

T. D. CHRISTOPHER.
WRENCH.

No. 68,168.

Patented Aug. 27, 1867.

Fig. 1.

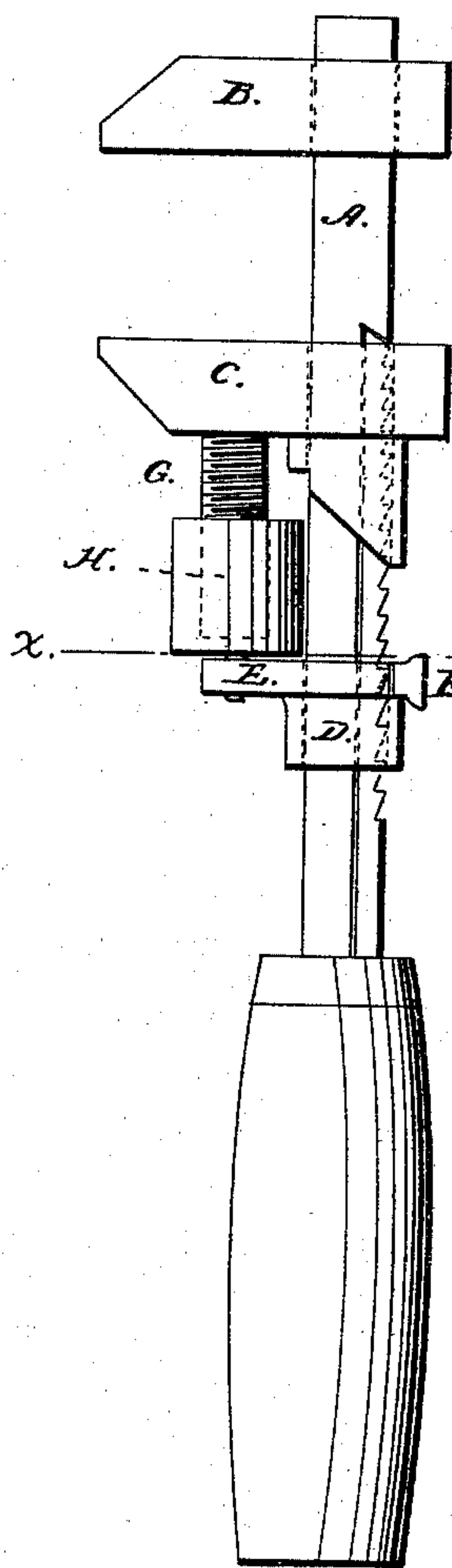
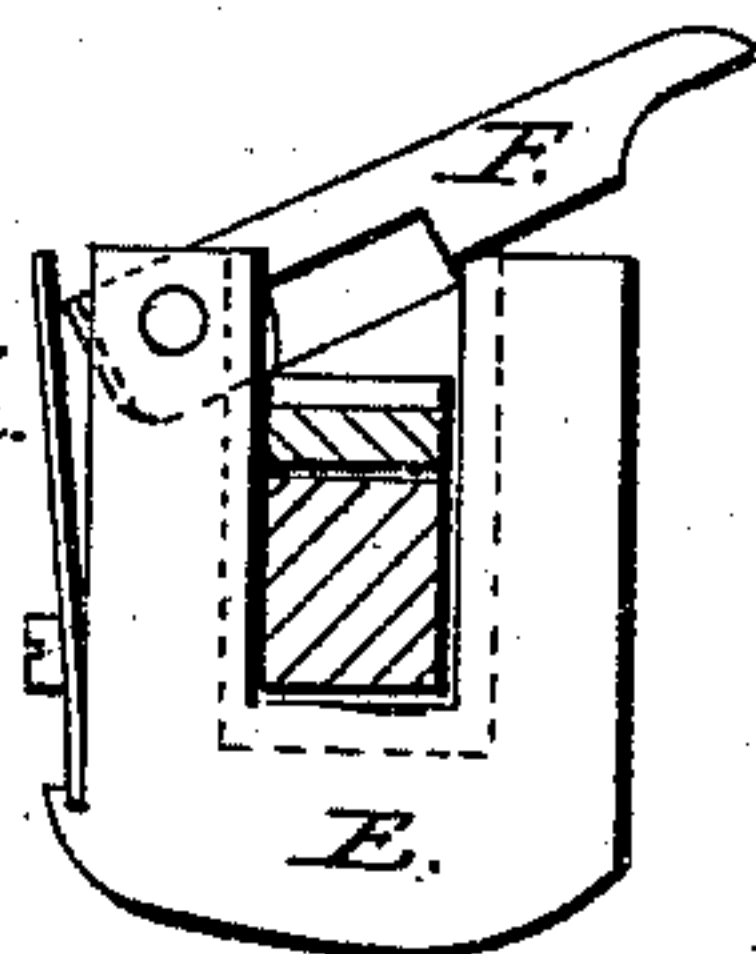


Fig. 2.



Witnesses:

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THEODORE D. CHRISTOPHER, OF MADISON, INDIANA.

Letters Patent No. 68,168, dated August 27, 1867.

IMPROVEMENT IN WRENCHES.

The Schedule referred to in these Letters Patent and making part of the same.

TO ALL WHOM IT MAY CONCERN:

Be it known that I, THEODORE D. CHRISTOPHER, of Madison, Jefferson county, Indiana, have invented a new and useful Improvement in Wrenches; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same, reference being had to the accompanying drawings, forming part of this specification.

This invention consists in combining a screw and ratchet-wrench in such a manner that while the jaw is firmly held by a catch-bar working in the ratchet, the jaw can be adjusted with the greatest nicety by the screw and nut; and it also consists in the manner in which the catch-bar is constructed and operated.

Figure 1 represents the wrench complete.

Figure 2 is a cross-section through the line *x x*.

Similar letters of reference indicate corresponding parts.

A represents the wrench-bar; B is the fast jaw, and C is the movable or sliding jaw; D is a sliding band or thimble which is moved back and forth over the bar; E is a plate attached to the thimble D; F is the catch-bar, which is hinged to the plate E, as seen in fig. 2, the end of which is acted on by a spring, *a*, which serves to keep the catch in place; G is a screw which is attached to the sliding jaw C; H is a nut which works on the screw, and which is attached by a pin to the plate E, on which pin it revolves. The operation will be readily understood from the drawing.

When the jaw C and the thimble D are drawn back over the ratchet-teeth the catch-bar F is turned out of the ratchet, as seen in the drawing. When the jaw is in about the right position the catch-bar is closed down and into the ratchet, engaging with one of the teeth, and it is held in place by the spring *a*. If, when in this position, the jaws C and B do not fit the nut to be turned sufficiently well, the nut H is turned on the screw G, so that the jaws may come in close contact with the nut. In ordinary cases the jaws of the wrench can be adjusted with sufficient accuracy by the ratchet-teeth and catch-bar alone.

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

1. The combination of the sliding thimble D, the plate E, the catch-bar F, and the spring *a*, with a ratchet-wrench, substantially as and for the purposes set forth.

2. I claim the same, in combination with the screw G and nut H, arranged substantially as shown and described, on bar *e* of a ratchet-wrench, for the purposes set forth.

THEODORE D. CHRISTOPHER.

Witnesses:

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