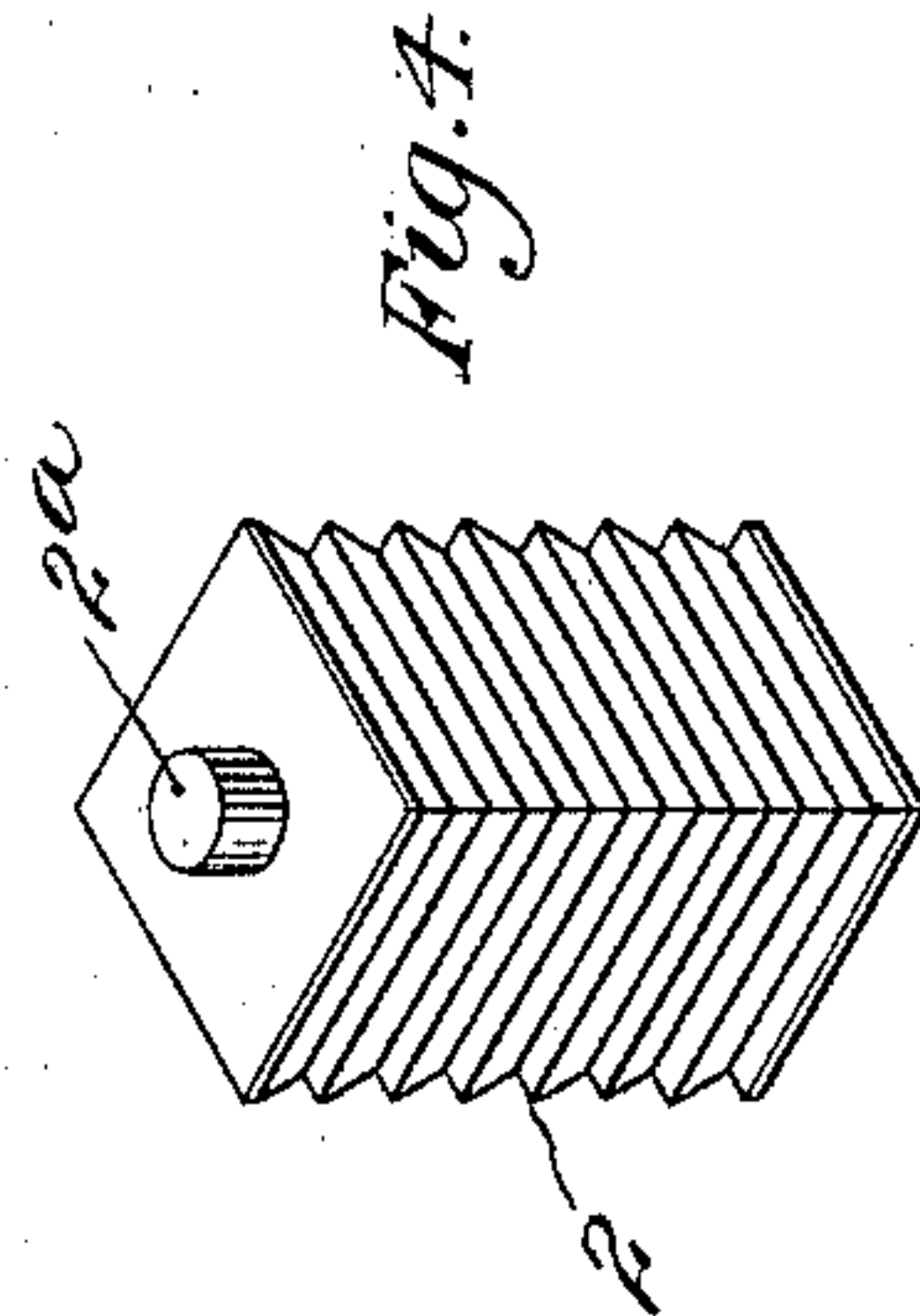
