

No. 744,515.

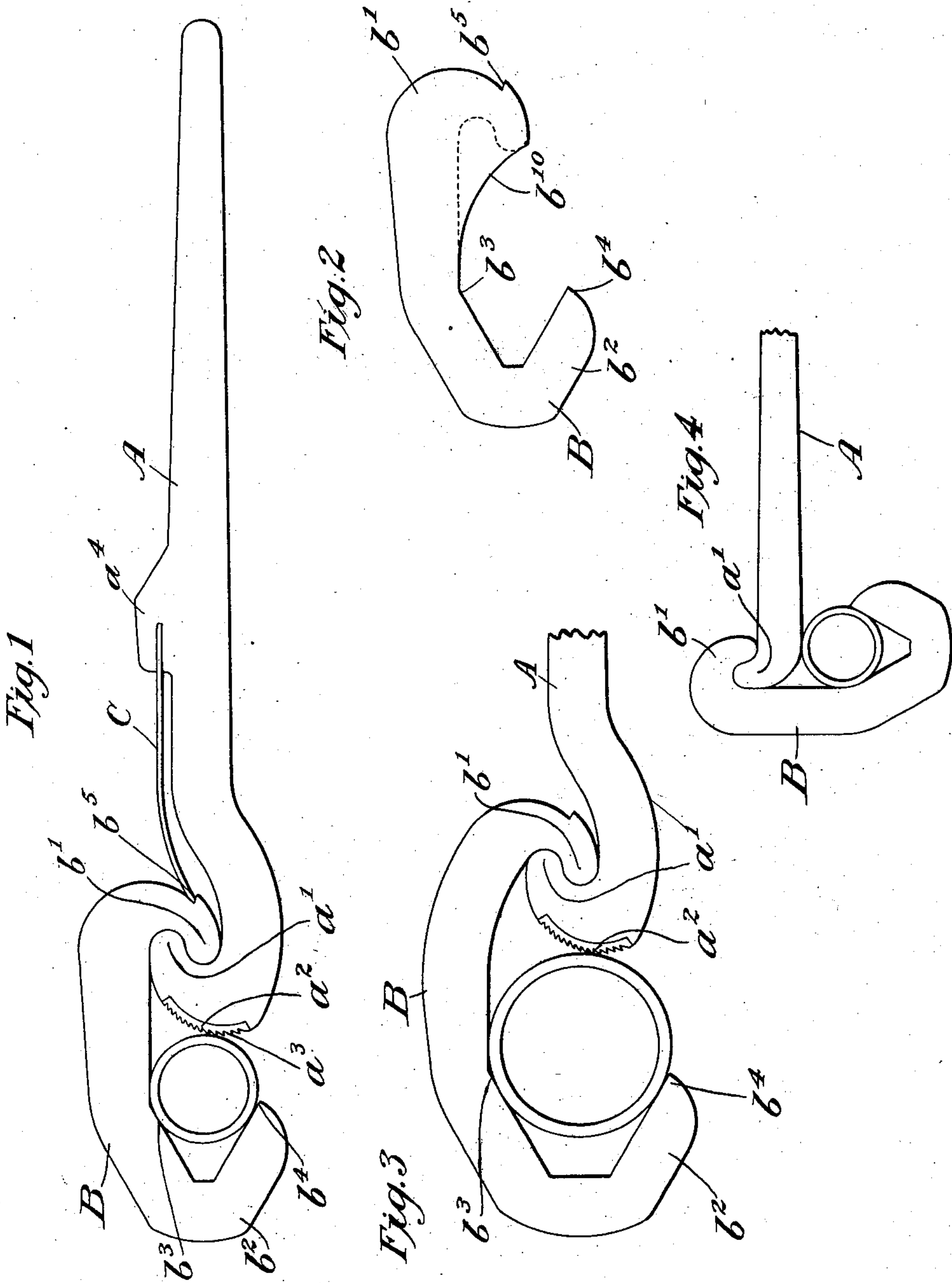
PATENTED NOV. 17, 1903.

C. D. DUTCHER.

WRENCH.

APPLICATION FILED SEPT. 12, 1902.

NO MODEL.



Witnesses
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UNITED STATES PATENT OFFICE.

CHARLES D. DUTCHER, OF MOUNT KISCO, NEW YORK.

WRENCH.

SPECIFICATION forming part of Letters Patent No. 744,515, dated November 17, 1903.

Application filed September 12, 1902. Serial No. 123,073. (No model.)

