

(No Model.)

W. W. HUTCHINGSO.  
WRENCH.

No. 536,628.

Patented Apr. 2, 1895.

Fig. 1.

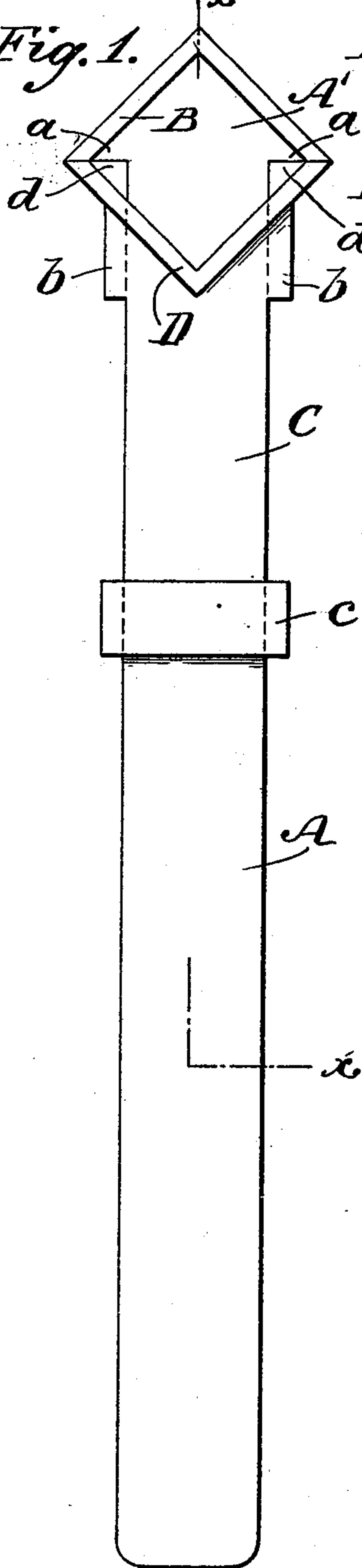


Fig. 2.

