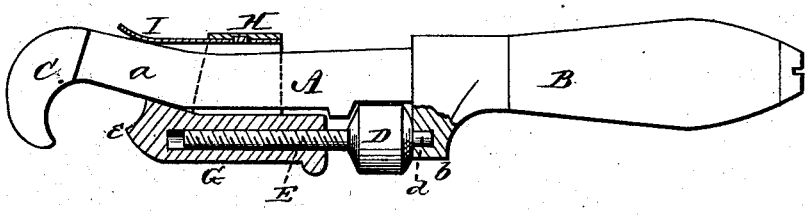
H. OTTO.

Pipe-Wrench.

No. 160,946. Patented March 16, 1875.



WITNESSES

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UNITED STATES PATENT OFFICE.

HENRY OTTO, OF BLOOMINGTON, ILLINOIS.

IMPROVEMENT IN PIPE-WRENCHES.

Specification forming part of Letters Patent No. **160,946**, dated March 16, 1875; application filed January 9, 1875.

To all whom it may concern:

Be it known that I, HENRY OTTO, of Bloomington, in the county of McLean and in the State of Illinois, have invented certain new and useful Improvements in Pipe-Wrenches; and do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, making a part of this specification.

The nature of my invention consists in the construction and arrangement of a pipe-wrench, as will be hereinafter more fully set forth.

In order to enable others skilled in the art to which my invention appertains to make and use the same, I will now proceed to describe its construction and operation, referring to the annexed drawing, in which the figure is a side view, part in section, of my wrench.

A represents the stock or main lever of the wrench, provided with a handle, B, at one end, and at the other end it is formed with a hook, C, to surround the pipe partially. The stock or stem A is bent below the hook C, forming an incline, *a*, as shown, and from the lower end of this incline the stem is straight. At the junction of the stem A and handle B is a shoulder, *b*, for the insertion of a tenon, *d*, projecting from the head D of the screw E. This screw passes into the jaw G, which runs out into a blunt edge, *e*, said jaw or nut and screw forming a vibrating lever. In order to keep it well united with the main stock the nut or jaw G forms a strap, H, surrounding the main stock, and a spring, I, is fastened to the inner side of the strap to press on the back of the main stock to keep the vibrating end of the lever close to the inner side of the main stock. The edge *e* of the vibrating lever is placed far enough outside the center line to enable it, after touching the round object by continued screwing, to slip still farther from the center line outward to the most favorable point to take a fair hold of it. By means of the incline on the main stock it will suit all sizes alike.

After the hardened edge *e* of the vibrating lever is adjusted well to the round object the wrench does not require any additional help on the head end by the other hand. It will take hold automatically by every succeeding move, turning the object by pulling the wrench in one direction, and sliding easy on the object by pushing the wrench in the other direction.

It will be seen that the strap H is larger than the width of the shank A, and that the forward part of the jaw G is inclined to correspond with the incline *a* of the shank. By such construction of parts, as the jaw G is fed forward by the screw, the spring I rides on the outer incline *a* of the stem or shank, and draws the front *e* of the jaw inward toward the hook. Pipes of different sizes between the jaw and the hook will be closely clamped between the two parts.

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

The combination of the bar A, having hook C, the movable jaw G, pivoted adjusting-screw E, strap H, and spring I, all constructed and operating as described.

In testimony that I claim the foregoing I have hereunto set my hand this 8th day of December, 1874.

HENRY OTTO.

Witnesses:

THOS. SLADE,

JOHN MOORE.