2 Sheets--Sheet 1.

T. T. PROSSER.

Pegging-Machine.

No. 165,650. Patented July 13, 1875.

Fig. 1.

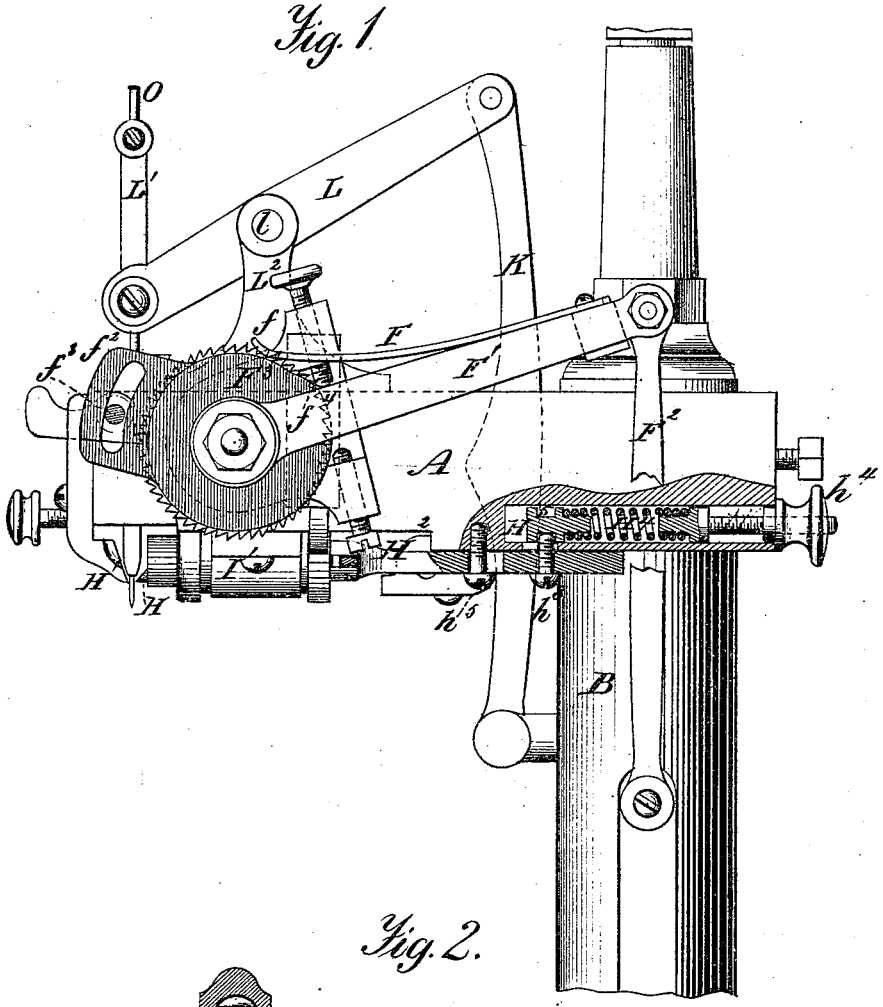
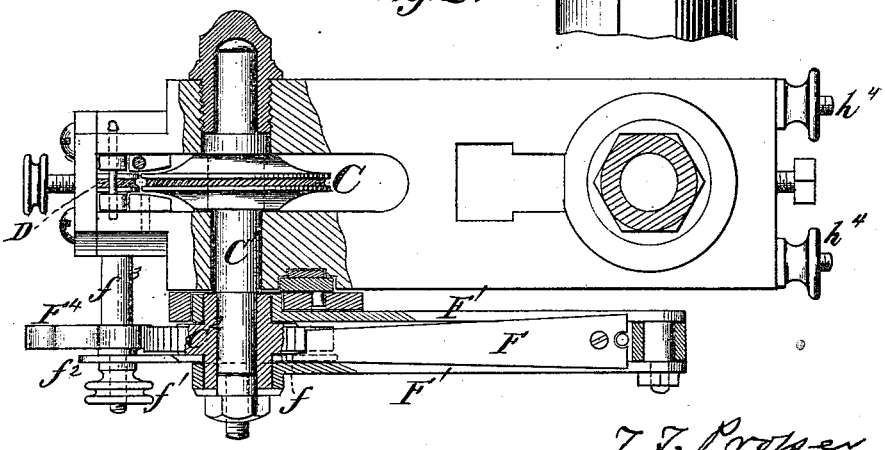


Fig. 2.



Witnesses.
A. Ruppert.
Jno. D. Patten

T. T. Prosser
Inventor.
D. P. Holloway & Co
Attys

2 Sheets--Sheet 2.

T. T. PROSSER.

Pegging-Machine.