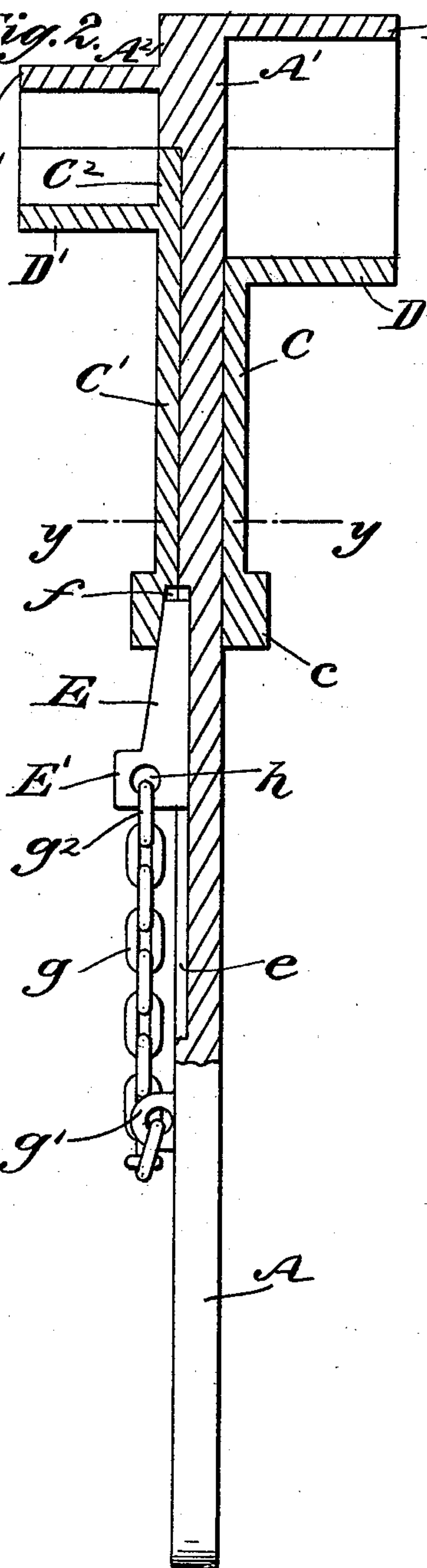
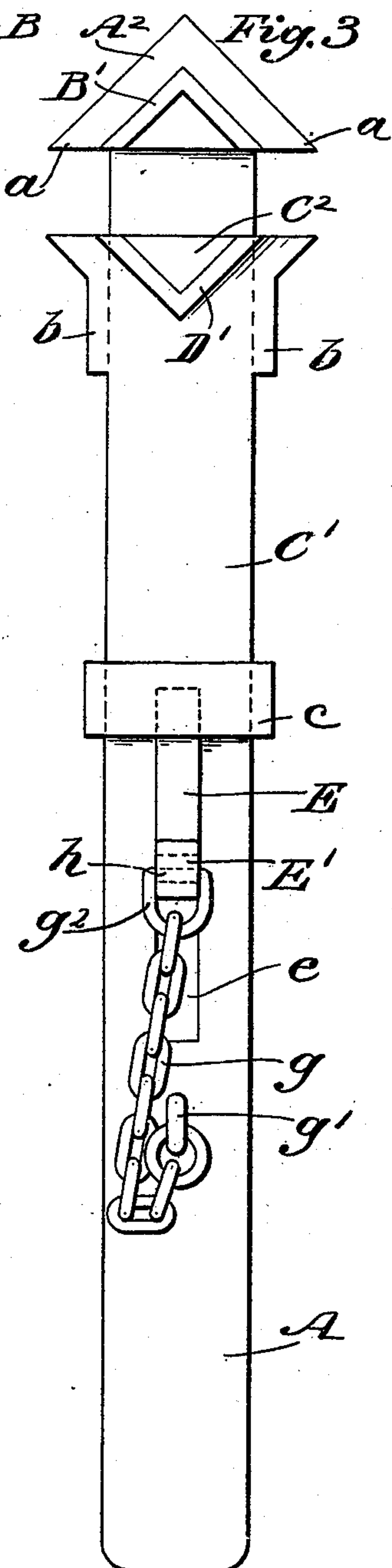


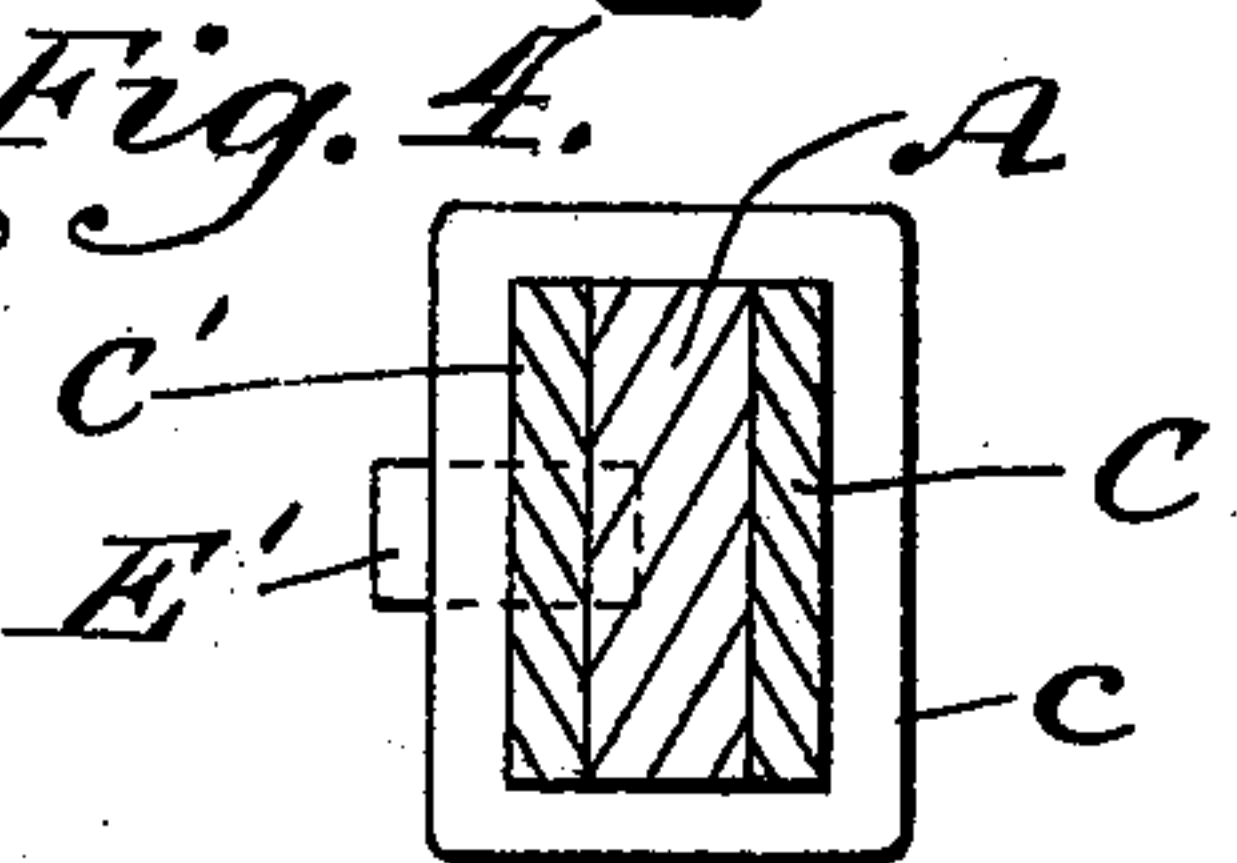
Fig. 3.



