L. BANCROFT.

MANUFACTURE OF STOVE-PIPE.

No. 169,761. Patented Nov. 9, 1875

Fig. 1.

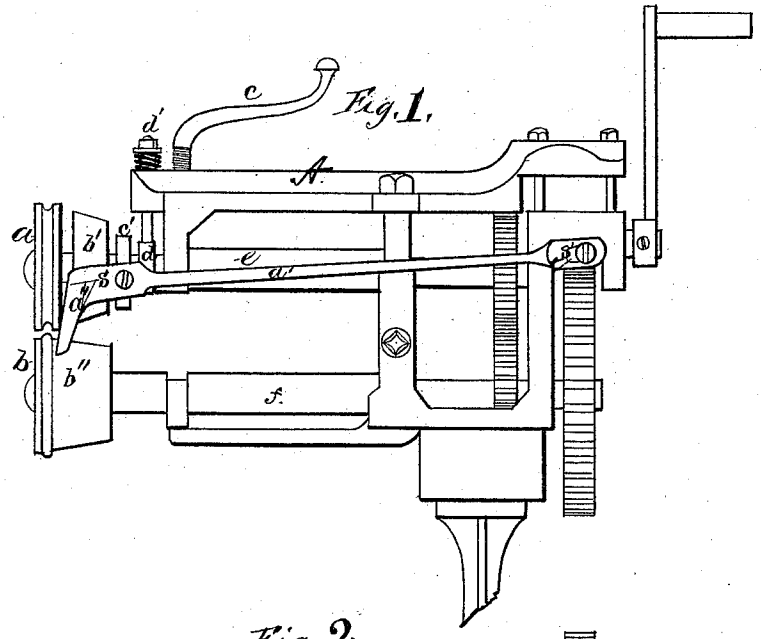


Fig. 2.

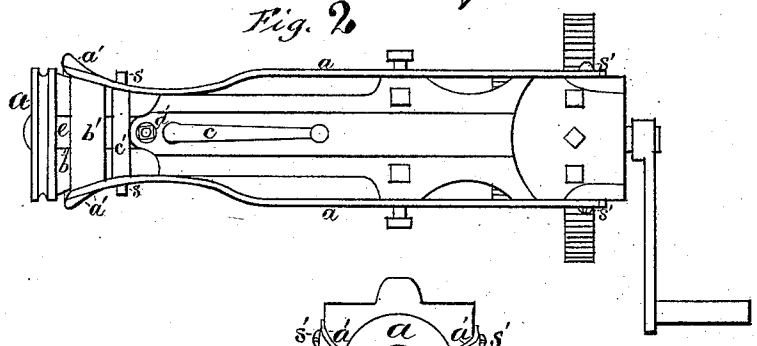
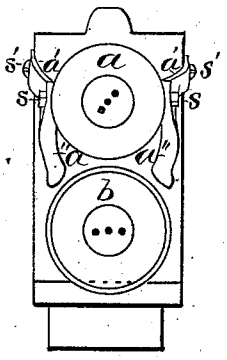


Fig. 3.



Attest,
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UNITED STATES PATENT OFFICE.

LAFAYETTE BANCROFT, OF SPRINGFIELD, OHIO.

IMPROVEMENT IN THE MANUFACTURE OF STOVE-PIPES.

Specification forming part of Letters Patent No. **169,761**, dated November 9, 1875; application filed March 18, 1875.

To all whom it may concern:

Be it known that I, LAFAYETTE BANCROFT, of Springfield, county of Clarke and State of Ohio, have invented certain Improvements in Machinery for Making the Curved Stove-Pipe Elbow which was the subject of a patent granted to me, of which the following is a specification:

My invention relates to an improved attachment to beading-machines, by which my improved curved stove-pipe elbow, patented April 8, 1873, numbered 137,525, can be manufactured; and consists of gages of peculiar construction, and a loose collar intervening between them, in which the upper shaft of the machine revolves, and to which the front ends of said gages are attached. These gages extend from the rear to the front end of the machine, one on each side, nearly parallel with the upper shaft. They are made of a light bar of steel flatted and slotted at the rear end to receive a screw, by which they are attached to the iron frame just above the main gear-wheel. They are bent inward toward their front ends, which are attached also by screws to a loose collar, in which the upper shaft of the machine revolves. The front ends of the gages are enlarged, and are provided with depending jaws, the ends of which rest upon the pipe-section, just behind the bead itself. The object of these gages is to hold that part of the pipe-sections upon which the machine is operating firmly in place while being permanently beaded together, and to make a more perfect finish of the elbow.

Figure 1 is a side elevation of a beading-machine to which my improvement is applied. Fig. 2 is a plan view of the same. Fig. 3 is a front-end view of the two beading-heads, inside and outside, the gages, and that part of the frame to which the latter are attached.

The machine is similar to an ordinary beading-machine used by tinners and sheet-iron workers, the shafts, however, being longer, for the manufacture of my elbow.

Two parallel shafts, *e f*, having the beading-heads *a* and *b* on their front ends, are mounted in the frame A, the front end of which is open for the introduction of the pipe-sections between the beading-heads *a* and *b*, over the latter. The upper shaft *e* is hung in a collar, *d*, the stem of which extends up through the top plate of the machine, and is surmounted with a nut, *d'*, and spiral spring, for raising shaft *e* after it has been released by unscrewing the crank-screw *c*, which is used to press the heads together after the sheet-metal pipe or elbow sections are introduced to be beaded. *a' a'* are the gage-pieces. They extend from the rear part of the frame on each side to the beading-heads, and are attached, by screws *s s'*, at the front and back ends, which are made broader than the body part. In the back end the slot *t* permits their adjustment while the collar *c'*, to which their front ends are also attached, may be slipped on the shaft *e*. This collar is placed just behind the back part *b'* of the head *a*, between it and the bearing-collar *d*. The back parts *b'* of head *a* and *b''* of head *b* are more inclined or beveled than in the ordinary beading-machine, to give room for the manipulation of the elbow-sections as they are being joined together in operating the machine. The jaws *a''* of the gage-pieces *a'*, which extend down to the lower head *b*, are narrowed, from front to rear, toward their ends, and have a *cyma reversa* curve in their cross-section, the lower ends being rounded a little outward to ease the operation of beading, and lessen the friction.

In my former patent of the date before mentioned the manner of constructing my improved curved elbow has been fully explained as made by hand, it being made first in small sections, which, when joined together, form a regular curve in its general form.

To operate the beading-machine in the manufacture of my improved curved elbow, as each section is slipped over the edge of the next one to which it is joined, the pipe is slipped over the lower head *b* until the lapped edges rest upon the raised bead on it. A slight turn of the crank-screw *c* to the right is then given, pressing the grooved head *a* down upon the intervening sheet metal as the heads are revolved. In connection with *a*, the gages on each side are also lowered upon the pipe-section under them, so as to give a bearing-point

on each side of the point of impingement between the heads, thus holding the sections firmly until the bead is properly formed, and preventing any lateral motion of them during the operation.

In Figs. 1 and 3 the relative position of the gage-jaws a' a' and beading-heads a and b are clearly seen, sufficient space being shown between them in the front view, Fig. 3, for the introduction of a section of the elbow-pipe.

I do not claim the beading-machine A as any part of my invention, the same having been known and used before; but

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

In combination with the beading-machine A, with its heads a b, the gages a' a', with their jaws a'' a'', slots t, screws s and s', and collar c', arranged and operated in the manner specified, as and for the purpose hereinbefore set forth.

LAFAYETTE BANCROFT.

Attest:
B. C. CONVERSE,
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