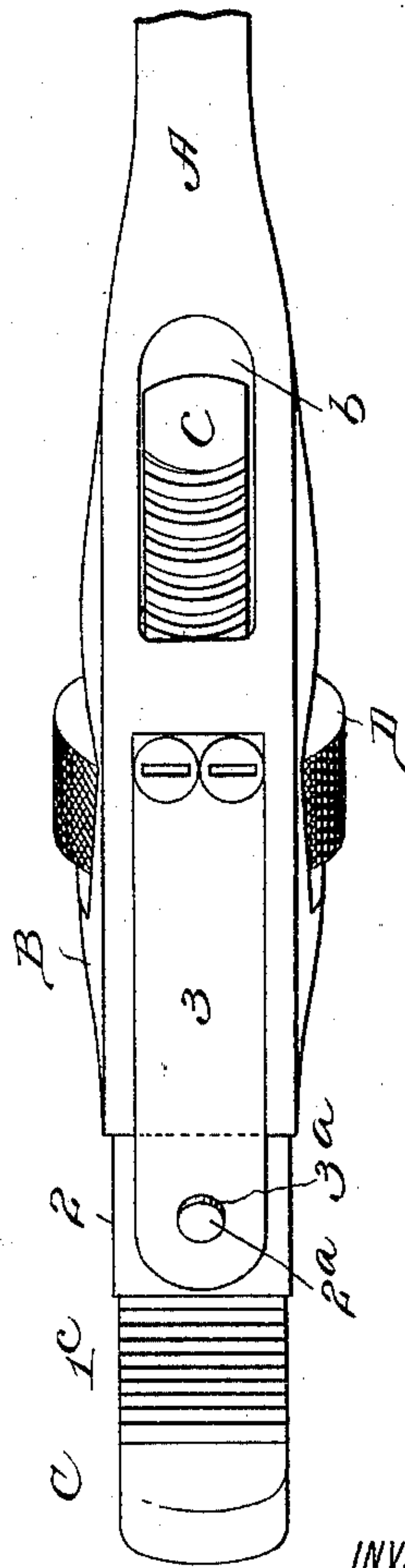
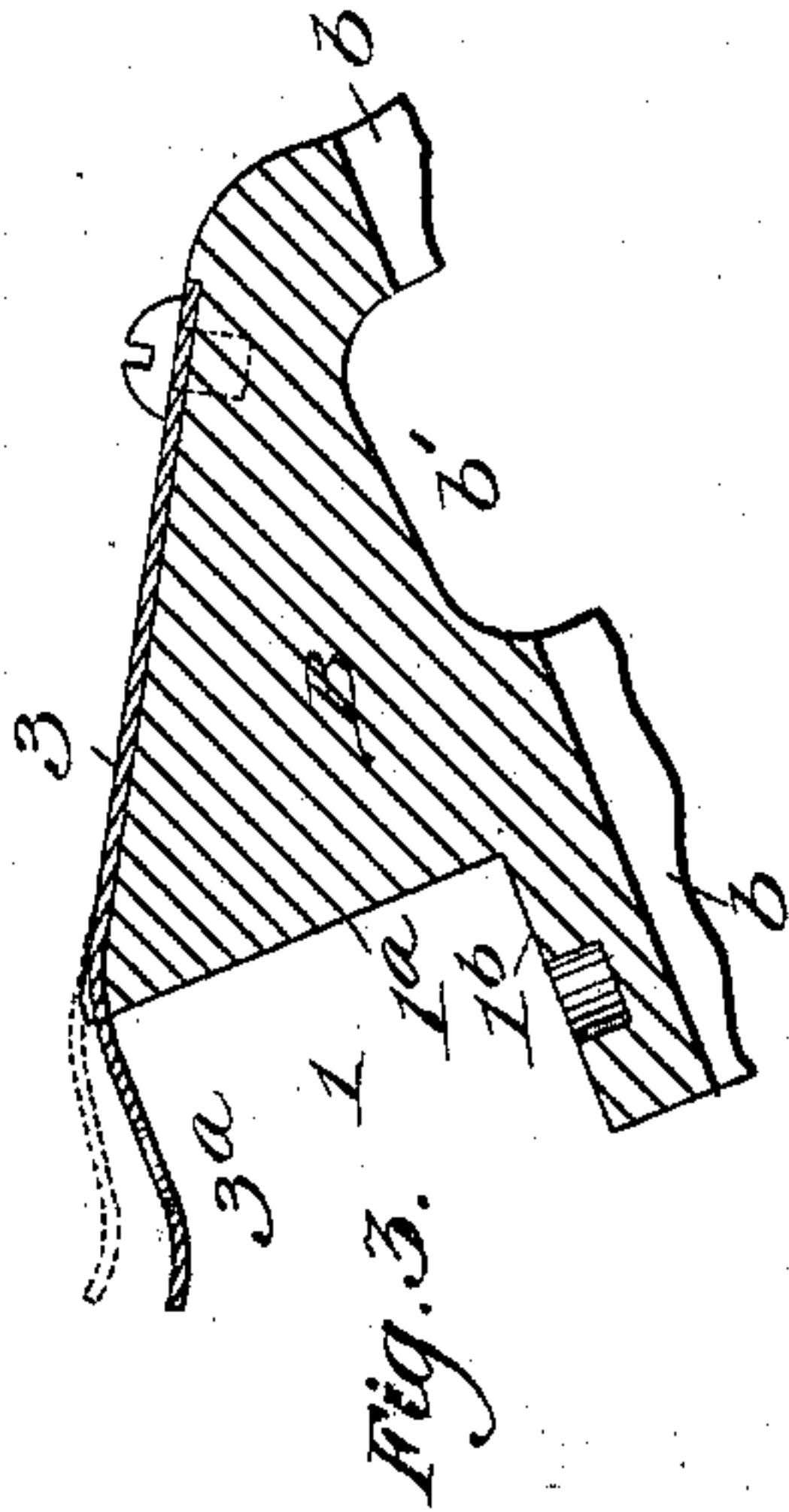
