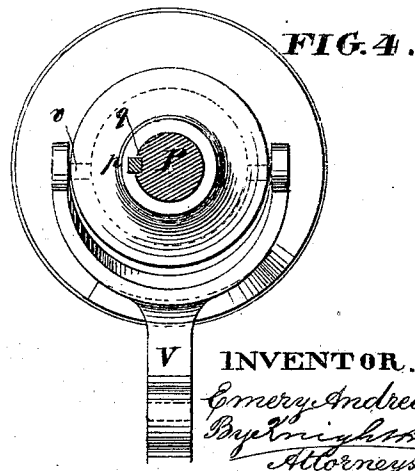
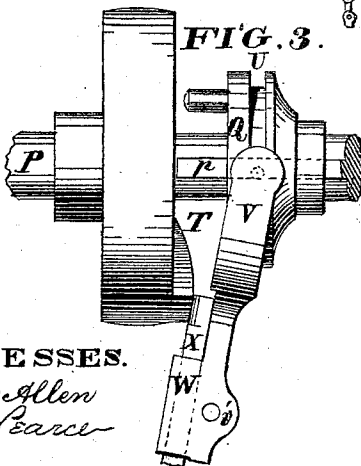
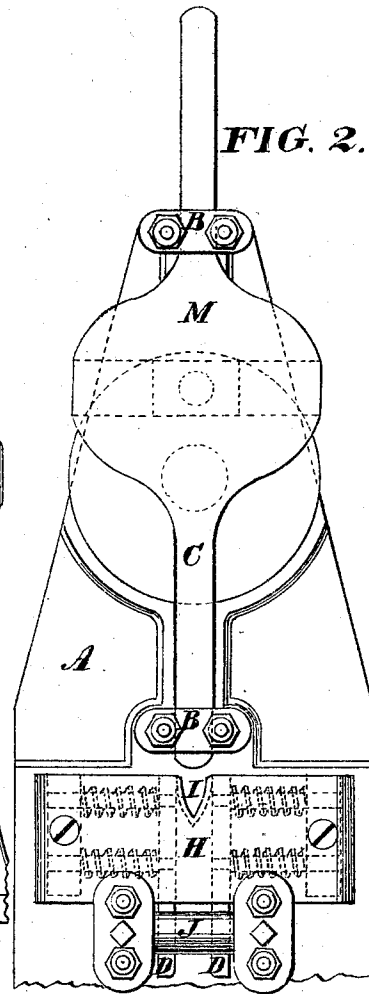
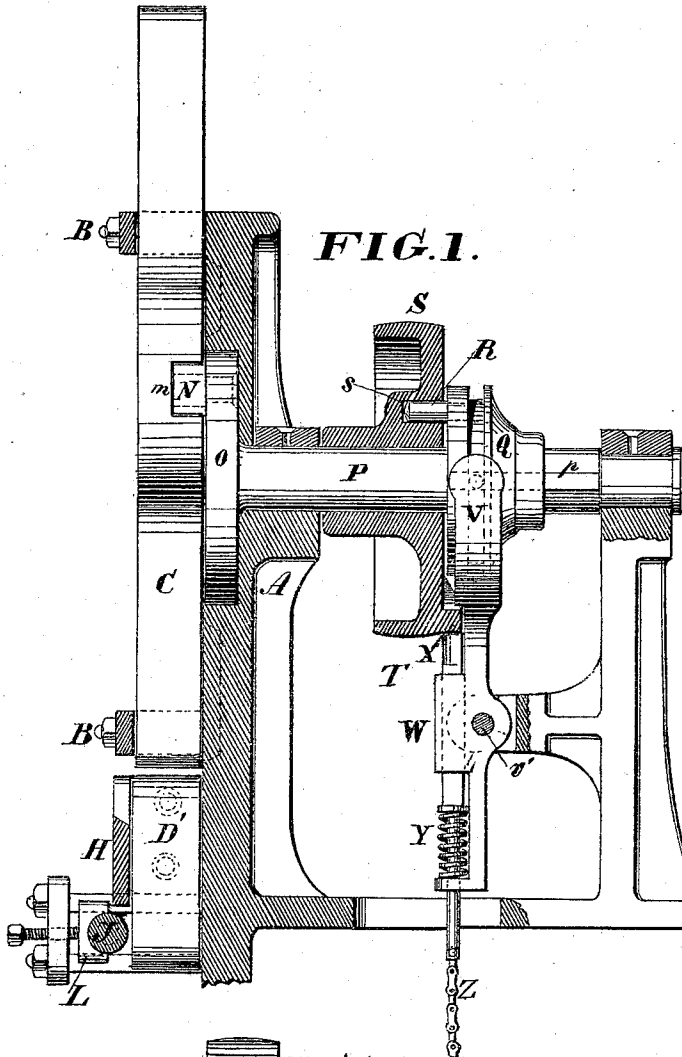


E. ANDREWS.

Machines for Crimping Boot and Shoe Counters.
No. 147,587.

