

(No Model.)

B. F. LANCASTER.

WRENCH.

No. 325,942.

Patented Sept. 8, 1885.

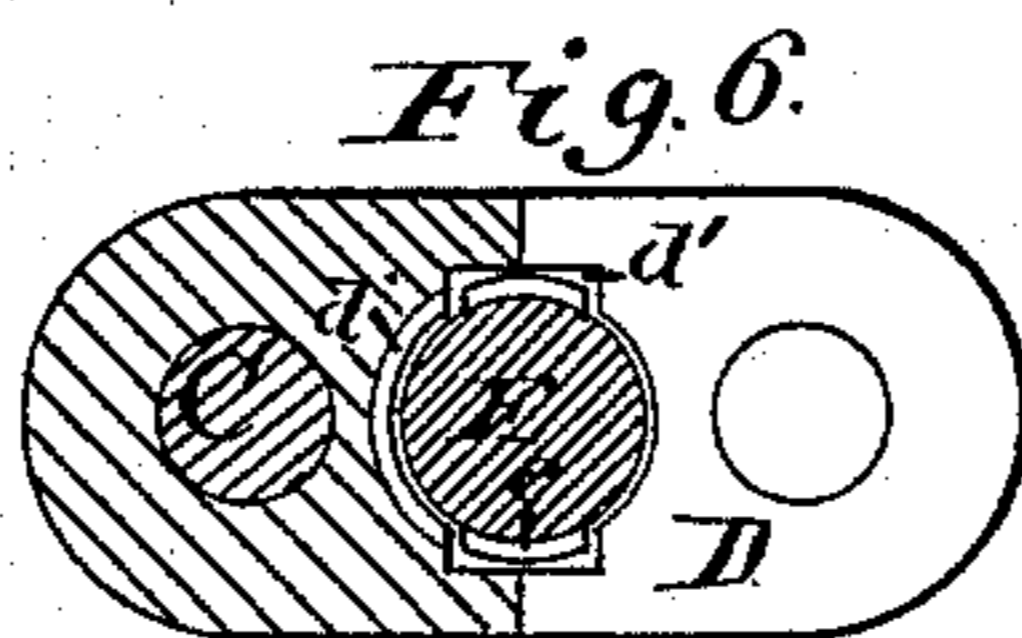
