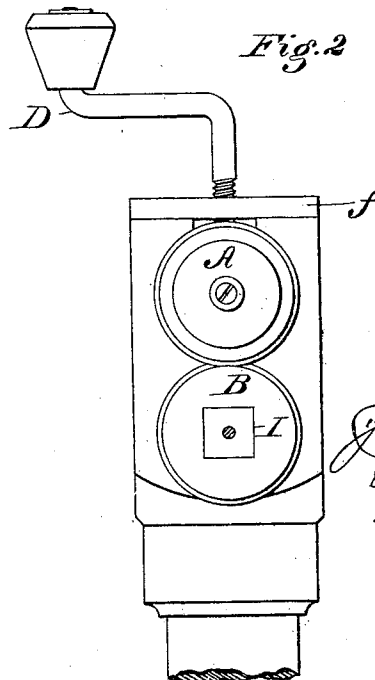
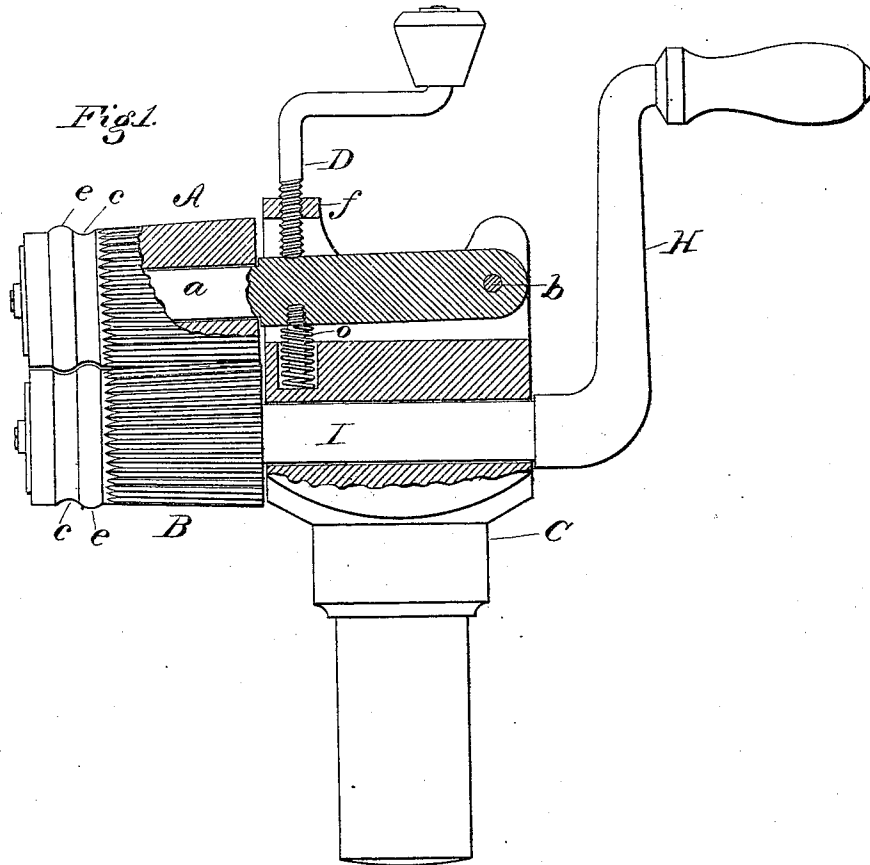


J. E. HUNTER.

SHEET-METAL BENDING TOOLS.

No. 178,299.

Patented June 6, 1876.



Witnesses:
Donn Twitchell.
Will A. Dodge.

Inventor:
J. E. Hunter,
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UNITED STATES PATENT OFFICE.

JOHN E. HUNTER, OF MECHANICSBURG, OHIO.

IMPROVEMENT IN SHEET-METAL-BENDING TOOLS.

Specification forming part of Letters Patent No. **178,299**, dated June 6, 1876; application filed March 16, 1876.

To all whom it may concern:

Be it known that I, JOHN E. HUNTER, of Mechanicsburg, in the county of Champaign and State of Ohio, have invented certain Improvements in Machine for Swaging and Tapering Stove-Pipe, of which the following is a specification:

My invention consists of a pair of taper and fluted or grooved rolls, mounted in a frame in such a manner that they can be adjusted at will, and made to rotate for the purpose of swaging and crimping or tapering the ends of stove-pipe, as hereinafter more fully described.

Figure 1 is a side elevation, shown partly in section; and Fig. 2 is an end view.

My invention consists of two taper fluted and beaded rolls, mounted in a frame in such a manner that when their axes are parallel, the ribs or fluting of the rolls shall engage at their larger ends, while their outer ends are separated, the rolls thus serving to drive each other by means of the ribs, which also produce the corrugations in the pipe, thereby dispensing with the pinions or gear ordinarily used in machines of this class, as hereinafter more fully set forth.

The upper roll A is mounted loosely on a journal, *a*, which, at its opposite end, is pivoted in the upper part of the standard C, as shown at *b*. The lower roll B is secured upon the square end of a shaft, I, which passes through the standard or frame C, and is journaled so as to revolve therein, while its opposite end is provided with a crank, H, by which the lower roll, thus mounted, can be turned. A spiral spring, O, is arranged between the frame and the shaft of the upper roll, which tends to raise said roll, while above the same, in a cross-bar, *f*, of the frame, is inserted a screw, D, having a crank, by which the upper roll can be pressed down upon the lower roll, or adjusted in reference thereto at any desired position.

The corrugations or grooves on the rolls fit like teeth on a cog-wheel, the rolls being so mounted or arranged that they will touch at their larger ends, while being slightly apart at their opposite ends, as shown in Fig. 1, so that by turning the crank H the two rolls are caused to rotate together.

To use this device, the standard C is placed in a hole in the bench, or otherwise secured. The screw D is then turned back a little, letting the rolls separate, when the end of a joint of stove-pipe or an elbow is inserted between the rolls, the latter being then forced together more or less by the screw D. Then, by turning the crank H, the rolls are made to rotate, carrying the pipe around also, the beads *e* and the grooves *c* forming a bead on the pipe as it rotates, the fluted rolls at the same time corrugating the end of the pipe longitudinally, and reducing it in diameter.

It will be seen that, as the rolls are arranged so that the ribs thereon mesh deeper as they approach the larger ends, the corrugations will be correspondingly deepest at the extreme end of the pipe, and will decrease from that point inward toward the annular bead, beyond which they will in no instance extend, and that as a consequence of this the end of the pipe will have, when done, a regular taper, which will enable it to be shoved into the end of another joint not thus reduced with ease, and so as to make a tight fit.

By these means the pipe is both beaded and tapered at one and the same operation.

The machine is exceedingly simple, there being no cog-wheels or other devices liable to break or get out of order. The rolls, being slipped endwise on their shafts, can be readily removed and changed whenever desired.

I am aware that taper fluted rolls without beads have been used, and also that cylindrical fluted rolls with beads have been used for crimping the ends of stove-pipe; but in all such cases pinions or other additional mechanism are used for imparting motion from one roll to the other.

Having thus described my invention, what I claim is—

The herein-described machine, consisting of the taper fluted and beaded rolls A and B, one being secured to a rotating, and the other to a pivoted, shaft or journal, substantially as and for the purpose set forth.

JOHN E. HUNTER.

Witnesses:

WILLIAM CARTMELL,
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