

(No Model.)

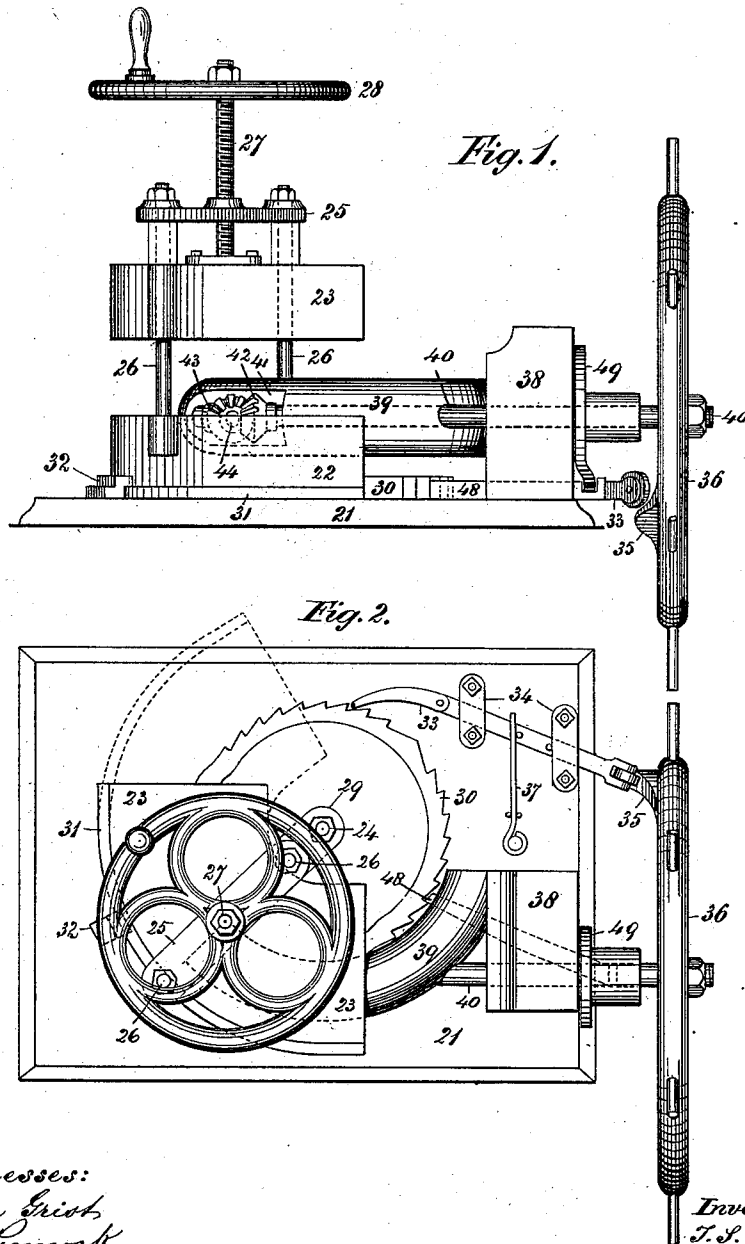
3 Sheets—Sheet 1.

T. S. EVANS & E. H. BISSETT.

MACHINE FOR FLATTENING THE CRIMPS OF STOVE PIPE ELBOWS.

No. 358,390.

Patented Feb. 22, 1887.



Witnesses:
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(No Model.)

3 Sheets—Sheet 2.

T. S. EVANS & E. H. BISSETT.

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Fig. 3

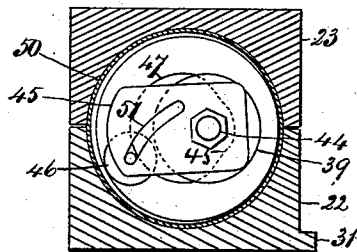
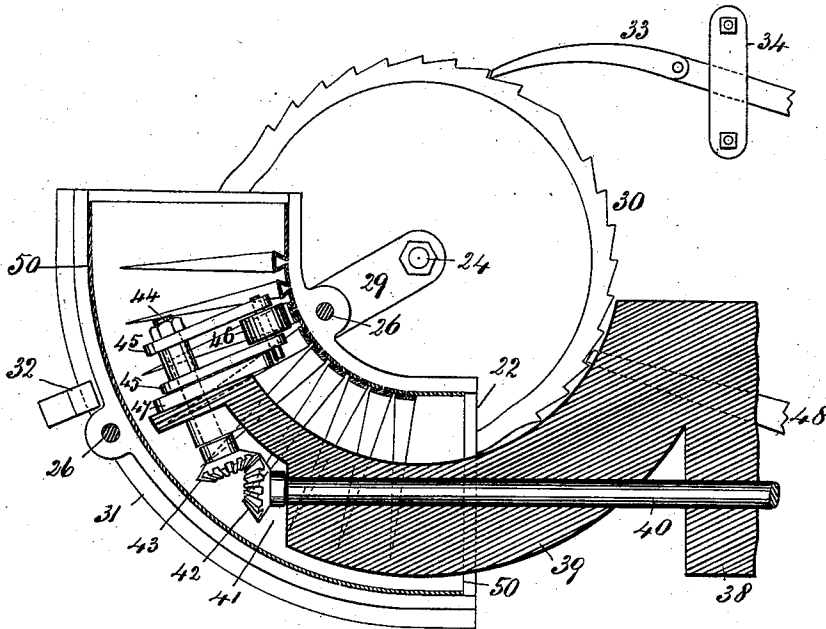


Fig. 4.

