

J. WOOLFORD.
Ratchet-Wrench.

No. 221,989.

Patented Nov. 25, 1879.

FIG. 1.

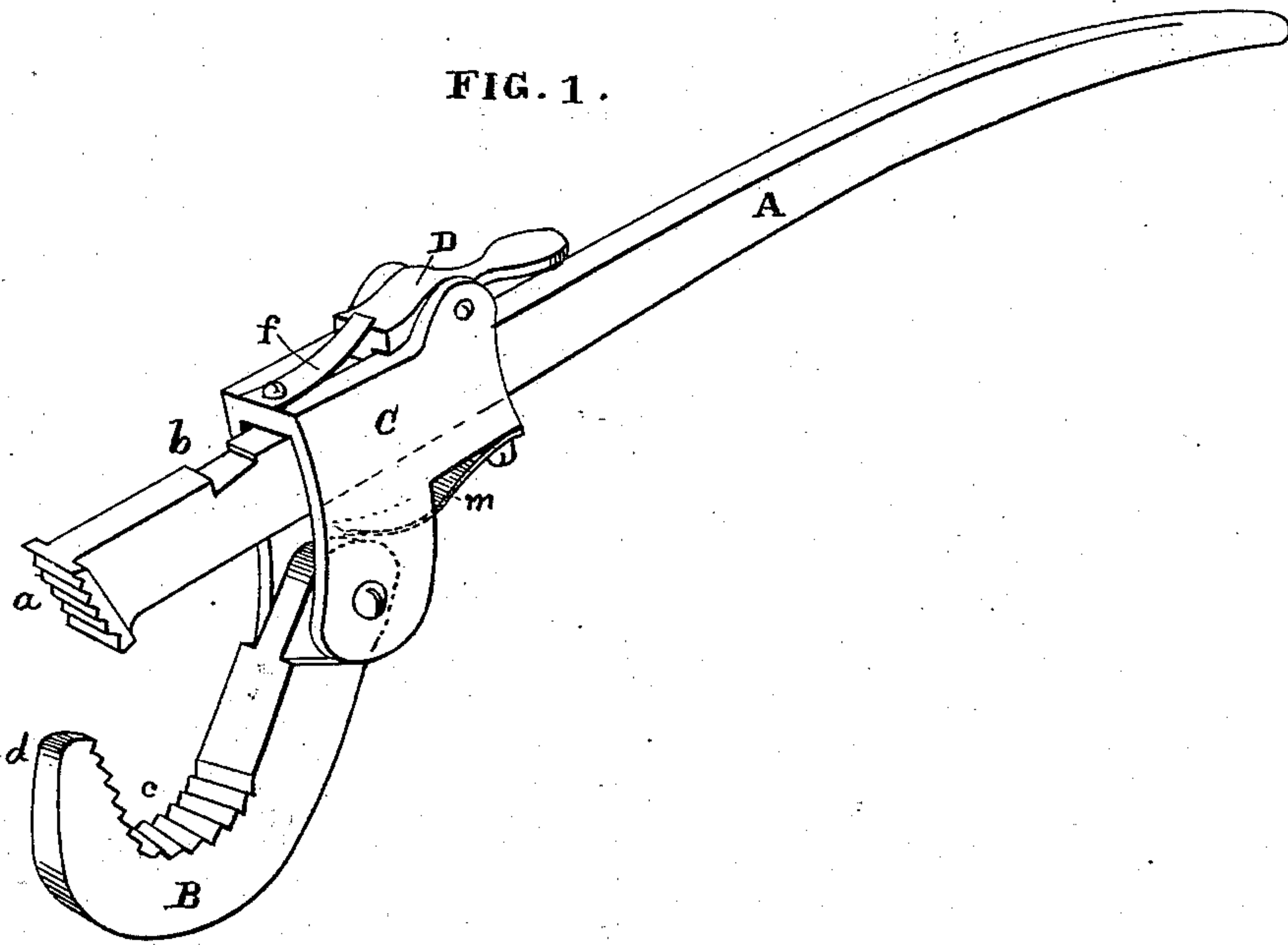
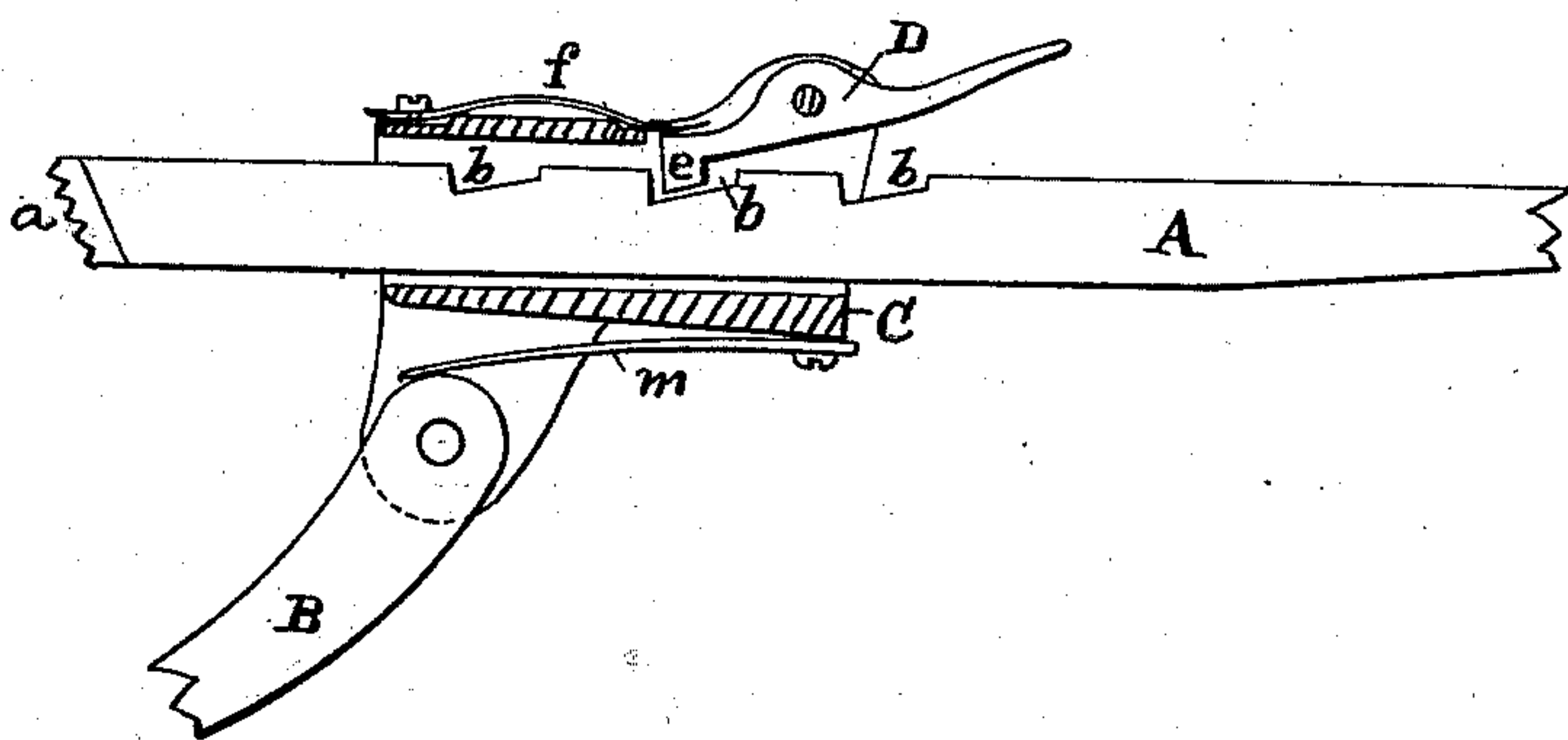


FIG. 2.