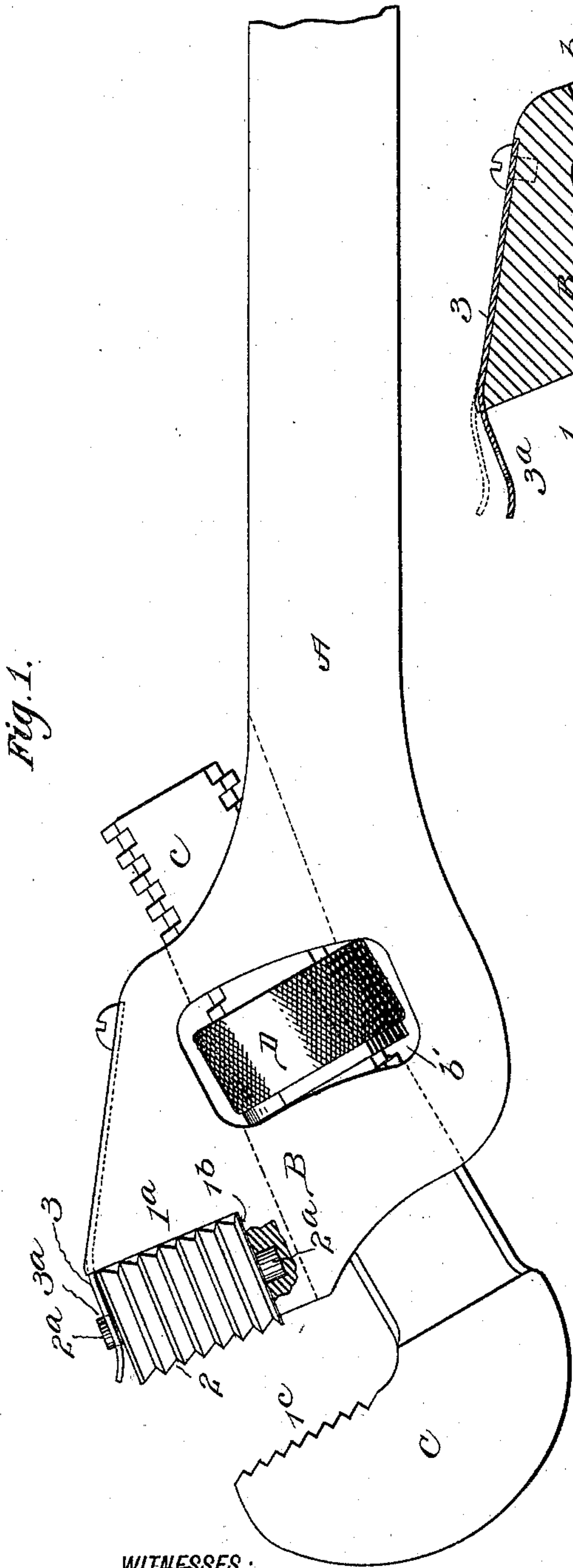