Patented Feb. 17, 1874.



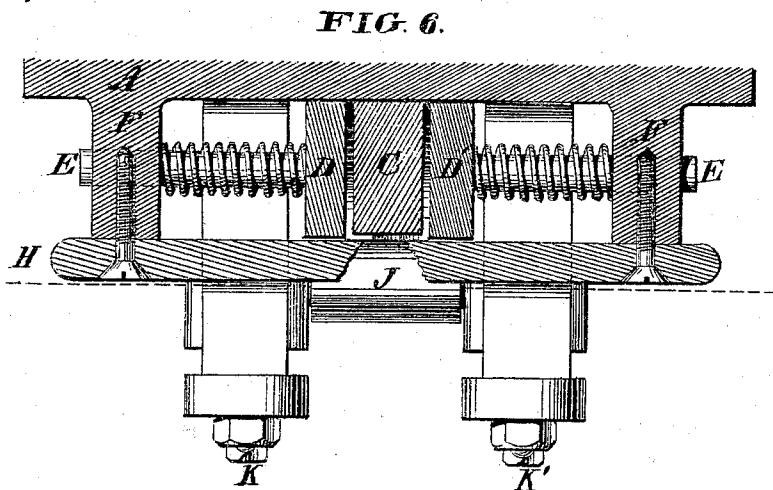
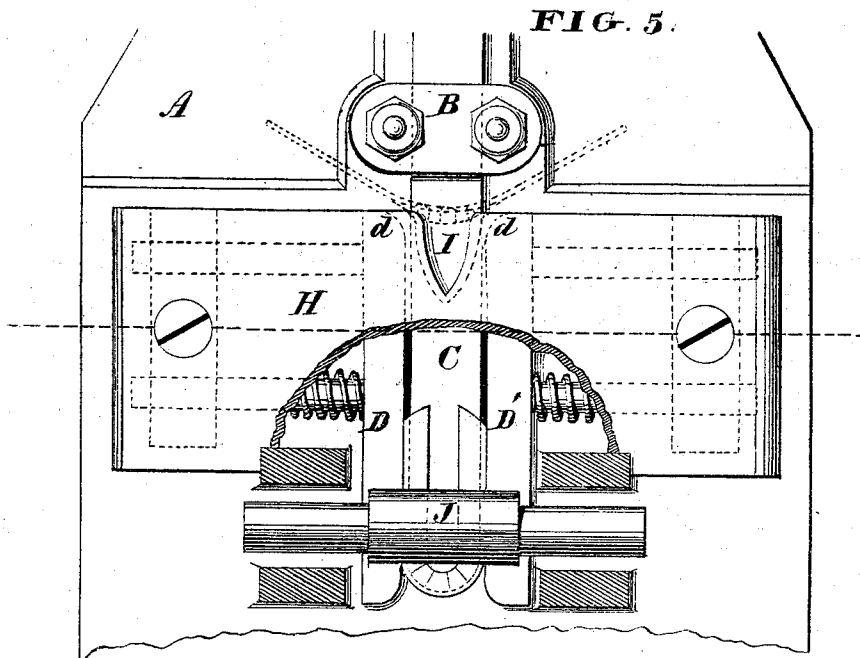
WITNESSES.

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UNITED STATES PATENT OFFICE.

EMERY ANDREWS, OF WELCHVILLE, MAINE.

IMPROVEMENT IN MACHINES FOR CRIMPING BOOT AND SHOE COUNTERS.

Specification forming part of Letters Patent No. **147,587**, dated February 17, 1874; application filed January 3, 1873.

To all whom it may concern:

Be it known that I, EMERY ANDREWS, of Welchville, in the county of Oxford, Maine, have invented an Improved Machine for Crimping Counters for Boots and Shoes, of which the following is a specification:

My present invention relates to a peculiar machine or apparatus for crimping or shaping counters or heel-stiffeners for boots and shoes. The invention consists in the combination of a forming and propelling plunger, pressure-jaws, and a crimping mouth-piece having a flaring lance-shaped notch, with or without a finishing-roller; also, in mechanism for reciprocating the plunger in a peculiar manner, as hereinafter set forth.

Figure 1 is a partially-sectionized side elevation of my counter-crimping machine. Fig. 2 is a front elevation of the same. Figs. 3 and 4 are side and rear elevations of my driving-pulley and clutch. Fig. 5 is a front elevation, from which a portion of the housing is broken away, representing the crimping apparatus proper on a larger scale. Fig. 6 is a horizontal section at the line $x\ x$.

