O. BRECKENRIDGE.
Pipe and Rod Vise.

No. 201,591. Patented March 26, 1878.

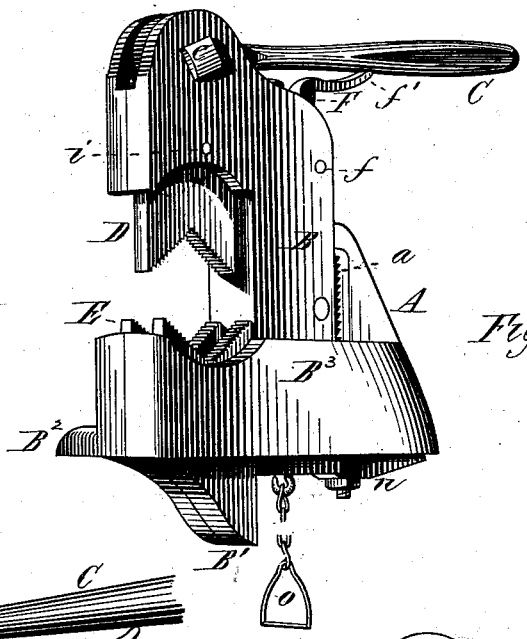

Fig. I

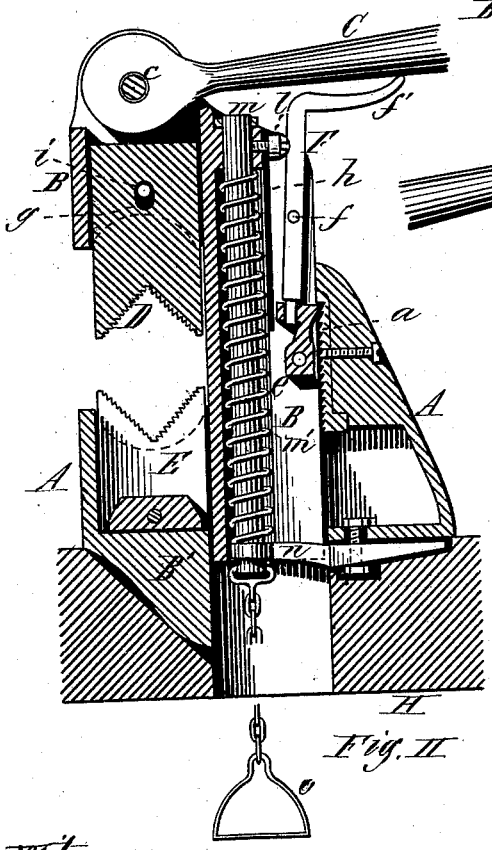

Fig. II

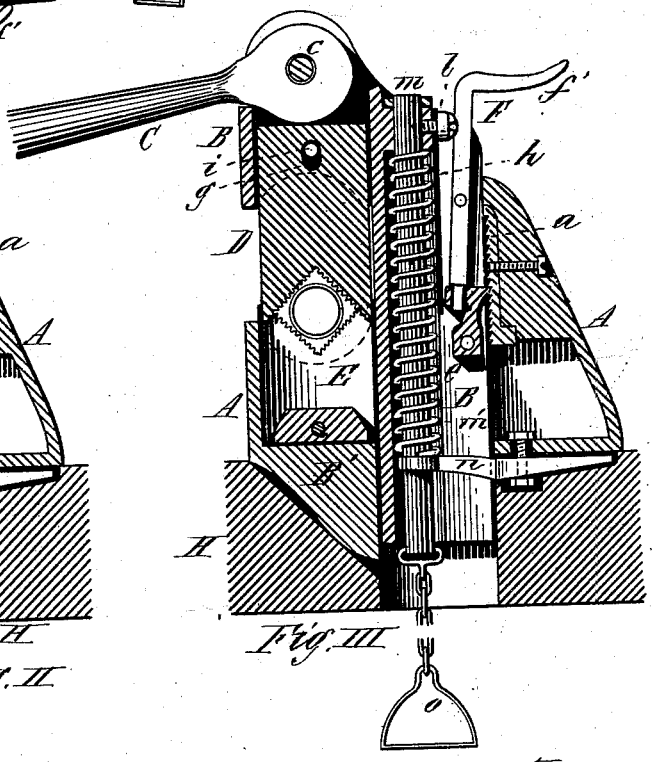

Fig. III

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ORLO BRECKENRIDGE, OF WESTFIELD, MASSACHUSETTS.

IMPROVEMENT IN PIPE AND ROD VISES.

Specification forming part of Letters Patent No. **201,591**, dated March 26, 1878; application filed February 1, 1878.

To all whom it may concern:

Be it known that I, ORLO BRECKENRIDGE, of Westfield, in the State of Massachusetts, have invented a new and useful Improved Pipe-Vise; and that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, making a part of this specification, and to the letters of reference marked thereon.