WITNESSES:

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Fig. 4.



INVENTOR

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# UNITED STATES PATENT OFFICE.

WILLIAM W. HUTCHINGSON, OF BROOKLYN, NEW YORK.

## WRENCH.

SPECIFICATION forming part of Letters Patent No. 536,628, dated April 2, 1895.

Application filed September 8, 1894. Serial No. 522,479. (No model.)

*To all whom it may concern:*

Be it known that I, WILLIAM W. HUTCHINGSON, a citizen of the United States, and a resident of Brooklyn, county of Kings, and State of New York, have invented certain new and useful Improvements in Wrenches, of which the following is a specification, reference being had to the accompanying drawings, forming a part thereof, in which similar letters of reference indicate corresponding parts in all the figures.

This invention relates to wrenches, and has for its object to provide a device which may be caused to rigidly grasp a square, hexagonal or similarly shaped nut of any approximate size, or any like article, and which will be strong, durable, and unyielding, and cheap of manufacture.

The invention consists in the novel construction and arrangement of parts herein-after fully described.

In the accompanying drawings: Figure 1 is a plan view of a wrench embodying my invention. Fig. 2 is a longitudinal section of the same taken upon the line  $x-x$ , Fig. 1. Fig. 3 is an inverted plan view of the wrench showing the same partially open. Fig. 4 is a cross section taken upon the line  $y-y$ , Fig. 2.

In the practice of my invention, I construct a flat bar or handle A having at one end thereof a triangular head A' projecting beyond the same at each side to form shoulders  $a$ . Upon the upper surface of this triangular head A', at the edge thereof, are upwardly extending flanges B, united together and ranging at exact right angles to each other, these flanges being preferably formed integrally with the said head and the handle A. Upon the under side of the triangular head A' is a similarly shaped shoulder or projection A<sup>2</sup>, having within the outer edge thereof flanges B' similar to the flanges B, but of considerably less size than the same.

Sliding upon the handle A upon each side thereof are plates C C', united at top and bottom by means of the strips  $b$  and the rectangular loop  $c$  respectively, to form a sleeve fitting the said handle just sufficiently loosely to work freely thereon. Secured to the under plate C', and preferably formed integrally therewith and with the strips  $b$ , is an extension C<sup>2</sup>, shaped to correspond with the trian-

gular head A' of the handle, and having upwardly raised shoulders  $d$  upon the top thereof, to which shoulders are secured flanges D corresponding to the flanges B, and adapted when the shoulders  $d$  upon the extension C<sup>2</sup> and the shoulders  $a$  upon the head A' come in contact, to abut against the said flanges B and form therewith a square or diamond-shaped orifice. Upon the under side of the extension C<sup>2</sup> are formed smaller flanges D', corresponding with the flanges B', and meeting the same in like manner, the said extension C<sup>2</sup> abutting against the projection A<sup>2</sup> upon the head A' to form an additional stop.

