

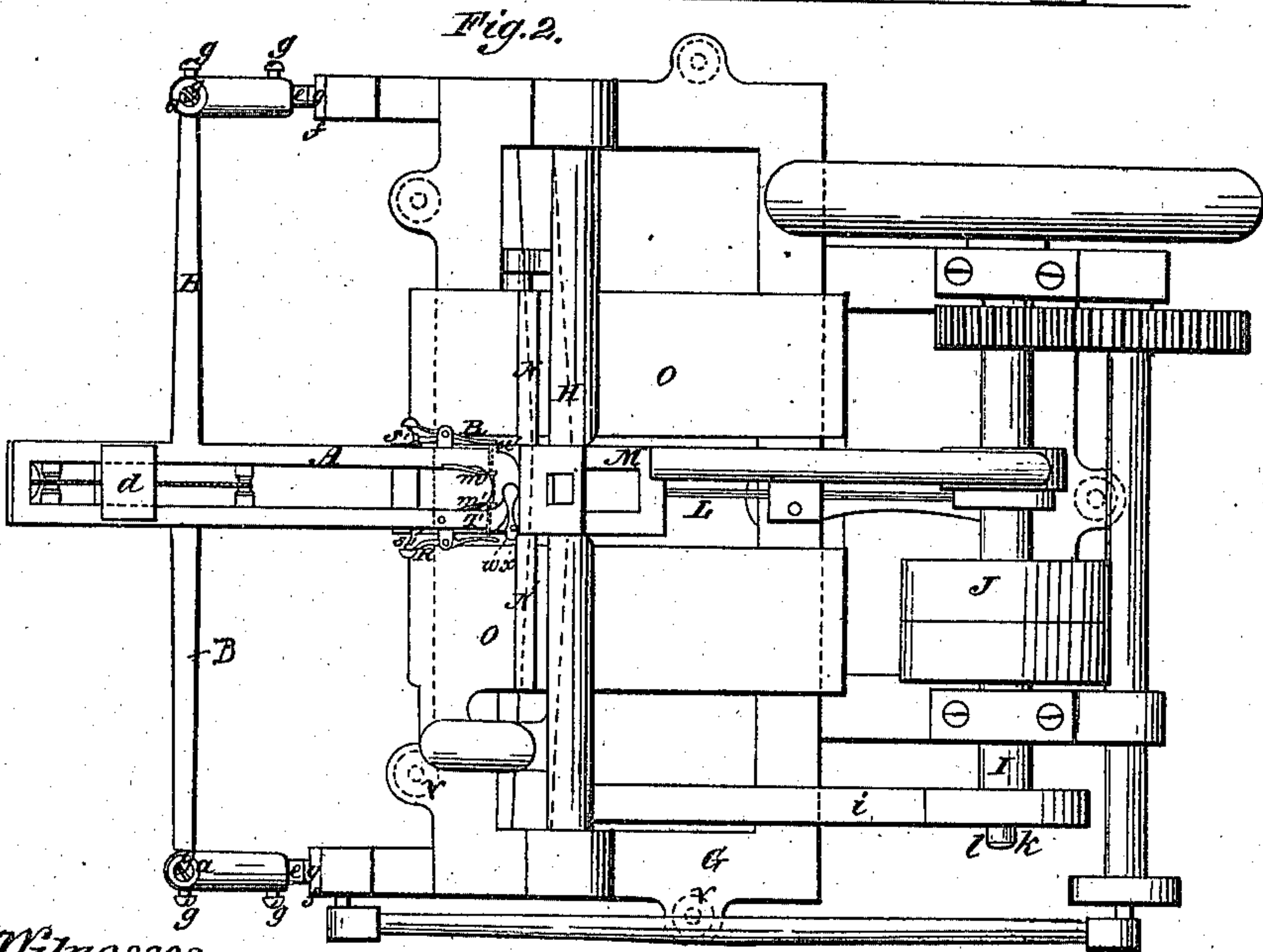
