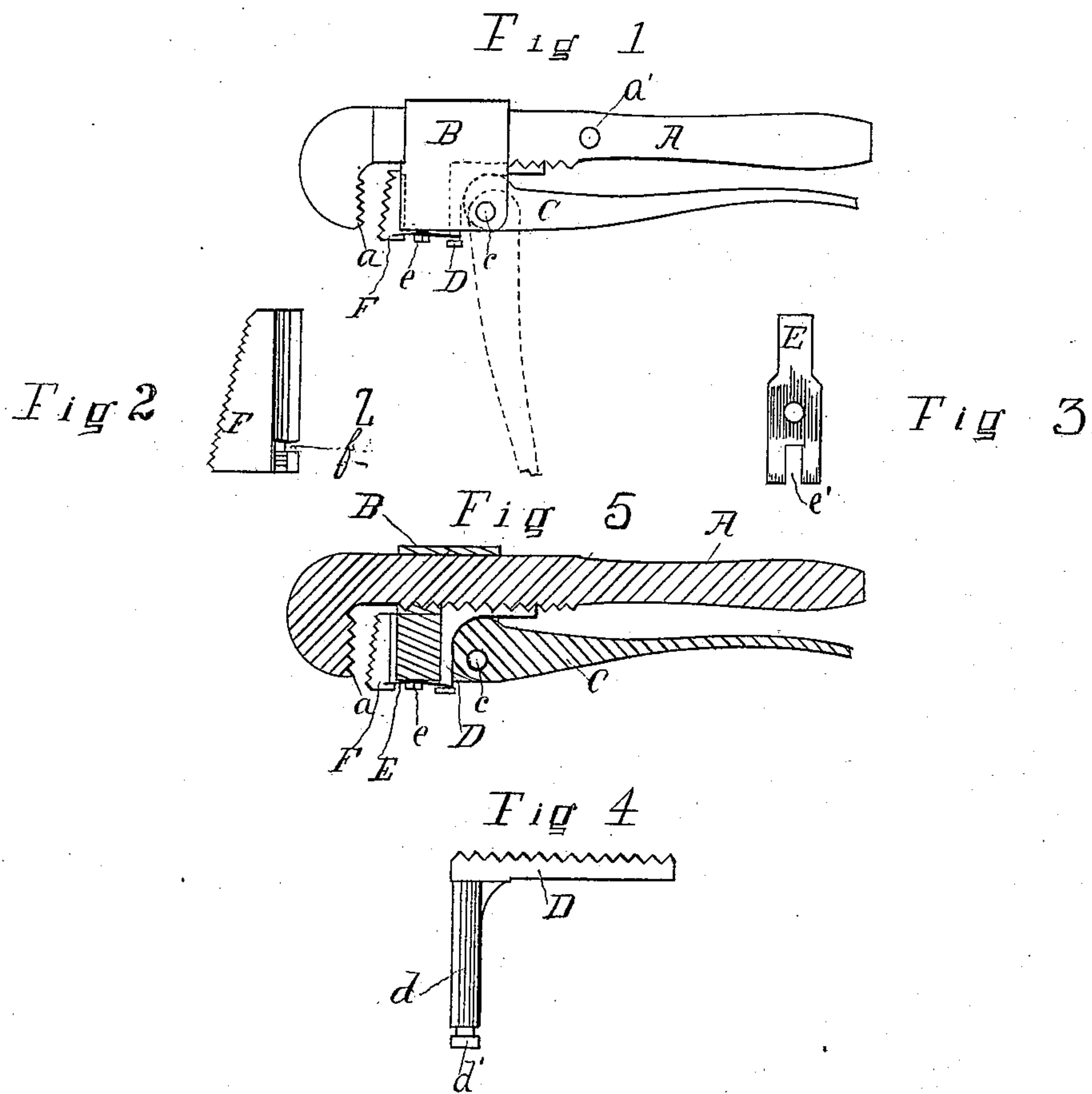


(No Model.)

G. S. ARMSTRONG.
PIPE AND MONKEY WRENCH.

No. 323,017.

Patented July 28, 1885.



Attest
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UNITED STATES PATENT OFFICE.

GEORGE S. ARMSTRONG, OF DENVER, COLORADO, ASSIGNOR OF ONE-HALF
TO WM. G. HUTCHINSON AND JOHN L. BERGER, BOTH OF SAME PLACE.

PIPE AND MONKEY WRENCH.

SPECIFICATION forming part of Letters Patent No. 323,017, dated July 28, 1885.

