

(No Model.)

W. E. BROOKE.  
WRENCH.

No. 491,870.

Patented Feb. 14, 1893.

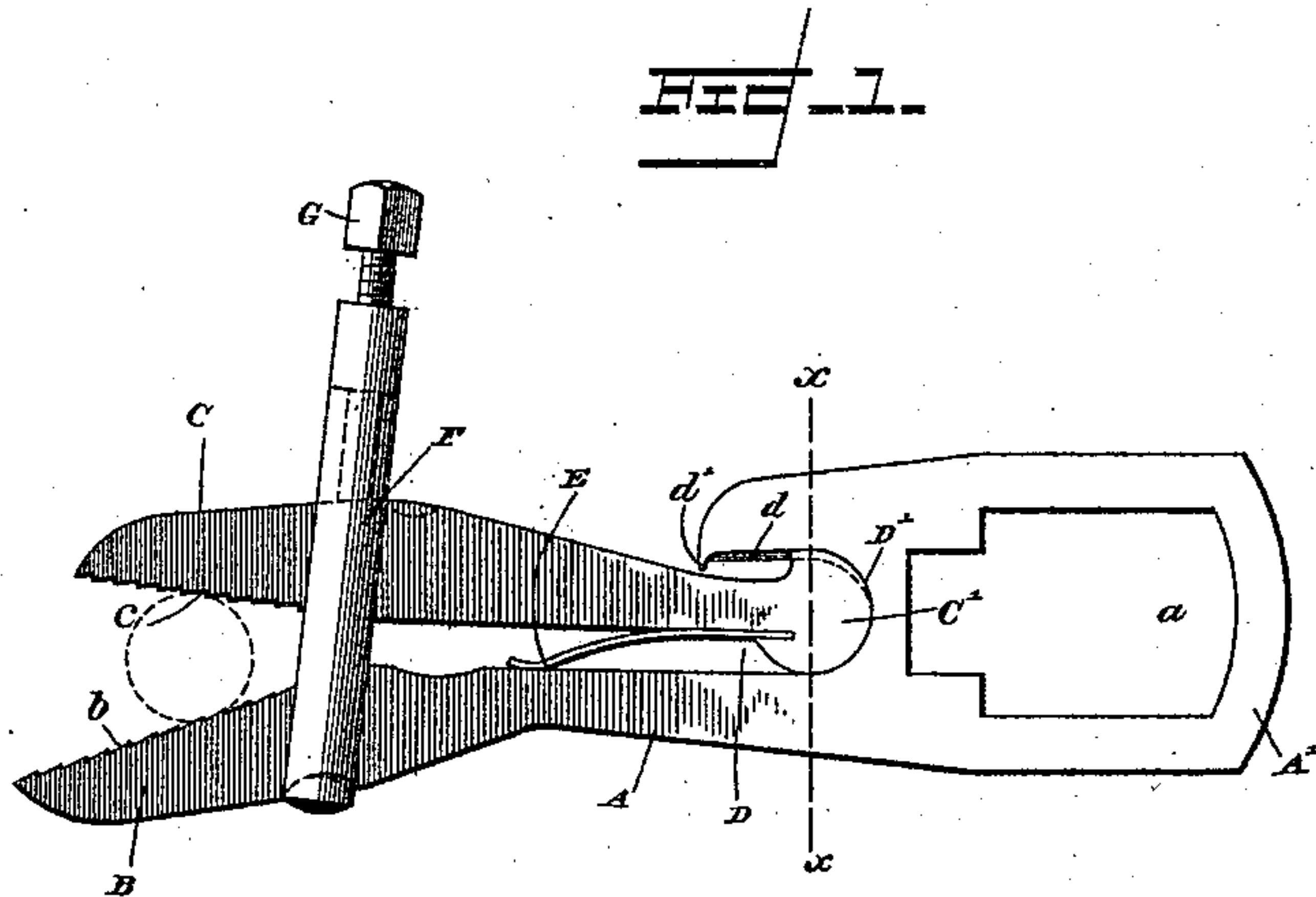


FIG. 3.