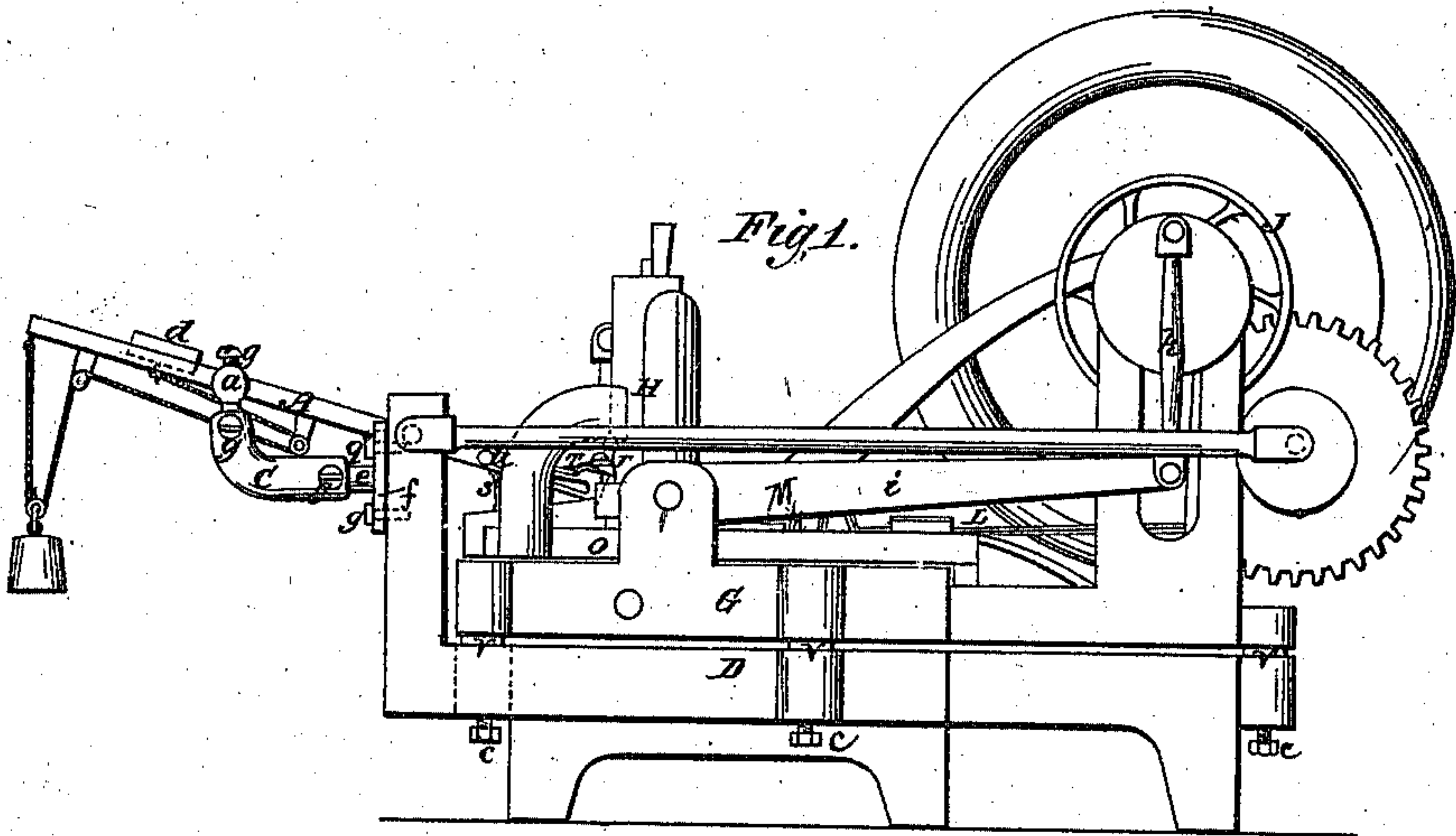
Sheet 1-2 Sheets.

