

W. HADDOCK.
Cut Nail-Machines.

No. 144,845.

Patented Nov. 25, 1873.

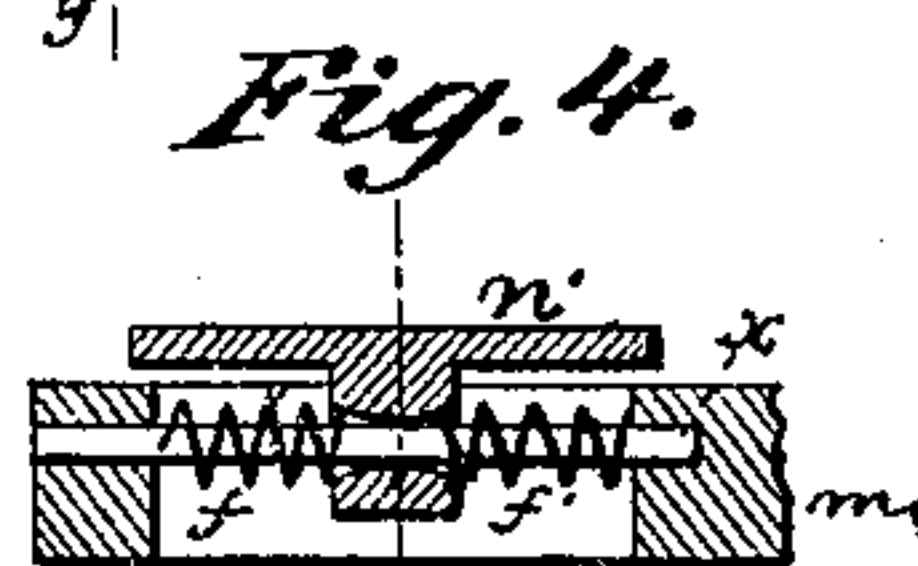
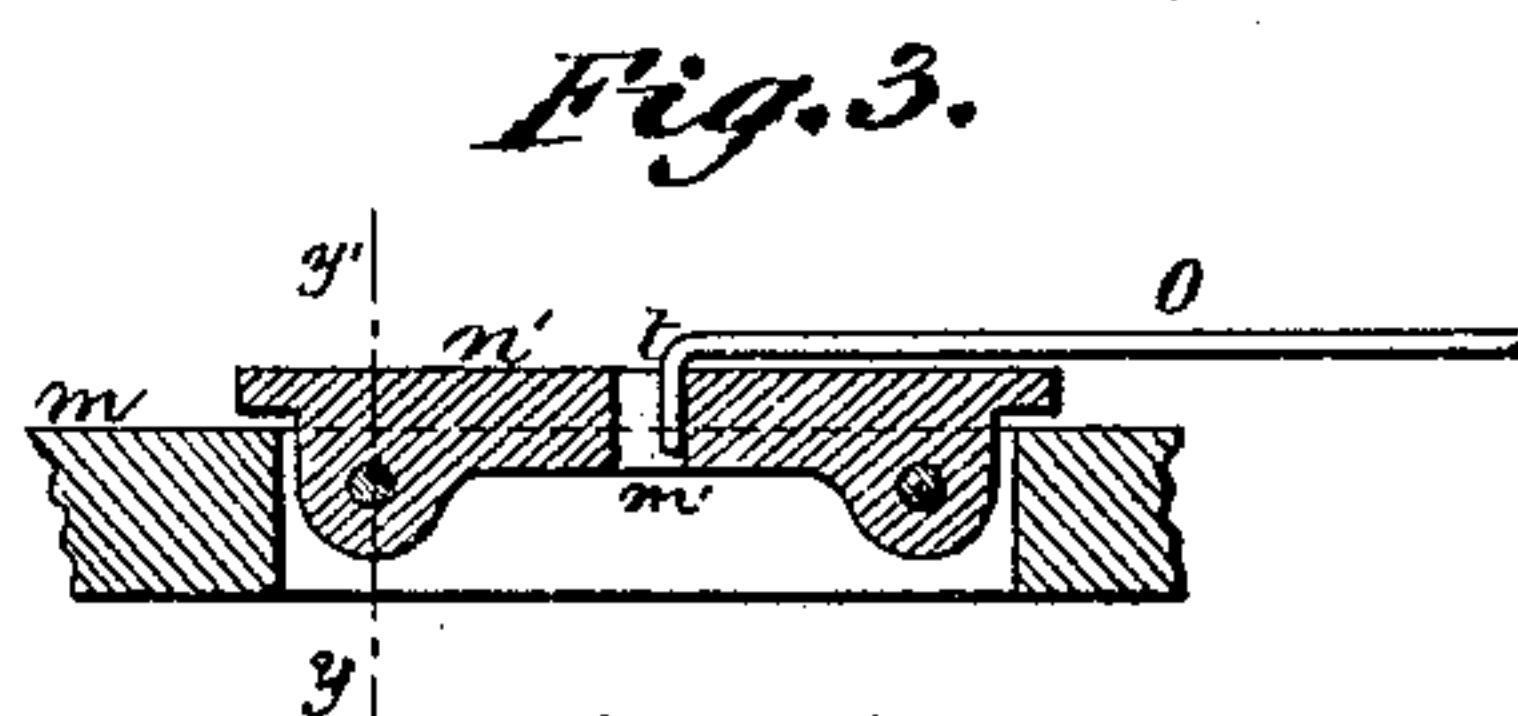
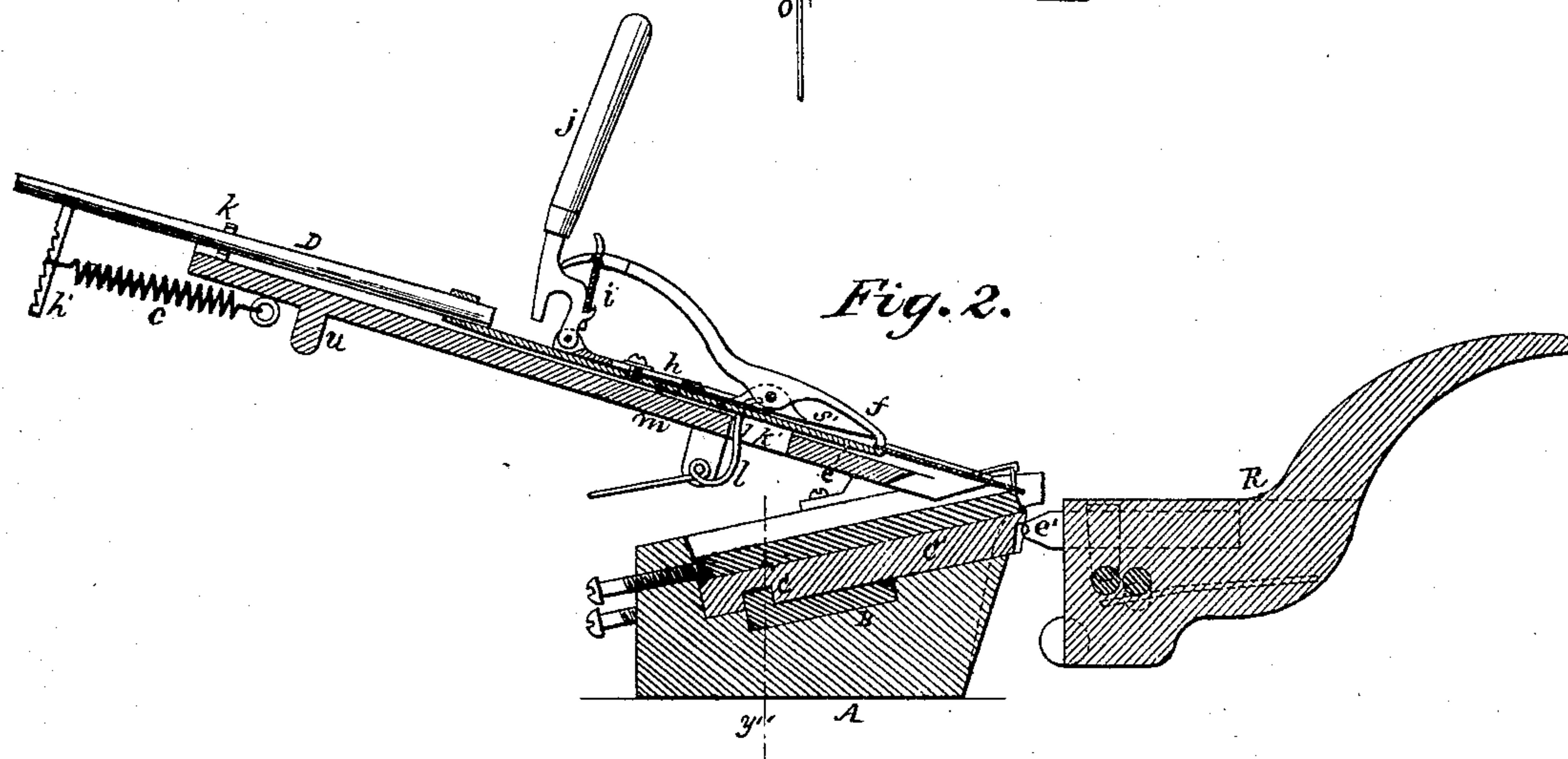
