

(No Model.)

W. HOUGHTON.
PIPE WRENCH.

No. 567,715.

Patented Sept. 15, 1896.

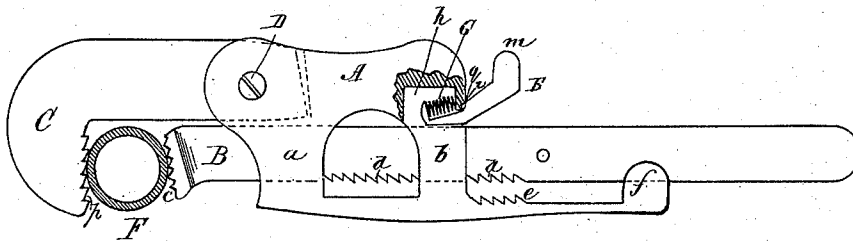


Fig. 2.

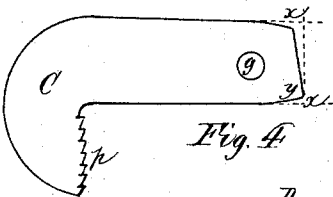


Fig. 4.

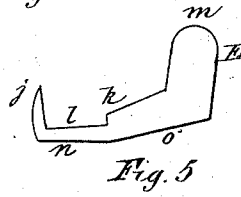


Fig. 5.

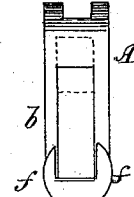


Fig. 3.

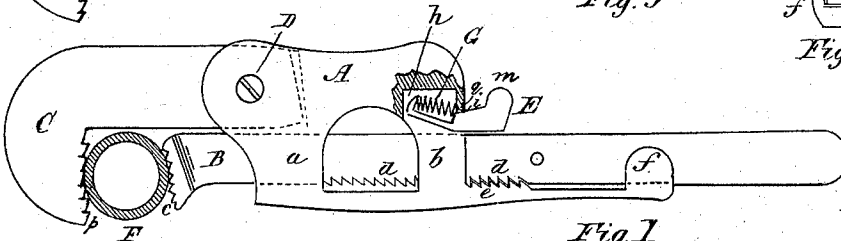


Fig. 1.

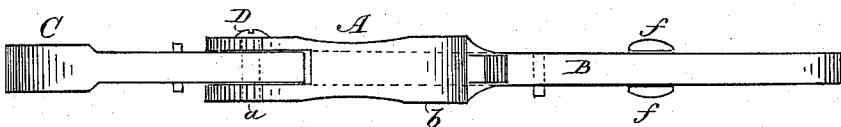


Fig. 6.

Witnesses
M. Acres
J. H. Moore

Inventor
Wm Houghton
By Wm Bruce
Atty.

UNITED STATES PATENT OFFICE.

WILLIAM HOUGHTON, OF PARIS, CANADA, ASSIGNOR TO THE PARIS TOOL MANUFACTURING COMPANY, OF SAME PLACE.

PIPE-WRENCH.

SPECIFICATION forming part of Letters Patent No. 567,715, dated September 15, 1896.

Application filed January 2, 1895. Serial No. 533,677. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM HOUGHTON, a citizen of the Dominion of Canada, residing at Paris, in the county of Brant, in the Province of Ontario, Canada, 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 of the construction and operation of the same.

My invention relates to such improvements in pipe-wrenches as will possess the following advantages, viz: simplicity of construction, strength and durability, speedy adjustment, grips instantly and sure, at the same time releases easy, and will not flatten the pipe operated on.

My invention consists, first, in a hollow double clip and toothed tail-piece terminating in two lugs, all in one piece; second, a stem having ratchet-teeth on the lower side, and a serrated or tooth end is made to slide back and forth in the said double clip, and protected by a guard, the teeth on the clip and stem made to engage with one another during the operation of the device; third, a jaw-head provided with ratchet-teeth is pivoted to the forward branch of the double clip and constructed so as to be slightly movable on its pin, so as to cause the jaws to release easily from a pipe which has been gripped by the wrench, and, fourth, a sliding seat-lock, partially wedge-shaped, is made to enter a recess in the rear portion of the clip, and held therein by a spiral spring in the hollow portion of the seat-lock to hold the jaws at any desired distance apart.

Reference being made to the drawings, Figure 1 represents a side view of a pipe-wrench embodying my invention, and locked. Fig. 2 represents the same unlocked. Fig. 3 is an end view of a double clip. Fig. 4 is a side view of the movable head or front working jaw detached. Fig. 5 is a side view of the seat-lock detached. Fig. 6 is a top view of the wrench.