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(No Model.)

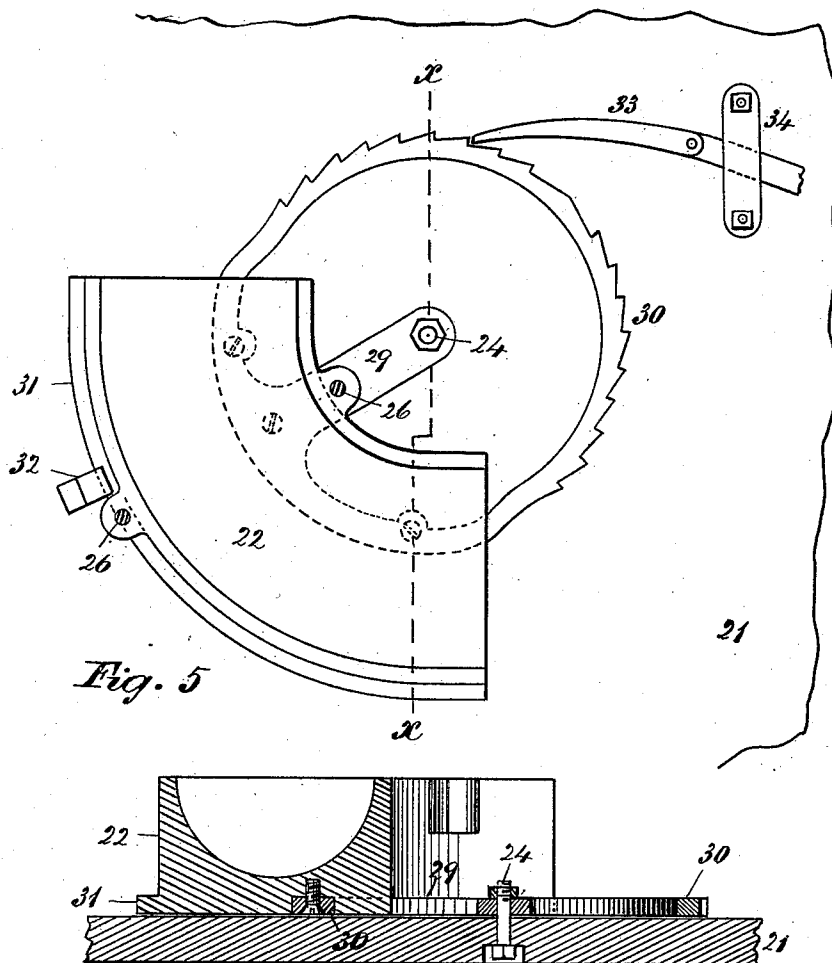
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T. S. EVANS & E. H. BISSETT.

MACHINE FOR FLATTENING THE CRIMPS OF STOVE PIPE ELBOWS.

No. 358,390.

Patented Feb. 22, 1887.



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UNITED STATES PATENT OFFICE

THOMAS S. EVANS AND EDWIN H. BISSETT, OF WINNIPEG, MANITOBA,
CANADA.

MACHINE FOR FLATTENING THE CRIMPS OF STOVE-PIPE ELBOWS.

SPECIFICATION forming part of Letters Patent No. 358,390, dated February 22, 1887.

Application filed June 4, 1886. Serial No. 204,110. (No model.)

To all whom it may concern:

Be it known that we, THOMAS SIDNEY EVANS and EDWIN HUDSON BISSETT, both of the city of Winnipeg, in the Province of Manitoba, in the Dominion of Canada, have jointly invented certain new and useful Improvements in Machines for Flattening the Crimps of Stove-Pipe Elbows; and we do hereby declare that the following is a full, clear, and exact description of the same.

Our invention has for its object to finish stove-pipe elbows crimped on the inside by flattening the crimp, to spread the metal over the seam equally on both sides.

Our invention consists in a machine having a quarter-circle cylindrical shell subdivided lengthwise to insert the elbow and mechanism to feed it concentrically to an arm provided with shafts connected by beveled gears, one shaft carrying a driving-wheel and the other a roll to flatten the crimps, as hereinafter described.