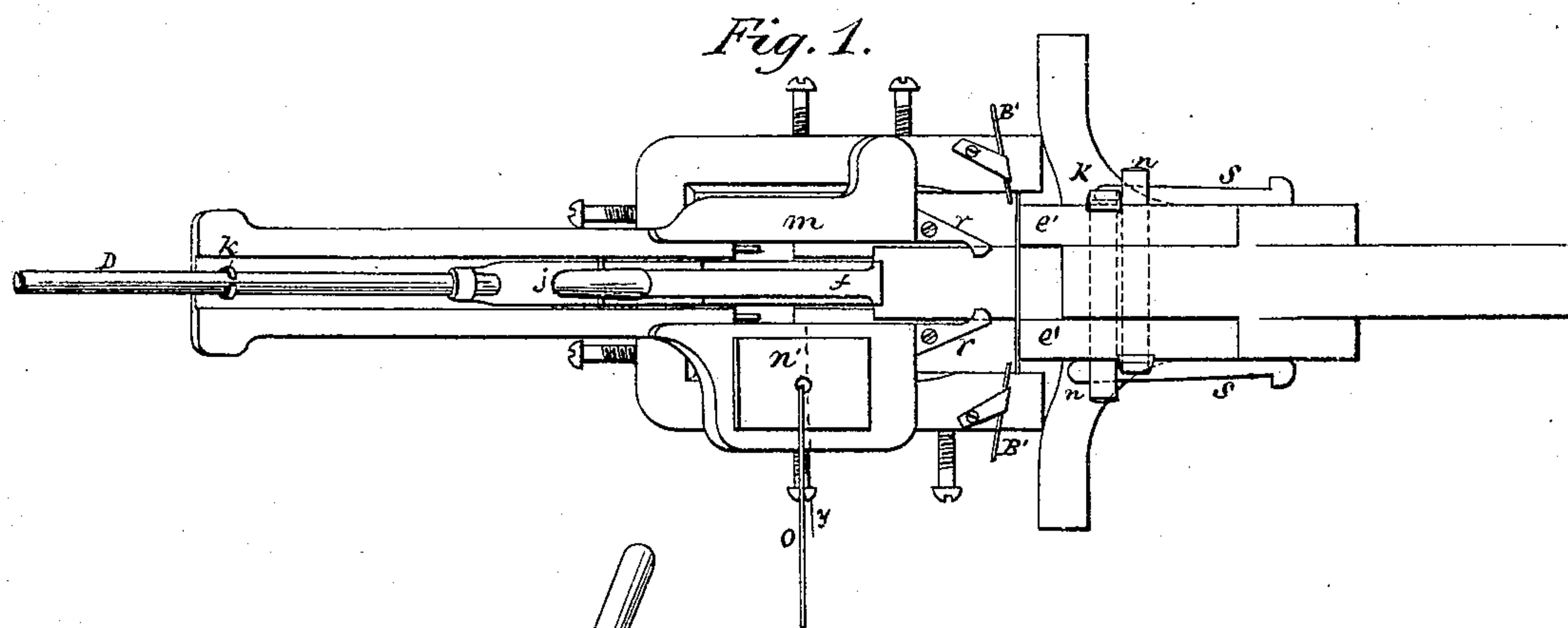
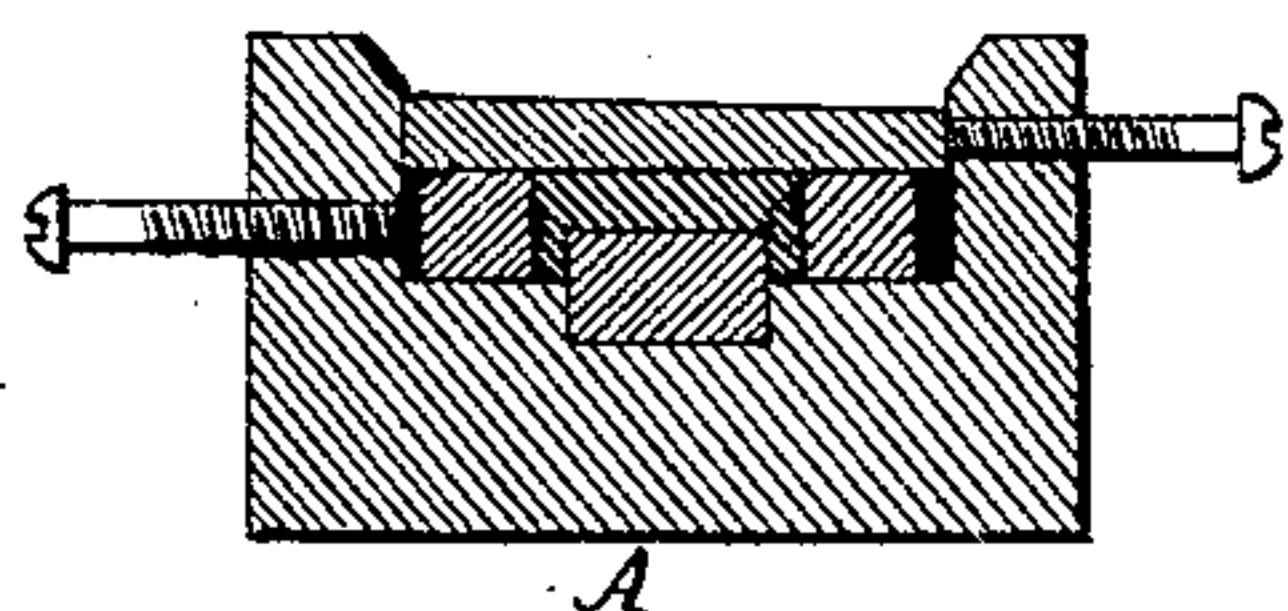


