

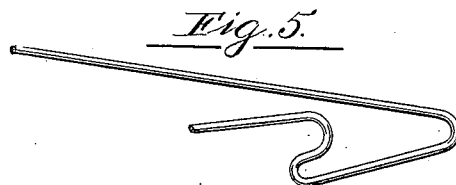
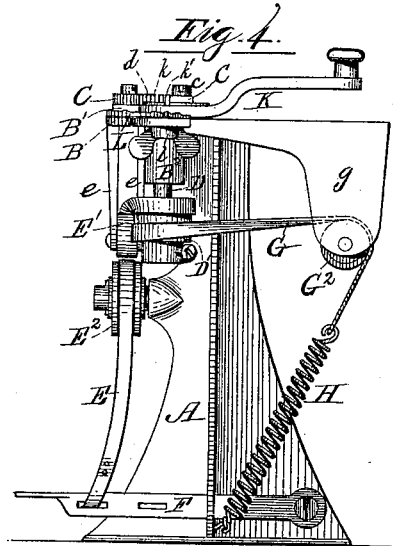
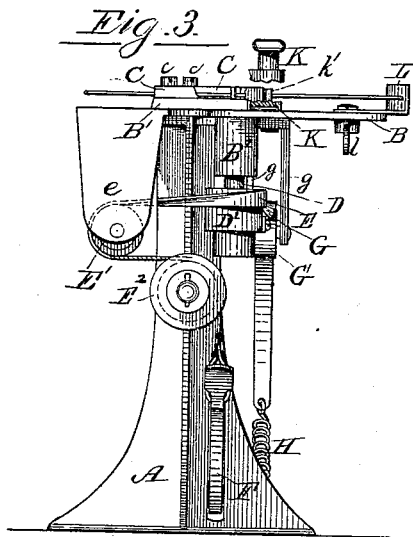
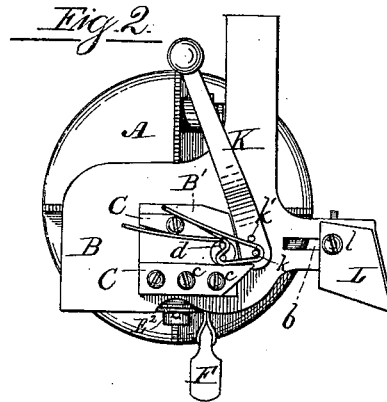
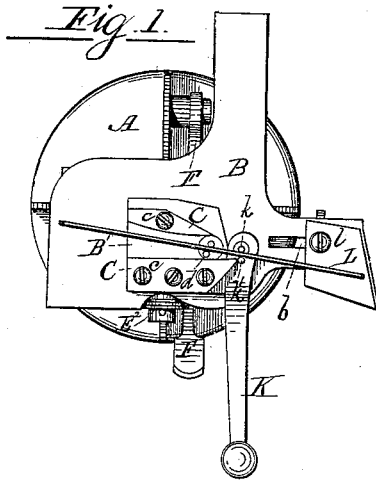
(No Model.)

E. S. LENOX.

MACHINE FOR FORMING BLANK HOOKS FOR WIRE BALE TIES.

No. 262,796.

Patented Aug. 15, 1882.



Witnesses:  
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Inventor:  
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# UNITED STATES PATENT OFFICE.

EDWIN S. LENOX, OF WORCESTER, MASSACHUSETTS, ASSIGNOR TO THE  
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## MACHINE FOR FORMING BLANK HOOKS FOR WIRE BALE-TIES.

SPECIFICATION forming part of Letters Patent No. 262,796, 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 Forming the Blank Hooks 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 top view of my machine, showing the position of the parts when the wire is introduced. Fig. 2 represents a top view of my machine, showing the position of the parts after the blank hook is formed. Fig. 3 represents a front view of my machine before the operation of forming the blank hook has been begun. Fig. 4 represents a side view of my machine after the operation of forming the blank hook is completed; and Fig. 5 represents a side view of a bale-tie blank enlarged.

