

(No Model.)

S. W. PUTNAM.  
WRENCH.

No. 503,677.

Patented Aug. 22, 1893.

FIG. 1.

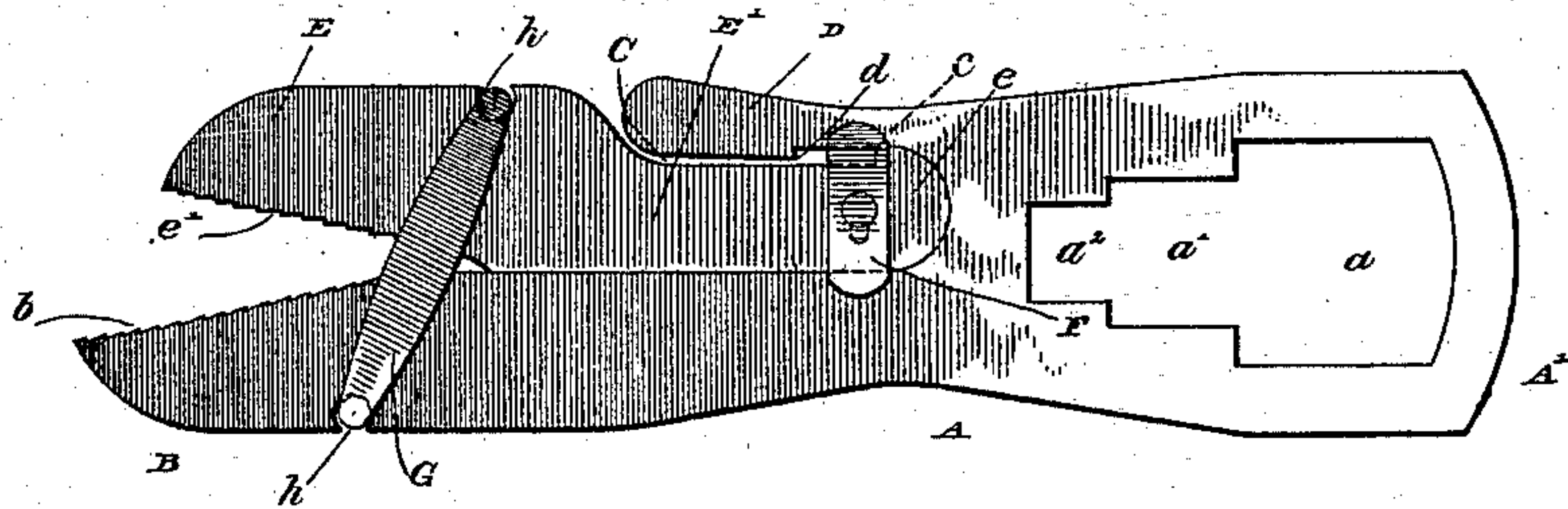


FIG. 2.