Fig. 5.



Witnesses.
Jas. D. Patten
N. S. Miller.

Inventor.
Worcester Haddock,
By Johnston & Grindley
his attorneys

UNITED STATES PATENT OFFICE.

WORCESTER HADDOCK, OF PITTSBURG, PENNSYLVANIA.

IMPROVEMENT IN CUT-NAIL MACHINES.

Specification forming part of Letters Patent No. **144,845**, dated November 25, 1873; application filed May 24, 1873.

To all whom it may concern:

Be it known that I, WORCESTER HADDOCK, of Pittsburg, in the county of Allegheny and State of Pennsylvania, have invented a new and useful Improvement in Self-Feeding Nail-Machines, (the same being an improvement upon the machine for which Letters Patent were granted to Daniel Reed, and dated December 29, 1868;) and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings and to the letters of reference marked thereon.

The object of my invention is to feed the plate from which the nails are cut without the necessity of reversing it, as in the ordinary nail-machines. The nature of my invention consists in the combination of devices hereinafter described for automatically feeding the plate to the straight vibrating cutter, and give the desired taper to the nail and sufficient metal to form the head upon it. My invention also consists in an improvement in die-box and in the means used for holding the griping-dies in the vibrating head of the nail-cutting machine.

To enable others to make and use my invention, I will proceed to describe its construction and operation.

In the accompanying drawings which form part of my specification, Figure 1 is a top view or plan of my improvement in self-feeding nail-machines. Fig. 2 is a vertical section of the same. Fig. 3 is a section of the vibrator at line *y* of Fig. 1. Fig. 4 is a section of the same at line *y'* of Fig. 3. Fig. 5 is a transverse section of the die-box at line *y''* of Fig. 2.

The nail-cutting machine is constructed in every respect like that described in the patent granted Daniel Reed hereinbefore mentioned, excepting the die-box, and means for securing the griping-dies, and vibrator, and plate-nipper, all of which parts I will now proceed to describe.