A is a stand or frame, having in front of it vertical guides B, for a former or plunger, C, having a rounded lower end to correspond with the inner or concave surface of the desired counter. D D' are jaws, having shanks E, which occupy horizontal guides F. These jaws have rounded inner edges d to enable the easy insertion of the counter-blank between them, and their width from front to back is equal to the desired height of the crimped counter. G are springs, which operate to press the jaws D D' toward each other, so as, when a blank has been forced downward between the jaws, to press the blank tightly around the plunger. When in operation the jaws D D' work horizontally from and toward each other between the face A of the frame, and a mouth-piece, H, having the represented lance-shaped notch I, whose edges are chamfered underneath, as shown by strong lines in Fig. 1, and by dotted lines in Fig. 5. The office of the mouth-piece H is to bend over to a position at right angles to the main body of the straight edge of the blank, so as to form a welt or flange, 5, for stitching or pegging to the sole. The said flange, when bent perma-

nently and rectangularly, as by my method, effectually stiffens the counter, and enables it to oppose any tendency in the heel of the shoe or boot in which it may be incorporated to "run over," or sag to one side by use. Journaled below the mouth-piece H, and so as to press upon the front edges of the jaws D D', is a metallic roller, J, preferably a polished cylinder of steel. This roller is caused to bear with any desired pressure upon the jaws by means of set-screws K K', whose points impinge upon caps L.

The plunger C may be reciprocated by any desired means. I will describe those employed by me. The middle portion of the plunger is expanded laterally, so as to assume the form of a disk, M, whose disk side has a horizontal groove, m , which receives a wrist, N, from a crank or disk, O, on the end of a shaft, P, journaled horizontally in the frame. This shaft carries a slidable clutch, Q, whose rotation with said shaft is compelled by a feather, p , which occupies a seat, q , in the clutch. When this clutch is slid forward, its pin R enters a hole, s , in a driving-pulley, S, which, except when so engaged, revolves freely upon the shaft P. On the rear side of this pulley is a cam, T. The clutch Q has a circumferential groove, U, which receives the points v of a yoke, V, which is fulcrumed at v' in the frame. Said yoke has on its front side a guide-box, W, for a bolt, X, which is held by spring Y in contact with rear surface of pulley S, and remains non-effective until the rotation of the pulley brings the cam T in contact with said bolt, so as to throw the head of yoke back, and thus disengage the pin R from the hole s in the pulley, and bring the latter to rest, which action, occurring at the extreme elevation of the plunger C, affords time for the attendant to place another blank upon the tops of the jaws D D'. A cord or chain, Z, depending from the bolt X, is attached to a treadle, (not shown;) and when the attendant desires the plunger to descend, he has only to depress the treadle with his foot, so as to draw the bolt X away from the pulley, and permit the pin R to re-enter the pulley, and cause the rotation of the shaft, and, consequently, the descent of the plunger, which, having bent, crimped, and discharged the counter, reascends and comes

automatically to rest, and so remains until again started by the attendant, who, it will be seen, has thus complete control of the movements, said movements being, however, wholly due to the motive power, and imposing no labor on the person operating the machine other than the manipulation of the blanks and depression of the treadle, as before stated.

I first prepare a sufficient number of blanks. These may consist of semi-elliptical sheets, whose minor radius equals the desired height, and whose major diameter equals the desired circuit of the counter. The blanks may be cut from the "leather-board" or other material, in any preferred manner. The pulley S being now rotated by belt connection with any prime mover, a blank is placed on top of the jaws D D', with its straight edge outward. The bolt X being now withdrawn, this action at once enables the clutch Q to engage with the pulley, and thus rotate the shaft P, and depress the plunger C, which plunger, depressing the blank between the jaws D D', bends the said blank around the plunger, and at the same time forces that portion of the straight edge of the blank which projects above the face of the jaws under the chamfered or flaring mouth-piece, whose lance-formed edges operate to gradually crowd over the consecutive portions of said edge, beginning with those portions farthest

from the middle of the blank, so as to lap the same successively and regularly over one another much more effectually than would occur were the notch in said mouth-piece of a semi-circular form. The flat portion of the mouth-piece smoothes the crimped edge, and the finishing-roller compresses and sets the same.

I claim as new and of my invention—

1. The described arrangement of reciprocating plunger C, pressure-jaws D D', and the flaring and lance-notched mouth-piece H, substantially as and for the purpose set forth.

2. In combination with the plunger C, pressure-jaws D D', and the mouth-piece H, the finishing-roller J, arranged and operating substantially as described.

3. The disk M with groove *m*, the crank N O, the shaft P with spline *p*, the clutch Q with pin R and grooves *q* U, the driving-pulley S with hole *s* and cam T, the yoke V with guide-box W, the bolt X, spring Y, and cord or chain Z, constructed, combined, and operating substantially as herein described, to operate the plunger C, in the manner and for the purpose specified.

EMERY ANDREWS.

Witnesses:

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W. L. MONK.