(No Model.)

T. W. FISHER.

PIPE WRENCH.

No. 421,688 Patented Feb. 18, 1890.

Fig. 1.

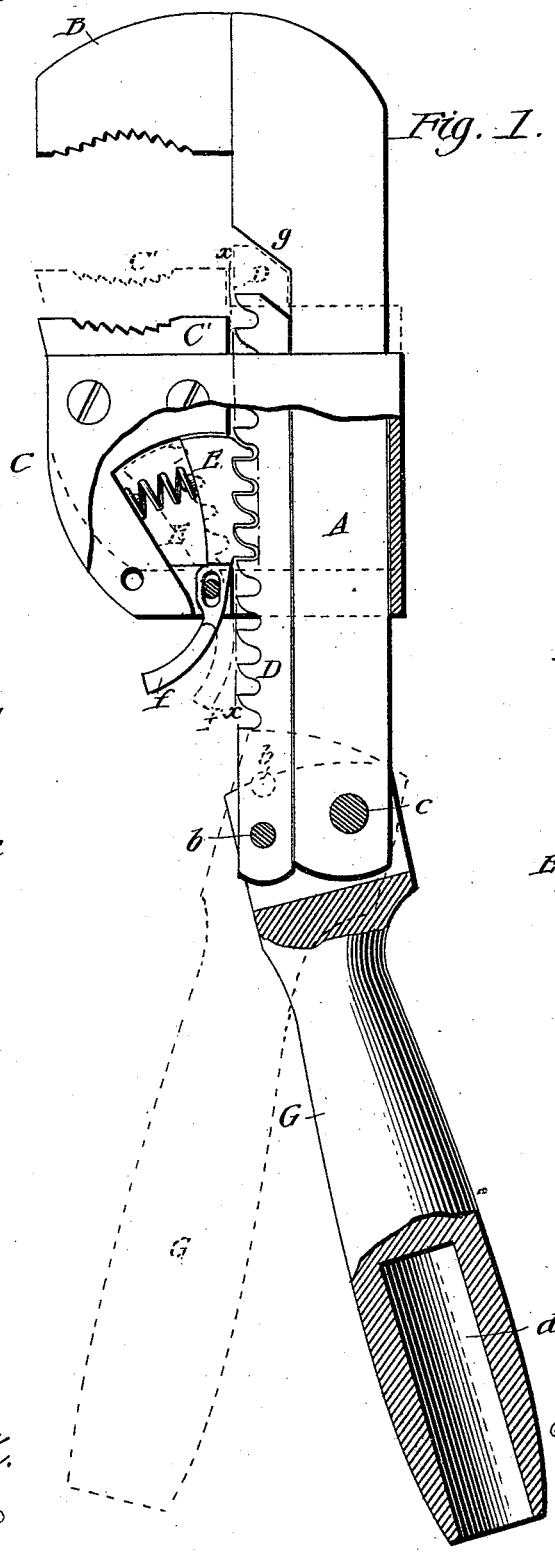


Fig. 2.

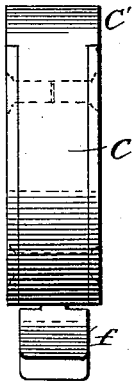
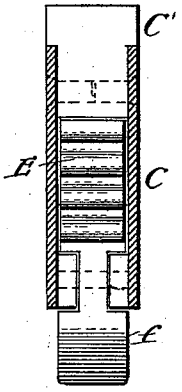


Fig. 3.



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THOMAS WHITE FISHER, OF HELENA, MONTANA.

PIPE-WRENCH.

SPECIFICATION forming part of Letters Patent No. 421,688, dated February 18, 1890.

Application filed March 19, 1889. Serial No. 303,837. (No model.)

To all whom it may concern:

Be it known that I, THOMAS WHITE FISHER, of Helena, in the county of Lewis and Clarke and State of Montana, have invented a new and useful Improvement in Pipe-Wrenches, of which the following is a full, clear, and exact description.

The invention relates to improvements in pipe-wrenches; and it consists in the particular construction and arrangement of parts, as hereinafter fully described, and pointed out in the claim.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar letters of reference indicate corresponding parts in all the figures.