The die-box A is of the ordinary construction, excepting a recess made in the bottom of it, in which is placed what I term an adjustable stop, B, provided with a projection, C, which is fitted into a recess made in the under side of the bed-piece C'. By this arrangement of the piece and stop with relation to the die-box the bed-piece

and griping-dies in the die-box will be held in a firm and fixed position, and not liable to be moved forward by the jarring action of the headers. The bed-piece can be moved forward in the usual manner by simply cutting away a portion of the forward end of the stop B. The die-box A is provided with guards B', which are used for the purpose of regulating the movements sidewise of the nipper and the plate from which the nails are cut. The nipper for holding and feeding forward the plate from which the nails are cut consists of an under jaw, *e*, to which is pivoted an upper jaw, *f*, and in an adjustable slide, *h*, to which is pivoted a lever, *j*, which is connected with the outer end of the upper jaw, *f*, by a link, *i*, so that by moving the lever *j* toward the cutters it will cause the jaw *f* to close down on the plate placed between it and the lower jaw, *e*. The grasp of the jaws *f* and *e* is released by drawing the lever *j* backward from the cutters and by the upward pressure of the spring *s'*. The relation of the lever *j* and link *i* to the upper jaw, *f*, of the plate-nipper can be changed by means of the adjustable slide *h*, to which the lever *j* is pivoted. The handle D of plate-nipper when arranged on the vibrator is placed in a guide, *k*, as shown in Figs. 1 and 2. To the outer end of the handle D of the plate-nipper is a notched pendant, *h'*, for the feeding-spring *c* connected to the vibrator, as shown in Fig. 2. The vibrator *m* is pivoted at its outer end by means of the pin *u* on its under side, and the inner end of the vibrator rests on suitable bearings on the die-box A. The vibrator *m* is provided with holders *r* for holding the plate from which the nails are cut down on the under cutter of the machine. The vibrator *m* is also provided with an opening, *k'*, and a pivoted and forked hook, *l*, the prongs of which project a little above the groove in the vibrator for the plate-nipper and the plate from which the nails are cut, and the points of the prongs of the hook *l* are curved toward the cutter of the machine, so that the plate will pass over them and the nipper between them. When the nipper has performed the office of feeding the plate to the cutters of the machine, and is being drawn back to receive another plate, the scrap between the jaws of the nipper will catch against the projecting prongs of the hook *l*, which will draw it from

between the jaws of the nipper, and it will drop down through the opening *k* and pass from the machine. On one side of the vibrator *m* is an attachment-plate, *n'*, which is held in position by rods *x*, which pass through lugs on the under side of it, and by spiral springs *f'* on the rods, which springs are placed on each side of the lugs. By this arrangement of the plate it and the vibrator will be adjusted in their action with relation to each other and to their work and driving-gear of the machine, so as to compensate for any undue action in the vibrator. The vibrator is connected to the driving-gear of the machine through the medium of a rod, *o*, which is provided with a hook, *t*, which is placed in the opening *m'* of the plate *n'*. By this arrangement the vibrator can be connected and disconnected from the driving-gear with great ease and facility. The next and last feature of my improvements consists in securing the two griping-dies *e'* in the griping-lever or vibrating head of the machine through the medium of two hooks in contradistinction to set-screws. These hooks *n*, which hold the griping-dies *e'* in the vibrating head *R*, are made to impinge upon the griping-dies through the medium of keys *s*, which are driven into the hooks through openings in them, and so arranged that the driving-heads of the keys are most distant from the axis of the vibrating head *R*, and in the most convenient position for being driven into the hooks *n*, an advantage that can only be appreciated by the operators of nail-cutting machines.

Having thus described the nature, construc-

tion, and operation of my improvement, what I claim as of my invention, and desire to secure by Letters Patent, is—

1. The die-box *A*, provided with a recess for the reception of a stop, *B*, provided with projections *C* fitted to a recess in the bed-piece, substantially as herein described, and for the purpose set forth.

2. The plate-nipper consisting of the jaw *e* and pivoted jaw *f*, in combination with the locking device consisting of the adjustable slide *h*, link *i*, and pivoted lever *j*, said parts constructed, arranged, and operating with relation to each other, substantially as hereinbefore described, and for the purpose set forth.

3. In combination with the vibrator *m*, having opening *k* and tongs for griping the plate, the forked lever *l*, substantially as herein described, and for the purpose set forth.

4. The connecting-rod *o*, furnished with hook *t*, in combination with the plate *n'*, having opening *m'*, and held in position with relation to the vibrator *m* through the medium of rods *x* and springs *f*, substantially as described, and for the purpose set forth.

5. In combination with the vibrating griping-head *R* of a nail-cutting machine, the hooks *n* and keys *s*, arranged and operating substantially as herein described, and for the purpose set forth.

WORCESTER HADDOCK.

Witnesses:

JAMES J. JOHNSTON,
JNO. D. PATTON.