

UNITED STATES PATENT OFFICE.

EDWARD T. WARN, OF STERLING, ILLINOIS.

CHUCK-WRENCH.

SPECIFICATION forming part of Letters Patent No. 671,461, dated April 9, 1901.

Application filed February 4, 1901. Serial No. 45,872. (No model.)

To all whom it may concern:

Be it known that I, EDWARD T. WARN, a citizen of the United States, residing at Sterling, in the county of Whiteside and State of Illinois, have invented certain new and useful Improvements in Chuck-Wrenches; and I do 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 drawings, and to the letters and figures of reference marked thereon, which form a part of this specification.

My invention relates to chuck-wrenches, and pertains specially to a new and improved method of tightening the jaws of a chuck in small devices where such operation is usually performed by hand, such as braces, breast-drills, hand-drills, and similar devices. In these devices as now used the drill or other tool to be operated is secured in the jaws of the chuck by the action of a sleeve embracing such jaws and operated by the hand of the user. The construction of such devices is too well known to require any further reference thereto. In many implements of this class, however, difficulty is often encountered, by reason of the shank of the drill or other tool being perfectly round and smooth, in causing the jaws of the chuck to grasp such tool firmly and immovably by the operation of the hand alone. Frequently the assistance of a vise is resorted to, and other methods are employed to supply the lack of strength in the hands.

The purpose of my invention is to furnish a handy and convenient aid to the hand attached to the tool itself, whereby the drill is tightly secured in the chuck even if the shank of the drill and the inner faces of the chuck are perfectly smooth.

In the drawings, Figure 1 is a front elevation of my device. Fig. 2 is a partial vertical section thereof in the line $x-x$ of Fig. 1. Fig. 3 shows my device in side elevation attached to a brace in position to be used, the position thereof when not in use being shown by dotted lines. Fig. 4 shows a modification wherein my device is shown directly attached to the sleeve of the chuck as a part thereof.

1 is a metallic band or collar, of the proper

size and shape to embrace the sleeve or handhold of a chuck, as shown in Fig. 3. At the lower side the band 1 is divided, the ends being extended downwardly into the ears 2 and 3, each of said ears being perforated to receive the bolt 4, the perforation in the ear 3 being threaded to correspond with a thread on such bolt. By this means the band 1 can be tightly secured in position.

The top part of the band 1 is broadened into a head 5, supported upon which are two ears 6, each of such ears being provided with a recess 7. Pivotaly secured between the ears 6, as at a , is a small lever 8, having at its short end a cylinder-shaped cross-head 9, the ends of which are adapted to engage the recesses 7 when the lever 8 is elevated to a position at right angles to the head 5. The lever 8 is further provided with a lip 10, engaged by a spring 11, secured to the head 5.

In Fig. 3, 12 represents the drill, 13 the jaws which hold the same, and 14 the sleeve by which such jaws are operated. When it is desired to secure a drill or similar tool in place or release the same, the lever 8 is elevated to the position shown in Fig. 3, and the sleeve 14 moved with the assistance thereof in the desired direction. The steadiness of the lever 8 is insured and the danger of bending or breaking the same is precluded by the seating of the head of such lever in the recesses 7, the ends of such cross-head having a bearing alternately upon the upper and lower faces of such recesses, according to the direction in which such lever is being operated. The head 9 can be dispensed with and the lever 8 firmly secured in place at right angles to the chuck, but it would necessarily retain that position, which in use would be inconvenient and impracticable. When the tool is tightly secured in the chuck, the lever 8 is lowered to its normal position adjacent to the chuck, it being retained in such position by means of the spring 11 acting upon the lip 10.

It is apparent that the head 5 can be attached directly to the sleeve 14, as shown in Fig. 4, the purpose of the band 1 being more especially to permit of the securing of my device to implements already made or in use. It is also evident that my invention is applicable to small lathes, machine-drills, or other

mechanism where the jaws of the chuck have been or may be operated by hand-power.

What I claim as my invention, and desire to secure by Letters Patent of the United States, is—

1. In a chuck-wrench, the combination of the band 1 adapted to be attached to the adjusting-sleeve of the chuck, the ears 6; recesses 7, located in such ears 6; lever 8, pivotally secured between the ears 6, and provided with a cross-head 9; and means for retaining the lever 8 normally in position parallel with and adjacent to the chuck to which it is attached; substantially as set forth.

2. In a chuck-wrench, the combination of the head 5, ears 6, lever 8 provided with the

lip 10 on the lower side thereof; the spring 11 engaging the lip 10; and means for securing the head 5 to the adjusting-sleeve of the chuck; substantially as shown and set forth.

3. In a chuck-wrench, the combination with the adjusting-sleeve 14; of the ears 6, secured thereto; such ears being provided with recesses 7; the lever 8, provided with the cross-head 9; lip 10; and spring 11, secured to the sleeve 14; substantially as described.

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

EDWARD T. WARN.

Witnesses:

INNY S. WEAVER,
F. E. ARNOLD.