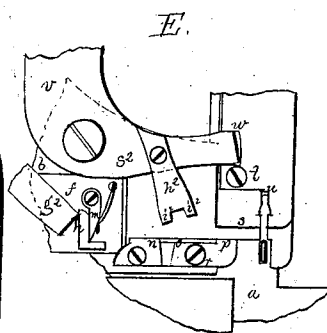
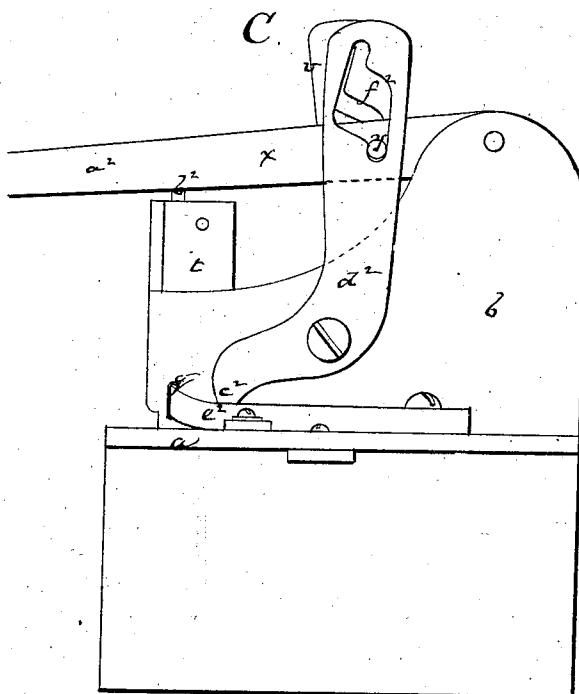
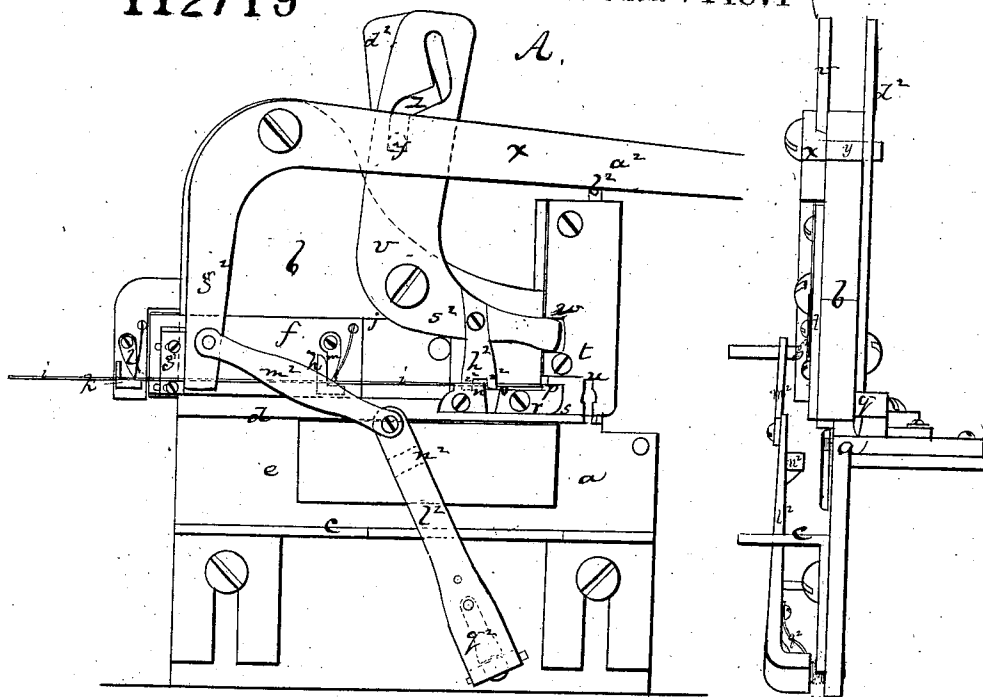


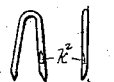
Jeremiah Keith.
Machine for making and setting Blind Staples.

112719

PATENTED MAR 14 1871



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Jeremiah Keith
by his attys.
Crosby, Hurlsted & Soule

Witnesses
S. B. Hildet
M. M. Frothingham

United States Patent Office.

JEREMIAH KEITH, OF CHARLTON, MASSACHUSETTS.

Letters Patent No. 112,719, dated March 14, 1894.

IMPROVEMENT IN MACHINES FOR MAKING AND SETTING BLIND-STAPLES.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that I, JEREMIAH KEITH, of Charlton, in the county of Worcester and State of Massachusetts, have invented an Improved Machine for Making and Setting Blind-Staples; and I do hereby declare that the following, taken in connection with the drawing which accompanies and forms part of this specification, is a description of my invention sufficient to enable those skilled in the art to practice it.

My invention relates to a new construction or organization of machines for forming blind-staples and driving them into blind-slats and the blind-slat rods, the invention consisting in the various details of arrangement and method of operation of the mechanism. The drawing represents a machine embodying the invention.

A shows the mechanism in front elevation.

B is an end view of it.

C, a rear elevation.

a denotes the bed or frame, which, in connection with an upright, b, supports the mechanism.

c is a vertically-adjustable table, upon which the slat or rod to be "stapled" is placed, the lower edge resting on this table, and the upper edge extending under a shoulder, d, the back of the slat being supported against a vertical face, e.

