H. C. STOUFFER.

Pipe-Wrench.

No. 166,428. Patented Aug. 3, 1875.

FIG I

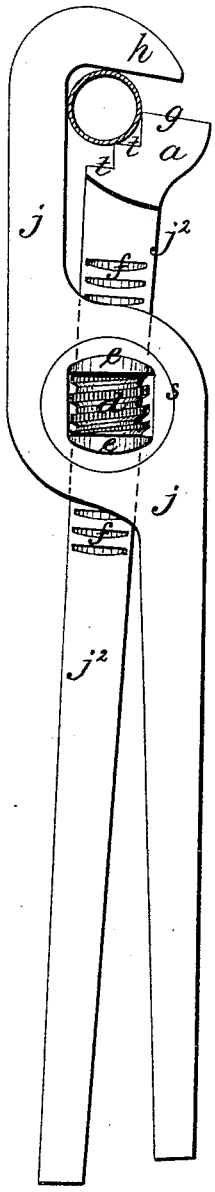


FIG II

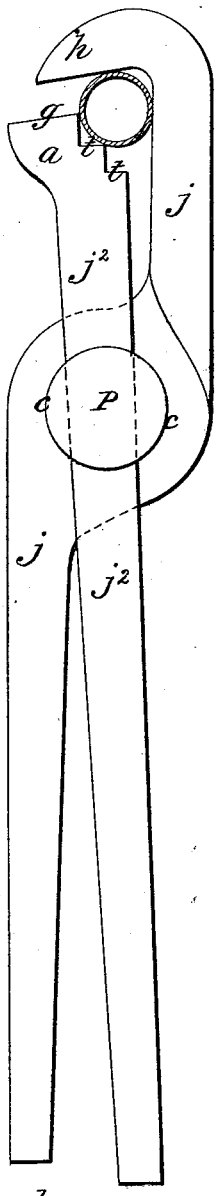


FIG III

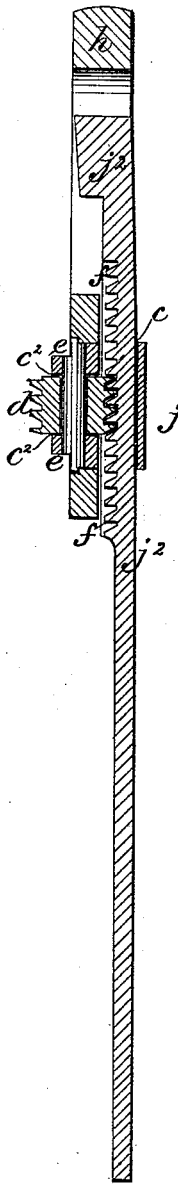


FIG IV

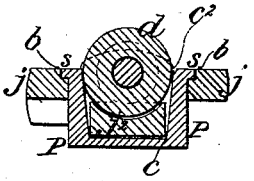
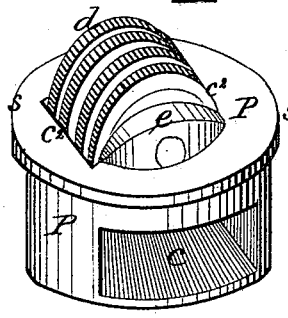


FIG V



WITNESSES

John C. Laing

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INVENTOR

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UNITED STATES PATENT OFFICE

HIRAM C. STOUFFER, OF CANFIELD, OHIO, ASSIGNOR OF ONE-HALF HIS RIGHT TO JOHN CHILDS, OF SMITH'S FERRY, PENNSYLVANIA.

IMPROVEMENT IN PIPE-WRENCHES.

Specification forming part of Letters Patent No. **166,428**, dated August 3, 1875; application filed May 15, 1875.

To all whom it may concern:

Be it known that I, HIRAM C. STOUFFER, of Canfield, in the county of Mahoning and State of Ohio, have invented certain new and useful Improvements in Pipe-Wrenches; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to which it pertains to make and use the same, reference being had to the accompanying drawing, and to the letters of reference marked thereon, which form a part of this specification.

My present invention is an improvement upon the pipe-wrench patented to me January 26, 1875, and in which a plug-bearing is combined with the jaws and a forked block which carried the adjusting device, while the plug and jaw were fitted in an opening in the main bar, and both guided by projections bearing against said bar.