To all whom it may concern:

Be it known that I, CHARLES D. DUTCHER, a citizen of the United States of America, and a resident of Mount Kisco, Westchester county, State of New York, have invented certain new and useful Improvements in Wrenches, of which the following is a specification.

My invention relates generally to wrenches, and has more particularly reference to pipe-wrenches.

My object is to produce a wrench of a simple construction capable of being quickly and easily adjusted and by means of which great force may be exerted with the expenditure of relatively little energy. To this end I construct my wrench with two members, one of which is provided with a hook and the other of which is provided with two opposed hooks, one of which is V-shaped and the other of which is adapted to be engaged or disengaged with the hook of the other member, the two members being thereby removable from each other.

I shall describe a wrench embodying my invention and afterward point out the novel features in the claims.

In the drawings I have illustrated my invention in what I consider a preferable form; but changes may of course be made within the scope of the claims.

In the said drawings, Figure 1 is a general view of the wrench embodying my invention. Fig. 2 shows a modification of the double hook or removable member shown in Fig. 1. Fig. 3 shows a larger size of double hook or removable member used for a different size of pipe. Fig. 4 shows a simplified form of my wrench.

Similar letters of reference indicate corresponding parts in the different views.

A represents a lever provided at one end with a hook a' , which also forms the cam-shaped bearing-surface a^2 , having a piece of tool-steel a^3 inlaid.

B is a second lever formed in the shape of a double hook, one hook, b' , engaging or interlocking with the hook a' and the other hook, b^2 , being V-shaped, thereby forming two bearing-surfaces b^3 and b^4 . The parts are so arranged that the end of the hook b' comes opposite to and in substantially the same plane as the apex of the V-shaped hook b^2 . A

spring C constitutes a convenient means for keeping the hooks a' and b' in engagement with each other and is attached in any suitable way to the lever A, as at a^4 , bearing with its free end against a lug or projection b^5 on the member B. Other means could of course be used.

The removable member B is slipped in position in behind the spring C, so that the hooks a' and b' engage or interlock with each other. The wrench is then caused to grasp the pipe, as shown in the drawings, the hook b' forming a pivot for the lever A to turn on, or, conversely, the hook a' forming a pivot for the lever B to turn on, the spring C being sufficiently elastic to allow this movement to take place. The lever A is then given a downward movement, thus bringing the three bearing-surfaces a^2 , b^3 , and b^4 , which are grouped to form a triangle, closer together, thereby gripping the said pipe at three points, which form fulcrums for the bearing-surfaces on the levers. One advantage will be readily seen in the fact that the wrench can be left on the pipe without its position being disturbed, the natural tendency of the members composing same, by reason of the weight of the lever A, being to grip the pipe. Another advantage lies in the very great force which can be applied by means of the lever without the expenditure of a great deal of energy. The removable member B is made in sizes to correspond with the standard sizes of pipe, so that a quick and easy adjustment is obtained by substituting one size of the member B for another required size, as shown in Fig. 3. The member B is preferably made, as shown in Fig. 2, with wings b^{10} on either side, so as to prevent the disengagement of the interlocking hooks a' and b' .

In Fig. 4 is shown a simplified form of my wrench in which the principle of the construction will be most readily understood, the lever A having the pipe for a fulcrum and engaging the other lever B to grip the pipe.

It will be understood that the term "levers" as used in the specification and claims should be broadly construed to cover any equivalent member of any kind. Likewise "pipe" is to be understood as meaning member or thing in connection with which the wrench is adapted to be used.

Having thus described my invention, what I claim is—

1. A wrench composed of a member A, terminating in a hook a' , forming a seat, and a
5 second removable member B, provided at one end with a hook b' , engaging with the hook a' , and at the opposite end with a second and V-shaped hook b^2 , adapted to grip the pipe between itself and the outer surface of the
10 hook a' , and a spring carried by the member A engaging with the member B and acting in an outwardly direction to hold the hook b' in the seat formed by the hook a' .

2. A wrench composed of a member A, terminating in a hook a' , forming a seat, and a
15 second removable member B, provided at one

end with a hook b' , inclosed by lateral wings, b^{10} , and engaging with hook a' , and at the opposite end with a second and V-shaped hook b^2 , adapted to grip the pipe between itself
20 and the outer surface of the hook a' , and a spring carried by the member A engaging with the member B and acting in an outwardly direction to hold b' in the seat formed by the hook a' .

Signed at Mount Kisco this 8th day of August, 1902.

CHARLES D. DUTCHER.

Witnesses:

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