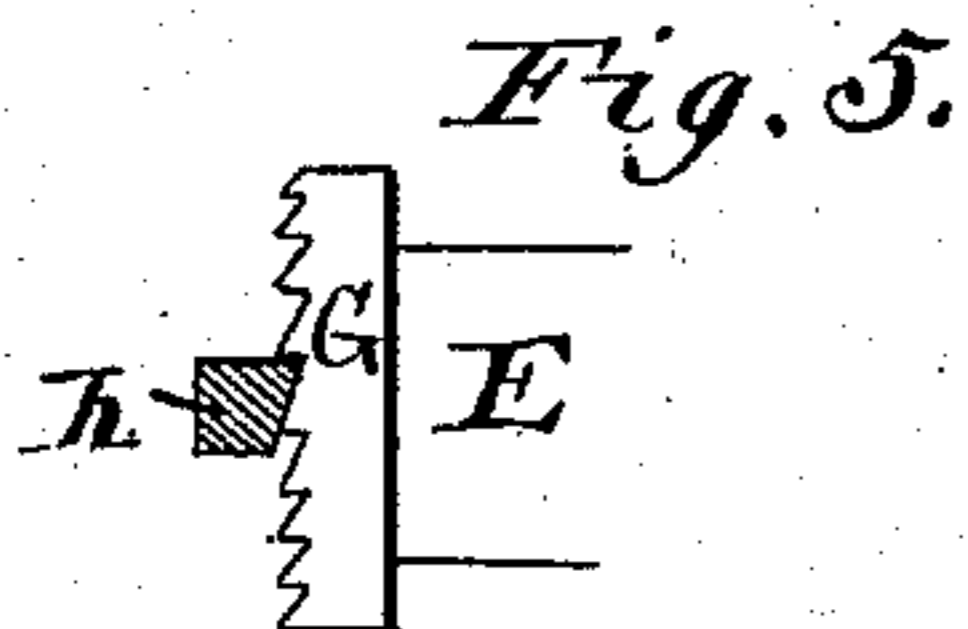
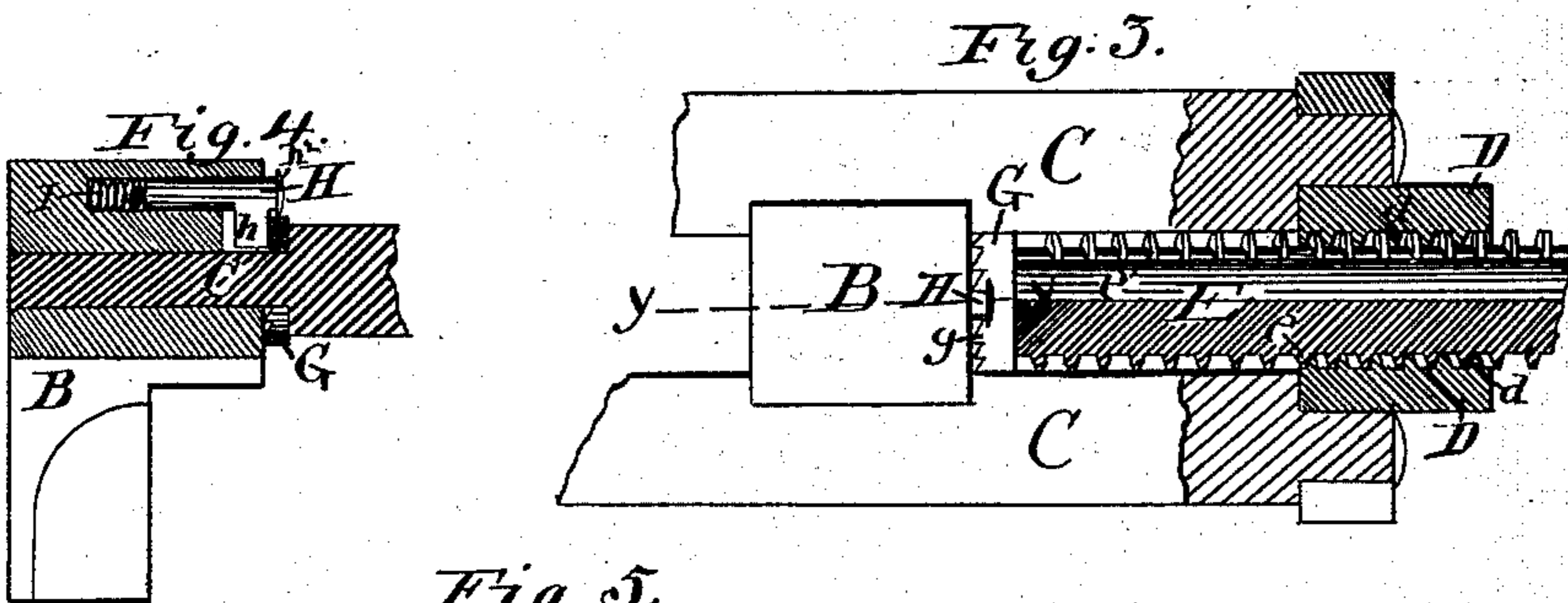