Figure 1 represents a longitudinal view of the wrench as seen from its side with certain parts broken away and in section to more clearly illustrate the construction. Fig. 2 is a view of the sliding jaw-head of the wrench, looking toward the shank or stock of the latter; and Fig. 3 is a partly-sectional view upon the line *x x* in Fig. 1, looking toward the sliding jaw-head.

A indicates the shank or stock of the wrench constructed at its forward end to form a stationary serrated jaw B.

C is the adjustable jaw-head, having a serrated jaw-piece C′ in front, facing the jaw B, and which may either be of one piece with the jaw-head C or not. This jaw-head C is fitted to slide on or along the shank A, and is moved along the same by a rack-bar D, connected with it. This bar, which is fitted to slide upon the shank A, is pivoted at its inner end by a pin *b* to a handle G, which in its turn is pivoted to the stock A, as by a pin *c*, to one side of the pin *b*. Said handle may be of any desired length—the longer, consistent with convenience, the better—and when it is required to convert it into a longer lever, a bar for the purpose may be inserted within a hole *d* in the back end of the handle. This hinge or pivoted handle forms a lever by which to throw the rack-bar D backward and forward according to the direction in which said handle is vibrated, as shown by full and dotted lines in Fig. 1, and the greater the force exerted on the handle to move the rack-bar so that the jaws of the wrench will be brought closer together the tighter will the jaws, after being set to the pipe or body under operation, grip such body.

The jaw-head C is connected with the rack-bar D by or through the intervention of an automatically-locking toothed catch E, pivoted, as at *e*, to the jaw-head C, within which it is arranged, and acted upon by an exterior thumb-piece *f*, to disengage it from the rack-bar D when it is required to independently slide or adjust the jaw-head C up to its work or to gage the jaws, as it were, for the work before working or straining on the handle-lever, and slightly moving it on its pivot *c* to give the necessary grip. Thus the sliding jaw-head C, when disengaged from the rack-bar, should be capable of moving a certain distance along the shank A to bring it near or close to the work, but, as the ratchet-catch E is engaged with the rack-bar, leaving a short distance yet for the sliding jaw-head C, by its jaw C′, to move up through the action of the lever-handle G and firmly grip the pipe or work between the jaws B C′.

The independent adjustability of the sliding jaw-head C provides for quickly adjusting the wrench to its work. When the wrench is being worked, the strain, it will be observed, is exerted against the end of the sliding rack-bar as it bears up against a shoulder *g* on the shank, and is transferred to the pivot-pin *c* of the handle-lever G, which really carries the whole strain. The smaller pin *b*, which connects the rack-bar to the handle, has only to draw the sliding jaw back.

The teeth of the catch E and the teeth of the rack-bar D are preferably somewhat of a ratchet shape to provide for the more ready disengagement of the catch when required.

In the transmission of the strain to the pivot *c* of the handle-lever, the toothed catch has to carry the force which it does through its several teeth in engagement with the rack-bar, and by suitably elongating the hole in the jaw-head which receives the pivot-pin *e* said pin will be relieved of pressure. Any suitable spring can be used to act upon the toothed catch E.

In applying the wrench, suppose it to be held in the hand with the jaws uppermost. Then by pressing slightly on the thumb-piece *f* of the catch E said catch will be released

from the rack-bar D and the sliding jaw or jaw-head may be instantly moved along the shank A to any point desired. Then holding the wrench with the jaws downward, the forefinger applied to the thumb-piece *f* may be used to adjust the sliding jaw-head as required.

The invention is equally applicable to monkey and other wrenches not specially designed to grip pipes, and the gripping-surfaces of the jaws may be variously constructed.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

In a wrench, the combination, with a shank having a stationary jaw at its forward end, a sliding rack on the shank, and a handle pivoted to the said shank and rack, of a recessed movable jaw fitted to slide on the shank, a pivoted and toothed catch in the recess of the movable jaw and provided with a thumb-piece, and a spring for pressing the catch into engagement with the rack, substantially as herein shown and described.

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Witnesses:
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