D. Armstrong.

Pointing Horseshoe Nails.

No. 82,476. Patented Sept. 29, 1868.

Fig: 1.

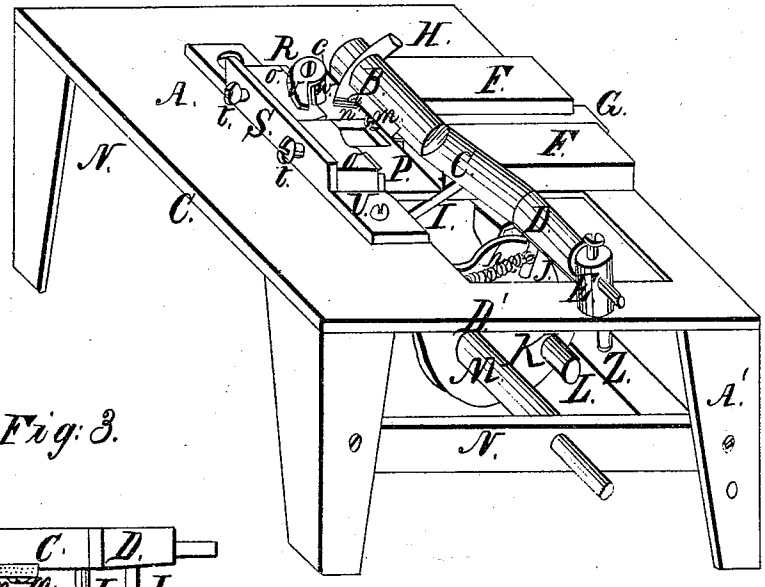
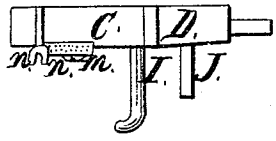


Fig: 3.



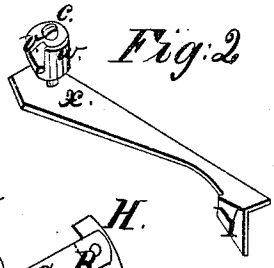
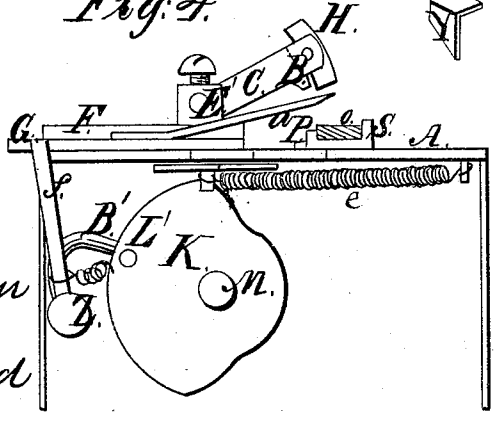


Fig: 2.

Fig: 4.



Witnesses:

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UNITED STATES PATENT OFFICE.

DANIEL ARMSTRONG, OF CHICAGO, ILLINOIS.

IMPROVED MACHINE FOR POINTING HORSESHOE-NAILS.

Specification forming part of Letters Patent No. 82,476, *dated September* 29, 1868.

To all whom it may concern:

Be it known that I, DANIEL ARMSTRONG, of Chicago, in the county of Cook and State of Illinois, have invented a new and useful Improvement on Machines for Pointing Horseshoe-Nails; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the accompanying drawings and letters marked thereon, making a part of this description, in which—

Figure 1 is a perspective representation of mechanism in which my invention is embraced; Fig. 2, a view of the device for keeping the die free from chips, detached from the other parts of the machine; Fig. 3, an elevation of the arm which supports the punch, showing also the guides for bringing the nail in a proper position over the die preparatory to pointing it; Fig. 4, a sectional elevation of the machine taken through the line *b b*, and looking toward the front.

The object of the present invention is to provide a simple, cheap, and convenient machine to be operated in conjunction with machines for forging horseshoe-nails, and used to point the nails before leaving the machine; and its nature, in part, consists in the use of a pivoted arm, which is operated by a cam-wheel, and supports a punch and guides, the former being used to force the point of the nail through a die, and the latter to guide the nail by the downward movement of the arm, and bring the same properly over the slot in the die, and in making the die in two parts for the convenience of sharpening it, and arranging a novel device for clearing the face of the die of the chips of iron cut from the nails.

To enable others skilled in the art to make and use my invention, I have marked corresponding parts with similar letters, and will now give a detailed description of the same.

A represents a bed-plate, supported by legs A′, which have cross-pieces N N rigidly attached to them, as shown at Fig. 1, the whole constituting a frame which supports the working parts of my device. That portion of the machine which I claim to have invented is represented as attached to Daniel Dodge's nail-machine, patented August 23, 1859, No. 41,141. But it can be readily attached to other machines now used for a similar purpose. G represents the reciprocating gripe shown in Dodge's patent, which is operated by a shaft, Z, arm B′, cam-wheel K, and lever *f*, as shown at Figs. 1, 3, and 4. The nail-rod is brought forward to my device by this gripe, and the cam-wheel K is made to operate the punch and other parts of the device, as hereinafter shown.

D represents a rock-shaft, which is pivoted to the standards E E′, which are attached to the plate A of the frame, Figs. 1 and 4, and from shaft D projects a bent portion or arm, B C. The oscillating or rocking shaft B C D has projecting from it two trip-levers, J and I. The lever I strikes against the edge of the plate A, and prevents the arm from rising too high, while the lever J, being operated upon by the pin L and cam K, turns the rocking-shaft and forces punch H downward to point the nail. The punch H is rigidly attached to that part of the arm shown at B, and its lower end is made to conform, in transverse section, to the shape that the point of the nail is to have when finished. The under side of the arm B has two adjustable guides fastened to it by means of one or more set-screws, *m*, Figs. 1 and 3, and they project downward far enough to pass over the edges of the nail and bring the point of the same directly under the punch H. A steel die, O O, is made in two parts for the convenience of sharpening, and it is firmly clamped in a form, S P R, by means of screws *t t*, and an opening is left between the inner ends of the two-part die O O, corresponding to the shape of point of the nail to be formed. The adjustable die is so arranged that the punch will strike the nail directly over the slot or opening, and thus form the point.

The device for cleaning the die O O of chips consists of an arm, V, having a lever, X, Figs. 1 and 2, the former being arranged to operate on the top of the die, and the latter under the plate A, both being held so as to turn at the same time by a bolt, *c*, put through them and the plate A. Y, Fig. 2, represents a flange attached to the lever X, and projects downward and is operated upon by a pin, L′, Fig. 4, which is fastened to the cam K at the opposite side of the pin L. The object of this is to move the lever X for enough, after the nail is pointed, to cause the arm V to clear the die O O of chips.

Coil-spring *e* is used to draw back the lever *x* and cleaner *v*, as shown at Figs. 1 and 4, and a spring, *h*, being fastened to the lever J, which is attached to the rock-shaft D, at each operation brings back the shaft and raises the punch.

This invention is intended to work automatically, and used in combination with the nail-machine aforesaid; consequently all that is required is simply to adjust the guides *n* to the width of the nail to be pointed, and draw the rod back until clamped for cutting off the nail, at which time the punch H will be forced down and cut the point of the nail the required shape.

Having thus described my invention, what I claim, and desire to secure by Letters Patent of the United States, is—

1. The die-cleaner V X, pivoted to the plate A, and operated by the cam K, in combination with the two-part die O O, as and for the purpose specified.

2. The combination of the die-cleaner V X, die O O, guides *n*, and punch H, substantially as described and shown.

DANIEL ARMSTRONG.

Witnesses:

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