

(No Model.)

E. G. COHEN.
STAPLING MACHINE.

No. 489,730.

Patented Jan. 10, 1893.

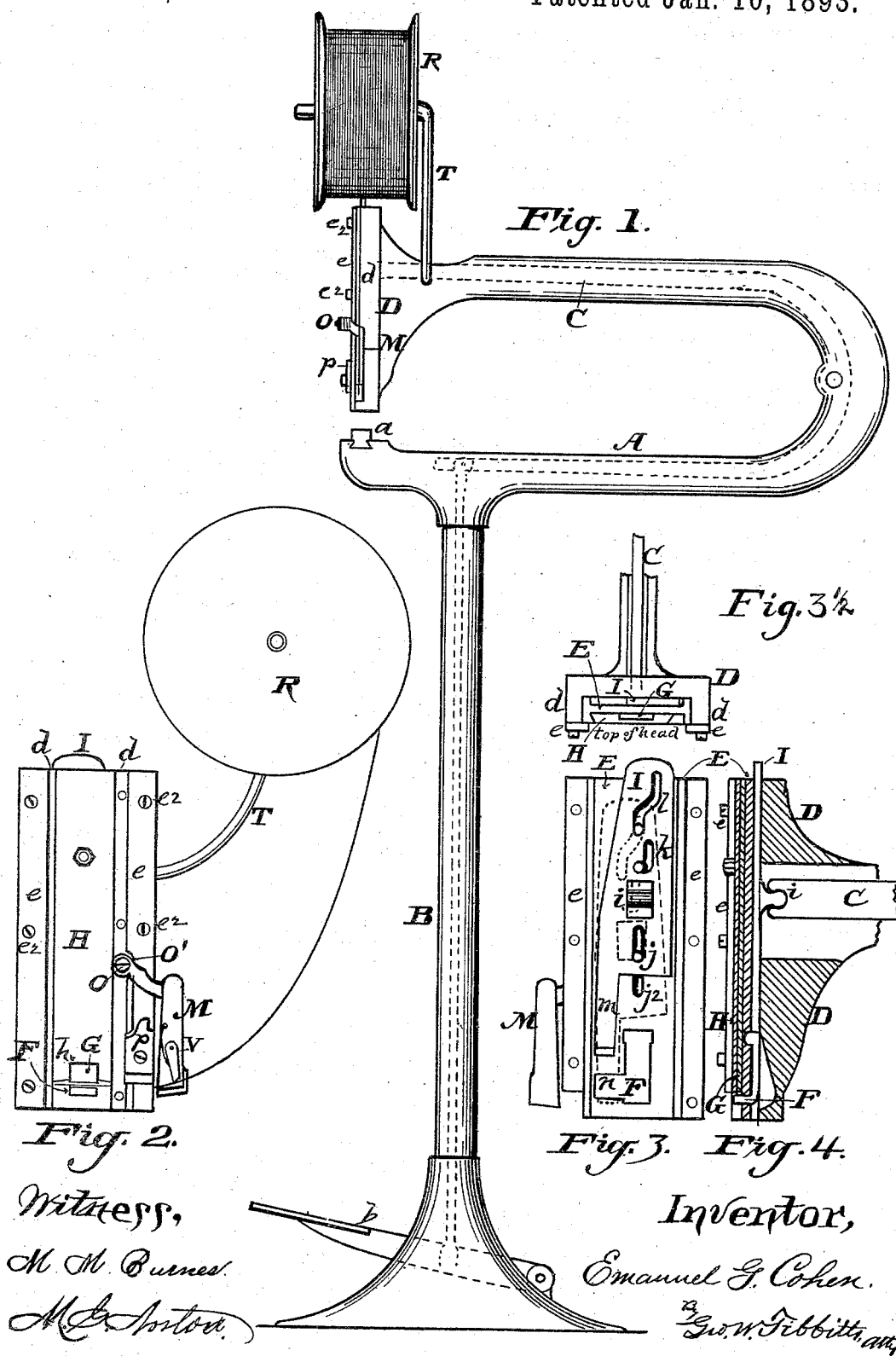


Fig. 2.

Fig. 3. Fig. 4.

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STAPLING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 489,730, dated January 10, 1893.

Application filed June 6, 1892. Serial No. 435,582. (No model.)

To all whom it may concern:

Be it known that I, EMANUEL G. COHEN, a citizen of the United States, and a resident of Cleveland, county of Cuyahoga, and State of Ohio, have invented new and useful Improvements in Stapling-Machines, of which the following is a specification.

This invention relates to machines for making and driving staples, and consists in the new constructions and combinations substantially as hereinafter described and pointed out in the claims.

In the accompanying drawings—Figure 1 is a side elevation of my new stapling machine. Fig. 2 is a front or face view of the head of the machine showing the mechanism for feeding the wire, cutting off the blank, bending and inserting the blank. Fig. 3 is a rear side view of the said mechanism, removed from the head, showing the mechanism for operating the feeding, cutting bending and inserting mechanism. Fig. 3½ is top view of the tread. Fig. 4 is a vertical section of the same.

