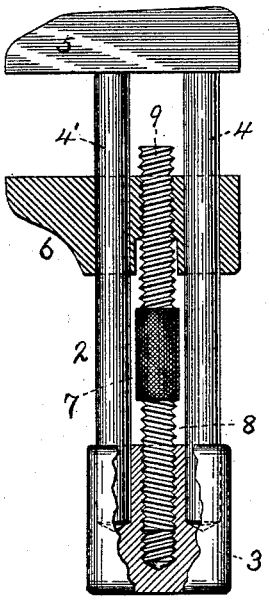
(No Model.)

C. TINGLÖF.

WRENCH.

No. 523,020. Patented July 17, 1894.



Witnesses.
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UNITED STATES PATENT OFFICE.

CARL TINGLÖF, OF BOSTON, MASSACHUSETTS.

WRENCH.

SPECIFICATION forming part of Letters Patent No. 523,020, dated July 17, 1894.

Application filed February 14, 1894. Serial No. 500,118. (No model.)

To all whom it may concern:

Be it known that I, CARL TINGLÖF, a citizen of the United States, residing at Boston, in the county of Suffolk and State of Massachusetts, 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 appertains to make and use the same, reference being had to the accompanying drawing, and to figures of reference marked thereon, which forms a part of this specification.

This invention relates to improvements in wrenches.

The characteristic features are embodied in the peculiar relation and construction of the several parts, whereby great scope is given to the movement of the adjustable jaw of the wrench. Further rapid motion of said jaw is obtained, while all lost motion between the parts by which said jaw is actuated is overcome, and friction is reduced to a minimum.

My improvements are embodied in the construction and relation of that element by means of which proper adjustment of the movable jaw is produced. This element comprises a revoluble rod upon the opposite end portions of which are peripheral right and left handed screw-threads. Moreover said rod engages at its lower end with the handle or some portion of the wrench which carries the fixed jaw, while the upper extremity passes into the movable jaw.

The drawing represents a sectional elevation of a pocket or bicycle wrench containing my invention.

In said drawing and upon reference thereto, it will be seen that the wrench comprises a body portion 2, which likewise constitutes the handle of the wrench, and consists of a terminal block 3, together with two parallel rods 4, 4′, which are secured at their lower ends to said block. Their upper extremities are surmounted by the fixed jaw 5 of the wrench. The movable jaw is shown at 6 as transversely bored in order to permit the passage of the rods 4, 4′, upon which said jaw is free to reciprocate. These rods serve not only as guides for the jaw, but likewise aid to steady and prevent it from springing away from the fixed jaw, when the wrench is in use.

The means by which I propose to actuate the movable jaw, and at the same time to produce rapid movement consists in an exteriorly screw-threaded rod 7, the opposite end portions of which have screw-threads with reverse pitch, and designated as right and left handed, respectively 8, 9. The lower threaded portion of this actuating rod enters the terminal block 3, which is bored and tapped, while in the present instance the movable jaw is also bored and tapped, the hole extending clear through the head. This rod 7 is located between the two connecting rods 4, 4′, and is situated in the same plane with the latter. The central portion of the rod has the screw-threads omitted and is roughened in order to afford a better grasp, since the rod is to be rotated at this point to cause movement of the jaw 6.

It is evident since the actuating rod has screw-engagement not only with the movable jaw, but also with the handle or body portion of the wrench, that no lost motion can occur between the two jaws, as now frequently happens. Moreover the right and left handed screw portions amplify the movement of said jaw 6, while changes in the adjustment are effected much more quickly. These results are due to the fact that while the movable jaw is being advanced along upon the rod, the latter has movement of its own in the same direction with respect to the handle of the wrench to which it is connected.

The method of putting together the several elements composing this wrench is as follows: The screw-rod 7 is first grasped and the movable jaw and block 3 are entered upon their respective ends and revolved until their proper relative positions are obtained. The two connecting rods 4, 4′, are now slipped through the jaw 6 from the upper side and inserted into the block 3, where they are made fast, after which the fixed head 5 is fastened to the upper ends of said rods and the wrench is complete.

It is evident that when movement of the jaw 6 occurs, there is little or no friction, since the rod 7 has rotary sliding movement not

only through the movable jaw, but likewise through the block 3, since the several parts have screw engagement. Furthermore the friction between said jaw and the guide-rod is very small since the latter are smooth.

What I claim is—

1. A wrench composed of a handle portion carrying a fixed jaw, likewise a movable jaw longitudinally bored and interiorly screw-threaded, and a revoluble rod screw-threaded at both ends, the threads to be of opposite pitch, and to engage respectively with the handle portion and the movable jaw through which latter said rod is adapted to pass and project beyond at stated times, substantially as stated.

2. In a wrench the combination with a terminal block, two parallel rods affixed therein, a stationary jaw surmounting said rods, and a movable jaw bored in parallelism with said rods upon which it moves and interiorly screw-threaded, of a revoluble rod formed with screw-threads of opposite pitch, the extremities of said rod to engage the terminal block and the movable jaw, the latter of which it is adapted to pass through and project beyond, substantially as set forth and specified.

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

CARL TINGLÖF.

Witnesses:
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