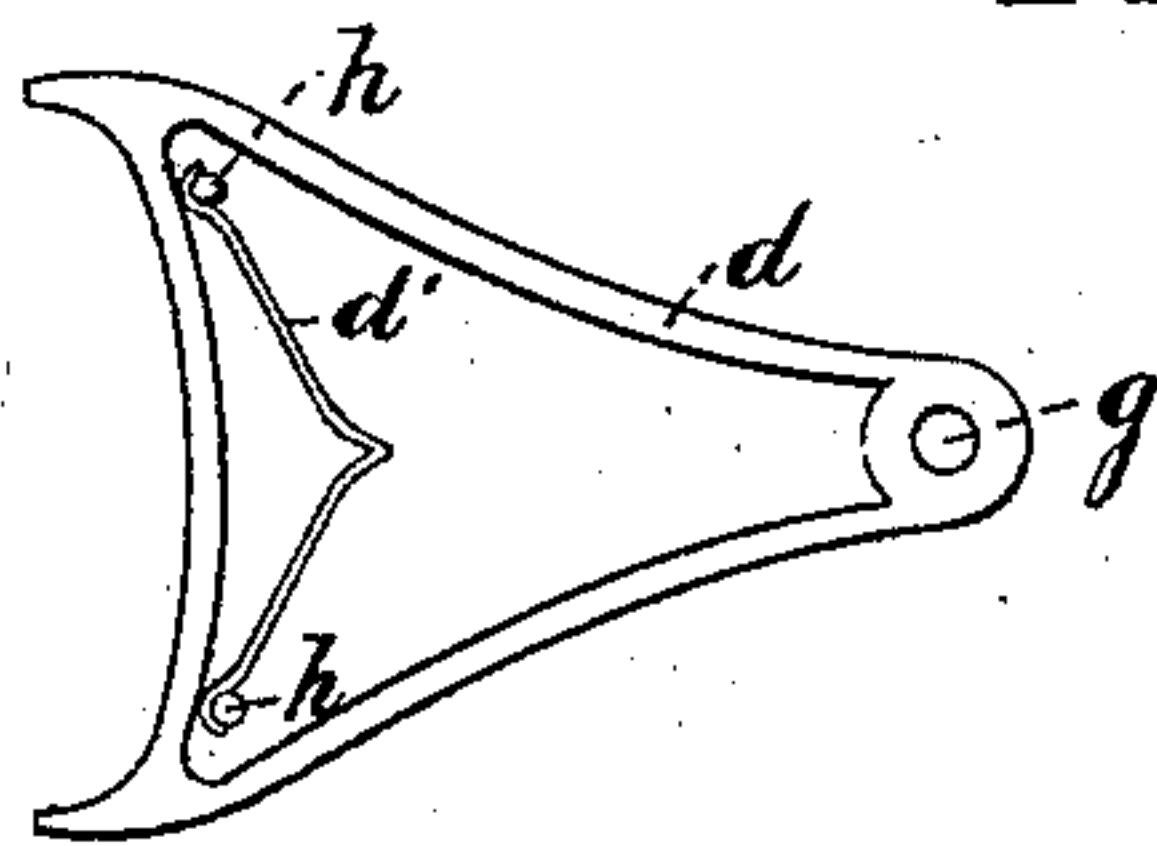


Fig 4



Attest
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UNITED STATES PATENT OFFICE.

ALBERT E. PETTICREW, OF SPRINGFIELD, OHIO.

RATCHET-WRENCH.

SPECIFICATION forming part of Letters Patent No. 285,669, dated September 25, 1883.

Application filed June 8, 1883. (No model.)

To all whom it may concern:

Be it known that I, ALBERT E. PETTICREW, of Springfield, county of Clarke, State of Ohio, have invented a new and useful Improvement in Ratchet-Wrenches, of which the following is a specification.

In the accompanying drawings, Figure 1 is a perspective view of a ratchet-wrench embodying my improvement. Fig. 2 is a perspective view of one of the clamping-jaws detached from its slides. Fig. 3 is a plan view of the wrench with the clamping-jaws removed and the detent represented partly in section for purposes of perspicuity. Fig. 4 is an inverted plan view of the detent and its spring, and Fig. 5 is a longitudinal sectional elevation of the wrench with the clamping-jaws removed.

In each of these figures letters of like character indicate corresponding parts.

The object of this invention is to simplify and improve the construction of ratchet-wrenches and leave a clear passage through the center of the opening of the jaws for the accommodation of bolts that have considerable length—as, for example, a bolt of an ordinary stuffing-box.

The invention consists in a pair of sliding clamping-jaws provided with helically-shaped teeth that fit into a raised scroll formed upon the upper surface of a revolving cylinder, having an aperture through its center for the accommodation of long bolts, said jaws being opened and closed by the aforesaid teeth and scroll through the agency of a roughened surface made upon the exterior of the revolving cylinder, in combination with an oscillatory handle provided with two way working detent operating in ratchet or other shaped teeth formed around the circumference of the wrench-slideway; and it further consists in the construction and arrangement of parts, as will be hereinafter fully specified, and pointed out in the claim.

The wrench is constructed with the following parts: a cast-metal handle, *a*, sliding jaws *b b'*, revolving jaw-expanding cylinder *c*, adjustable detent *d*, retaining-ring *e*, having slide-ways *f*. The sliding jaws *b b'* have helically-

shaped teeth *b'*, that fit into a raised scroll, *c'*, formed on the revolving cylinder *c*, whereby the jaws *b* may be opened or closed to suit the varying dimensions of nuts or drills to be rotated by the wrench. The jaws *b b'*, together with the object to be rotated, are moved by the handle *a* and detent *d*, the latter being pivoted to the former at *g*. The part *f* is provided with teeth *f'* around its circumference, against which the detent *d* acts while operating the wrench. To permit the detent to climb the projections *f'* while retracing its working steps, a spring, *d'*, is employed. This spring is of a peculiar construction, and it may be immediately thrown from one to the other side of a conically-shaped projection, *a'*, secured to the handle *a*, whereby the wrench may be caused to rotate in either direction at the will of the operator. The form of this spring is clearly illustrated by the drawings, and it is sprung into place until its semicircular ends encompass the fixed studs *h*, that form a part of the detent *d*. The cylinder *c* has a circumferential groove, *i*, into which enter the points of the retaining-screws *m* used to unite the parts *c e*, suitably for the independent movement of the one around the other. To strengthen the pivotal point *g*, I use a back support, *n*, cast upon the handle *a*.

It will be observed that the cylinder *c* is provided with a central opening for the accommodation of long bolts.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

The combination, in a ratchet-wrench, of the cylinder *c*, provided with a raised scroll, the jaws *b*, having teeth *b'*, the handle *a*, having the projection *a'*, the detent *d*, having the spring *d'*, and the slideway *f*, having the teeth *f'*, substantially as and for the purpose described.

In testimony whereof I have hereunto set my hand this 6th day of March, 1883.

ALBERT E. PETTICREW.

Witnesses:

HENRY MILLWARD,
S. S. WALLACE.