O. B. OLMSTED.

Machine for Punching Pipes.

No. 168,176. Patented Sept. 28, 1875.

Fig. 1.

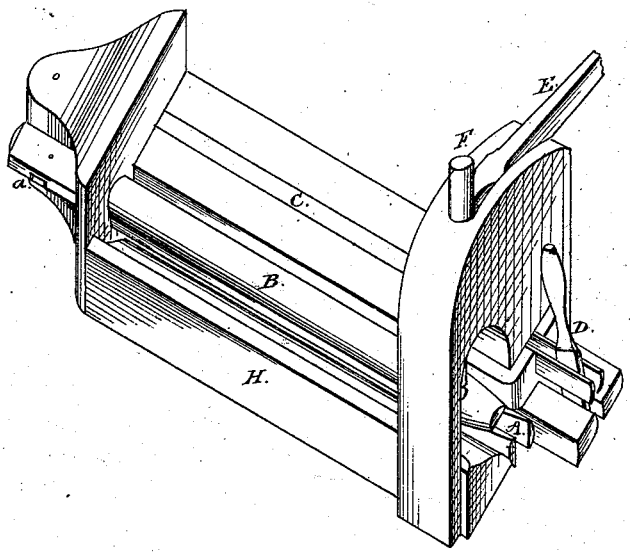
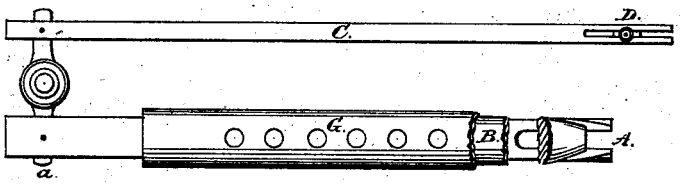


Fig. 2.



Witnesses;
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UNITED STATES PATENT OFFICE.

OSCAR B. OLMSTED, OF BELOIT, WISCONSIN.

IMPROVEMENT IN MACHINES FOR PUNCHING PIPES.

Specification forming part of Letters Patent No. **168,176**, dated September 28, 1875; application filed May 4, 1875.

To all whom it may concern:

Be it known that I, OSCAR B. OLMSTED, of Beloit, in the county of Rock and State of Wisconsin, have invented certain new and useful Improvements in a Machine for Punching Pipe; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it pertains to make and use it, reference being had to the accompanying drawings, which form part of this specification.

My invention consists in the construction and adaptation of a machine for punching pipe or tubing in a manner at once rapid and complete without crushing or indenting the pipe, and producing a clean perforation at each stroke of the punch.

In the drawings, Figure 1 is a plan view of my punching device in all its essential working parts, and Fig. 2 is a similar view of the parts B, A, G, C, D, and *a*, detached, the construction, arrangement, and operation of which are explained as follows:

Letter H represents the frame or bed piece of the machine; B, the die in upper and lower parts, rigidly fixed in the frame H at its rear end; A, the slotted wedge, which slides through and between the upper and lower parts of the die B, and pivoted at its rear end to the oscillating lever *a*, as shown, to the opposite end of which is also pivoted the rear end of the sliding bar C, which is actuated by the vertical lever D. G shows a section of pipe or tubing on the machine having gone through the process of punching, as hereinafter specified; and F shows the punching-die operated by the lever E. This part of the machine is, however, merely to show how the punching-die is intended to be applied in working my invention; but constitutes no essential part of the punching device itself, as my pipe-punching machine may be attached to and operated by any ordinary power-punching machinery.

The manner of operating my pipe-punching device is substantially as follows: When the vertical lever D and wedge A are in the position shown at Fig. 1 of the drawings, the circumference of the barrel or body of the punching device is sufficiently reduced or diminished to allow a pipe or tube of suitable size to pass over it freely, as shown by the section of pipe G at Fig. 2.

Now, when a suitable section of pipe to be punched is thus passed on and over the punching device B A, Fig. 2, and the pipe adjusted thereon for punching the first hole, (which generally should be the farthest from the end) the vertical lever D is then carried to the right, and by means of the bar C actuates the oscillating lever *a*, carrying the slotted end of the wedge A to the left so far as to expand the upper and lower parts of the die B, lightly and solidly filling the tube or pipe to be punched, the slot of the wedge part A being then presented immediately beneath the punching-die. The slot in the end of the wedge A is made open for the purpose of discharging chips. The bed-piece H has a concave bed formed in it for supporting the pipe and punching device when in operation. The upper and lower parts of the die B are made tapering to fit the corresponding shape of the wedge A, and at their rear ends are rigidly fixed to the bed-piece H, and set at an angle, so that their forward parts fit and firmly embrace the wedge A at all times.

Having thus described the construction, arrangement, and manner of operating my pipe-punching machine, what I claim as my invention, and desire to secure by Letters Patent, is—

1. In a pipe-punching machine, the combination of the frame H, die B, slotted wedge A, oscillating lever *a*, sliding bar C, vertical levers D, E, and punch F, the several parts being constructed, arranged, and combined to operate substantially as and for the purpose set forth and described.

2. The combination and arrangement of the die B in three parts, substantially as shown and described, with the punch F, oscillating lever *a*, bar C, and lever D, the whole constructed and arranged to operate substantially as hereinbefore specified.

In testimony that I claim the foregoing I have hereunto set my hand this 29th day of April, 1875.

OSCAR B. OLMSTED.

Witnesses:
H. V. DEARBORN,
S. G. COLLBY.