No. 165,650. Patented July 13, 1875.

Fig. 3.

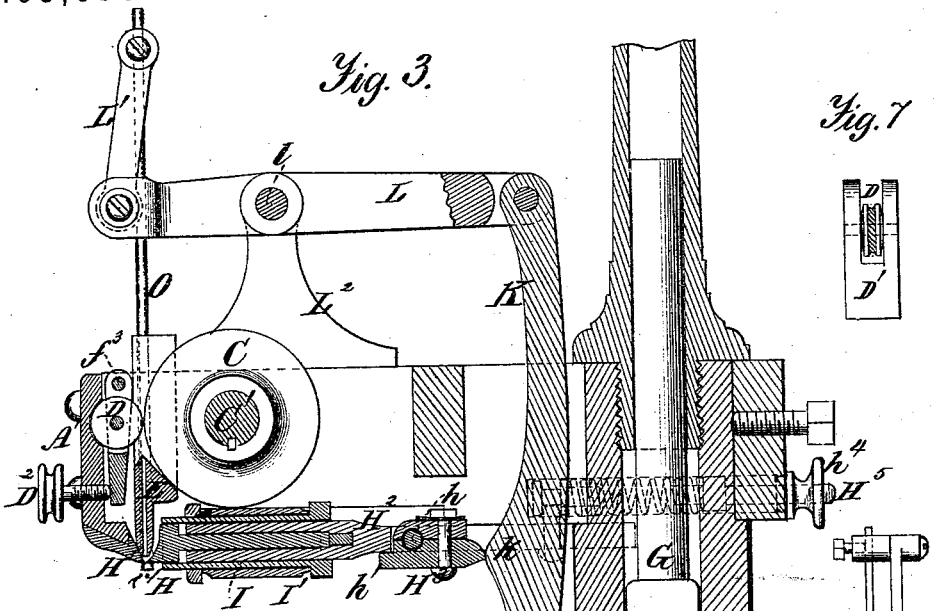


Fig. 7.

Fig. 4.

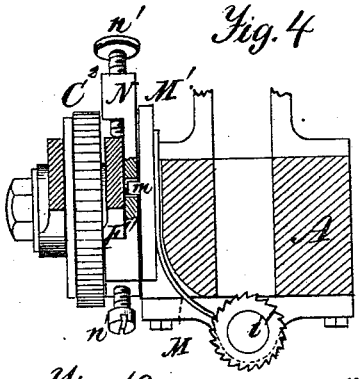


Fig. 8.

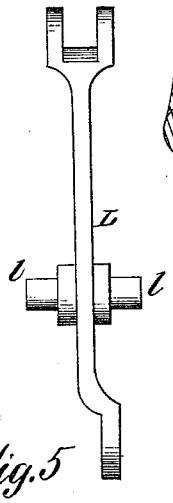


Fig. 6.

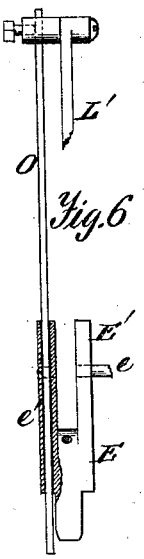


Fig. 10.

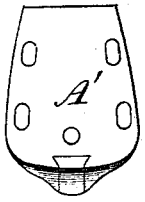


Fig. 5.

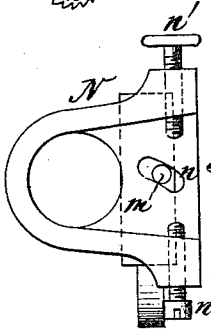


Fig. 9.

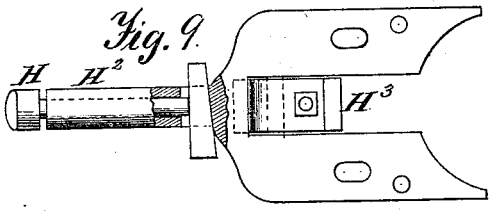
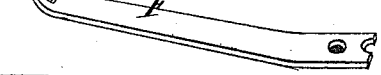


Fig. 11.



Witnesses.
A. Ruppert.
Jos. D. Pattison

T. T. Prosser
Inventor.
D. P. Holloway & Co
Attys

UNITED STATES PATENT OFFICE.

TREAT T. PROSSER, OF CHICAGO, ILLINOIS, ASSIGNOR, BY MESNE ASSIGNMENTS, TO HIMSELF AND OSCAR L. NOBLE, OF SAME PLACE, AND ALLEN C. CALKINS AND WINSLOW BUSHNELL.

