

W. S. Smoot,

Wrench.

N^o 84,142.

Patented Nov. 17, 1868.

Fig. 1.

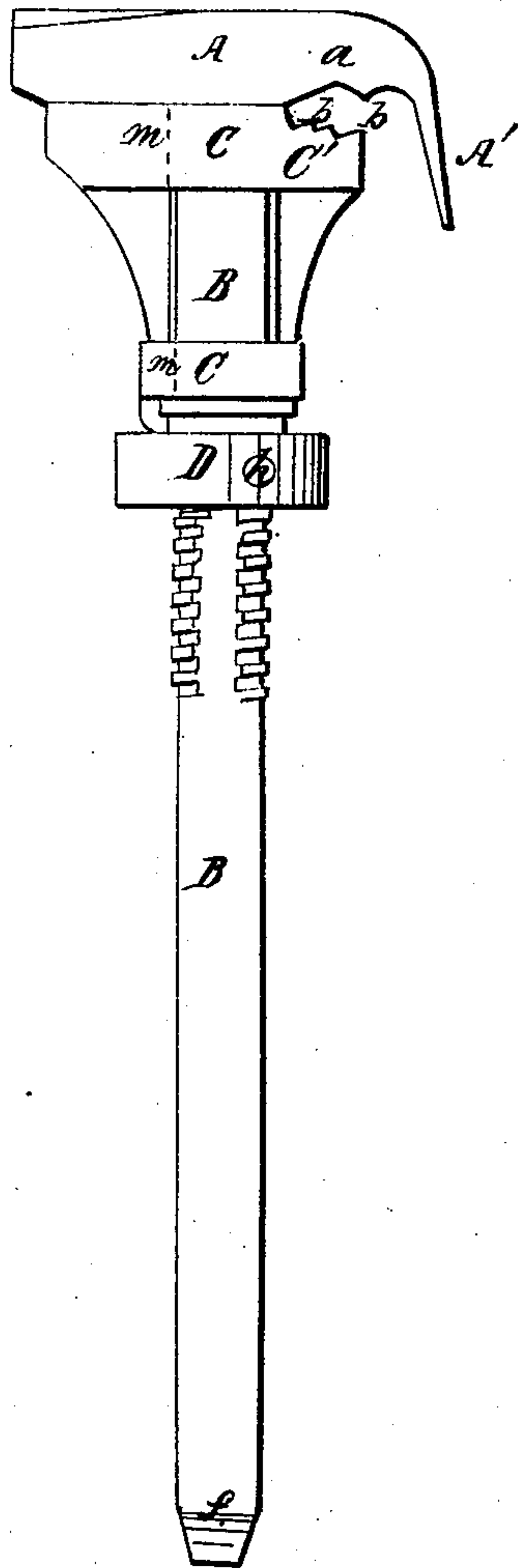


Fig. 3.