Witnesses

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IMPROVEMENT IN RATCHET-WRENCHES.

Specification forming part of Letters Patent No. **221,989**, dated November 25, 1879; application filed June 9, 1879.

To all whom it may concern:

Be it known that I, JOSEPH WOOLFORD, of Plymouth, county of Amador, and State of California, have invented an Improved Ratchet-Wrench; and I hereby declare the following to be a full, clear, and exact description thereof, reference being made to the accompanying drawings.

My invention relates to certain improvements in that class of wrenches such as are used for pipes, nuts, unions, and couplings of all kinds where pipe-tongs or nut, monkey, or ratchet wrenches can be used.

My improvement consists in a particular combination and arrangement of devices, as hereinafter more fully described and particularly claimed.

Figure 1 is a view of my wrench. Fig. 2 is a section.

Let A represent the handle of the wrench, provided with the corrugated or roughened beveled head or jaws *a*, and having the slots *b* formed in it, as shown, for the purpose hereinafter described. On this handle is fitted a sliding head, C, which carries a peculiarly-shaped adjustable jaw, B. This jaw B is hooked or turned at its upper end, and has its internal face roughened, as shown, the lower part, *c*, being curved, and the upper, *d*, plane, as shown. At the heel of this jaw is placed a spring, *m*, by which the jaw may be operated as a ratchet, as hereinafter described.

On the lower side of the head is formed a shoulder, in which is swiveled a latch, D, with a spring, *f*, and a lug, *e*, to engage with the slots *b* in the handle.

In adjusting the wrench to any desired work, the head is slid up on the handle until the lug on the latch is over the slot or notch desired, and the spring *f* will engage it with said notch. This secures the head in position and regulates the gripe of the jaws. For a greater or less gripe between the jaws, the outer end of the latch or catch is depressed by the thumb, and the lug thus lifted out of the slot, so the head may be slid up or down the handle to another slot, when, by releasing the latch, its spring will throw the lug on the latch into the slot.

In using the wrench as a ratchet in confined spaces, the object is griped by the jaws, and the spring *m* admits of a reciprocating motion being given to the handle without removing it from the object.

In grasping circular or similar shaped ob-

jects the pressure on the adjustable-shaped jaw will come in the curved face.

For turning square heads, bolts, &c., the upper or square portion will fit on the bolt-head, and the stationary jaw gripe the other side. The jaw B will adjust itself to any irregularities in the object grasped.

In turning nuts, the nuts may be grasped in any position, either on the corners or the sides, and as a new hold can thus be taken on every quarter-inch of surface without regard to corners, this device will work in confined spaces where no other wrench can be used.

It can be used to advantage in screwing stubs into castings, as the shape allows of its use without a set-nut, thus avoiding any danger of starting the stub when taking off the set-nut.

The ease and rapidity of adjustment to different sizes of gripe make it a very valuable bench-tool, and as there are no projections on the sides there is nothing to prevent a full turn when necessary.

The simplicity, rapidity, and strength of the adjustment render the tool a very useful and practical one. There are no nuts and threads to give way under strain, and the whole is so simple that in case of breakage any blacksmith can repair it.

In turning nuts it is never necessary to remove the wrench from the nut till it is in tight. When the end of the stroke is reached the handle may be slid back without removing the wrench, which on the back stroke works the same as a ratchet.

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

The handle A, with its jaw *a* and slots *b*, in combination with the sliding head C, carrying the adjustable curved jaw B, having the curved and plane faces *c d* and spring *m*, said head being provided with the catch D, carrying the lug *e* and spring *f*, by means of which the jaws are made adjustable and the wrench can be used as a ratchet, substantially as herein described.

In witness whereof I have hereunto set my hand.

JOSEPH WOOLFORD.

Witnesses:

S. C. WHEELER,
J. STEINMETZ.