(No Model.)

E. S. LENOX.

MACHINE FOR FINISHING THE BLANKS OF WIRE BALE TIES.

No. 262,797. Patented Aug. 15, 1882.

Fig. 1.

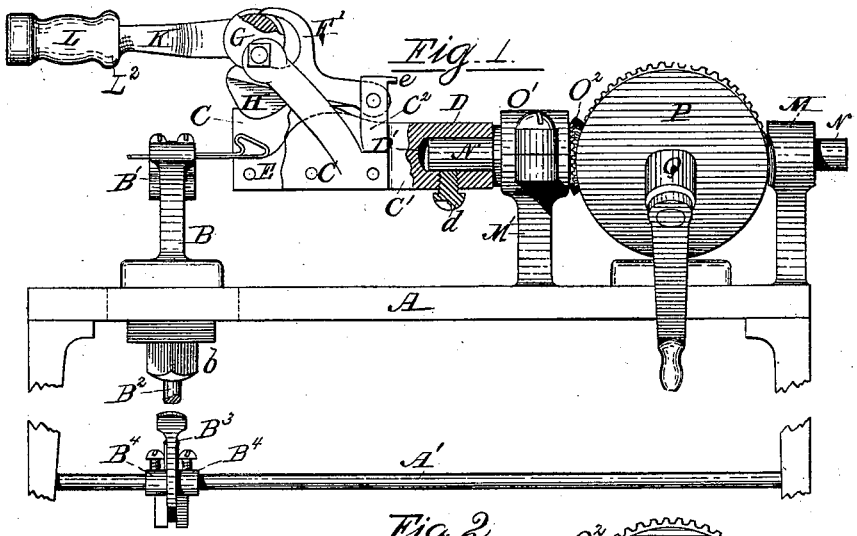

Fig. 2.

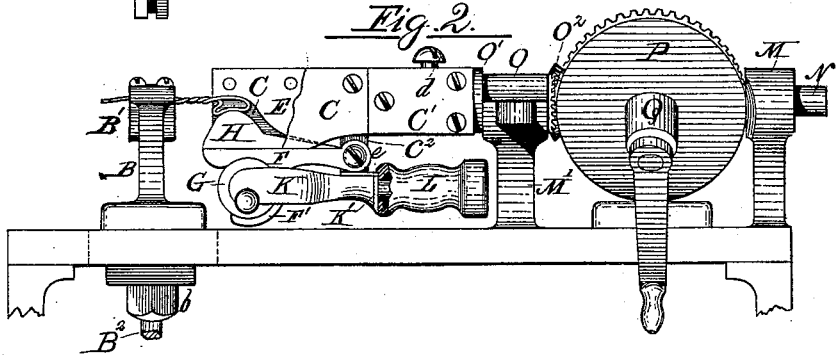

Fig. 3.

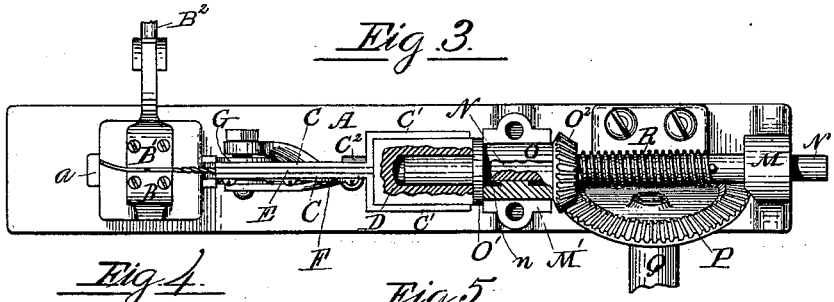

Fig. 4.

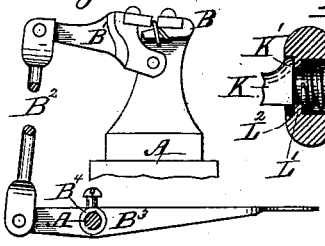

Fig. 5.

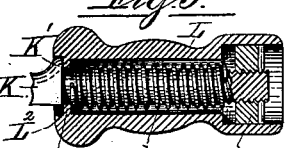

Fig. 6.

Witnesses:
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UNITED STATES PATENT OFFICE.

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MACHINE FOR FINISHING THE BLANKS OF WIRE BALE-TIES.

SPECIFICATION forming part of Letters Patent No. 262,797, dated August 15, 1882.

Application filed March 24, 1882. (No model.)

To all whom it may concern:

Be it known that I, EDWIN S. LENOX, of the city and county of Worcester, and Commonwealth of Massachusetts, have invented certain new and useful Improvements in Machines for Finishing the Blanks of Wire Bale-Ties; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming a part of this specification, and in which—

Figure 1 represents a side view of my machine, partly broken away, showing the parts in position to receive the blanks. Fig. 2 represents a part side view (also partly broken away) of the machine, showing the position of the blade and other parts when the tie is completed. Fig. 3 represents a plan view (also partly broken away) of the machine when in the position shown in Fig. 2. Fig. 4 represents an end view of the wire-holder. Fig. 5 represents a detail section, enlarged, of the handle of lever; and Fig. 6 represents a view of the bale-tie complete.

By the operation of my invention the tie-blank, of which the hook has been partially formed and the return-piece bent back, has the hook finished and the return-piece twisted up with the main strand of the wire, thus producing the complete bale-tie.

