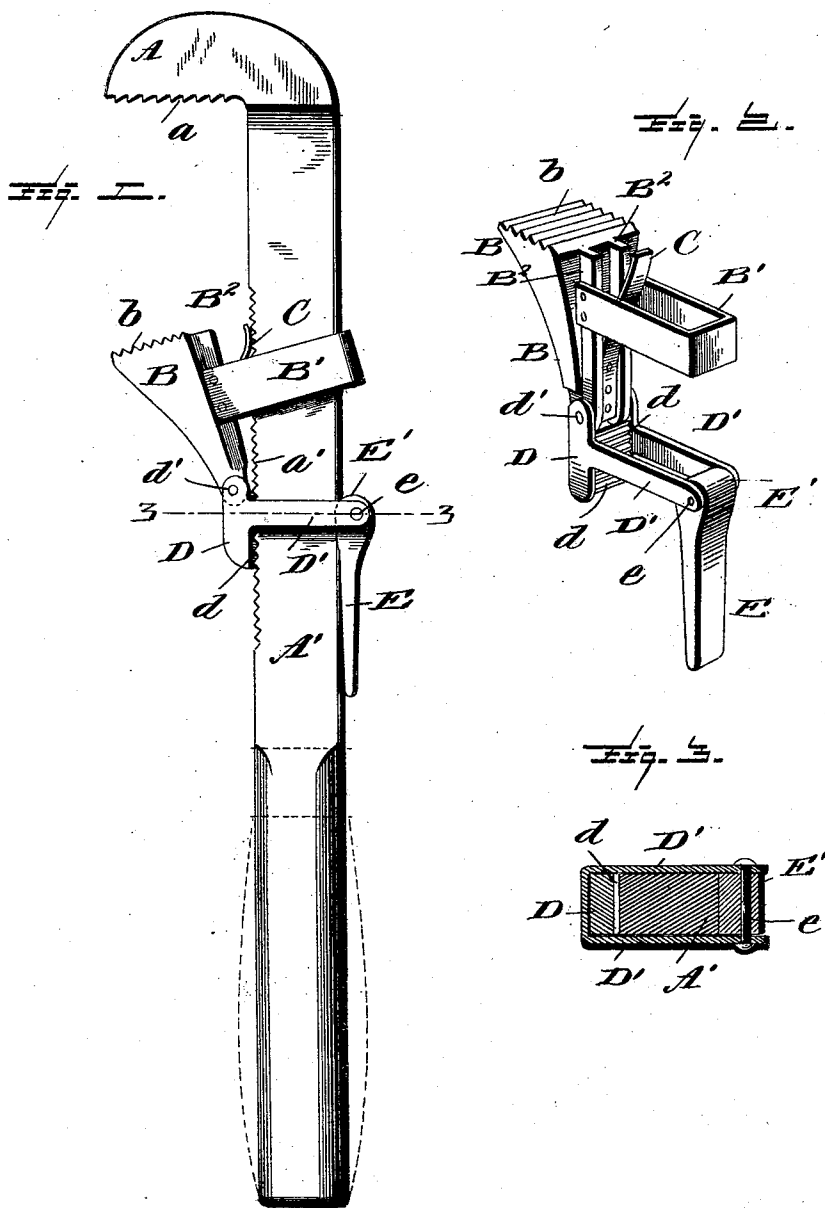


(No Model.)

A. W. MILES & E. A. COMMANDER.
WRENCH.

No. 484,218.

Patented Oct. 11, 1892.



Witnesses

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UNITED STATES PATENT OFFICE.

ARTHUR W. MILES AND EDWARD A. COMMANDER, OF LIVINGSTON,
MONTANA.

WRENCH.

SPECIFICATION forming part of Letters Patent No. 484,218, dated October 11, 1892.

Application filed May 12, 1892. Serial No. 432,753. (No model.)

To all whom it may concern:

Be it known that we, ARTHUR W. MILES and EDWARD A. COMMANDER, citizens of the United States, residing at Livingston, in the county of Park, State of Montana, have invented certain new and useful Improvements in Wrenches, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention relates to certain new and useful improvements in wrenches; and it has for its objects, among others, to provide an improved wrench of few parts capable of considerable adjustment, easy of operation, not liable to get out of repair, and efficient in use.

Other objects and advantages of the invention will hereinafter appear, and the novel features thereof will be specifically defined by the appended claims.

The invention is clearly illustrated in the accompanying drawings, which, with the letters of reference marked thereon, form a part of this specification, and in which—

Figure 1 is a side elevation of our improved wrench. Fig. 2 is a perspective view of the parts constituting our invention detached. Fig. 3 is a cross-section on the line 3 3 of Fig. 1.

Like letters of reference indicate like parts throughout the several views.

Referring now to the details of the drawings by letter, A designates the stationary jaw, and A' its shank, which may be provided with a suitable handle, the jaw being serrated, as seen at *a*, and the shank provided with teeth or serrations *a'*, as seen in Fig. 1.

B is the movable jaw. It is provided with a serrated end *b* and a loop or band B', which loosely embraces the shank A', being firmly secured to the said jaw B, preferably as shown—that is, having its ends secured to the longitudinal ribs B² of the inner face of the said jaw, as seen best in Fig. 2, and between these ribs is secured one end of the flat spring C, the other end of which is bent outward away from the jaw and is held within the loop and designed to bear against the

shank of the stationary jaw, as shown in Fig.

1. This jaw is pivoted to a block D, which has its inner surface toothed or serrated, as seen at *d*, to engage the teeth of the shank A', the pivot of the said jaw being shown at *d'*. This block has the arms D' extending therefrom, which embrace the shank A', and at their other ends has pivotally supported upon a pivot *e* the cam-head E' of the lever E.

For a monkey-wrench the jaw B will be made rigid with the block, the loop B' being present or not, as may be found most expedient.

The operation will be readily understood. The parts being moved into their proper or desired position, the cam-lever is turned so that its cam-head impinges against the shank and binds the parts in place. The pivoting of the movable jaw permits of the desired movements thereof to fit it for a pipe-wrench.

What is claimed as new is—

1. The combination, with the shank and stationary jaw, of the block for engaging the shank, the movable jaw pivoted to the said block, the loop on the movable jaw, and the cam-lever pivotally mounted for drawing the block against the shank, as set forth.

2. The combination with the shank and stationary jaw, of the block with arms, the movable jaw pivoted to the block and provided with loop, a spring pivoted to the movable jaw, and a cam-lever pivoted in the arms of the block, as set forth.

3. The combination, with the shank and stationary jaw, of the pivoted movable jaw provided with ribs, the spring secured at one end between said ribs, the loop on the movable jaw, the block to which the movable jaw is pivoted, the arms on said block, and the cam-lever pivoted between said arms, as set forth.

In testimony whereof we affix our signatures in presence of two witnesses.

ARTHUR W. MILES.

EDWARD A. COMMANDER.

Witnesses:

H. J. MILES,

PETER SEEMON.