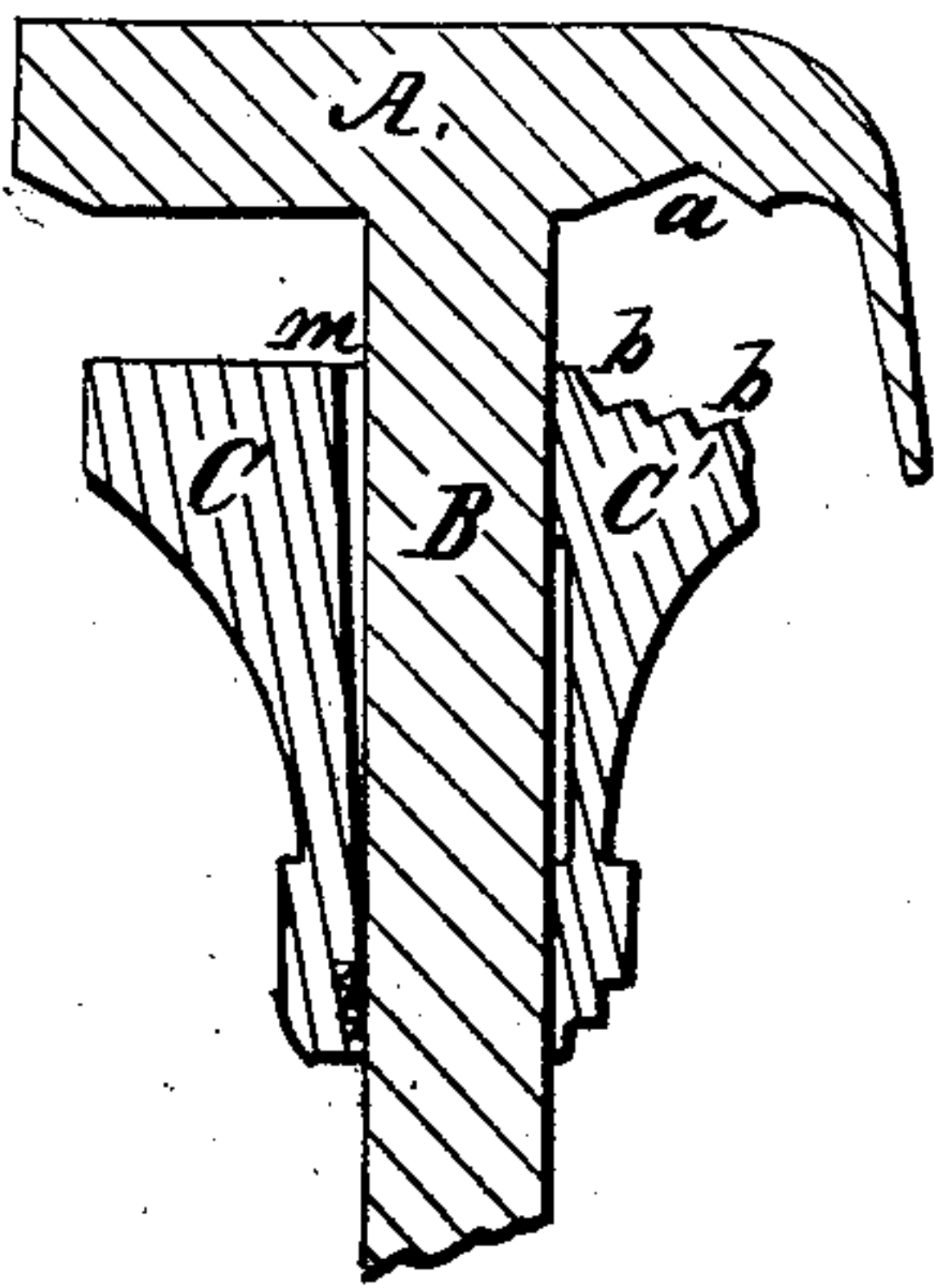
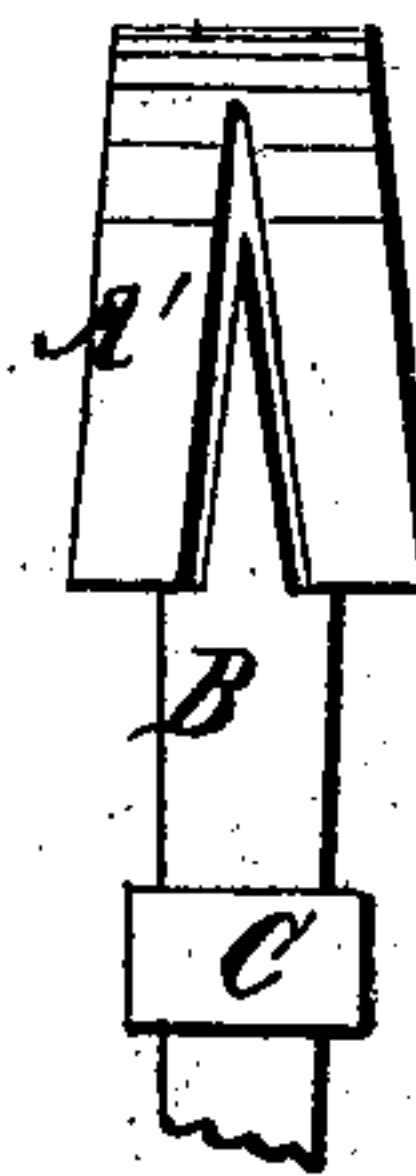


Fig. 2.



