D. FISHER.

Pipe and Nut Wrench.

No. 212,795. Patented Mar. 4, 1879.

Fig. 1.

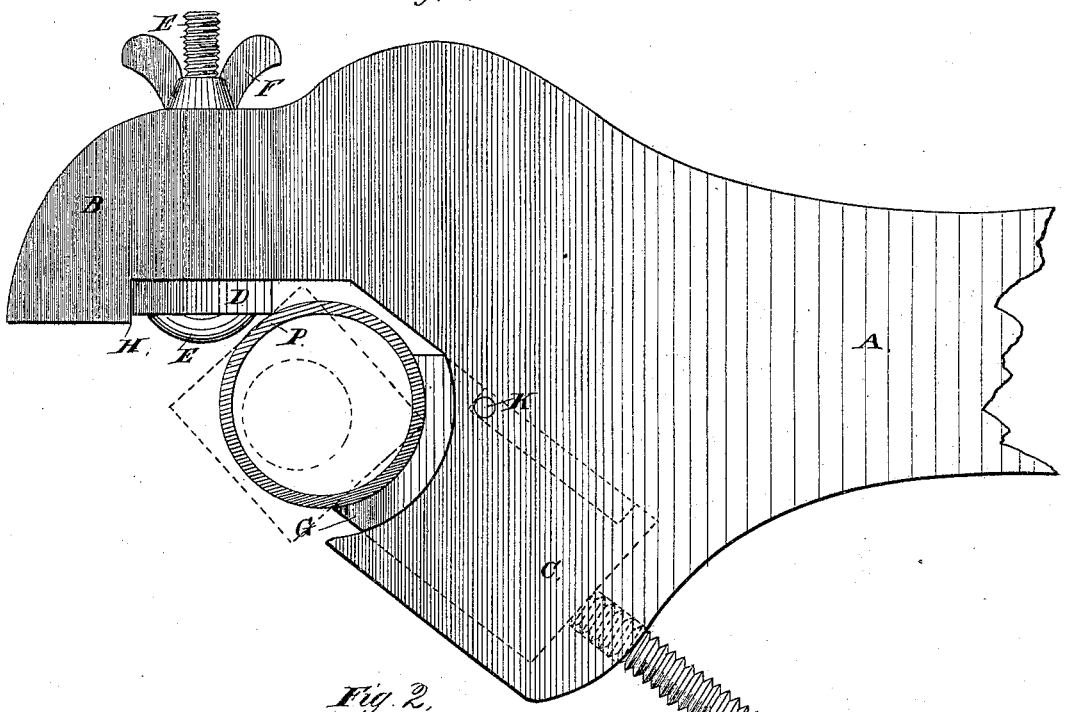
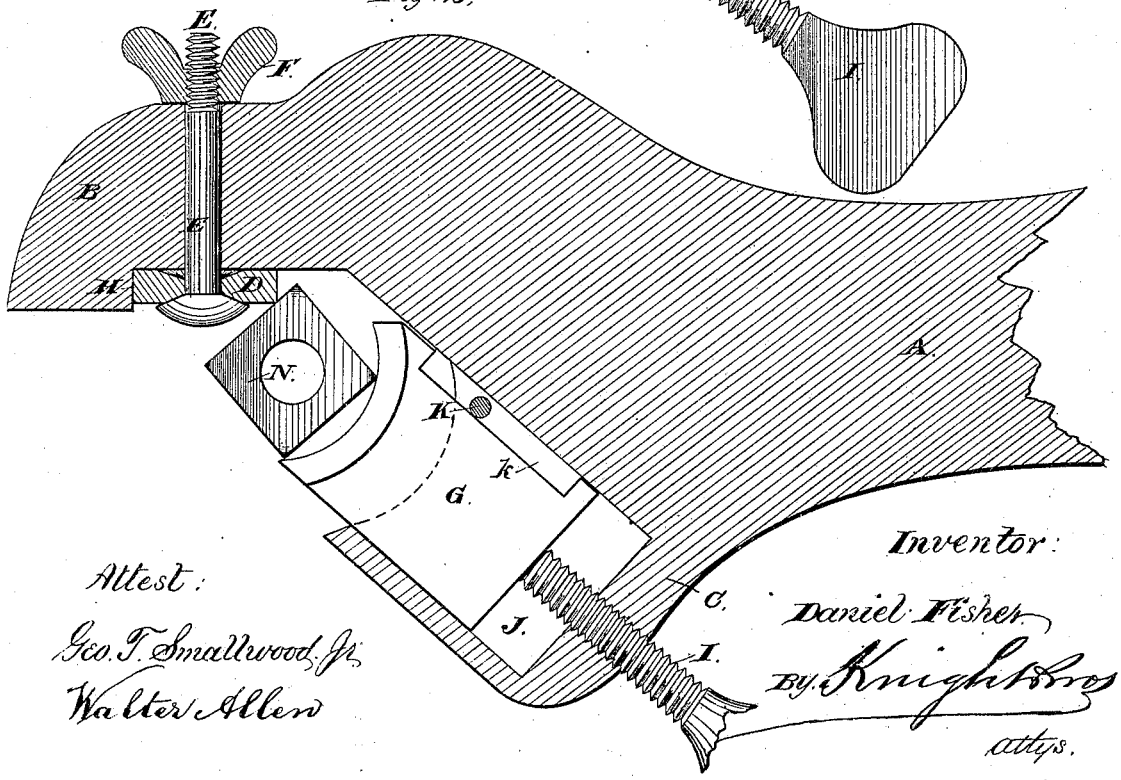


Fig. 2.