*Sherman & Russell,*

*Making Cut Nails,*

*N<sup>o</sup> 81,830.*

*Patented Sep. 1, 1868.*



*Witnesses.*

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*Inventors.*

Winslow Sherman.  
Jacob Russell.

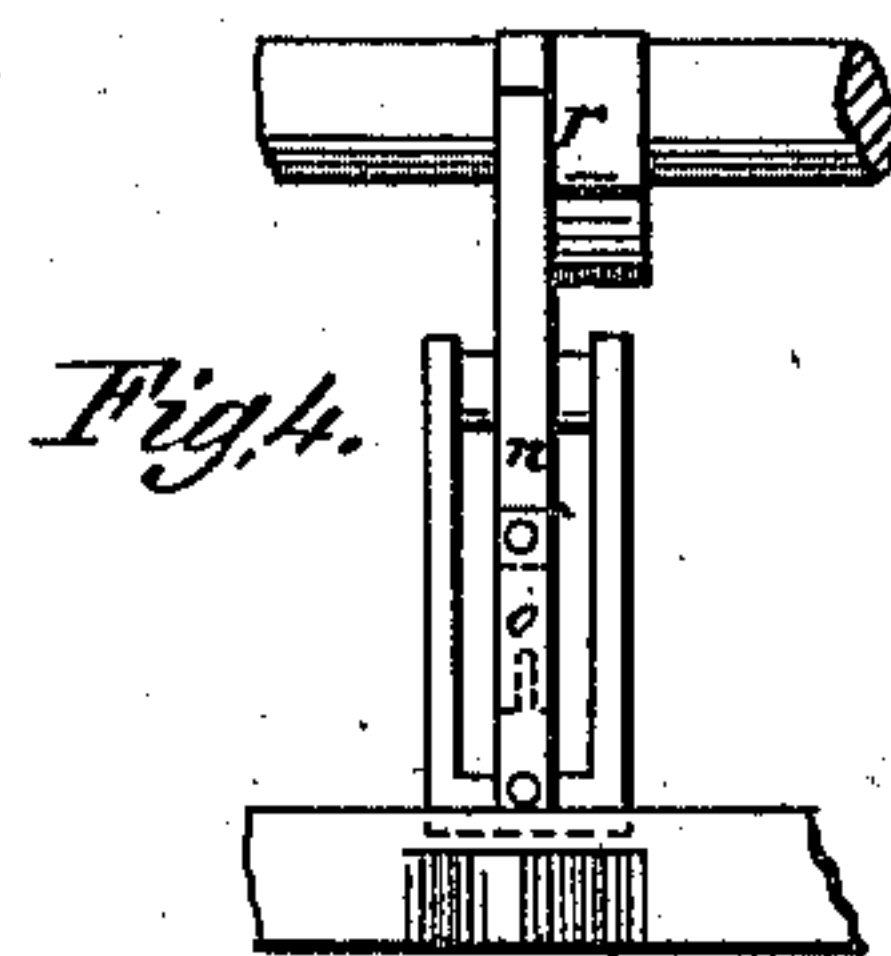
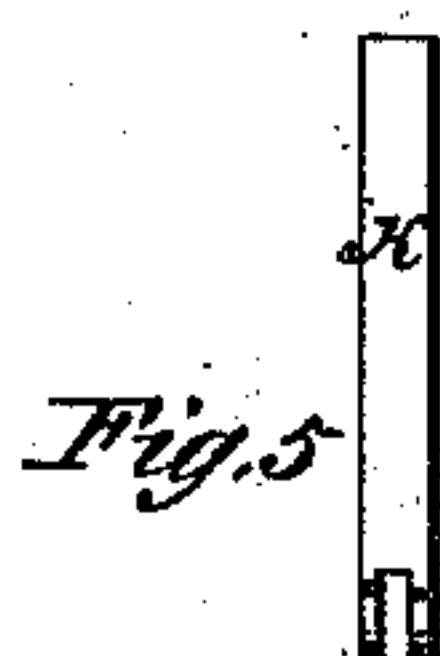
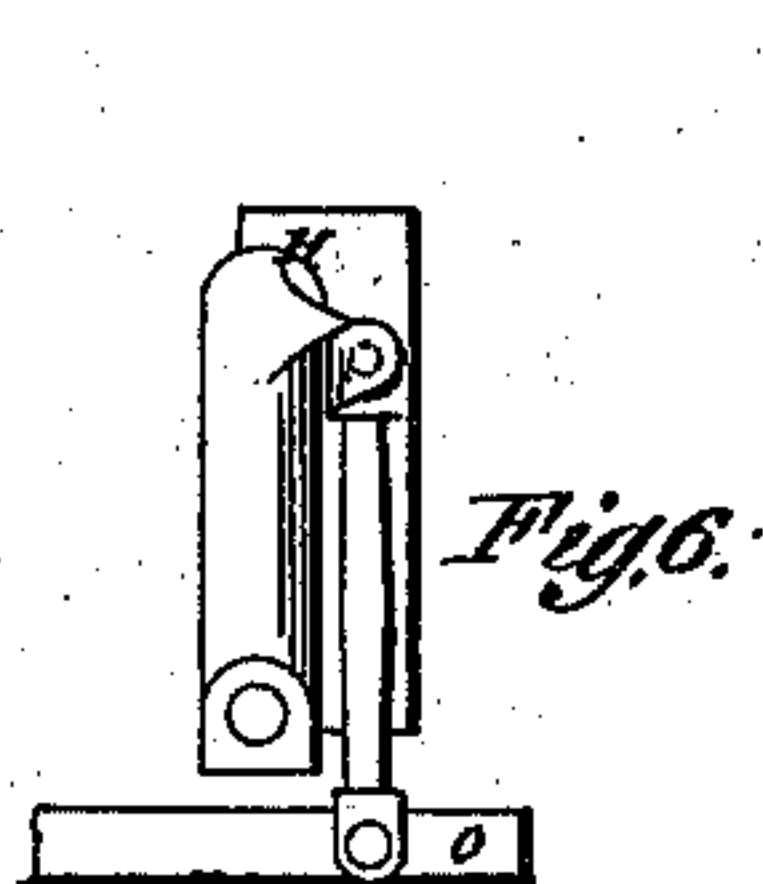
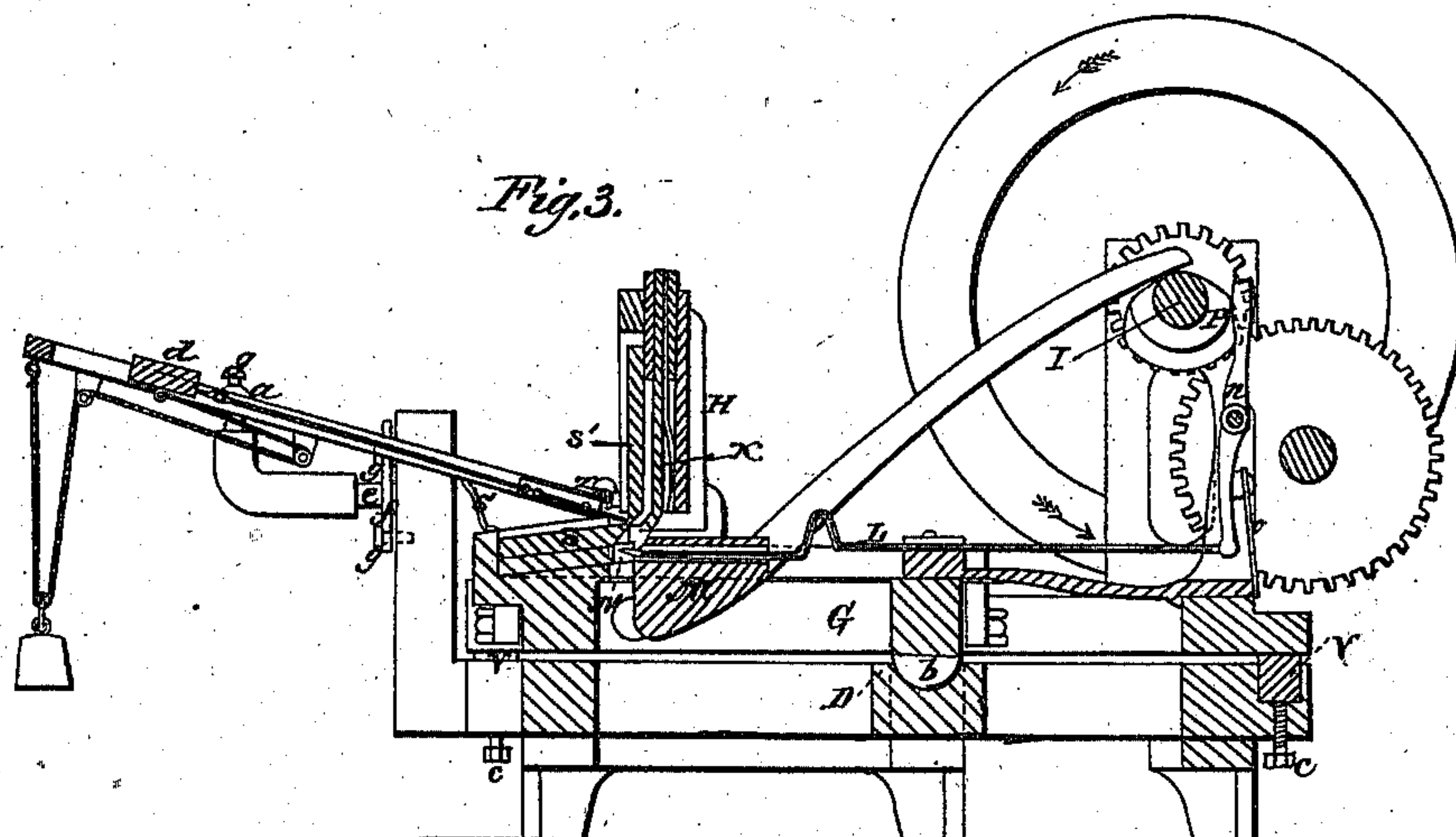
Sheet 2 - 2 Sheets.