Figure 1 is a side elevation of our improved machine. Fig. 2 is a top view of the same. Fig. 3 is an enlarged view of the lower section of the elbow-holder, showing an elbow therein, and the feed-wheel and the flattening-arm in horizontal section and its roll in elevation. Fig. 4 is a vertical section of the elbow-holder and an elbow therein and the end of the crimp-flattening arm in elevation. Fig. 5 is a plan of the lower part of the elbow-holder and ratchet-wheel; and Fig. 6 is a section of the same on line *x x*, Fig. 5.

21 is the bed of the machine.

22 is the lower half of a tubular shell, forming the fourth part of a circle, to receive and hold the elbow after being crimped. 23 is the corresponding upper half of the shell or elbow holder, which is hung loosely to the lower end of a screw, 27, passing through a screw-tapped hole in bar 25, which connects two posts, 26, footed into the lower section, 22, of the shell, and said posts guide the upper section of the shell while moving vertically to or from the lower section, 22, when the screw 27 is turned by the hand-wheel 28. The two parts of the shell, when clamped together by the screw 27, secure the crimped elbow immovably when placed therein.

The lower section, 22, of the elbow-holder is secured at the bottom to a ratchet-wheel, 30, having a radial bar, 29, pivoted at the center of the wheel to the bed 21 by the pin 24, whereby the holder will travel in the arc of a circle when the ratchet-wheel is pushed by pawl 33, as hereinafter described. Section 22 is provided with a flange, 31, which fits under a hook, 32, on bed 21, to steady the holder in its reciprocating movement.

33 is a pawl, sliding under guides 34, secured to bed 21, and said pawl is operated endwise by a cam, 35, on a hand-wheel, 36. The ratchet-wheel moves the holder containing the elbow 50 to the flattening-roll, hereinafter described, and said pawl is receded by a spring, 37, secured to bed 21.

38 is a post secured to bed 21, and said post is cast with an arm, 39, which is straight for a portion of its length from the post, the extremity curving to correspond to the interior of the elbow-holder.

40 is a shaft, passing through post 38 and arm 39 to a slot, 41, in the outer arc of the arm. One end of the shaft is keyed into the hub of a hand-wheel, 36, and the other end is provided with a beveled gear-wheel, 42, which meshes with a like gear-wheel, 43, on the end of a shaft, 44, which passes through the end of arm 39, and said shaft 44 carries cheeks 45, between which is journaled, in curved slots 51, a roll, 46, which flattens the crimped metal of the elbow when the elbow is fed thereto at intervals by the operation of the wheel 36, having the cam 35, the pawl 33, and ratchet-wheel 30.

47 is a cam on the end of arm 39 to move the axle of the roll in the curved slots, whereby the roll, during a partial rotation of shaft 44, will be moved against the elbow to flatten the crimp and be receded from its work to allow the elbow-holder to move a degree to feed the succeeding crimp to the roll.

48 is a pawl sliding on the bed 21, engaging with ratchet-wheel 30 to hold it while the pawl 33 is being receded and to prevent forward motion until such time as the wheel shall be actuated by pawl 33. The pawl 48 is momentarily released from the ratchet-wheel by a cam-disk, 49, keyed on shaft 40.

By partially turning the hand-wheel the elbow-holder will be advanced a distance of one crimp toward arm 39 and remain stationary, and on completing the turn of the hand-wheel the roll will have flattened the crimp, the next half-turn of the wheel will again feed the elbow to the roll, and the next crimp will be flattened on completing the turn of the wheel, each turn of the wheel causing a crimp to be successively fed and flattened.

We claim as our invention—

1. The combination, with the bed, of a fixed arm curved at the extremity, shafts journaled lengthwise through said arm, the extremity of the outer shaft carrying a roll journaled between cheeks on said shaft, a curved elbow-holder, and means for moving said holder in a circular orbit intermittently with the operation of the roll upon the crimp, as set forth.

2. The combination, with bed 21, of the curved elbow-holder constructed in two parts, 2223, adapted to be clamped together, a ratchet-wheel, 30, pivoted to said bed and secured to

the bottom of the elbow-holder, a curved arm, 39, provided at the extremity with a fixed cam, 47, shafts 40 and 44, geared together and journaled through said arm, the shaft 44 carrying a roll, 46, and the shaft 40 carrying a hand-wheel, 36, provided with a cam, 35, and a pawl, 33, substantially as and for the purpose set forth.

3. The combination, with the arm 39, having a cam, 47, and a longitudinal shaft, 44, provided with beveled gear-wheel 43, of the shaft 40, having a beveled gear-wheel, 42, and provided with cheeks 45, having curved slots 51, and a roll, 46, journaled in said slots, said roll having an axle projecting to engage with the cam 47, whereby the roll will be moved out of contact with the elbow after flattening the 40 crimps, as set forth.

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