H. A. WILLS.

Machine for Pointing Nails.

No. 109,987. Patented Dec. 6, 1870.

Fig. 1

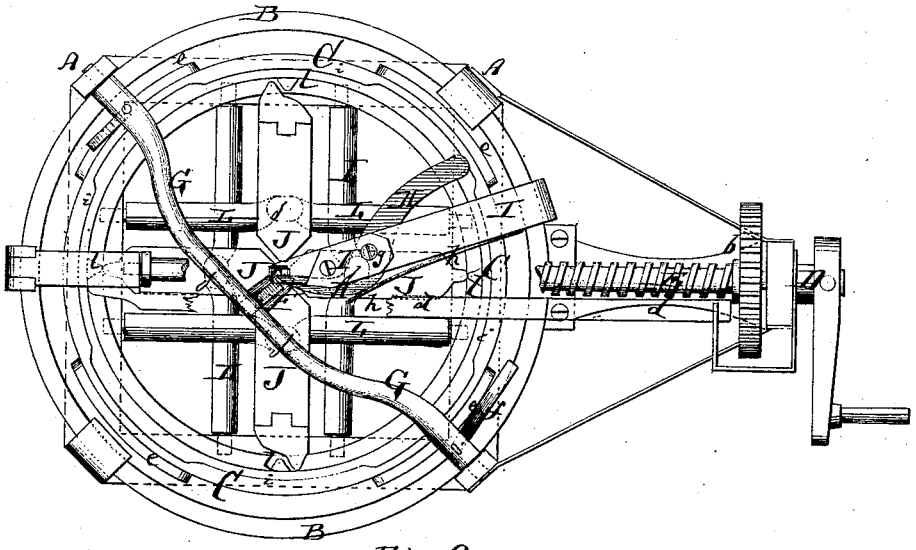
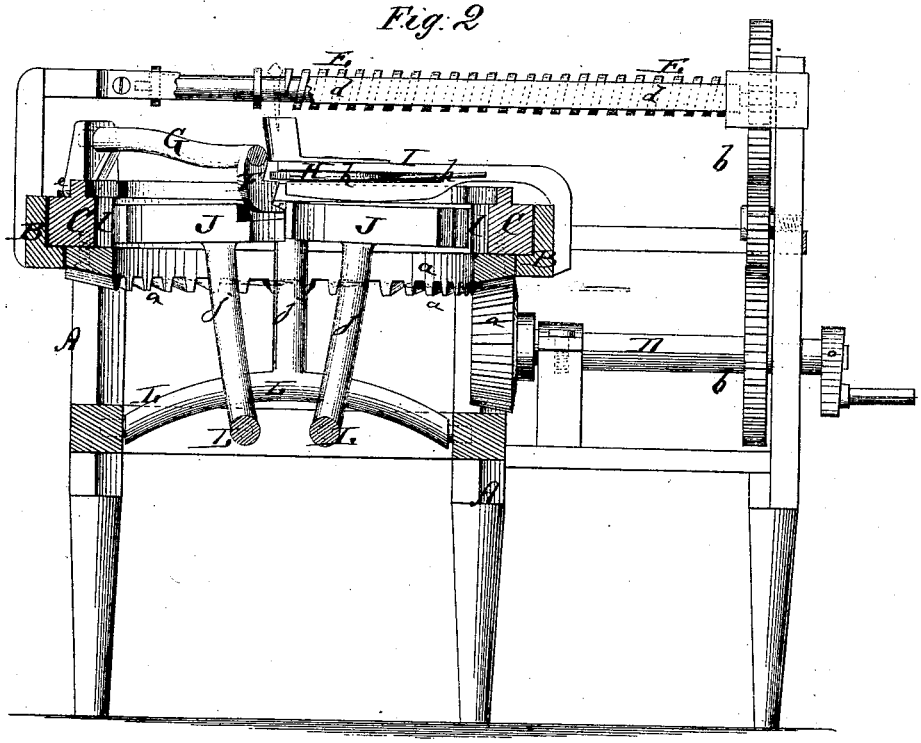


Fig. 2



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UNITED STATES PATENT OFFICE.