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*Witnesses:*

*a Leclerc  
A. Kinnier.*

*Inventors:*

*Winlow Sherman  
Jacob Russell.*



# United States Patent Office.

WINSLOW SHERMAN, OF NEW YORK, AND JACOB RUSSELL, OF BROOKLYN, ASSIGNORS  
TO JACOB RUSSELL, HENRY T. McCOUN, JAMES L. ROMER, AND THOMAS T. BUCKLEY,  
ALL OF BROOKLYN, NEW YORK.

*Letters Patent No. 81,830, dated September 1, 1868.*

## IMPROVEMENT IN FEEDING NAIL-PLATES.

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

### TO ALL WHOM IT MAY CONCERN:

Be it known that we, WINSLOW SHERMAN, of the city, county, and State of New York, and JACOB RUSSELL, of Brooklyn, in the county of Kings, and State of New York, have invented a new and useful Improvement in Nail-Machines, of which the following is a full, clear, and exact description, reference being had to the accompanying drawing, forming part of this specification, in which—

Figure 1 represents a side elevation of a nail-machine constructed in accordance with our improvement.

Figure 2, a plan of the same.

Figure 3, a longitudinal sectional elevation thereof.

Figure 4, a rear elevation of the harness-motion for operating the nipper.

Figure 5, a face view of the gauge for measuring off the nail-plates into blanks of the required width as it is fed to be operated on by the cutters; and

Figure 6 a side view of a ball-and-socket motion for gearing the rocking-beam, that carries the up-and-down travelling-cutter with the header or headers.

Similar letters of reference indicate corresponding parts.