(No Model.)

J. EATON.
WRENCH.

No. 584,814.

Patented June 22, 1897.



WITNESSES:
Wm. D. Dyer
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UNITED STATES PATENT OFFICE.

JOHN EATON, OF PITTSBURG, PENNSYLVANIA.

WRENCH.

SPECIFICATION forming part of Letters Patent No. 584,814, dated June 22, 1897.

Application filed March 20, 1897. Serial No. 628,460. (No model.)

To all whom it may concern:

Be it known that I, JOHN EATON, a citizen of the United States, residing at Pittsburg, in the county of Allegheny, State of Pennsylvania, have invented certain new and useful Improvements in Wrenches; and I hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawings, in which—

Figure 1 is a side elevation of a wrench embodying my invention. Fig. 2 is an edge or front view showing the spring which secures the removable bit. Fig. 3 is a longitudinal sectional view of a portion of the expanded stock and the bit-holder, the bit being removed to show the rectangular or shouldered bit-seat and pin-recess; and Fig. 4 is a detached perspective view of the bit.

Like symbols refer to like parts wherever they occur.

My invention relates to certain improvements in wrenches whereby the durability or life of the tool is increased without materially adding to the complication of its construction or the cost or difficulty of manufacture.

The main object of the present invention is to provide one jaw of a wrench, preferably that jaw which is subjected to greatest strain and wear, with a removable and reversible or rotatable bit which shall be so supported in and by the jaw as to resist torsional and crushing strains liable to injure or displace the bit.

To this end the main feature of my invention embraces the combination, with a wrench, one of its jaws having a rectangular bit seat or recess, one wall of which recess is parallel with the operative face of the opposite jaw, the other wall of the bit-recess being at substantially right angles thereto and provided with a pin-hole, of a detachable bit having a plurality of parallel sides and an axial pin adapted to fit the pin-hole of the bit-recess, whereby the bit may be removed, reversed, or rotated and replaced to present a fresh grip-surface to coact with the gripping-face of the opposite jaw of the wrench.

The invention is more especially designed for use with pipe-tongs of that class having a fixed jaw upon the stock and a movable jaw arranged at an angle to the stock and having a slight pivotal or rocking movement to ob-

tain the grip after the adjustment of the movable jaw, and being so especially designed the bit has been shown as of rectangular form or square in cross-section and with serrated parallel faces and with a perforated spring-tongue for detachably securing the bit, which construction in the above-recited combination embodies a secondary feature of my invention.

I will now proceed to describe my invention more fully, so that others skilled in the art to which it appertains may apply the same.

In the drawings, A indicates the wrench-stock, expanded at its outer extremity into a head B, which constitutes one jaw of the wrench, said head being provided with a longitudinal shank-slot *b* at an angle to the stock A for the reception of the threaded shank *c* of the movable or adjustable jaw C. The head B is also provided with a transverse arc-shaped nut-slot *b'* for the milled nut D, which controls the movable jaw C.

In order that the movable jaw C may have a slight rocking or pivotal movement to effect the grip and release after adjustment, the shank-slot *b* widens from the nut-slot *b'* in both directions, (see dotted lines, Fig. 1,) and the nut-slot *b'* is larger than would be otherwise necessary for the reception of nut D.

The expanded head B of the stock, or that portion which constitutes one jaw of the wrench, is formed with a rectangular recess or bit-seat 1, one side or wall of which, 1^a, is substantially parallel with the gripping-face 1^c of the jaw C to afford a seat or bearing for the bit 2, while the other wall 1^b of the bit-seat 1 is at substantially a right angle to the wall 1^a and the gripping-face 1^c and is provided with a pin-hole to receive a pin on one end of the detachable and reversible bit 2.

2 indicates a reversible bit having parallel ends provided with axial lugs or pins 2^a and a plurality of parallel faces so disposed that while one face bears upon the wall 1^a the opposite face shall lie parallel to and coact with the gripping-face 1^c of jaw C, and in case of bits for pipe-wrenches the faces of said bit are serrated, as is also the gripping-face of jaw C.

In order to removably secure the bit in the bit-seat, a movable perforated support is provided for the outer lug 2^a of the bit 2, and said support or means of detachably securing

the bit to its seat is preferably a spring-tongue 3, secured to the expanded head B by rivets, screws, or in other suitable manner, said tongue 3 having a hole 3^a at its free end to receive the pin 2^a on the outer or exposed end of the bit 2, and if desired, in order to protect said spring-tongue 3, it may be seated in a spring-recess formed in the face of the stock-head B, as indicated by the dotted lines, Fig. 1.

10 The bit 2 may be readily removed, turned, repaired, and replaced by lifting the spring-tongue 3 to disengage or insert the pin 2^a on the outer end of the bit 2, and as the bit when in position rests in the angle formed by the

15 side walls 1^a 1^b and is supported by said walls it is to all intents and purposes a part of the head B, while at the same time it can be removed and replaced with facility and without the use of tools.

20 The bit being a solid block effectively resists crushing force and can be recut or sharpened without being weakened thereby, and the form of the bit and its seat are such as to give rise to no difficulty and little added expense in manufacture.

25

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

1. The combination in a wrench of parallel gripping-jaws, one of which is provided with a rectangular bit seat or recess said recess having a pin-hole in that wall of the recess which is at right angles to the gripping-face of the jaws, a detachable bit having a plurality of parallel faces and an axial pin which enters the pin-hole in the wall of the bit-recess, and means for detachably securing the outer end of the bit, substantially as and for the purposes specified.

2. In a wrench the combination of a movable and a fixed jaw, one of said jaws having a rectangular bit-recess one of whose walls is provided with a pin-recess, a rectangular detachable bit having lugs or pins at its opposite ends, and a perforated spring-tongue for receiving the lug or pin on the outer end of the bit, substantially as and for the purposes specified.

In testimony whereof I affix my signature, in presence of two witnesses, this 18th day of March, 1897.

JOHN EATON.

Witnesses:

JAMES C. BOYCE,
B. STRAUSS.