HARRY A. WILLS, OF VERGENNES, VERMONT, ASSIGNOR TO NATIONAL HORSE NAIL COMPANY, OF SAME PLACE.

IMPROVEMENT IN MACHINES FOR POINTING NAILS.

Specification forming part of Letters Patent No. **109,987**, dated December 6, 1870.

To all whom it may concern:

Be it known that I, HARRY A. WILLS, of Vergennes, in the county of Addison and State of Vermont, have invented a new and Improved Machine for Pointing Nails; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same, reference being had to the accompanying drawing, forming part of this specification, in which—

Figure 1 represents a plan or top view of my improved nail-pointing machine. Fig. 2 is a vertical longitudinal section of the same.

Similar letters of reference indicate corresponding parts.

This invention relates to an improved machine for pointing the ends of nails used for horseshoes and other purposes.

The invention consists in the mechanism hereinafter described, and as specified in the claims.

A in the drawing represents the frame of my improved nail-pointing machine. This frame serves to sustain an annular guide, B, for a circular rotary frame, C. D is the driving-shaft, hung in the frame A, and connected, by bevel or other gearing, *a*, with the frame C, so that it will revolve the same. By other gear-wheels, *b b*, the shaft D is connected with the feeding-cylinder E, which extends horizontally across the frame-work, as shown. The feeding-cylinder has a spiral groove cut into it from one end to another, said groove terminating above the center of the frame C in an enlargement, as in Fig. 2. A stationary bar, *d*, is secured alongside the cylinder E, so as to form, by the grooves, vertical receptacles for the nails to be pointed. The nail-blanks are fitted through the several windings of the groove close to the bar *d*, and rest with their heads on said bar. As the feeding-cylinder is revolved it will gradually convey the nail-blanks toward the center of the frame into the enlargement of the groove, where they drop into the pointing mechanism in proper succession. F is a gage, having a shoulder or projecting point, *r*, for supporting the nail-blanks that drop from the feeder. This gage is secured to a rock-shaft, G, which is actuated by projecting cams *e*, on the rotary frame C, and by a spring, *f*. H is a clamp, for retaining the blank against a fixed holder or arm, I, of the frame B after the gage has been withdrawn. This clamp is, by a pin, *g*, pivoted to the arm I, and is held closed by a spring, *h*, while cams *i i*, on the rotary frame C, serve to throw it open whenever the pointed nail is to be dropped and a new blank to be received by the gage. J J are the hammers, four or more of them being used. They are attached to arms *j j*, that project from rock-shafts L, hung in the lower part of the frame A. The hammers all radiate from the center of the wheel C, and are thrown together by V-shaped arms *l l*, which project from the inner circumference of said wheel. They drop apart by their own weight.

The nail-blanks, put into the spiral feeder, are dropped by the same successively upon the projecting point *r* of the gage F whenever the same is thrown forward by the spring *f*. While thus held on the gage, the blank is secured against the arm I by the clamp H. The gage is next withdrawn from under the nail, but while still held by the clamp is pointed by the hammers, which are thrown forward by the arms *l*, and immediately drop back. The pointed nail is then dropped by the clamp, another being deposited upon the gage.

The machine can be used for hammering and stiffening a nail as well as for beveling the points. The gaging device is new, especially in so far as it gages from the point, gaging from the head being the common, less reliable, practice.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. The rotary frame C, provided with cams *c c i i* and arms *l l*, in combination with the gage-clamp and hammers of a nail-pointing machine, substantially as herein shown and described.

2. The gage F, secured to a rock-shaft, G, and combined with the cams *c c* on the rotary frame C, and with the spring *f*, to operate substantially as herein shown and described, gaging from the point, as specified.

3. The clamp H, arranged on the arm I, in the manner described, and combined with the gage F and hammers J, substantially as specified.

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