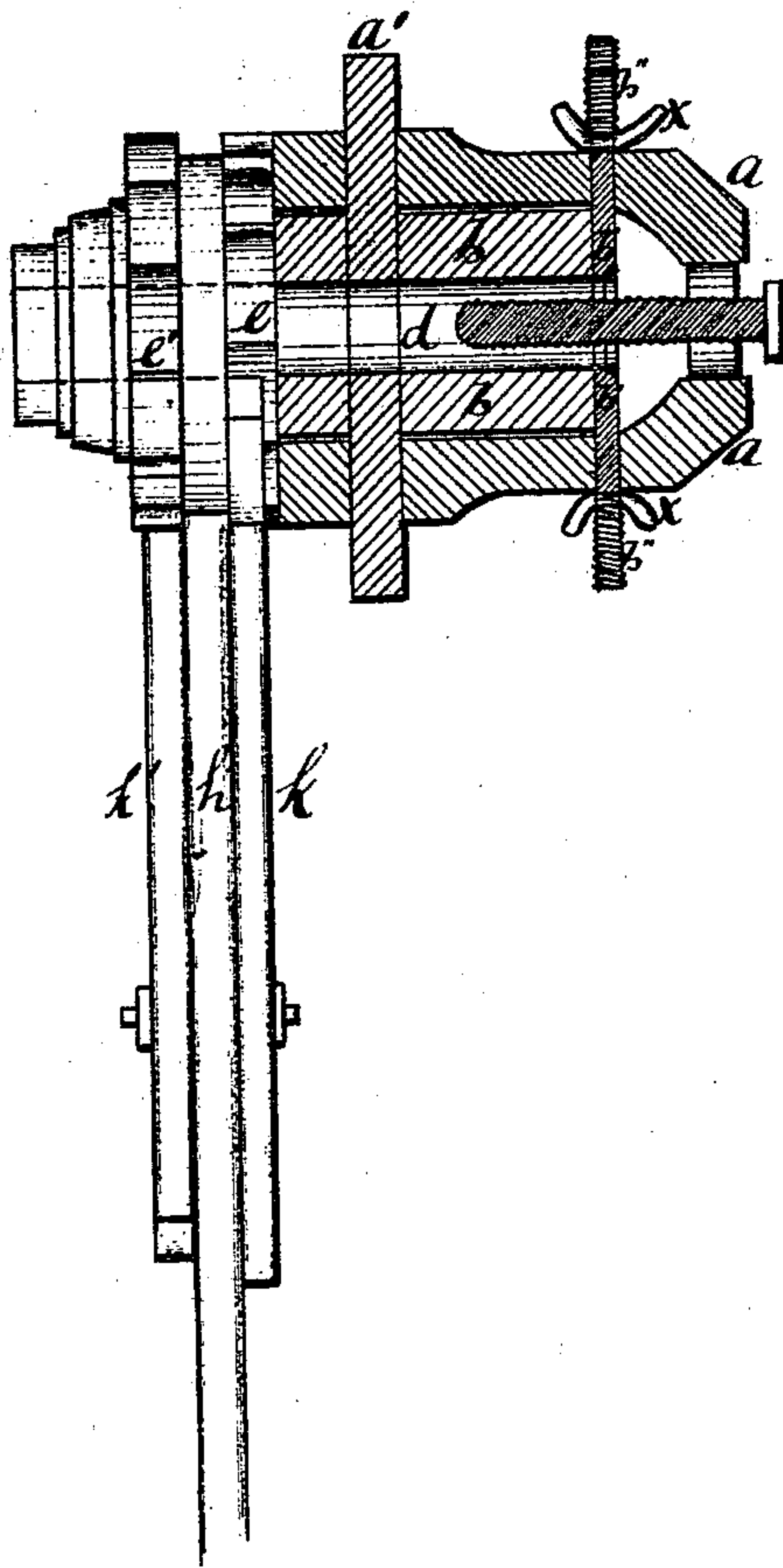


*W. A. Wilson,*

*Wrench.*

*No. 94,161.*

*Patented Aug. 24. 1869.*



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Atty.*

# United States Patent Office.

WILLIAM A. WILSON, OF SAVANNAH, MISSOURI.

Letters Patent No. 94,161, dated August 24, 1869.

## IMPROVEMENT IN WRENCH.

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 A. WILSON, of Savannah, in the State of Missouri, have invented a new and useful Improvement in Wrenches; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, and letters of reference marked thereon, making a part of this specification, in which—

Figure 1 is a side elevation, with a longitudinal vertical section of the jaws, guides, screw-bolt, and head-block.

To enable those skilled in the art to make and use my invention, I now proceed to describe its construction and operation.

Similar letters in the drawings refer to like parts.

This invention has for its object the easy screwing of nuts upon or off from bolts, in places where the operation would be more difficult to the ordinary tool; and

It relates to the common instrument, in which is a pair of jaws, placed upon a guide-piece, in such a manner that they may be fixed at varying distances apart, said jaws being connected by a screw-bolt, and operated by a lever, provided with a pair of reversed pawls, which engage with the teeth of a pair of reversed ratchets, so connected with the jaws that the latter may be rotated in either direction, there being an orifice running centrally through the ratchets and lever, through which orifice the bolt may pass upon which the nut is to be driven.

The invention consists in interposing between the movable jaws a head-block, having an orifice made through it in continuation with that made through the ratchets and lever, and rigidly affixed to the ratchets, the function of said head-block being to steady and strengthen the jaws, especially when they are made quite long, as it is often quite convenient to make them, in order to get at nuts and bolts on the sides of walls.

In the drawings—

*a a* are the jaws, the same being placed loosely upon a guide, *a'*, passing through them from side to side, and also through a head-block, *b*, between the jaws,

said head-block having, on its upper end, a metallic plate, *b'*, from opposite sides of which extend screw-bolts *b'' b''*, passing through the upper parts of the jaws *a*, which are held in place by means of nuts *i i*.

By means of the guide *a'* and screw-bolt, the jaws may be set at any required distance apart, according to the size of the nut.

There is an orifice, *d*, made through the head-block, and extending through the whole apparatus, which orifice the bolt enters that the nut is to be screwed upon or off from.

The base of the head-block *b* is rigidly affixed to a ratchet, *e*, which is connected by a tube with another ratchet, *e'*, whose teeth run in the opposite direction.

Between the two ratchets is placed the head of the lever *h*, pivoted upon the tube that connects the ratchets, and to the lever are pivoted two pawls *k k'*, one on the upper side of the lever and the other beneath it, the pawl *k* engaging with the ratchet *e*, and the pawl *k'* with the ratchet *e'*, both at the same time, if desired, but usually one at a time, and by means of this one, the wrench may be turned, and, when it is desired to turn it in the opposite direction, the other pawl is to be applied, and the first one disconnected.

This wrench is applicable to screwing nuts upon bolts in the sides of ships, walls, and the like, where there is not room for the convenient use of the ordinary wrench.

The head-block *b* is of great use in strengthening and steadying the jaws, and enabling them to be made as long as desired.

I am aware that, outside of this feature, there is nothing new in the parts described, or their arrangement.

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

The head-block *b*, combined with the wrench herein described, substantially as and for the purpose set forth.

WILLIAM A. WILSON.

Witnesses:

R. S. EDWARDS,  
WM. D. CLARKE.