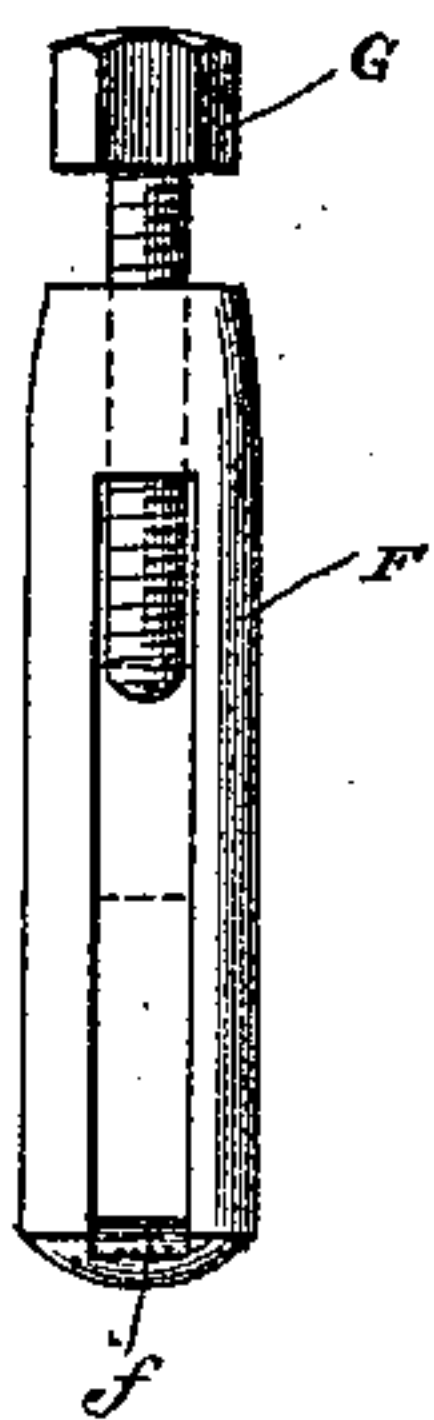


FIG. 2.

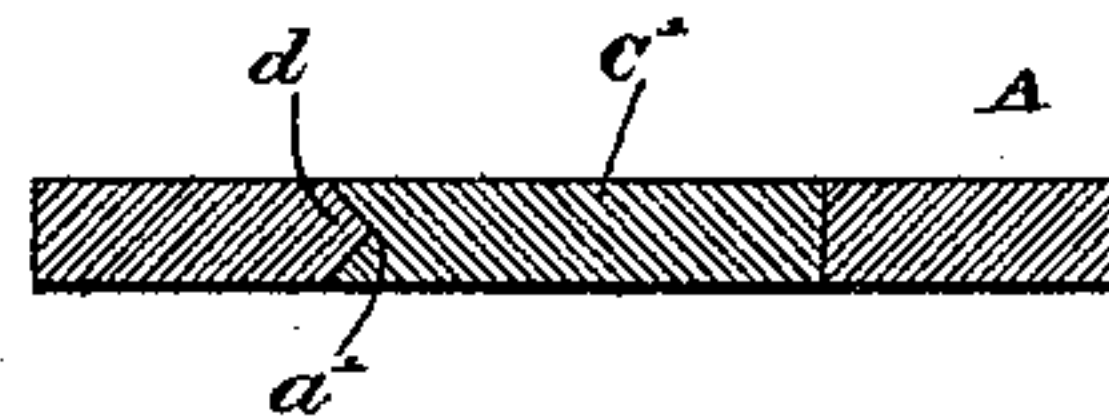
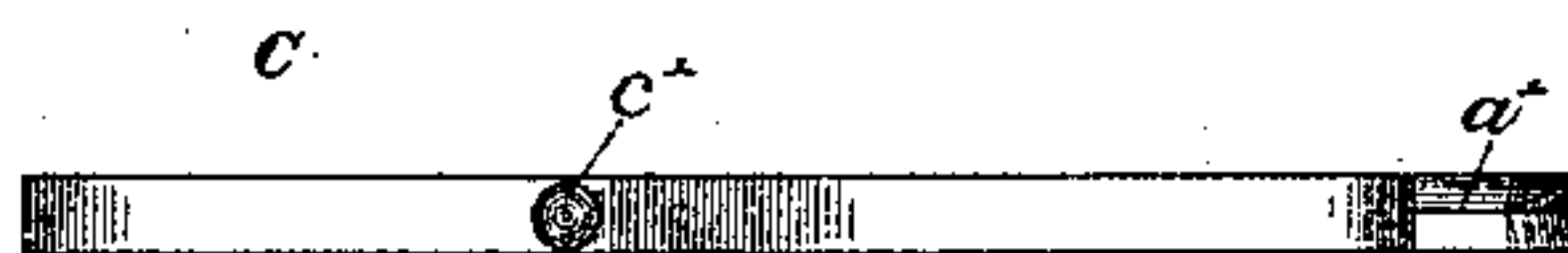


FIG. 4.



Witnesses

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per Fred. W. Wacker.  
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# UNITED STATES PATENT OFFICE.

WILLIAM E. BROOKE, OF TRENTON, NEW JERSEY, ASSIGNOR TO THE  
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## WRENCH.

SPECIFICATION forming part of Letters Patent No. 491,870, dated February 14, 1893.

Application filed November 14, 1892. Serial No. 451,990. (No model.)

*To all whom it may concern:*

Be it known that I, WILLIAM E. BROOKE, a citizen of the United States, residing at Trenton, in the county of Mercer and State of New Jersey, have invented certain new and useful Improvements in Wrenches; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to an improvement in wrenches, its object being to provide a neat, simple and efficient adjustable jaw wrench, and the invention therefore consists in the construction, arrangement and combination of the several parts, substantially as will be hereinafter described and claimed.