In the under surface of the handle A is a grooved key way  $e$ , extending from a point appreciably below the center of the handle upwardly to beyond the position of the loop  $c$  when the wrench is closed, and immediately above the key way the said loop has therein a tapered recess  $f$ . Secured by means of a chain  $g$  to an eye  $g'$  upon the handle below the key way  $e$ , is a key or wedge E, which slides in the key way and is tapered or beveled upon its upper face to engage in the recess  $f$ . Upon the rear end of the wedge E is a shoulder or knob E' having an aperture  $h$  extending therethrough in which the loop  $g^2$  of the chain  $g$  is inserted.

The operation of the device will be readily apparent from the foregoing description taken in connection with the accompanying drawings. According to the size of the nut or other object to be manipulated, either the large or small face of the head of the wrench is presented to the same, the wedge E removed from the recess  $f$ , and the plates C C' permitted to drop. The flanges B, or B', as the case may be, are then rested upon the side of the object and the plates slide along the handle until the flanges D bear upon that side of the nut or other object opposite that engaged by the flanges B and the wedge E is placed in the key-way  $e$ , and the point thereof inserted in the recess  $f$ , whereby the object will be rigidly grasped, and as the wedge fits the recess tightly, no slipping or loosening of the jaws of the wrench is possible.

It will be observed, particularly by reference to Fig. 3, that however great the distance between the flanges B and D, the same will always form a perfect square or portion



of a square with reference to each other, and will consequently grasp a nut, however large, in such manner that all sides of the jaws will bear thereon throughout, and exert even  
 5 pressure thereon. Furthermore, the wedge E will hold the flanges immovably at the proper distance apart, and by reason of its chain attachment to the handle A, the said key may be removed by pulling the said chain, which  
 10 likewise prevents its being mislaid, or if the wedge should become stuck fast in the recess f, the same may be dislodged by hammering downwardly upon the knob E'.

The advantages resultant from the use of  
 15 my invention will be obvious to all who are conversant with the difficulties encountered in grasping square or hexagonal nuts with the ordinary adjustable wrenches.

I do not confine myself to the exact formation or shape of the several parts herein set forth and illustrated.

Having thus fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

25 1. A wrench comprising a handle having upwardly projecting flanges arranged at right angles to each other, similar flanges upon the opposite side of the handle, shoulders projecting inwardly of the ends of said flanges  
 30 and beyond the handle, plates upon each side of the handle united at the top, and having an extension which projects therefrom at each side to abut against the shoulders, said plates being joined at the bottom by a recessed loop,  
 35 flanges upon the upper and lower plates cor-

responding to those upon the handle, a key-way formed in said handle, and a tapered wedge sliding in said key-way and adapted to enter the recess in the loop to hold said plates against rearward pressure, substan- 40 tially as shown and described.

2. A wrench comprising a handle having a projecting head, and upwardly ranging flanges upon the said head arranged at right angles to each other, similar flanges upon the 45 under side of the head, said flanges being of less size than the upper flanges, plates upon each side of the handle united at the top and having an extension which projects therefrom at each side to abut against the head of the 50 handle, the said plates being joined at the bottom by a recessed loop, whereby they slide upon the handle, flanges upon the upper plate corresponding to those upon the top of the head, and flanges upon the lower plate corre- 55 sponding to those on the under side of the said head, a key way formed in the said handle, and a tapered wedge sliding in the said key way and adapted to enter the recess in the loop, the said wedge being secured to the 60 wrench, substantially as shown and described.

In testimony that I claim the foregoing as my invention I have signed my name, in presence of two witnesses, this 6th day of September, 1894.

WILLIAM W. HUTCHINGSON.

Witnesses:

PERCY T. GRIFFITH,  
 C. GERST.