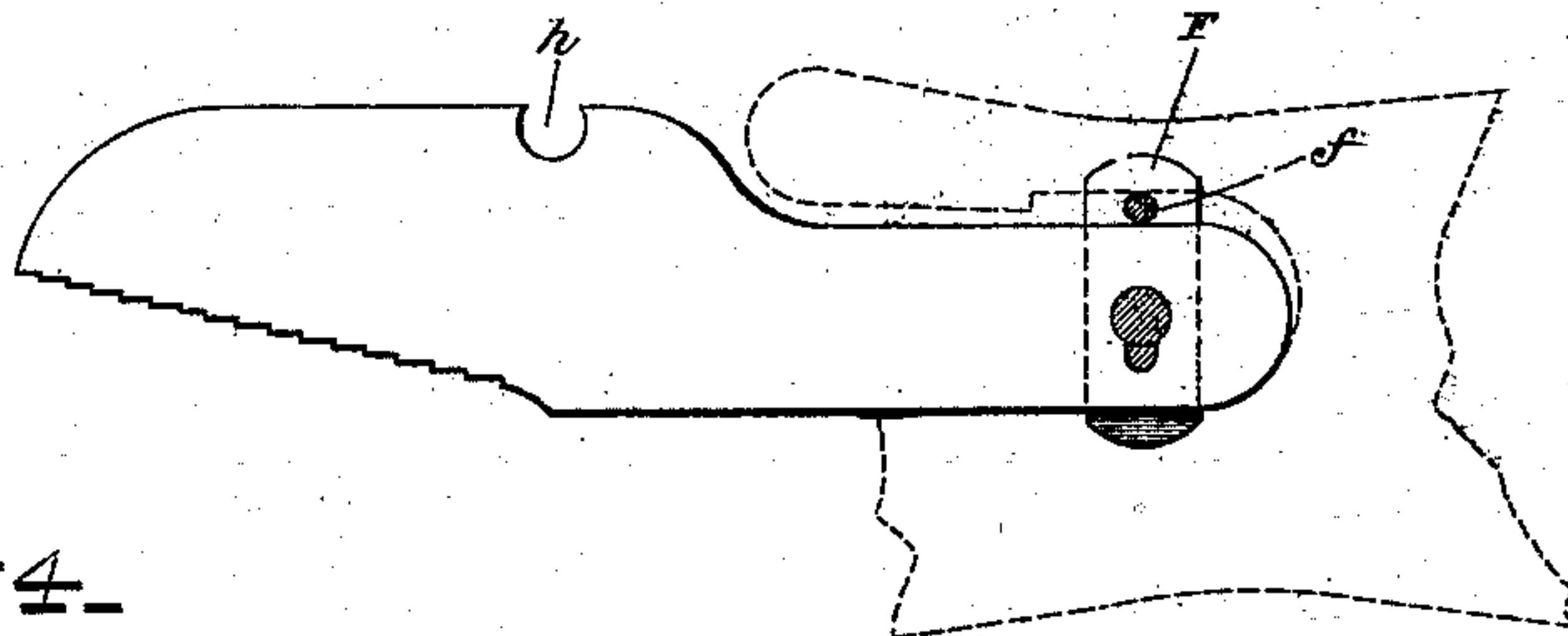


FIG. 4.

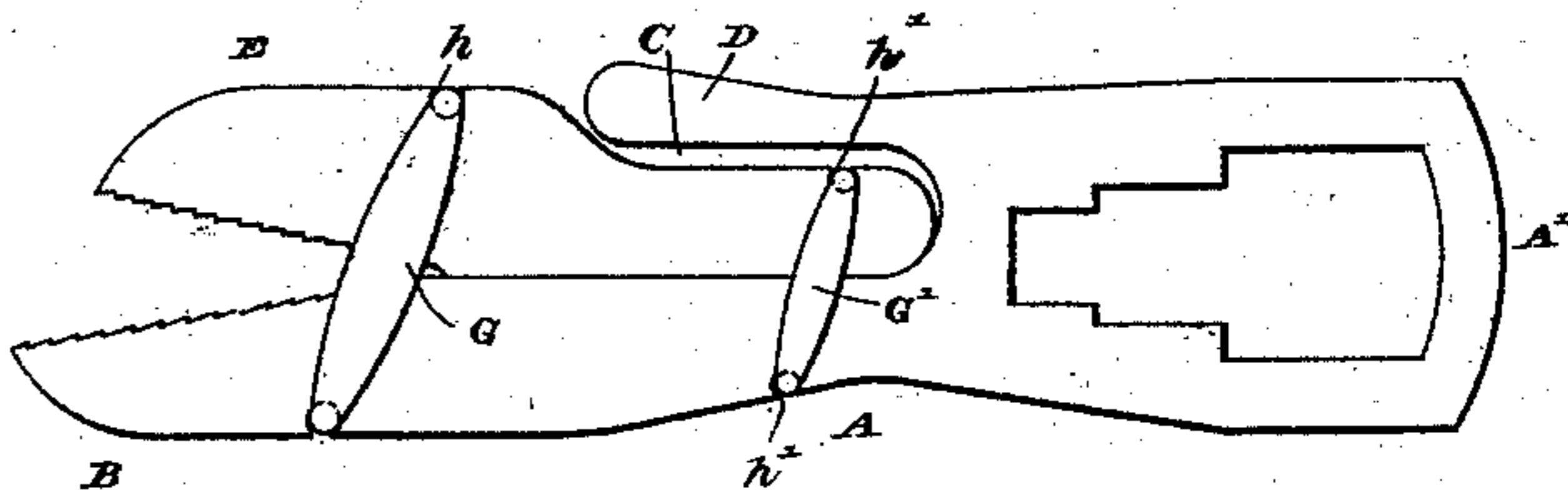
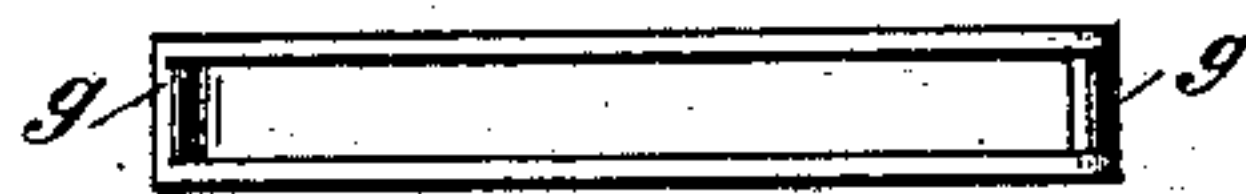