Witnesses:

Johns. H. H. H. H.

John D. Bloor

Inventor:

W. S. Smoot

United States Patent Office.

WILLIAM SYDNEY SMOOT, OF WASHINGTON, DISTRICT OF COLUMBIA.

Letters Patent No. 84,142, dated November 17, 1868.

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, WILLIAM SYDNEY SMOOT, of Washington, in the District of Columbia, have invented a new and improved Form of Combined Claw-Hammer, Wrench, and Screw-Driver, of which the following is a full and exact description, reference being made to the accompanying drawings.

The object of my invention is to provide a strong, convenient, and cheap instrument for the use of farmers and others having but few tools, which shall be a claw-hammer, for driving and pulling out nails, and, at the same time, capable of being transformed into a monkey-wrench, or pipe-wrench, or screw-driver.

I am aware that, previous to my invention, a wrench-attachment has been applied to claw-hammers; but this arrangement is not strong, nor has any provision been made for grasping pipes or round nuts.

I am also aware that wrenches have been made, adapted to be used for turning either nuts or pipes; but this has been done by hinging a knuckle to the back of the sliding jaw, or by hinging the sliding jaw to a collar, and forming teeth in the face of the jaw.

Both of these arrangements involve the use of a number of pieces, and are consequently expensive to manufacture, and more easily broken than the wrench I am about to describe. In addition to this, the teeth necessary to the operation of the latter of the above-mentioned arrangements are apt to scar and deface new nuts.

I have found that, by a simple construction of the sliding jaw itself, I am enabled to dispense with all joints or hinges, and still produce an equally efficient tool.

The hammer-head A and handle B may be made of malleable or wrought-iron or steel, or the head may be of steel, with an iron handle, firmly secured in a slot therein.

The back of this head is formed into a claw, A', and between the claw and shank B is a v-shaped depression, *a*.

The jaw C slides upon the shank B, and is adjusted by the screw-nut D.

The front of this jaw does not differ materially from the corresponding part of wrenches in use, but its rear is extended at C', opposite the v-shaped depression *a*, and has teeth formed therein sloping outward. It is

intended that these teeth should be formed in the metal of the jaw, but, for convenience of manufacture, they may be inserted in a separate piece.

The slot through which the shank or handle B passes is of a peculiar shape, which I will describe particularly, as being an important feature of my invention.

The red dotted lines, Figure 1, and the section, Figure 3, show the shape of this slot, by which it is seen that the side of the slot in rear of the shank is parallel with the same, but that the side *m n*, in front, is so formed as to nearly fit the shank at *n*, but is considerably enlarged at *m*.

The object of this arrangement is that, when used as a nut-wrench, the jaw is confined at *n*, and, its rear fitting the back of the shank, no yielding of the face of the jaw is possible; but, when used as a pipe-wrench, the jaw C' yields as the wrench is tightened, until the side *m* comes against the face of the shank, and if, now, pressure be applied to turn the pipe, the jaw C' is forced in, and the grasp of the wrench tightened, as by a knuckle-joint.

In the nut D are drilled holes *h h*, to lighten it, and provide for the insertion of a lever, when it is wished to obtain greater power in tightening the wrench than can be applied by turning the nut with the fingers.

I know that, previous to my invention, wrenches have been made which could be used as a nut or pipe-wrench, as a claw-hammer for driving and pulling nails, and as a screw-driver; also, that the ordinary claw-hammer has had a wrench-attachment adapted to it, and that screw-wrenches have been made which were adapted to be used for gripping pipes, by having their sliding jaw pivoted to a collar, and capable of yielding or being forced in toward the shank, thus acting as a knuckle-joint.

All of the above arrangements I disclaim.

What I claim as my invention, and desire to secure by Letters Patent of the United States, is—

A wrench, constructed with a head, A, handle B, and sliding jaw C, when arranged substantially as and for the purpose set forth.

W. S. SMOOT.

Witnesses:

PETER MCGINNESS,
REUBIN PHILLIPS.