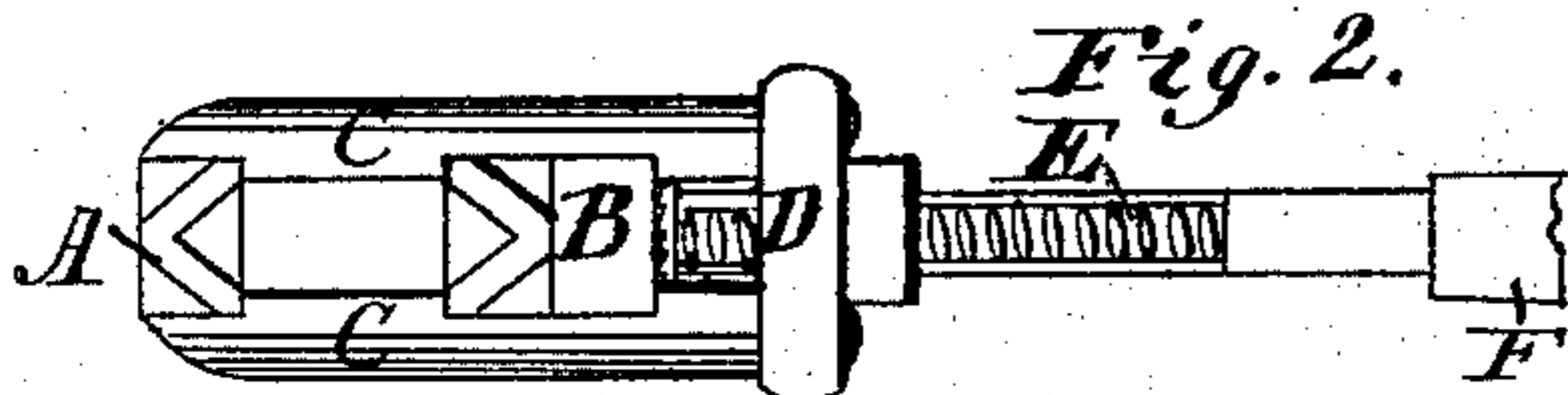
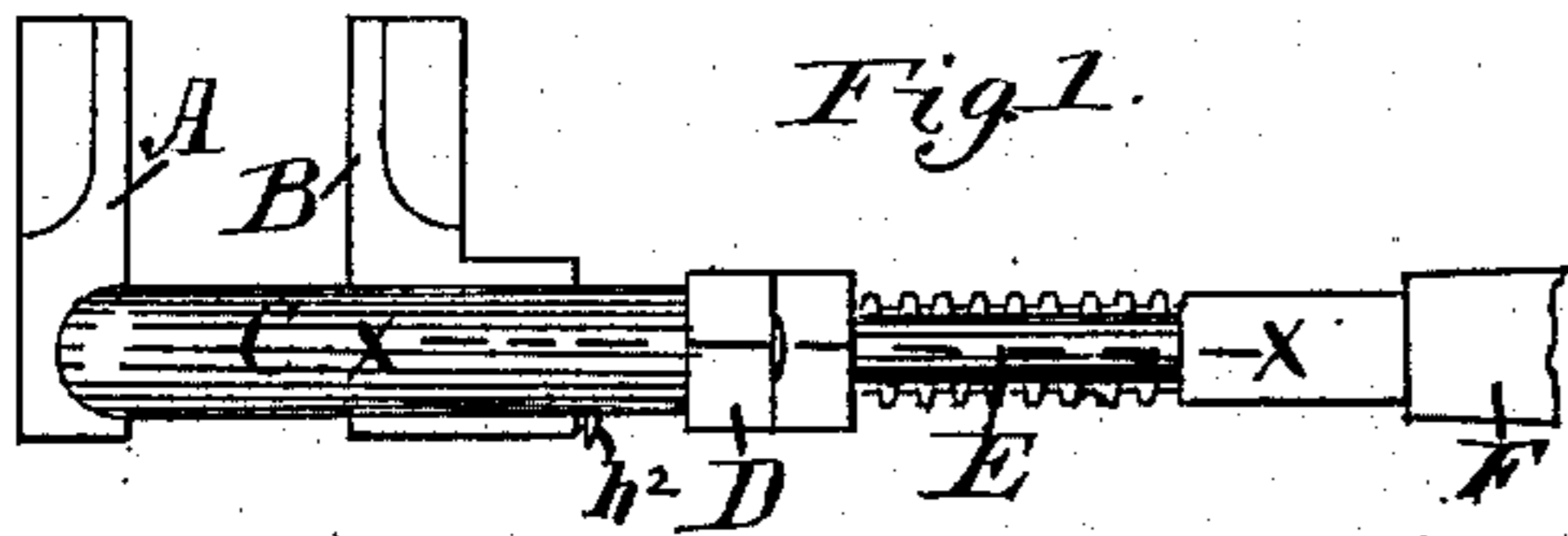
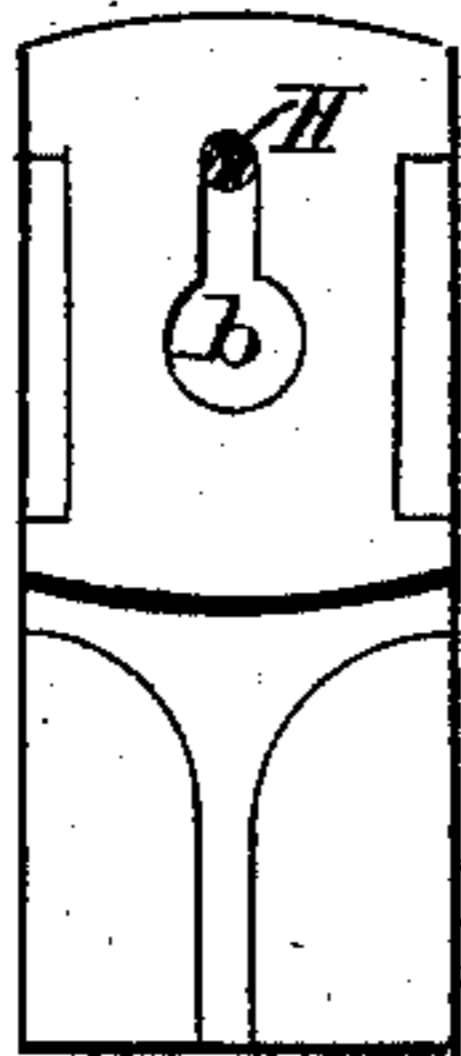