In the accompanying drawings illustrating my invention: Figure 1 is a plan view of my improved wrench. Fig. 2 is a cross section on the line *xx* of Fig. 1. Fig. 3 is an elevational view of the link which connects the two jaws. Fig. 4 is an outer edge view of the adjustable jaw.

Similar letters of reference designate corresponding parts throughout the several figures of the drawings.

A designates the main shank of the wrench having the handle end *A'* which is slotted at *a* with a right-angled slot having parts thereof of different sizes so that this handle end may be adapted to serve as a wrench with square nuts and for other purposes. The main shank A is also made integral with the fixed jaw B having the inclined serrated edge *b*. The shank A, handle part *A'* and jaw B, are all made out of one piece of metal which is cut into suitable form and is preferably flat and somewhat thin so as to make a neat and handy article.

C denotes the movable jaw having the inclined serrated edge *c* located opposite to the serrated edge *b* of the fixed jaw. The movable jaw C has the rounded inner end *C'* which is located within a recess D, cut in the shank A, to receive it, the inner end of said recess having a round seat at *D'*, conforming in shape to the round end *C'* of the end of the jaw C. One side of the slot D is provided with a V-shaped tongue *d*, having a stop or shoulder *d'*

at the outer end thereof. This tongue *d* is engaged by a V-shaped groove *a'*, cut on a part of the rounded end *C'* of the movable jaw. Thus it will be seen that this inner rounded end of the movable jaw has a reciprocatory movement within the slot D and that it is held within said slot and guided by means of the tongue and groove connection *d* and *a'* and that when the end *C'* is in its innermost position, it comes in contact with the similarly-shaped seat *D'*, as shown in Fig. 1. The jaw C, as well as its inner rounded end *C'* is made of a piece of thin flat metal, equal in thickness to that of the main handle shank A and therefore when the rounded end *C'* is located in the slot D, all the parts of the wrench lie in the same plane and present a neat and simple combination. The inner end of the movable jaw C is provided on its side opposite to where the tongue and groove connection is located, with a flat spring E connected thereto in some suitable manner, said spring bearing against the adjacent edge of the jaw B and acting to normally force the jaws B and C apart from each other.

F designates a link which is used for the purpose of connecting the two jaws B and C. This link is arranged loosely and is adjustable. It is provided at one end with the angular pin *f* which fits into a slot or notch in the outer edge of the jaw B. The opposite edge of the movable jaw C is preferably furnished with a screw-hole *c'* for receiving the inner end of a set-screw G which is held in a screw threaded opening in the opposite end of the link F to where the angular pin *f* is situated. Thus it will be seen that when the link F embraces the two jaws B and C in the manner shown in Fig. 1, that the adjusting screw G will be adjusted with one end entering the screw hole *c'*, and in this way the two jaws B and C can be forced as near together as may be desired or may be permitted to be situated farther apart. Thus it will be seen that by arranging the adjustable jaw in the manner that I have described, whereby it is permitted to have a longitudinal movement and also an adjustment toward or away from the fixed jaw, I am enabled to adapt the wrench for use with objects of various diameters and sizes because



I am enabled to situate the jaws B and C farther from or nearer to each other, thereby increasing or lessening the distance between them and adapting them to grapple larger or  
5 smaller objects.

Numerous changes in the exact construction and arrangement of the several parts may obviously be made without departing from my invention.

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

1. In a wrench, the combination of the main shank having a fixed jaw and provided with  
15 a slot, a movable jaw having its inner end loosely entering said slot and seated therein with considerable play, a spring carried by the movable jaw and acting against the fixed jaw and a link connection between the two  
20 jaws, substantially as described.

2. In a wrench, the combination of the main shank, having an integral fixed jaw and provided with a slot having a V-shaped tongue thereon, a movable jaw having its inner end  
25 located within said slot and provided with a groove which engages said tongue, a spring between the two jaws and a link connection

for holding the jaws together, substantially as specified.

3. The combination of the main handle A, 30 having fixed jaw B, with serrated edge *b*, said handle having also the slot D with the rounded inner end D', the movable jaw C having the serrated edge *c*, and the rounded inner end C' seated loosely against the end D' there  
35 being a tongue and groove connection between said fixed and movable jaws, as shown and the link connection F for holding the two jaws together substantially as described.

4. The combination of the main shank A, 40 having fixed jaw B and slot D, one edge of which has the V-shaped tongue *d* and the stop or lug *d'*, the movable jaw C having the rounded end C' with a V-shaped groove *a'* engaging the tongue *d*, the spring E carried  
45 by the movable jaw, and the adjusting link F engaging the two jaws and provided with the screw G, substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

WILLIAM E. BROOKE.

Witnesses:

EDWIN ROBT. WALKER,  
GOUVERNEUR V. PACKER.