The particular class of wire bale-tie the blank of which is made by my invention is that known as a "cross-head," and the machine may be thus briefly described.

Upon a suitable standard is mounted a table on which may be set a top plate, forming the bed over which the wire is to pass, its course being regulated by suitable adjustable guides, which also serve to prevent lateral movement of the wire during the operation of forming the blank. In a sleeve formed on the inside of the table is carried a vertical shaft rotated by means of a treadle drawing on a belt secured to a pulley on said shaft, which is turned to its normal position by a spring connected therewith by a belt suitably conducted. On the upper end of this vertical shaft, which is on a level with the top plate, if used, are placed two pegs at right angles, or nearly so, to the line of the wire passing between them. To the table is pivoted a lever having also two pegs arranged in the line of its axis and, consequently, at an angle to the wire, which also passes between these. By pressing down the treadle the vertical shaft is turned half a revolution, the pegs thereon forming the bottom of the loop—that is, the hook. The pivoted le-

ver is then turned, thus bending back the wire, the length of the return-piece being determined by an adjustable gage secured to the table.

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 standard, of any suitable size and shape, upon which is mounted and secured in any approved way a table, B, preferably of the shape shown, on this being usually placed a top-plate, B', on which are again set guides C C, adjusted and secured in position by set-screws c c, the space between them being the path along which the wire is passed to the operating mechanism.

The part D is a short vertical shaft carried in a sleeve, B<sup>2</sup>, projecting from the under side of the table A, and having on its upper end, which is flush with the upper surface of plate B', pegs d d, between which the wire passes.

D' is a pulley mounted on D, to which is attached one end of a belt, E, passing over sheaves E' E<sup>2</sup>, (carried respectively in suitable brackets, e, and on the standard A,) and having its other end connected to a treadle, F, pivoted to the standard. A belt, G, secured to the pulley D', passes over a sheave, G', carried in brackets g, and is attached to a spring, H, fastened to the stand. (See Fig. 3.)

The part K is a bent lever, pivoted where shown to the table B, and carrying on its upper surface, which is on a level with the plate B', pegs k k', between which the wire is pushed, one being at the pivot-point and the other outside it, L being a gage to adjust the length of the wire, secured on the table in the desired position by a jam-nut, l, passing through a slot, b, in same.

The operation of my invention is as follows: The parts being in the position shown in Figs. 1 and 3, the wire is introduced between the pegs d d and k k', being pushed through until the end meets the gage L, the distance between this gage and the pin k regulating the length of the return-piece to be subsequently twisted with the main strand by other apparatus. The treadle F is then pressed down, thus drawing

on the belt E, and through it imparting a full half-revolution to the shaft D, and with it the pegs *dd*, which hold the wire and bend it into a hook to form the inner end of the tie-blank, as shown in Fig. 2, the guides C C preventing any lateral movement of the wire. The lever K is then turned around to the position shown in Fig. 4, the pegs *kk* holding the wire between them and bending it back, so as to form a rounded end on the tie and complete the blank shown in Fig. 5. The blank being removed and the treadle released, the action of the spring H draws the belt G and gives to the shaft D half a turn in the reverse direction, thus restoring it to its first position ready for use.

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

Having described my improvements in machines for forming the blank hooks of wire bale-ties, what I claim therein as new and of my invention, and desire to secure by Letters Patent, is—

1. In a wire-bale-tie-blank-forming machine, the combination of a revolving shaft carrying pegs which hold the wire and, when turned, bend it into a hook or S shape, and a lever also carrying pegs, between which the wire is held, and serving, when turned, to bend back the end of the tie, all substantially as described and shown.

2. The combination, with the revolving shaft D, provided with pegs *dd* upon its upper end for bending the wire, of the guides C C, for preventing the lateral movement of the wire during such bending operation, all substantially as described, and for the purposes set forth.

3. The combination, with the revolving shaft and lever, provided respectively with pins for bending the wire, of adjustable gage L, all substantially as shown and described.

EDWIN S. LENOX.

Witnesses:

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