

S. P. HOLLIS & H. B. CHESS.

Machines for Cutting Nails.

No. 135,915.

Patented Feb. 18, 1873.

Fig. 1.

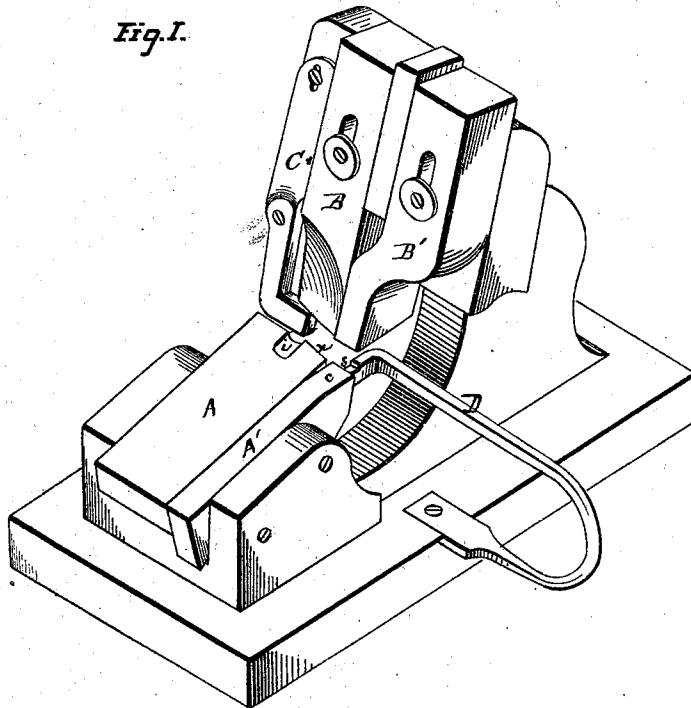
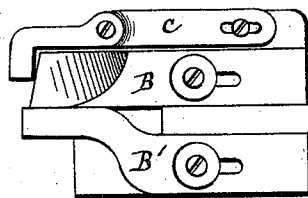


Fig. 2.



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Fig. 5.

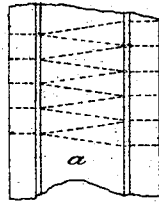


Fig. 4.

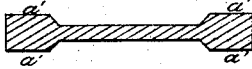


Fig. 7.

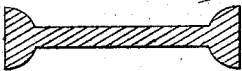


Fig. 8.



Fig. 10.

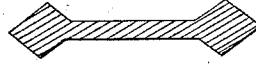


Fig. 9.



Fig. 11.



Fig. 12.



Witnesses:

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UNITED STATES PATENT OFFICE.

SAMUEL P. HOLLIS AND HARVEY B. CHESS, OF PITTSBURG, PENNSYLVANIA.

IMPROVEMENT IN MACHINES FOR CUTTING NAILS.

Specification forming part of Letters Patent No. 135,915, dated February 13, 1873.

To all whom it may concern:

Be it known that we, SAMUEL P. HOLLIS and HARVEY B. CHESS, of the city of Pittsburg, county of Allegheny and State of Pennsylvania, have invented certain Improvements in the Manufacture of Nails; and we hereby declare the following to be a full, clear, and exact description thereof, reference being had to the accompanying drawing making part of this specification, in which—

Figure 1 is a perspective view of the cutting portions of a nail-machine, showing our improvements. Fig. 2 is a plan view of the cutting-knives. Figs. 4, 7, 8, 10, 9, 11, and 12 are cross-sectional views of varieties of nail-plates that can be used in our process of manufacture. Fig. 5 shows a fragment of nail-plate, showing by dotted lines where the nail-blanks are cut from it.

Our invention relates to the manufacture of that class of nails wherein the head of the nail is disproportionately large to the size of the tang. Our invention consists in a novel arrangement and construction of blades, spring, and guide in a nail-machine, whereby we are enabled to properly cut nail-plates rolled a little in excess of the length of the nail-blank desired, and having a rib on both faces of the opposite edges, the thickness of the plate between the ribs being uniform and equal or about equal to the thickness of the tang of the finished nail. From such plates we cut the nail-blanks with tangs of tapering form, and secure from the ribs a large body of metal, short in length, from which to swage the heads.

In order that those skilled in the art may make and use our invention, we will proceed to describe the manner in which we have carried it out.

Referring to the accompanying drawing, A and A' are the bed-knives, and B B' are the cutting-knives. The cutting-knives B and B' are so formed and arranged that neither their front nor lower surfaces are on the same plane. The lines of the tang-cutting knife on its front and lower edges recede from the lines of the head-cutting knife, forming an obtuse angle between the lines of the cutting-knives, both on the front and bottom. The bed-knife is made in two pieces, A and

A', which are so formed that the edge of A' shall be parallel to the edge of B', and the cutting-edge *n* of the knife A shall be parallel to the front line of the knife B. The head-cutting portion of the bed-knife A' is made so deep and heavy, in order to withstand the blow necessary to cut the rib *a'* of the nail-plate, that its bottom rests on a line with the bed-die. At *c* the knife A' is ground off, as shown, so that the line of its cutting-edge is below that of the knife A about the distance of half the thickness of the rib *a'*, and the knife A has a groove, *i*, ground in it about the same depth.

This construction allows the ribbed nail-plate to lie solidly upon the bed-knives, and prevents mashing up the thin portion of the plate between the ribs. The edge of the knife A, from the groove *i* outward, is made about on a line with the front edge of the knife B'.

Alongside of the knife B is a gage, constructed as shown, and so arranged that it projects slightly beyond the face of the knife B, and extends across the face of the blades only far enough to take in the rib of the plate.

This arrangement and construction of the gage prevents parallel cuts from being taken when the turn-over apparatus is not started promptly, and it greatly facilitates turning over the plate.

The carrier D we construct with a shoulder or recess, *s*, on its end. By this means we are enabled to prevent the blank from "snapping out" while being carried down to the score in the bed-die.

The form of the ribs *a'* may be varied considerably within the scope of our invention, as illustrated in Figs. 7 to 10; or the ribs may be made on but one side of the plate, as in Fig. 11; or on the alternate opposite sides, as in Fig. 12. We also propose, where a barbed point is desired, to carry the cut of the tang a short distance into the bead on that side of the plate instead of terminating it at the edge of the rib.

Having thus described our invention, what we claim as new, and desire to secure by Letters Patent, is in a machine for cutting, in the usual manner from double-ribbed plates, substantially as herein represented, nails with

large heads and small tangs—

1. The cutting-knives B B' ground with their cutting-lines as described.

2. The knives A and A', ground, constructed, and arranged as described.

3. The knives B and B', in combination with the knives A and A', all constructed and arranged as set forth.

4. The gage C, when arranged to project

slightly beyond the face of the knife B, and extending laterally far enough to take in the rib of the nail-plate, as described.

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Witnesses:

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