The design of the improvements herein is to obtain a convenient means for adjusting the jaws and rendering them strong and durable at the joint-connection, while greatly lessening the expense of manufacturing the wrench.

The features of invention which are new to me consist of a plug having an inclosed opening, through which the movable bar passes, and is keyed at one side of the fixed jaw, and in which plug a thumb-screw works on the opposite side of the fixed bar, while the plug is fitted into a circular opening in the fixed jaw, and is keyed therein by a circular flange dropped into a recess on one side of the main bar, and by the movable bar passing through the opening in the plug against the opposite side of the main bar, which locked position of the jaws is effected entirely by the plug, and in a manner to cause the thumb-screw to take into screw-threads formed in the face of the movable jaw.

The advantage of this construction allows the movable jaw to be carried wholly by the flanged plug-bearing, and to be inserted in place and run out of the plug without trouble, or the removal of fastenings. The plug-bearing carries the thumb-screw independent of the movable bar, so that when the latter is run out the plug can be removed with the thumb-screw, and as easily set in place again as if it were a single piece.

In the accompanying drawings, Figure 1 represents an elevation of a pipe-wrench embracing my invention; Fig. 2, a similar view of the opposite side of the wrench; Fig. 3, a longitudinal section; Fig. 4, a cross-section; and Fig. 5, a view in perspective of the plug-bearing detached from the wrench.

The fixed jaw *j* is provided with the usual griping-head *h*, and the movable jaw j^2 has a series of angular teeth, *t*, on its head *a*, to form holding-teeth for the pipe. The fixed jaw *j* has an annular opening, with a recessed shoulder, *b*, at the outer edge thereof. Into this opening a plug, P, is fitted, with an annular shoulder, *s*, at one end, to make a flush fit into the shouldered recess *b* of the jaw-opening, so that the plug rests upon and is carried by the fixed jaw, with one end of the plug projecting through the said opening to receive the movable jaw j^2, which passes through an opening, *c*, in the plug just sufficient to receive the bar of the working jaw, and key it flush with the side of the fixed jaw. The two jaws are thus keyed or locked together by the projecting end of the plug, as the shoulder *s* of the plug-bearing on one side of the fixed jaw, and the movable jaw passing through the plug-opening, acts similar to a key to key the two jaws together. The plug has a central opening, c^2, to receive the thumb-screw *d*, the spindle of which is secured in projections *e e* from the plug, so as to carry the screw sufficiently within the plug to take into screw-teeth *f*, formed in the face of the working jaw. The plug turns with the movement of the working jaw and upon the fixed jaw, and the working jaw is run in and out by applying the thumb to the screw and turning it. The screw is a solid plug, with the threads crossing the teeth *f* on the working jaw, and the strain lies in the center of the plug between the jaw-bars.

The chief feature of my invention lies in the combination of the plug-bearing with the jaws, and in which combination the plug passes bodily into and through one of the jaws, while

the other jaw passes at right angles through the plug itself, to make a key-fastening by the same parts which form the wrench.

By preference I make the sides of the screw-threads next the griping ends at right angles to the face of the bar, in order to form a bracing resistance to the action of the jaws, and in keying the wrench together the straight sides of the screw-threads must be next the griping ends.

The head of the movable jaw has an angular face, *g*, which will be found very convenient in using the wrench for nuts.

In keying the wrench together it is only necessary to put the plug-bearing in place, and then key the movable jaw through the opening in the plug, when the wrench is complete for use.

If deemed necessary, a set-screw may be put into the end of the plug, so as to bear against the sliding jaw.

The following is claimed by me as new in pipe-wrenches, namely:

1. The combination of the flanged plug, extending through and beyond one side of the main jaw-bar, with the fixed and movable jaws, and in which the plug passes through the main jaw-bar, and the movable jaw-bar passes through the plug outside the main jaw-bar, to key the wrench parts together, substantially as herein set forth.

2. The combination, with the flanged plug and the jaw-bars keyed thereto, as described, of the thumb-screw carried by the plug, for operation as herein set forth.

In testimony that I claim the foregoing as my own I have affixed my signature in presence of two witnesses.

HIRAM C. STOUFFER.

Witnesses:

A. E. H. JOHNSON,

JOHN CHILDS.