J. T. BRIGDEN.

MACHINE FOR PUNCHING TUBES.

No. 82,591. Patented Sept. 29, 1868.

Fig. 1

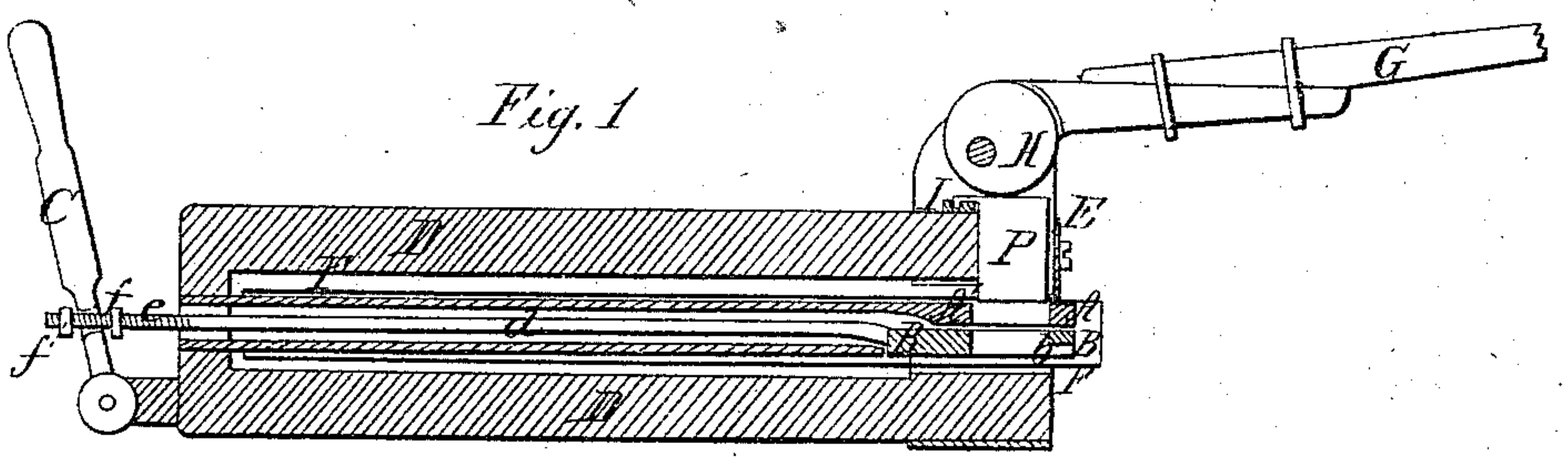


Fig. 4

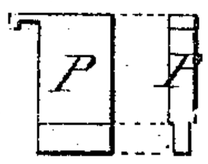


Fig. 2

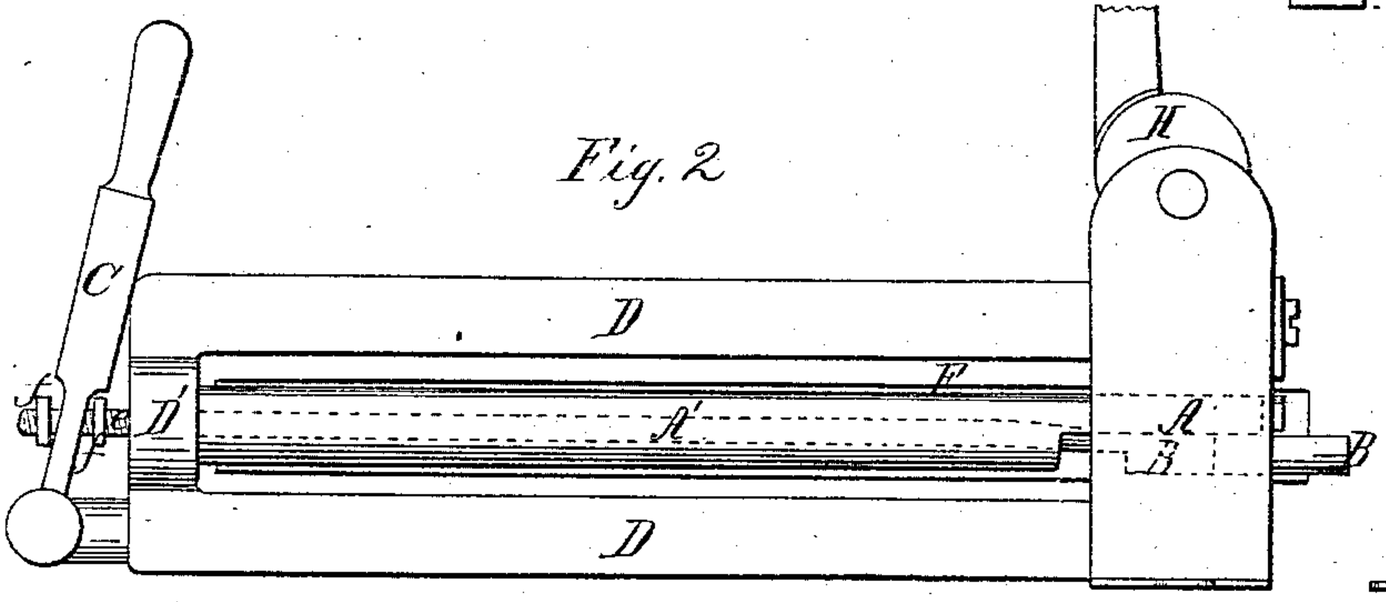
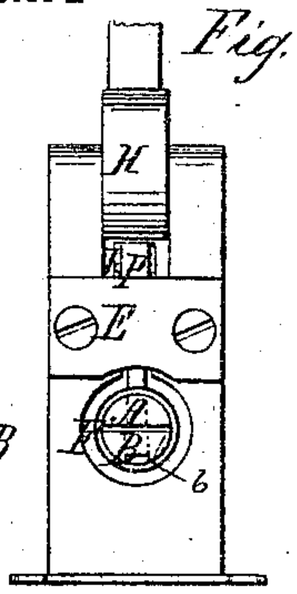