Fig. 7.



Witnesses:
A. Smithell
W. Mitchell

Inventor:
Bradford F. Lancaster
by S. N. Bates
his Atty.

UNITED STATES PATENT OFFICE.

BRADFORD F. LANCASTER, OF AUGUSTA, MAINE, ASSIGNOR OF ONE-HALF
TO RICHARD W. BLACK, OF SAME PLACE.

WRENCH.

SPECIFICATION forming part of Letters Patent No. 325,942, dated September 8, 1885.

Application filed January 29, 1885. (No model.)

To all whom it may concern:

Be it known that I, BRADFORD F. LANCASTER, a citizen of the United States, and a resident of Augusta, in the county of Kennebec and State of Maine, have invented certain new and useful Improvements in Wrenches, of which the following is a specification, reference being had therein to the accompanying drawings.

10 My invention relates to wrenches for machine and general use; and the object of my invention is to make a wrench that may be instantly set upon a nut and there held automatically until removed.

15 My invention consists, briefly, of the usual jaws, one of which slides between two guides. The sliding jaw, being pushed up to the nut, is there held by making a quarter-turn to the right with the handle, thereby engaging cer-
20 tain threads.

In the drawings, Figure 1 is a side elevation of my wrench. Fig. 2 is a top view. Fig. 3 is a partial longitudinal section through xx of Fig. 1. Fig. 4 is a section through yy of Fig. 3. Figs. 5, 6, and 7 are details of various parts.

A is one of the jaws of the wrench, connected with which are the side bars, C C. The bars C C form two guides, in which slides the
30 jaw B, this jaw having grooves in its sides to fit the guides C C. The yoke D connects the ends of the side bars, C C. The screw E passes through holes or openings in the yoke D and the jaw B, and is headed or riveted on the inside of the jaw. The ratchet-wheel G
35 is attached to the screw E next to the jaw B, the teeth g coming against the side of jaw B.

h is a catch formed on the side of a pin, H, which pin extends back into a hole in the jaw
40 B. The spiral spring I is compressed into the back end of this hole by the end of the pin H. The end of the pin H which extends beyond the face of the jaw B is formed into a cap or head, h^2 .

45 The screw E has threads cut for a portion of its circumference on opposite sides, leaving two spaces between, which are dressed down to the base of the threads. (See Fig. 6.) These threads are cut right and left hand-
50 ed, and are therefore pointed at each end.

On the inside surface of the yoke D, where the screw passes through, are threads d , cut in the same manner as those on the screw E. Two slots, $d' d'$, are cut out of this opening, on opposite sides, of sufficient size to allow the
55 screw-threads $e e$ to pass through. F is the handle of the wrench.

Having thus described the construction of my wrench, I now proceed to show its manner
60 of operation.

When the wrench is to be used, the line of the threads $e e$ is brought within the slot d' . The screw E, bearing the jaw B, may now be freely slid in and out. The jaws are closed onto the nut, and the screw E turned to the right. 65 The threads $e e$, having the slots $d' d'$, engage the threads d on the inner surface of the yoke D. The jaw B is thus forced solidly against the nut. The catch h , forced outward by the spring I, engages the teeth g of the ratchet-
70 wheel G and prevents the screw E from turning backward after the jaws are set up. The nut is thus held firmly between the jaws of the wrench. The threads $e e$ and $d d$, being pointed at each end, will engage each other
75 at any point where the jaws happen to stop, and the pitch of the screw is sufficient to move the jaw up to a solid bearing.

When the jaws are to be loosed, the thumb is pressed on the head h^2 of the pin H, and
80 the catch h is thus disengaged from the ratchet-wheel G. The screw E may then be turned backward and the thread e brought within the slots d' , as before described.

The operation of setting the jaws on a nut
85 by my wrench is almost instantaneous, and consists merely of shoving in the handle and giving it a quarter of a turn or less to the right. By the use of the screw E, I obtain the strength of grip characteristic of the screw-
90 wrench, together with a great rapidity of action.

The threads d , instead of being cut on the inner surface of the yoke, may be cut on the inside of the side bars, C C; but I consider the
95 construction as here shown preferable because the threads are protected from accident.

The end of the screw may be pivoted to the jaw B in a variety of ways, and the catch h may also be differently constructed; and I
100

therefore do not wish to confine myself to the precise methods here shown.

I claim—

5 The wrench consisting of jaws A and B, side bars, C C, and yoke D, through which passes screw E, which screw is pivoted to jaw B and which contains ratchet-wheel G, controlled by catch h, substantially as shown and described.

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

BRADFORD F. LANCASTER.

Witnesses,

C. B. MORTON,
CHAS. B. CHICK.