My invention relates to a vise for holding pipe while being cut or threaded, the object being to adjust the pipe in the vise easily and quickly; and it consists of a fixed or stationary piece having a series of ratchet-teeth, and provided with stationary jaws, and a movable piece provided with a spring-actuated pawl, a disengaging-lever, a jaw having a movement independent of the movable piece in which the jaw is hung, and a cam-lever to operate said movable jaw, and also to operate the disengaging-lever. A rod and spring are added to automatically raise the movable part of the vise, and a pedal attachment to adapt it to be drawn down by the foot.

Figure I is a perspective view of my invention. Fig. II is a vertical section through the middle of the vise, showing the movable piece in its most elevated position; and Fig. III is a similar section, showing the movable piece forced down in the position of grasping a pipe.

In the drawings, A represents the stationary part of the vise, which is bolted down to a bench or support, H, by the flange B^2, which may extend from front to rear of the stationary part. The front and rear of this stationary part A are also connected by the sides B^3, forming a socket, through which moves the vertical portion of the upright part B, and the stationary part is also provided with a series of ratchet-teeth, *a*, the front part being arranged to receive the stationary jaws E. The upright portion of the part B passes down between the sides B^3, just in front of the ratchet; and this upright part is provided with a rod, *m*, secured at the top to the part B, and extends down through a step, *n*, secured to or made upon the part A, with a spiral spring around the rod, and bearing at its upper end against a shoulder on the part B, and at its lower end against the step *n*. A spring, *h*, is secured to the part B at *l*, or to any other convenient part of the device, so that it may bear against the pawl *e*, pivoted to the part B, and keep it engaged with the ratchet-teeth *a;* and the lever F, pivoted at *f* to the upright part, extends down and enters a recess in the pawl, the upper end of said lever being bent backward, as shown at *f'*.

The two jaws E are placed in the forward part of the piece A, a little distance apart, where they remain in a stationary or fixed position; and a jaw, D, is hung to the part B by the pivot *i* in a position directly over the space between the jaws E, and is of a proper thickness to pass down into the space between the jaws E. The hole *g* in the upper end of the jaw D is elongated, and an eccentric-lever, C, is pivoted in the upper end of the part B at *c*, by means of which, when the part B is forced down, with a pipe placed between the jaws E and D, the upper jaw D is forced down firmly against the pipe to hold it from turning, as shown in Fig. III, and by means of which the whole part B and the jaw D are released by throwing the lever back against the end *f'* of the disengaging-lever F.

A chain may be attached to the lower end of the rod *m*, with a pedal attachment at the lower end, so that the part B may be drawn down by the foot, if desired.

The elongated hole *g* is made a little longer than one of the ratchet-teeth *a*, and the head of the lever C is made sufficiently eccentric to force the jaw D downward that length, while the part B remains stationary; or, in other words, the jaw D has a movement, independent of the movement of the part B, (caused by the lever C,) of a little more than the length of one of the ratchet-teeth *a*.

The vise may be operative without the rod *m* and spring *m'*, as the movable part B may, in that case, be moved up and down by the hands.

The operation of the invention is as follows: The lever C being thrown into the position shown in Fig. II, the jaw D is then in its highest position, and a pipe is passed in between the jaws, and resting in the serrated recess in the lower jaws E. The movable part B is then forced down until the jaw D strikes upon the pipe, and the lever C is moved over into the position shown in Fig. III, its eccen-

tric-head acting as a cam to force the jaw D down firmly against the pipe, so that it is held perfectly rigid between the jaws D and E.

When the operations are finished upon the pipe, the lever is raised from its position shown in Fig. III, which releases the jaw D from its pressure downward on the pipe, and the lever is then thrown back into the position shown in Fig. II and pressed down on the upper end of the lever F, which throws the lower end and the pawl *e* inward, disengaging the latter from the ratchet-teeth, and the whole movable part B is quickly thrown upward by the coiled spring *m'*. As soon as the pressure of the lever downward upon the lever F is released, the pawl *e* is caused to engage with the ratchet-teeth again, as shown in Fig. II.

In order that the upright part B may have sufficient bearing at its lower end when the jaws are grasping the pipe, I make a projection, B^1, on the stationary part, which projection is let into the bench or block, when the vise is secured thereto.

Having thus described my invention, what I claim as new is—

1. In a pipe-vise, the combination of the movable part B, provided with the disengaging-lever F, pawl *e*, jaw D, sliding in B, and lever C, with the stationary part A, provided with the ratchet *a* and jaws E, substantially as described.

2. In a pipe-vise, the stationary part A, provided with jaws E and ratchet *a*, combined with the movable part B, the spring-actuated pawl *e*, lever F, jaw D, sliding in B, lever C, rod *m*, and spring *m'*, substantially as and for the purpose described.

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Witnesses:
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