Fig. 3



Witnesses

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Letters Patent No. 82,591, *dated September* 29, 1868.

IMPROVED MACHINE FOR PUNCHING TUBES.

The Schedule referred to in these Letters Patent and making part of the same.

TO ALL WHOM IT MAY CONCERN:

Be it known that I, JOHN T. BRIGDEN, of Hornellsville, in the county of Steuben, and State of New York, have invented certain new and useful Improvements in a Machine for Slotting or Punching Holes in Pipe or Tubing for Driving Wells, and for other purposes; and the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, making a part of this specification, in which—

Figure 1 represents a section through a side elevation, showing the working parts.

Figure 2 shows a side view of the machine.

Figure 3 shows a front end view of the same.

Figure 4 shows a side and edge view of the punch.

The object of my invention is to punch or cut clean holes or slits in any kind of metal pipe or tubing, to be used for driving wells, or for other purposes, in the most expeditious manner; and it consists in the construction of the die, on which the pipe is placed, for punching, and the wedge for tightening the pipe, and the mode of operating it, inside the pipe, so as to remove the chips or punchings, all arranged in combination with the sliding punch and cam-lever for operating by hand or other power.

To enable others to make and use my invention, I will describe it more fully, referring to the drawings, and to the letters marked thereon.

I make of metal a frame of sufficient length to receive a pipe, F, for punching, between the bars D of which is a hollow rod or tube, A′, secured at the rear end D′, so that the pipe to be punched will slip on over it. At the front end is the die or matrix A, into which the punch P is fitted to operate by the action of the eccentric-cam H and lever G, the punch P being lifted and kept against the cam by a spring, I. Under the matrix or die A is placed a sliding wedge, B, which has an opening through it, corresponding with the opening in the die, and a groove, *b*, closed at one end to liberate the chips or punchings from the pipe F, which is effected by means of the connecting-rod *d*, which is attached to the sliding wedge B, and passes through the pipe A′, to the rear end of the frame D′, where it is connected to a vertical lever, C, by a screw-thread, *e*, and nuts *f f*, so that the distance can be adjusted, to remove the punchings by its action, and also performs the function of holding the pipe firmly in place while the punching is being done. The punch P, as shown in figs. 1 and 4, is for cutting a slot or long opening in the pipe, which is regarded as the most desirable for the openings in the lower section of driven-tube wells; but any other formed or shaped punch may be used, with the die or matrix to fit, without changing any other portion of the machine.

My machine, as shown in the drawings, is constructed to be operated by hand, and by increasing the length of the hand-lever G, a sufficient power is obtained for almost any practical purpose, the eccentric working directly on the punch, and the point or die may be so shaped on an angle as to form a shearing cut, and operate to effect the purpose very easily, the dies and punches being made removable, so that any size or shape can easily be inserted at pleasure.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. The die A and sliding wedge B, as constructed and arranged inside of the pipe, for holding it firmly in place while being punched, and the rod *d* and lever C, for operating the same and removing the chips or punchings, as herein described.

2. The hollow tube A′, for receiving the pipe F, in combination with a slotted plug or supporting-piece, placed within said pipe, and the punch P, eccentric-cam H, and lever G, substantially as and for the purposes herein set forth.

In testimony whereof, I hereunto subscribe my name, in the presence of—

JOHN T. BRIGDEN.

Witnesses:

MILES W. HAWLEY,

CHAS. McGILL.