The top of the shoulder d, and another shoulder, j, form ways, in which travels a reciprocating slide, f, on the front, and near the opposite ends of which are two plates g h, in each of which is a horizontal hole for passage of the staple-forming wire i, said wire entering the machine through a stationary eye-piece k, and passing under a spring-stop, l, which permits the wire to be drawn forward, but prevents its slipping back.

The wire passes under a spring-feeder, m, on the slide f, and as the slide moves forward this feeder is cramped down upon the wire and draws it forward with it, the projected end of the wire extending through a guide-eye, n, over a ledge or bed, o, through a guide-eye, p, and over a beak or anvil, q, the guide-eyes being formed in a plate, r, fastened upon the front of the upright b.

The inner face of the plate r, at its front end, is inclined, and the guide-eye p leads out to such face.

Over the face is a cutting-edge, s, on the bottom of a vertically-sliding bender-plate, t, the cutting-edge being the converse of the inner face of the plate r, and so that, as it descends, it strikes the wire at the end of the eye p and clips it off, cutting it on an angle, and thereby pointing it.

Before or just as the cutter reaches the wire, (in the descent of the bender t,) the bottom of the plate strikes the wire over the top of the beak q.

The bottom of the plate has a vertical slot, u, of a width exceeding the thickness of the former, and as the plate moves down it bends the opposite end of the wire over the beak q and down against its sides, and thereby forms the wire into a staple, the end of the wire projecting beyond the beak being of the length to form one of the staple-legs, and the length of wire from the beak to the mouth of the eye p being the same, and forming the other leg.

When the staple is thus formed its two points are just above the edge of the slat to be stapled, and the bottom of the bender-plate descends against the slat and holds it.

The vertical movement of the bender is effected by a lever, v, one arm of which extends into a slot, w, in the bender-plate, and this lever is actuated by another lever, x, a pin, y, from one arm of which extends into a bent slot, z, in the lever v.

After the lever-arm a^2 has effected the movement of the bender-plate down upon the slat the arm still further descends, but without imparting movement to the bender, and strikes the head of a driver, b^2 .

The bottom of the driver is in line with the formed staple and over the beak, and just before the lever drives down the staple, an incline, c^2 , at the lower end of a lever, d^2 , is forced in between an arm, e^2 , from the end of which projects the beak q, and the upright b, and presses said beak back from under the staple out of the path of movement of the driver, the upper arm of the lever d^2 having a cam-slot, f^2 , into which projects the pin y, the pin striking one incline of the slot as it moves down, and thereby causing the lower end of the lever to force back the beak.

When the pin rises it strikes another incline of the slot and throws up the lower end of the lever, freeing the beak-arm, which is then pressed forward again by a suitable spring.

The beak having been thrown back, the driver descends upon the staple and forces it into the slot.

When the next staple is formed by the descent of the bender, the driver gives way as the bender descends.

The carrier or slide f is moved forward by the lower arm g^2 of the lever x, the forward movement of this arm causing it to strike the plate h and move the slide, and with it the wire, this movement taking place just after the same movement of the lever x has effected the rise of the cutter, bender, and driver, and the forward movement of the beak leaving these parts in position to receive the advancing end of the wire.

When the wire is being cut and formed by the descent of the upper arm of lever x, the arm g^2 moves back, striking the plate g, and returns the carrier-slide to its normal position, the stop m yielding and

allowing the plates $g h$ to slip upon the wire, the stop l holding the wire stationary during the back movement of the carrier-plate.

Fixed to the lever-arm s^2 is a cutter-stock h^2 , having at its bottom end two cutters i^2 , and just as the arm is completing its descent these cutters strike the opposite sides of the wire, cutting upon each side a nick, k^2 , as seen at D, the wire being subsequently cut off between the two nicks, so that a nick is formed upon one end of one staple and one end of another by each action of the cutters.

The metal displaced in cutting each nick forms a barb, which helps to confine the staple to the slot.

When the slot-rod is to have the staples applied to it, the table c is raised and fastened in position, to enable the slot-rod to be properly supported and presented to the action of the staple-driving mechanism.

To feed the rod, a rocker-arm, P , may be connected by a link, m^2 , to the lever-arm g^2 , and a projection, n^2 , upon this arm, in its forward movement, strikes one of a series of teeth on a strip or rack fastened to the rod.

When the slots are being stapled the link is unjointed from the lever, and the rocker-arm may then act as a presser to keep the slot up to the face e , for

which purpose it is provided with a spring, q^2 , the stress of which throws the arm inward.

F in the drawing shows the bender-plate at its highest position with the mechanism adjacent thereto.

I claim—

1. In combination with the supporting-table c , the carrier-plate f , sliding forward and feeding the wire, and back and slipping upon the wire, the severing cutter s , the bender-plate l , and the driver b^2 , all combined and arranged to operate substantially as described.

2. In combination with the mechanism for cutting, forming, and driving the wire-staples, the cutters i^2 , for nicking the wire, substantially as shown and described.

3. In combination with the bender and driver, the beak q , made to retreat after the wire is bent and before the driver descends, substantially as described.

4. In combination with the feeding, cutting, bending, and driving mechanism, the arm P and link m^2 , for effecting the feed movement of the slot-rod, substantially as described.

Witnesses:

JEREMIAH KEITH.

E. C. THAYER,

SETH L. CARPENTER.