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UNITED STATES PATENT OFFICE.

DANIEL FISHER, OF OIL CITY, PENNSYLVANIA.

IMPROVEMENT IN PIPE AND NUT WRENCHES.

Specification forming part of Letters Patent No. **212,795**, dated March 4, 1879; application filed January 10, 1879.

To all whom it may concern:

Be it known that I, DANIEL FISHER, of Oil City, in the county of Venango and State of Pennsylvania, have invented a new and useful Improvement in Pipe and Nut Wrenches, of which the following is a specification:

The subject of my invention is an adjustable pipe and nut wrench having two rigid jaws, one of which has a flat surface on the inside with a projection on the end. It has also inserted in it a movable bit, so placed as to operate against the back of the pipe or nut. The said bit is constructed with two square faces, so as to afford eight working-edges; and is secured to the jaw by a bolt passing through a central aperture. The flat surface also forms a recess in front of the bit, into which the pipe is pressed by a movable block and screw fixed in the lower jaw, and it also forms a stop after the bit has taken its proper hold, thereby preventing the crushing or denting of the pipe, which frequently occurs with other tongs and wrenches when a pipe is hard to unscrew. The recess also allows the bit to be readily passed over the pipe to take proper hold.

In order that my invention may be fully understood, I will proceed to describe it with reference to the accompanying drawings, in which—

Figure 1 is a side elevation of the jaw portion of my improved wrench, illustrating its application to a pipe, and showing, also, in dotted outline, the position occupied by a nut of large size while held and turned by the wrench. Fig. 2 is a longitudinal section, showing the adjustable block set up to receive a nut of smaller size.

A represents a part of the body of the wrench, the handle thereof, which may be of any desired length, being omitted. B is the upper, and C the lower, jaw. D is a reversible bit resting against a shoulder, H, in the jaw B, and secured in position by a bolt, E, and nut F, as described in my Patent No. 203,822, dated May 21, 1878. G is a concave-faced block fitted to slide within a recess, J, in the jaw C, and adjusted by means of a screw, I, to suit the size of pipe or nut to be operated on. K is a pin fixed in the sides of the recess J in the jaw C, and passing through a recess, *k*, prepared for it in the sliding block G, so as to permit the adjustment of said block while preventing its escape. P represents a section of pipe in position, and N a nut.

My improved wrench operates from the back of the pipe or nut instead of the front, as in the case of most wrenches and tongs. When it is applied the bit is passed around and over or under the pipe or nut to the back side, and rests on or against the pipe or nut, and the sliding block is then forced against the opposite side of the pipe or nut by the screw forcing it against the bit, which is prevented from taking too much hold by the recess in the upper jaw, and the shape of the sliding block thereby preventing the crushing of the pipe, so common in other pipe wrenches and tongs.

It will be further seen that the action is such as to cause the bit to press square across the pipe on raising or lowering the handle to take a new hold. The bit is freed from the pipe, preventing the dulling effect so common by dragging the sharp edge against the pipe on the backward stroke of the tongs or wrenches.

It will be further seen that when the slide is pushed or forced against the pipe or nut the wrench is firm, admitting of giving it a quick throw and screwing the pipe several turns, and the motion continued until the pipe is firmly screwed together, making any backward movement of the wrench unnecessary where there is room enough to turn the handle.

In using it for nuts it is reduced to fit same as for pipe, making it especially useful where nuts have been worn round or so worn as to prevent a common wrench from holding.

It is also applicable with equal effect to nuts of octagon, hexagon, or irregular shape.

The bit is of steel, and made of different sizes to suit the wrenches for different sizes of pipe or nuts. Its eight cutting-edges may be used in succession, and when dull the bit is placed the flat side on the grindstone or other sharpening-instrument. It is then as good as when first used, as the sliding block can be shoved in until the bit is worn out.

I am aware that wrenches with sliding jaws or bits are common, and also that wrenches have been made with reversible square bits. I therefore do not claim novelty in either of these features broadly or in itself.

An important advantage results, however, from my mode of combining within a rigid stock a sliding jaw with a concave face and a reversible square-edged bit, each held in position by an appropriate screw or bolt.

My wrench is thus adapted to operate with unfailing effect on either a square or other nut or a round pipe, and in either case will take a new hold with as great convenience and ease to the operator as a wrench made specially for either use alone.

Having thus described my invention, the following is what I claim as new therein and desire to secure by Letters Patent:

1. The adjustable pipe and nut wrench herein described, constructed with rigid jaws B C, and an adjustable concave-faced block, G, and bit D, adapted for use on objects of either round or angular shape, and of various sizes.

2. The combination of the stock A B C, reversible bit D, adjustable block G, bolt E, and set-screws I, as and for the purposes stated.

D. FISHER.

Witnesses:
JOHN J. B. FINK,
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