

F. SANDHAM.
MACHINE FOR STAMPING, PRESSING, AND POINTING HORSESHOE NAILS.
No. 109,844. Patented Dec. 6, 1870.

Fig. 1.

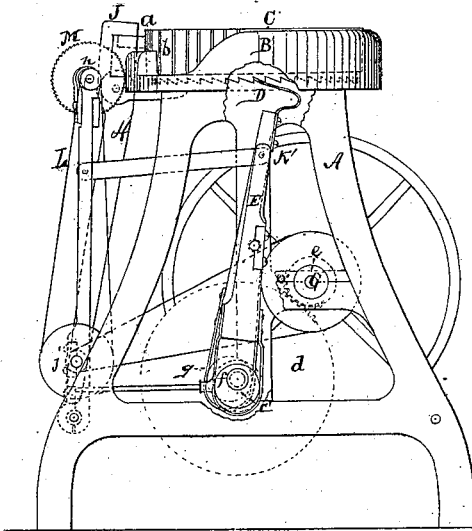


Fig. 2.

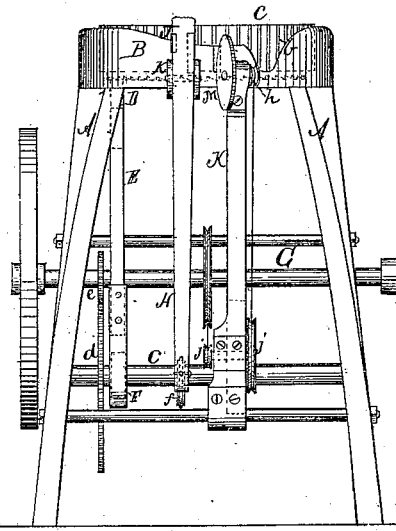


Fig. 3.

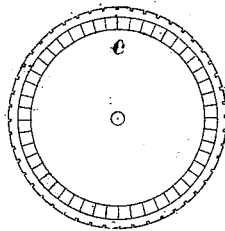
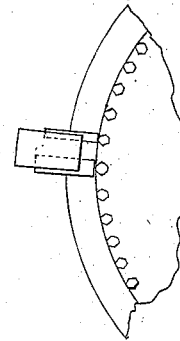


Fig. 4.



Fig. 5.



Witnesses:
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FREDERICK SANDHAM, OF MONTREAL, CANADA.

Letters Patent No. 109,844, dated December 6, 1870.

IMPROVEMENT IN MACHINES FOR STAMPING, PRESSING, AND POINTING HORSESHOE NAILS.

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

To all whom it may concern:

Be it known that I, FREDERICK SANDHAM, of Montreal, province of Quebec, Dominion of Canada, have invented a new and useful Device for Stamping, Pressing, and Pointing Horseshoe Nails; and I do hereby declare the following to be a clear and exact description of the nature thereof, sufficient to enable others skilled in the art to make and use the same, reference being had to the accompanying drawing making part of this specification, in which—

Figure 1 is a side view of the device illustrating my invention;

Figure 2 is a front view thereof; and

Figures 3, 4, and 5, are detailed views.

Similar letters of reference indicate corresponding parts in the several figures.

My invention has for its object the trade-mark stamping, pressing, and pointing of horseshoe-nails, and consists of a head or dial provided with grooves or pockets for the nails, which are brought intermittently to the action of a die having the design of the trade-mark formed in its face, then to a die which presses the nails, and, subsequently, to a cutter, which points them.

In the drawing—

A represents a frame-work of suitable form and construction, and carrying at or about its upper end a bed, B, within which revolves a dial or head, C. The periphery of the latter is encircled by a bed, so as not to be exposed except partly at the points *a*, *b*, where I cut away the bed, for purposes which will hereafter be perceived.

On the periphery of the dial I form pockets or grooves, which in the present case extend vertically, and are designed to receive the roughly-formed nails, which are prevented from dropping out by the inner face of the bed B.

The lower face of the dial is formed with ratchet-teeth which are engaged by a spring tooth or pawl, D, secured to an arm, E, and projecting through an opening in the bed B.

This arm E is suitably hung and receives an oscillating motion by means of a cam or other device, F, which is secured to a shaft, *c*, having bearings in the frame A, and carrying a toothed wheel, *d*, which meshes with a pinion, *e*, on the main shaft G.

The operation of the spring pawl is to slide over the ratchet-teeth on its backward movement and engage with them on the forward movement, and thus imparts an intermittent motion to the dial C.

On the shaft *c* there is keyed, or otherwise secured, an eccentric, *f*, which, by means of a yoke and connecting-rod, imparts an oscillating motion to a lever, H.

This lever is hinged to arms secured to the under side of the bed B, or to the frame-work A, and carries at its upper end dies, J K, which advance toward, and recedes from, the dial C through the opening in the bed B at the point *a*.

On the die J is formed the trade-mark, manufacturer's name, or other distinguishing characteristic, which is to be marked on the head of the nail.

The die K is the pressing die, and is designed to force the body rough nails thoroughly into the pockets which hold them, and thereby impart the proper shape to them, besides compressing the metal, and thus strengthening the product.

An eccentric, *g*, is secured to the shaft *c*, and imparts an oscillating motion to an arm, K', which is hung on a rod secured to the frame-work A, and is connected by a bar, or otherwise, to the upper end of a swinging arm, L, which receives a vibratory motion from said arm K'.

M represents a rotating cutter, whose axis is in the upper end of the arm L.

Rotary motion is imparted to the cutter by means of a pulley, *h*, on its axis, over which pulley passes a band or belt, which receives its motion from pulleys, *j*, *j*, mounted in the lower end of the lever L, which pulleys are operated by a band from a pulley on the main shaft.

While the cutter rotates it is advanced to and receded from the dial C, through the opening *a* in the bed B.

The cutter is intended to bevel the face of the nail, about its point, so as to sharpen said point.

The amount or length of bevel may be regulated by raising or lowering the cutter-wheel. To this end the bearings of its axis, or the axis itself, is made adjustable.

The operation is as follows:

The unfinished nails are laid or fed in the pockets or grooves in the dial, which is intermittently rotated as stated.

When a nail reaches a point directly in line with die J the latter advances toward the nail, stamps its head with the trade-mark design, and then recedes.

The dial continues its motion and brings the stamped nail to the pressing die K, which advances and presses the body of the nail into its pocket, thus compressing the metal and properly shaping the nail.

During this operation an unfinished nail has been presented to the stamping die J, and undergone the first process.

It will be seen that during the subsequent operations, while one nail is being stamped the preceding one is being pressed.

The nail being pressed is then carried around to cutting-wheel M, and when it reaches it, has the

lower end of its face, at the point thereof, ground or beveled so that the point is nicely sharpened and the nail is complete.

When the finished nail reaches the opening *b* it has no longer any support, and, consequently, drops on the floor or into a receptacle for the purpose intended.

In practice I design to employ spring holders or fastenings in order to firmly retain the nail on the dial until the three operations to which it is subjected are completed.

Having thus described my invention,

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

1. The trade-mark stamping die J and the body-compressing die K, in combination with the rotating dial C and surrounding bed B, substantially as described.

2. In combination with the elements of the first claim, the cutter-wheel M, arranged and operating substantially as described.

To the above I have signed my name this 26th day of August, 1870.

FREDK. SANDHAM.

Witnesses:

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