FIG. 3.



Witnesses

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per Fred W. Wasker,  
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# UNITED STATES PATENT OFFICE.

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## WRENCH.

**SPECIFICATION** forming part of Letters Patent No. 503,677, dated August 22, 1893.

Application filed December 29, 1892. Serial No. 456,640. (No model.)

*To all whom it may concern:*

Be it known that I, SAMUEL W. PUTNAM, a citizen of the United States, residing at Elizabeth, in the county of Union 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 ap-  
10 pertains to make and use the same.

My present invention relates to an improvement in wrenches of the class known as adjustable jaw wrenches, the object of the invention being to provide a simple, neat and  
15 efficient device of this character, and the invention therefore consists essentially in the construction, arrangement and combination of parts, substantially as will be hereinafter described and claimed.

20 In the annexed drawings illustrating my invention: Figure 1 is a plan view of my improved adjustable jaw wrench. Fig. 2 is an outline detail view showing certain parts in section. Fig. 3 is a detail edge view of the link which  
25 connects the two jaws. Fig. 4 is a plan view of a modified form of my wrench.

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

30 A designates the main shank of the wrench, having the handle end A', and the fixed jaw B, the whole being made of a piece of flat thin strong metal, as steel cut into proper shape so that the instrument may be of the required size and form. The handle end A' is preferably provided with the slot, as shown,  
35 having different parts thereof, of different sizes, as  $a$ ,  $a'$ ,  $a^2$ , all of these parts being of rectangular shape so that the handle may  
40 thus serve for use as a wrench with square nuts of different sizes. This feature of my improved wrench is a subordinate one and I do not lay any special stress thereon.

The main wrench stock A is provided with  
45 a longitudinal recess C formed between a portion of the fixed jaw and an integral parallel projection D. This recess or slot C is intended to hold one end of the adjustable jaw E. Said jaw E has its inner end E' fitting  
50 loosely in the elongated slot C, the extremity of this inner end E' being preferably rounded

at  $e$ , conformably with a round seat therefor at the inner end of the slot C. The outer end of the adjustable jaw E is formed with an inclined serrated edge  $e'$  situated opposite to the  
55 oppositely inclined serrated edge  $b$ , the two edges being adjustable toward or away from each other so as to admit between them objects of different and varying sizes in consequence of the adjustability and movable character of the adjustable jaw. The adjustable  
60 jaw has its shank E' held within the slot C in such a manner that said adjustable jaw may have a limited longitudinal movement. The inner edge of the projection D is formed with  
65 a shoulder  $d$  against which a shoulder  $c$  on the inner end of the adjustable jaw shank E' comes in contact when the adjustable jaw moves out to its outmost limit and thereby a  
70 stop is provided which limits the outward movement of the adjustable jaw and confines its movement within certain narrow limits. Further, the shank E' is provided with two  
75 flat transverse pieces F F, one on each side, securely riveted or otherwise fastened and having their ends projecting slightly over the  
80 faces of the shank A and projections D, so that guides are thereby provided which keep the shank E' within the slot C with its faces  
85 flush on each side with the faces of the shank A, and projection D, all of which lie in the same plane. Instead of having the shoulder  
90  $c$  formed on the inner end of the adjustable jaw shank E', I may find it more convenient in the process of making the adjustable jaw, to provide a pin  $f$ —see Fig. 2—connecting the  
95 two plates F F. Such pin  $f$  will have the same function and action exactly as the shoulder  $c$ , being adapted to strike the shoulder  $d$  and prevent any undue outward movement of the  
100 adjustable jaw.