A represents a U shaped frame supported on a suitable standard B, (a table or shelf may be used instead). The lower end of frame A serves as the fixed jaw and is provided with an anvil *a* having a curved indentation in its top face for clinching the ends of the staple in the operations of the machine. The frame A is made hollow and within it is provided a bent or U shaped lever C fulcrumed at the bend, as seen by dotted lines in Fig. 1, the lower end of said lever is connected by a rod, within the hollow standard B, with a foot lever or treadle *b* in the foot of the standard.

D is a head on the upper end of the frame A having side flanges *d d*.

E is a double flanged plate fitted to slide in the flanges of the head D, and in the front face of this plate are fitted to be operated the cutting and bending plunger H, and the hammer G. The plate E is held on the head D by the guide strips *e, e*, attached by the screws *e²*. The lower end of plunger H has a recess *h*, with beveled bending edges, for forming the staples over a block F. On the inside face of the plunger plate H is made a recess for containing the driving and setting hammer G which slides independently therein. These parts of the device are the same as

those comprised in my application Serial No. 401,611, "hand stapling implement" filed August 3 1891.

The plunger and hammer are operated, and the block F pushed back, by means of a slotted plate I, moved in a vertical line in a recess in the rear side of plate E, said plate I having a projection *i* engaging in a slot in the end of lever C, which actuates the plate through the medium of the rod and foot treadle. The plate I has three slots, *j, k, l*, the lower slot is straight, the second one has a short right angle, and the third or upper one has a diagonal crook. In the lower slot, a pin on the back of the hammer plays, reaching through a slot *j²* in the plate D. In the second slot a pin on the back of the cutting and binding plate plays, and in the diagonal slot a fixed pin on the back of plate D, plays, this acts as a guide pin for deflecting the downward movement of plate I to one side. The block F consists of small bar pivoted at its upper end to the plate D, and having its lower end bent and projecting through a slot in the lower end of plate D. The moving plate I has a downwardly projecting arm *m*, with a beveled point, and is designed for pushing the block F backward, by passing under an arm *n* on the block bar, the purpose being to move the block back, after the staple is formed over it, to get it out of the way of the further descent of the plunger and hammer for their use for inserting and clinching of the staple.

The wire for the staples is fed from a reel R, supported on an arm T attached to the head D, by means as follows: M is an angle arm pivoted onto a stud O on the plate D and on the stud is fixed a tension spring O', by which the arm is actuated in feeding the wire forward. The arm is pushed outward, when the plate to which it is attached moves downward, by its striking against a stop *p* on the guide bar *d*, for the purpose of taking up the wire, which passes through a hole in the end of the arm. On the front side of the arm is provided a spring pawl V having a sharp point bearing against the wire for gripping and holding it in the forward feeding movements of the said arm.

The operation of this machine is as follows: The depression of the treadle moves the lever

C, this moves the plate and the mechanism attached to it down onto the material in which the staples are to be inserted and which lies on the anvil, further movement of the lever carries plunger H downward, severs the blank for a staple and bends the ends over the forming block, inserts the ends of staple into and through the material, then the block is also pushed back out of the way and the hammer is then forced downward forcing the staple through and bending its ends inward and clinching them on the under side of the material. During this movement the arm M has moved outward for taking up more wire for the next staple, the releasing of the pressure on the treadle allows the several parts of the machine to again assume their normal positions, for repeated uses.

Having described my invention, I claim.

1. In a stapling machine, the head D mounted on one end of U shaped frame A, having anvil *a* on its other end, said frame A supported on a suitable standard and provided with lever C fulcrumed in the bow, with one end connected by a rod with foot treads *b*; a flanged plate E fixed to play in guides *d d*, on head D; the plunger H and hammer G fixed to play in guides in the front face of plate E; the staple former block F movably set in a mortise in plate E beneath the plunger and

hammer; the slotted sliding plate I set in the back of plate E with the pins on the backs of plunger and hammer projecting into the slots *j, k*, plate I also having arm *m* for pushing the former block F, and having the projection *i* engaging with lever C; constructed combined and operating as and for the purpose specified.

2. In a stapling machine the combination of a U shaped frame A, carrying wire reel R, and mounted on supporting standard B, and provided with lever C fulcrumed in the bow of said frame, a rod connecting one end of said lever with foot treadle *b*, the other end of frame A supporting head D containing the staple forming and setting mechanism consisting of flanged plate E, plunger H, hammer G and forming block F, a slotted sliding plate I, connected with and operating the plunger, hammer and former by its reciprocal movements derived by the movement of lever C by means substantially as described; a feed lever M pivotally mounted on plate E and actuated by contact with stop *p* in the movements of said plate E, and the clinching anvil *a*, all constructed to feed, cut, form and set staples substantially as and for the purpose set forth.

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Witnesses:

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