Similar letters refer to similar parts throughout the several views.

A is the double clip, formed with two hollow projections *a* and *b*, through which slides back and forth the stem B, which is provided

about the central under portion with ratchet-teeth *d*, made to engage with corresponding ratchet-teeth *e*, formed in the under or horizontal portion of the clip A, the said part of the clip being elongated rearwardly and terminating in two lugs or tongues *f*, which pass up on each side of the stem B and keep it steady and in alinement with the clip.

C is the head or front working jaw pivoted to the double clip A by a pin D through the hole *g*. The rear end of the said head is slightly tapering at the points *x x*, and the extreme end *y* is made on a slight angle from the square, so as to admit a slight upward movement of the head before the end abuts against the interior wall of the clip on a line with the head, for the purpose of allowing the head to release a gripped pipe, which it will do when the handle of the stem is raised, a very important point of advantage, as the releasing can be done so quickly without readjustment of the wrench.

Locking device: In order to lock the teeth of the stem and clip firmly together, I construct a recess *h* in the rear-end portion of the double clip A, leaving an external orifice *i*, into which I insert a seat-lock E, formed as shown in Fig. 5, having a projecting toe *j*, a heel projection *k*, leaving a recess *l* between them, a thumb projection *m* on the end to operate it, and two planes *n o* on the bottom, so that when one plane is exactly horizontal the other one will be at a slight upward angle. A spiral spring G is made to rest in the cavity *l* of the seat-lock E when both are placed in the recess *h* of the double clip A. The said spring may be secured in place by any ordinary means. *q* is a notch in the outside of the clip A, above the entrance to the recess *h*, to hold the lock E by its heel *k* when unlocked. It will be observed that the teeth *c* on the end of the stem B are so formed as to draw downward on the pipe F, while the teeth *p* on the head C are formed to draw on the pipe upward, which facilitates its rotation.

The operation of the device may be described as follows: The first thing is to draw out the seat-lock E, pull it upward until its heel *k* falls in the notch *q* in the clip A. The spiral spring G holds it in that position, as in Fig. 2, while the jaws are adjusted to the width

required of the pipe to be operated on. Then, after the jaws are properly adjusted and the teeth *d* on the stem B and the teeth *e* on the clip A engaged, they are locked immovably
 5 by simply pressing the outer end of the lock E downward. The spring draws it in the recess *h* of the clip A as far as it will go, and the parts are rigidly held together, as in Fig. 1, for operating on a pipe, which is done by
 10 pressing the handle downward or turning wrench over and pulling upward. It will be further observed that the head C has a square pitch with an inward pitch of the teeth *p*, while the teeth *c* on the stem are one-eighth
 15 of an inch pitch on one and a half inch bevel, which, together with the slight movability of the head C, enables the jaws to grip tight and release easy, as they cannot wedge.

The device will be used specially for steam-
 20 fitters, gas-fitters, plumbers, &c., and will operate effectively on all kinds of solid rods or tubes, on the latter without breaking them or flattening.

Having thus described my device and its
 25 advantages, what I claim as my invention, and desire to secure by Letters Patent, is—

1. In a pipe-wrench, a double clip A having openings *a* and *b*, ratchet-teeth *e* on the

lower portion and terminating in two lugs *f*, a stem B, having corresponding ratchet-teeth 30 *d* made to slide in the hollow projections *a* and *b*, and to engage with the ratchet-teeth *e* on the clip, the head of the stem B having ratchet-teeth *c* at one-eighth of an inch pitch off a one and a half inch bevel—and a mov- 35 able jaw-head with a square pitch and an inward pitch of the teeth, constructed as shown, and pivoted to the clip A by the pin D, substantially as described.

2. In combination with the stem B provided 40 with teeth *d*, movable jaw-head C, and double clip A provided with teeth *e*, and the recess *h* in the clip, the seat-lock E, constructed with two bottom planes *n*, *o* as shown, toe-piece *j*, heel *k* recess *l*, thumb-piece *m* and a 45 spiral spring G, let into the recess *l* to operate the said seat-lock to hold the teeth *e*, *d*, together, to lock the gripping-jaws of the stem and head at any desired distance apart, substantially as specified. 50

Dated at Paris, Ontario, this 30th day of November, 1894.

WM. HOUGHTON.

In presence of—

THOS. J. MURRAY,
 B. C. CAPRON.