The machine represented in the accompanying drawings is similar in many respects, or its general features, to that described in Letters Patent of the United States, No. 63,655, issued, April 9, 1867, to Jacob Russell, H. T. McCoun, J. L. Romer, and T. T. Buckley, as assignees of Jacob Russell, all of Brooklyn, in the county of Kings, and State of New York, and in which were combined, with a straight or direct nail-plate feed, cutters, nippers, grippers, and headers, arranged for operation together, in connection with a frame or bed having an oscillating movement about an axis perpendicular or nearly so with the horizontal clipping-edges of the cutters, and which movement serves to vary or reverse the action of the cutters, so that, in their cut across and through the nail-plate, as it is fed down or along a stationary feed-table or plate, they will alternately, as oscillated from one side to the other, cut in oppositely-tapering directions, and so give to the nail-blanks their required taper without oscillating or turning the nail-plate, and by which movement, also, and by reason of the headers having a motion in unison therewith, the cut blanks are alternately delivered or fed in closer proximity to the one header than the other, and the thickest ends of the blanks acted upon by either header alternately, each cut blank having, previously to heading, been turned on to its "flat" by the action of the nipper striking it at or about the middle of its length prior to its being seized by the grippers.

The improvements hereinafter described, on such machine, consists in supporting the feed-plate or frame by a bar or bars, in swinging gear with the frame of the machine, and so that the feed-plate may be swung to one side and out of the way, without detaching it when it is necessary to get at the cutters or otherwise, and whereby a greater convenience of adjustability of the nail-plate relatively to the cutters is secured.

Also, the invention consists in a combination, with the feed-plate or frame, and horizontally-oscillating bed, carrying the travelling-cutter, of certain nail-plate-adjusting levers and springs, operating automatically to insure uniformity in the sizes of the heads to the cut blanks.

Likewise, the invention includes a combination, with the feed-plate or frame, and cutters for severing the nail-plate into blanks, of a spring-clamp, operating to hold said nail-plate during the intermissions to its feed, and to relax hold thereof whilst being fed.

Also, the invention covers an arrangement of adjustable steadying-disks or bearers to the horizontally-oscillating bed, hereinbefore referred to, and whereby a greater steadiness and uniformity of bearing-surface are secured to said bed.

Referring to the accompanying drawing, D represents the stationary or table portion of the machine, and G the horizontally-oscillating bed, that turns on a vertical axis or through a vertical socket, b, and is steadied



and adjusted from time to time, as wear requires, by disks or bearers V, arranged at suitable distances apart, and made capable of independent adjustment by screws e, to elevate or lower the bed G at different points, for the purpose of securing a uniformity and steadiness of bearing-surface to said bed.

A is the feed-plate or frame to the nail-plate, set inclining downwardly towards the cutters S S', and down which the nail-plate is fed up to and for action on it of the cutters by a dog, d, or dogs, bearing on the rear ends of the plates, and urging them forward in succession by cords and weight, as in the patented machine hereinbefore referred to. But, in the present machine, instead of the nail-plate feed-frame, A, being arranged to slide through grooves in fixed uprights, which gives a very imperfect adjustability, and necessitates the removal of such frame when it is requisite, for adjustment or repair, to get at the cutters or forward portion of the machine, we cause said feed-plate or frame, A, to be carried by a cross-bar or bars, B, hung at its or their ends, to turn in socket-pins a a, arranged so as to be capable of vertically swinging or turning in brackets C C, connected with the main frame in a horizontally and vertically-adjustable manner by a socketed fit of the brackets on horizontal pins e, arranged to project from vertically-sliding bars or pieces, f, holding-screws g serving to retain these several parts when adjusted at their proper sets relatively to each other.

By this mode of supporting the nail-plate feed-plate or frame A, not only is every convenience afforded, on slackening the screws g, for adjusting said frame in or out, and up and down, and varying the angle of the nail-plate feed relatively to the cutters, but, when necessary to get at the latter or forward portion of the machine, either for the purposes of adjustment or repair or otherwise, the feed-plate table or frame A, may be released at its one end connection with the main frame by the bar or bars B, either by lifting out the one socket-pin, a, or the bracket C, from the pin e, which carries it, and, on the other socket-pin, a, as a centre, be swung backwards or to one side, to give ready access to the cutters or forward portion of the machine, without entire detachment or removal of said feed-plate or frame, and so that the same may readily be returned to its original position relatively to the cutters.