G designates a connecting link which loosely engages the adjustable jaw and likewise the fixed jaw, and holds the two jaws not only in the same plane but also keeps them contiguous  
95 to each other longitudinally and permits them to move slightly toward or away from each other so as to widen or decrease the distance between the serrated faces  $e'$  and  $b$ . This link G is simply a rectangular frame as  
100 shown in Fig. 3, consisting of two parallel strips connected at their ends by round pins



*g g* which pins are seated in round recesses *h h* formed in the outer edges of the jaws B and E respectively.

The action and use of this improved wrench will be evident from the foregoing description of its construction, without need of additional descriptive matter. Numerous changes may be made in the exact form, shape and combination and style of the wrench without departing from my invention.

In Fig. 4, I have represented a modification in the devices for connecting the two jaws B and E together. In this figure I still employ the connecting link G which loosely engages the adjustable jaw and likewise the fixed jaw as shown, but instead of using the flat transverse pieces F F securely riveted on opposite sides of the shank of the jaw E, I employ another link G', similar in all respects except that it is somewhat smaller, to the aforesaid link G, said link G' consisting essentially of two parallel strips connected at their ends by round pins which are situated in the round recesses *h' h'* formed in the edges respectively of the handle piece A and the shank of jaw E. I find it preferable oftentimes to use this link connection in place of the rigid guiding strips F F. The action of the jaw E when connected by means of the links G G' will be similar to what it is when the edges are connected by the link G and the guide strips F F. I place the link G in position upon the jaws by first bringing the two serrated edges in contact with each other and then slipping the link over them, first passing it over the points and sliding it along until the round pins *g g* are enabled to enter the round slots *h h*. Then the shank E' is introduced into the recess C and when in this position the link G cannot become disengaged from the two jaws. These links may have knife edges instead of round pins engaging in the slots of the two jaws. The link G' shown in Fig. 4, may be used where, instead of the plain link G, an adjustable link, or adjustable bolt and thumb nut are used, and also where the slot C, and projection D are omitted. When however the slot C and

projection D are omitted I still retain the rounded seat in the main shank to receive the rounded inner end E' of the adjustable jaw and limit its inward movement.

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 wrench stock having an integral fixed jaw and an elongated recess, in combination with an adjustable jaw whose shank lies loosely within the said recess, and a link connection between the two jaws, substantially as described.

2. In a wrench, the shank A, having a fixed jaw B and the elongated slot C, the movable jaw E, having a shank E', held within the slot C and provided with a stop which limits its outward movement, and the link G connecting the jaws E and B, substantially as specified.

3. In a wrench, the stock A, having fixed jaw B and elongated slot C, the movable jaw E having shank E', provided with transverse plates F F secured thereto, and the inner end of said shank E' having likewise a stop for engaging a shoulder on the projection D of the main wrench stock, together with a link connection between the jaws E and B, substantially as described.

4. The herein-described wrench, consisting in the combination of the handle A, having the slotted handle end A', the fixed jaw B, longitudinal slot C and projection D having shoulder *d*, the adjustable jaw E having shank E' located within the slot C and provided with the parallel transverse plates F F, and a stop engaging shoulder *d*, and the link connection G embracing the jaws E and B and having its ends entering slots *h h* in the outer edges of the jaws, substantially as described.

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

SAMUEL W. PUTNAM.

Witnesses:

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ISAAC F. BISSELL.