My invention may be described as consisting of a chamber, into which the partially-formed blank is introduced and pressed into complete shape by a blade operated by an eccentric, and devices for holding said blade in place while the chamber is being rotated by mechanism constructed for the purpose, so as to twist the return-piece and the main strand together.

To enable those skilled in the art to which my invention belongs to make and use the same, I will proceed to describe it more in detail.

In the drawings, the part A is the frame or stand on which the operating devices are placed, B being a standard mounted thereon in a slot, *a*, near one end, so as to be adjustable in position, and secured in place by a jam-nut, *b*. The upper part of this standard B is formed as one of a pair of jaws to receive the main strand and the return-piece of the wire of the blank, the other jaw, B′, being formed on an arm pivoted to B, and having its other end pivoted to a link, B^2, connected with a treadle, B^3, which is pivoted on a rod, A′, and held adjustably in place by sleeves B^4 B^4, secured by set-screws.

The parts C C are two plates, forming the chamber into which the tie-blank is inserted, having bent ends C′ C′, secured by screws or otherwise to a block, D, to be hereinafter described.

E is a fixed plate, held firmly in position between the plates C C, and having its upper edge corresponding to the contour of the back of the twisted tie.

The part C^2 is a standard, to which is pivoted an arm, F, ending in a forked end, F′, in which moves a flanged disk, G, eccentrically pivoted to an arm formed on one of the plates C C.

e is a projection in rear and at upper end of C^2.

On the under side of F is formed or secured the blade H, the edge of which corresponds to the form of the front of the tie.

The part K is an arm or lever secured centrally to the disk G, and having mounted loosely on it a handle, L, which has formed on its inner end a ring, L′, pressing against a shoulder, K′, formed on the lever, and a ring or flange, L^2. The outer end of L is hollowed out, so as to receive a nut, *l*, screwed on the threaded end of the lever K, and compressing a spiral spring, *k*, round the same, the other end of which presses against the inside of the ring L′.

The parts M M′ are standard-bearings, mounted on A and carrying the spindle N, connected with and imparting rotary motion to the block D, and chamber holding the tie, as will be presently described. The standard M has a simple eye formed in it to receive the spindle N; but M′ has, as shown, a plumber-block, in which is carried a sleeve, O, (through which the spindle passes,) with shoulder O′ and a bevel-gear, O^2, formed on it. A lug projecting from the inside of the sleeve O enters a groove, *n*, in the spindle, and, while allowing longitudinal movement, secures the simulta-

neous revolution of the two. This grooved end of the spindle N is inserted into an aperture, D′, in the block D, and is secured therein by a set-screw, *d*.

The part P is a beveled-face gear, the spindle of which is carried in a sleeve, Q, set obliquely, and suitably supported from the frame A, or in any other way, and rotated by any suitable power. A spring, R, coiled round the spindle N, between the bearings, and pressing against the gear O^2 and a stud on the spindle, tends to draw this back, except when it is inserted and secured in the block D, as hereinbefore described.

The operation of my invention is as follows: The parts of the machine being in the position shown in Fig. 1, the blank is introduced into the chamber formed by the plates C C, its back resting upon the edge of the plate E, the main strand of the wire and end of the wire which is turned back resting between the jaws B B′, and being held firmly therein by pressing down the treadle and holding the jaws together. The lever K is then thrown over till it falls into the position shown in Fig. 2, the flange L^2 catching on the projection *e* on the back of the standard C^2, being held there by the spring *k* and holding the handle and lever firmly in this position. By this operation the disk G has been moved inward and downward in the fork F′, pressing down the pivoted arm F, and with it the blade H, bringing this latter in contact with the front of the tie-blank, thereby shaping it to the form required. The gear P, being rotated by any suitable means, imparts motion through the gear O^2 to the spindle N, block D, and chamber formed by the plates C C, in which the tie is held, the revolution being continued till the whole length of the return-piece of the tie is twisted up with the main strand, the tie being then complete. The handle L is then drawn back so as to release the lever from the standard C^2 and thrown over to its first position, thus raising the blade and releasing the finished tie, jaws B B′ being at the same time opened to allow the wire to be taken out. The operation may then be repeated.

I disclaim the invention described in Letters Patent granted to C. Van Derzee, November 14, 1876, and marked No. 184,448.

Having described my improvements in machines for finishing the blanks of wire baleties, what I claim therein as new and of my intion, and desire to secure by Letters Patent, is—

1. In a wire-bale-tie-blank-finishing machine, the combination of a chamber composed of side and bottom plates, in which the tie is introduced, and a blade for pressing and forming the same, attached to an arm or lever connected with said chamber and operated by means of an eccentric, all constructed and operating substantially as described, and for the purposes set forth.

2. In a wire-tie-blank-finishing machine, the combination of a chamber having side walls and bottom, in which the blank is received, and means for holding and forming the blank therein, a revolving spindle connected with and rotating the same, and jaws for holding the main strand of the wire and the end of the return-piece, all substantially as and for the purposes set forth.

3. The handle L, having catch L^2, and sliding lengthwise on lever K, the lever K, secured to disk G, in combination with the forked arm F, pivoted to plate C and carrying blade H, and the part C having a chamber therein, and the catch *e*, substantially as shown and described.

EDWIN S. LENOX.

Witnesses:
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JOHN C. DEWEY.