

*J. F. Robertson,*

*Wrench.*

*No. 110,789,*

*Patented Jan. 3. 1871.*

Fig. 1.

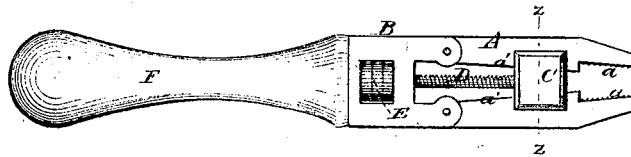


Fig. 2.

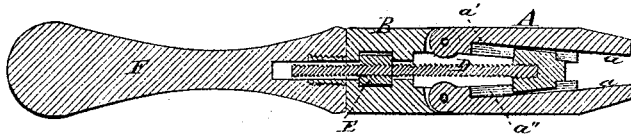


Fig. 3.

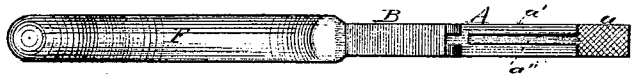
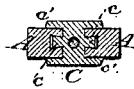


Fig. 4.



Witnesses.

*R. H. Poole*  
*W. H. Stebbins*

Inventor.

*John F. Robertson*  
*by Prindle & Dyer,*  
Attys.

# United States Patent Office.

JOHN F. ROBERTSON, OF WARWICK, NEW YORK, ASSIGNOR OF TWO-THIRDS HIS RIGHT TO JAMES H. HOLLY AND JOHN G. KNAFF, OF SAME PLACE.

Letters Patent No. 110,789, dated January 3, 1871.

## 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, JOHN F. ROBERTSON, of Warwick, in the county of Orange and in the State of New York, have invented certain new and useful Improvements in Wrenches; and do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawing making a part of this specification, in which—

Figure 1 is a plan view of my improved wrench;

Figure 2 is an edge view of the same with one of the jaws and the sliding head removed;

Figure 3 is a central longitudinal section on the line *xx* of fig. 2; and

Figure 4 is a cross-section on the line *zz* of fig. 1.

Letters of like name and kind refer to like parts in each of the figures.

My invention is an improvement in adjustable wrenches; and

It consists principally in the employment of two hinged or pivoted jaws, provided upon their contiguous inner faces with inclined planes and dovetailed grooves, in combination with a sliding block, substantially as is hereinafter shown.

It also consists in the sliding block or head, operated by and combined with a suitable screw and nut, substantially as is hereinafter set forth.

In the annexed drawing—

A and A represent two metal bars, each of which is hinged at one end to or upon the frame or stock B, so as to have thereon free motion to or from each other.

As seen in fig. 2, the inner face of each jaw from its outer end downward, for about one inch, is parallel to or with the general line of said jaw, and provided with serrations, so as to enable nuts or bolt-heads to be firmly grasped, while from said grasping face *a* to or near the pivoted end extends an inclined plane, *a'*, having within its face a dovetail groove, *a''*.

Fitted to or within the space between the inclined planes *a'* is a block, C, having correspondingly inclined contiguous faces, from which extends outward into the dovetailed grooves *a''*, corresponding dovetailed tongues *c*, by means of which the jaws are held firmly to or against said block.

Suitable flanges *c'*, extending outward from each side of the block C, embrace the sides of the jaws A and secure them in position with relation to said block.

As thus constructed, it will be readily seen that by moving the block longitudinally within the jaws the latter will be moved to or from each other at their upper ends, so as thereby to enable said jaws to be adjusted to the necessary distance apart to receive any desired nut or bolt-head.

In order to enable the sliding block to be adjusted to and held in position, a screw, D, is secured to its lower end, and extends downward into the stock B, within which a suitable opening is provided for its reception.

A nut, E, fitted to or upon the screw D and working in a recess, *b*, within the stock B, enables said screw and the block to be readily pressed toward or withdrawn from the end of the jaws.

A handle, F, fitted to or upon the stock, completes the device, the operation of which has been sufficiently explained.

The especial advantages possessed by this device are convenience and efficiency, combined with simplicity of parts, durability, and cheapness.

Having thus fully set forth the nature and merits of my invention,

What I claim as new is—

1. The hinged or pivoted jaws A, provided upon their inner faces with the inclined planes *a'* and dovetailed grooves *a''*, in combination with the sliding block C provided with the dovetailed tongues *c*; substantially as and for the purpose specified.

2. In combination with the jaws A and sliding block C, constructed as described, the screw D and nut E, working within a suitable frame, substantially as shown, and for the purpose set forth.

In testimony that I claim the foregoing I have hereunto set my hand this 28th day of November, 1870.

JOHN F. ROBERTSON.

Witnesses:

ALBE FRANCISCO,  
MAHLON COOPER.