IMPROVEMENT IN PEGGING-MACHINES.

Specification forming part of Letters Patent No. **165,650**, dated July 13, 1875; application filed July 21, 1873.

CASE B.

To all whom it may concern:

Be it known that I, TREAT T. PROSSER, of Chicago, in the county of Cook and State of Illinois, have invented certain Improvements in Machines for Pegging Boots and Shoes, of which the following is a specification:

This invention relates to that class of machines for pegging boots and shoes in which the nails are supplied from continuous lengths or coils of wire. My improvement consists, mainly, of an organization of mechanism in which the intermittingly-rotating feed-wheels first insert the pointed end of the wire they draw from the reel or spool into the sole, suitable cutters then sever the wire so as to leave the cut nail projecting some distance from the sole, after which the boot or shoe is advanced and the previously-inserted nail forced home by a plunger.

In the annexed drawings, Figure 1 is a side elevation, partly in section, of my improvements. Fig. 2 is a sectional plan view thereof. Fig. 3 is a vertical longitudinal section. Figs. 4 to 11 are views of detached detail, which will be more specifically referred to hereinafter.

The same letters of reference are used in all the figures in the designation of identical parts.

The principal parts of my improved mechanism are carried upon the overhung head A, which is supported upon the upper end of the standard or post B. The wire is drawn from a reel or spool by the feed-wheels C and D, and fed down into the tube E, which guides it to the boot or shoe underneath. The feed-wheel C is secured upon the horizontal shaft C^1, which is arranged transversely in bearings of the head A, and carries on its overhung end a fixed ratchet-wheel, C^2. An intermittent rotation is imparted to the ratchet-wheel C^2, and through it to the feed-wheel C, by means of a spring-pawl, F, which is secured at one end to the arms F^1 F^1, near their junction with the pitman F^2, which is, at its other end, pivoted to a laterally-projecting stud on the reciprocating rod G. The arms F^1 extend from the upper end of the pitman laterally to, and are pivoted upon, the hubs of the ratchet C^2, as clearly shown in Fig. 2. The bit of the spring-pawl F is provided with an upwardly-curved spur, *f*, on one side, which is, however, kept entirely clear of the ratchet-wheel, so as not to interfere, in its normal position, with the action of the pawl upon the teeth of the wheels. The spur *f* stands in line with the cam-plate F^3, which turns on the hub of the ratchet-wheel, and is, after adjustment, secured by a clamping thumb-nut, f^1, which presses the tail f^2 of the plate against a collar on the stud f^3, which passes through a sectoral slot in the tail of the cam-plate, as best seen in Fig. 1. The plate F^3 may be arranged so that it will exert no influence upon the pawl F, when it is intended to advance the ratchet-wheel the entire distance through which it can be moved by the uninterrupted action of the pawl; but whenever it becomes necessary to shorten the feed the plate F^3 is turned, so arranging its cam-surface f^4 that, as the pawl F is drawn back, its spur *f* will ride up on the cam-surface, and lift the bit of the pawl out of contact with the teeth of the ratchet-wheel during part of its stroke. By this adjustment of the cam-plate F^3 the feed, and consequently the length, of the nails, can be accurately and readily regulated. The fixed stud f^3 also carries a gravitating-pawl, F^4, which prevents the return movement of the ratchet-wheel C^2, and, passing through the bifurcated end of the head A, receives the hanger D^1, which supports the small feed-wheel D journaled in its forked upper end.

Each feed-wheel is provided with a milled concave groove in its edge, and the distance between them is regulated, according to the size of wire used, by adjustment of the wheel D, which is accomplished by the set-screw D^2, bearing against the lower end of the hanger D^1, as best seen in Fig. 3.

The set-screw turns in a tap in the plate A^1, which covers the bifurcated end of the head A.

The end of the wire, being pointed, is forced through the tube E into the sole of the boot or shoe, which may be supported upon any suitable jack. When thus inserted the wire is cut, some little distance above the surface of the sole, by the cutters H and H^1, which are beveled upon the side presented to the end of the tube E, so that in the act of cutting the wire they will point the new end thereof, but cut the top of the nail square. The cutter H^1 is fixed to the stationary, but vertically-adjustable, plate A^1 of the head A in such a manner that the wire descending from the tube E will pass down in contact, or nearly so, with the edge of the cutter.