The one cutter, S, is attached to a block forming part of the oscillating frame G, while the other cutter, S', is secured to a head-block forming part of a cross-rocking beam, H, that is hung by bearings in supports on the oscillating frame G, and has an arm or lever, i, running backwards, by which the cutter S' has its up-and-down motion given it to effect the cut, by the rocking of the beam H, through pitman k, connecting said arm or lever i with a crank or eccentric-pin, l, attached to or connected with a main driving-shaft, I, of or to which J may be the driving-pulley.

K is the gauge to the nail-plate, the same being arranged in rear of the cutter S', and acted upon by a spring at the back.

As the blank is cut from the nail-plate, it is carried down by the cutter S' in its descent, and caught by a fixed gripper, arranged below the adjacent cutter, when, as in the patented machine hereinbefore referred to, a nipper, L, comes forward, and turns it over on to the "flat," after which a movable gripper or gripping-jaws, M, comes forward and holds the blank for the formation of the head by the header N or N', according to which, by the oscillation of the bed G, is brought nearest to the blank.

The gripper M is operated by a lever-extension of it through a cam on the main shaft.

The harness-motion, for operating the nipper, consists of a lever, n, spring o, and cam p.

The cross-rocking beam H and header-blocks or frames O may be linked or geared together for action, together and in unison with the oscillating bed G, by, as in the previous machine mentioned, a toggle-joint pin, r, applied to either end of the beam, or a rod loosely linked to the header-block, and connected by a ball-and-socket joint with the end of said beam, as in fig. 6.

As in practice it is found that the nail-plates vary in width, and it is important that there should be a uniformity in the sizes of the heads to the blanks in making the nails, it is desirable that some means should be provided to prevent slip of the plate, and to insure the oscillation of the bed G, having a uniform action on it or the blanks, to which end we pivot to the sides of the feeding-frame A, levers R R, which, as the bed G oscillates, are alternately acted upon by stops s s', that cause either lever, as so struck, to force in a pin, u or u', which presses inwards a spring, m or m', and so to force up the nail-plate against either one inner side alternately of the feeding-frame A, and thus to secure a uniformity of action though the nail-plate varies in width.

There is also combined with the feed-plate or frame A and cutters S S', a spring-clamp, T, secured at its rear end to the feed-frame, and carrying in front a pin, v, which comes down on the nail-plate, and holds it from rubbing and dulling the cutters and producing unnecessary friction, but which, when it is required to feed the nail-plate, is raised by a pin, x, on the cross-rocking-beam H, in the ascent of the cutter S', acting against or under an arm, w, connected with the spring-clamp T, so as to admit of the free slide or run of the nail-plate.

It may here be observed that the levers R R and springs m m', or the equivalent of these devices, whatever the same may be, serve in their action, by throwing the nail-plate to either side, to give to said plate more or less of an oscillating movement in common with the bed G.

What is here claimed, and desired to be secured by Letters Patent, is—

1. The arrangement of the feed-plate or frame A, bars B, socket-pins a a, or their equivalents, and the frame of the machine, in the manner and so as to admit of the feed-plate being swung to one side and out of the way of the machine without detaching it therefrom, substantially as specified.

2. The combination, with the frame of the machine and the feed-plate or frame A, of the bar or bars B, removable socket-pins a a, and horizontally and vertically-adjustable brackets C C, all for operation together and in connection with adjusting-screws, or their equivalents, to facilitate the adjustment of the feed-plate or frame in various directions, and to admit of its being swung to one side or back, essentially as herein set forth.

3. The combination, with the feed-plate or frame A, and horizontally-oscillating bed G, of the nail-plate—



adjusting levers R R, stops s s', and springs m m', operating automatically to insure uniformity in the sizes of the heads to the cut blanks, substantially as specified.

4. The combination, with the bed-plate or frame A and cutters S S', of the spring-clamp T and pin X on the cross-rocking beam H, operating to hold the nail-plate during the intermissions to its feed, and to relax hold thereof whilst being fed, essentially as specified

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