Application filed August 25, 1884. (No model.)

To all whom it may concern:

Be it known that I, GEORGE S. ARMSTRONG, a subject of the Queen of Great Britain, residing at Denver, in the county of Arapahoe and State of Colorado, have invented certain new and useful Improvements in Pipe and Monkey Wrenches, of which the following is a specification, reference being had to the accompanying drawings.

My invention relates to improvements in pipe and monkey wrenches; and the object of my improvements is to provide a combined pipe and monkey wrench quickly adjusted, of superior strength and durability, and that can be manufactured more cheaply than other wrenches now in use. I attain these objects by means of the mechanism illustrated in the accompanying drawings, in which—

Figure 1 is a side view of my invention; Fig. 5, a sectional side view through the center; Fig. 2, a view of the adjustable corrugated or smooth wedge; Fig. 3, a view of the small spring; Fig. 4, a view of the vertical adjusting-clamp.

Similar letters refer to similar parts throughout the several views.

In Fig. 1, A represents a notched bar with corrugated or smooth jaw *a* and the set-screw *a'*.

B represents a sliding block through which the bar A passes.

C is an eccentric lever working within the block B, as shown in the drawings, and securely held in place by the tapering pin *c*, which passes through the block B and upon which the eccentric lever works.

D is a vertical adjusting-clamp notched to correspond with notches on the bar A, and from which projects at a right angle the guide *d*, with the head *d'*, (distinctly observed in Fig. 4,) the guide being dovetailed to work in a corresponding slot in the block B.

F represents an adjustable corrugated or smooth wedge dovetailed to fit a corresponding slot in the block B.

E is a small spring attached to the sliding block B by a set-screw, *e*. This spring is connected at one extremity with the vertical clamp D, the slot *e'*, as shown in Fig. 3, receiving the head *d'*, as shown in Fig. 4. At the other extremity the spring is connected with the ad-

justable wedge F, the end of the spring being received in the notch *f*, being a notch in the dovetail of the wedge F, as shown in Fig. 2.

The relation of the different parts of my invention to one another and the working of all in combination will be fully understood from the following explanation: The eccentric lever C being moved from the bar A to a position at right angles to the bar, as shown by the dotted lines in Fig. 1, the spring E lifts the clamp D out of the notches in the bar, the guide marked *d* in Fig. 4 working in the dovetailed slot in block B, as above described. The clamp D being raised out of the notches in the bar A and thus held by the spring E, the sliding block B may be moved along the bar A at pleasure to any position between the jaw *a* and the set-screw *a'*. The sliding block B having been shifted to suit the purpose, the eccentric lever C is closed toward the bar A till it occupies a position parallel with the bar, as shown in Figs. 1 and 5, thus forcing the notched clamp D in contact with the bar A, the notches in the bar receiving corresponding notches in the clamp. The eccentric lever being in the position last above described, the wrench is ready for use, and the jaws having been brought in contact with the desired object the bar A is moved around toward the side containing the eccentric lever, thus forcing the wedge downward toward the bar A, thereby increasing the firmness with which the object is held between the jaws of the wrench, the wedge being guided in its movement by its dovetail working in a corresponding slot in the block B. As soon as the power applied in turning the wrench ceases to act the spring E, connected with the wedge F as aforesaid, raises the wedge to its original position, as shown in Figs. 1 and 5 in the drawings.

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

1. In a combined pipe and monkey wrench, the combination of notched bar A with corrugated jaw *a*, the sliding block B, receiving the bar A, the eccentric lever C, working within the block B, the tapering pin *c*, passing through the block B, and the eccentric lever C, in the manner shown in the drawings, and so as to al-

low the lever C to perform its proper function, as explained above, the vertical adjusting-clamp D, the adjustable corrugated wedge F, dovetailed as above set forth, and the spring E performing the double office of acting upon the wedge F and the adjustable clamp D, substantially in the manner and for the purpose above described.

2. In a combined pipe and monkey wrench, the combination of the notched bar A with smooth jaw *a*, the sliding block B, the eccentric lever C, the tapering pin *c*, the vertical adjusting-clamp D, with the dovetailed guide

d, and the head *d'*, as shown in Fig. 4, the spring E, fastened to sliding block B by the set-screw *e* and containing the slot *e'*, and the smooth wedge F, containing the notch *f*, as shown in Fig. 2, which receives the smaller end of the spring E, substantially in the manner and for the purpose above explained and set forth.

GEORGE S. ARMSTRONG.

Attest:

FRANK I. WILLED,
BRINTON GREGORY.