The cutter H is connected to and operated by the reciprocating plunger H^2, which plays in the tubular shaft I, which is supported in a horizontal position in the hanger I′, secured to the under side of the head A. The plunger is actuated to project the cutter H by means of the cam-surface *k* on the connecting-rod K through the hinged plate H^3, carried on a pin, *h*, in the crotch of the bifurcated outer end of the plunger. The connecting-rod K is at its lower end pivoted to an arm, G′, of the reciprocating rod G, and its upper end is pivoted to the rocking beam L overhead. The plate H^3 has a rounded or beveled outer end and a projecting lip, h^1, which, passing under the solid stem of the plunger, prevents the plate H^3 from turning down past a horizontal position.

Each downstroke of the connecting-rod K brings its cam-surface *k* against the horizontally-projecting plate H^3, and imparts to the plunger sufficient motion to force the cutter H through the wire. As the cam passes the plate the plunger is retracted by the reaction of springs H^4, which encircle rods H^5 placed in cavities of the head A, and connected, respectively, to the legs of the bifurcated end of the plunger by set-screws h^3. The tension of the springs H^4 is just sufficient to draw the plunger back against the post B, and can be regulated by adjusting-nuts h^4 on the outer ends of the divided rods H^5. On the upstroke of the connecting-rod its cam *k* merely lifts the plate H^3 without acting upon the plunger.

Screws or studs h^5 may be screwed into the under side of the head A, so as to extend into elongated slots in the legs of the plunger, and steady the movements of the latter.

The nail-tube E is suspended by its legs E′ from a stud, *e*, and can thus slightly oscillate at the beginning of the action of the cutter H upon the wire in case the opposite side of the wire is not bearing against the edge of the cutter H^1, so that all danger of bending the wire is obviated, and the cutter H^1 can the better assist in severing and pointing it. As soon as the wire has been cut and the cutter H retracted, and while the reciprocating rod G is still on the descent, the boot or shoe is advanced by the partial rotation of the tubular shaft I against the serrated or corrugated overhung end *i*, of which it is borne up by the jack. This shaft or pipe I carries at its other end a ratchet-wheel, i^1, to which an intermittent rotation is imparted by the pawl M, (see Fig. 4,) which is secured to the plate M′, arranged in suitable vertical ways in the side of the head A adjacent to the ratchet-and-pawl mechanism for actuating the feed-wheel C. A projecting stud, *m*, of the plate M′ plays in the curved slot *n* of the yoke N, which is pivoted on the hub of the contiguous arm F^1, and carries two set-screws, *n′ n′*, which are alternately struck by the said arm F^1 to oscillate the yoke N, which in turn imparts a reciprocating motion to the plate M′ and its pawl M.

The extent of motion of the pipe I on each downstroke of the reciprocating rod G is regulated by adjusting the screws *n′* so that the nails may be inserted various distances apart according to the nature of the work in hand.

As the boot or shoe is advanced the previously-inserted nail, still projecting from the sole, is brought under the plunger O, which is at its upper end adjustably secured to the link L^1, and is guided at its lower end in a tube, e^2, formed on one of the legs of the wire-tube E, as best shown in Fig. 6. The link L^1 is pivoted at its other end to the short arm of the rocking beam L, which is provided with trunnions *l*, (see Fig. 8,) to support it in bearings of the standard L^2 mounted upon the top of the head A. The plunger O descends on the upstroke of the reciprocating rod G, and forces the nail under it home, it being properly adjusted to accomplish this.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. The combination of the feed-wheels C and D, and cutters H H^1, with the tube E, adapted to oscillate toward one of the cutters in response to the action of the other on the wire, substantially as and for the purpose specified.

2. In a machine for pegging boots and shoes, the combination of the following successively-acting elements, viz: A device for forcing the end of the wire into the sole; cutters for severing the nail from the wire; a feed mechanism for advancing the boot or shoe; and a plunging for forcing the previously-inserted nail home.

3. The combination of the feed-wheels C and D, oscillating tube E, cutters H H^1, feed-roller *i*, and plunger O, substantially as specified.

4. The ratchet-wheel C^2 and pawl F, provided with spur *f*, in combination with the adjustable cam-plate F^3 f^4, substantially as specified.

5. The combination of the oscillating arm F^1, oscillating yoke N *n*, provided with adjustable screws *n′ n′*, sliding plate M^1 *m*,

pawl M, and ratchet-wheel i^1 on the shaft I of the feed-roller *i*, substantially as specified.

6. The combination of the cutter H, plunger H^2, pivoted plate H^3 h^1, cam *k* on the reciprocating connecting-rod K, and springs H^5, connecting to the plunger H^2, substantially as specified.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

T. T. PROSSER.

Witnesses:
D. P. HOLLOWAY,
B. EDWD. J. EILS.