

3 Plates.

3 SHEETS. PLATE 1.

D. J. FARMER.

NAIL PLATE FEEDER

No. 118,356.
FIG. 1.

Patented Aug. 22, 1871.

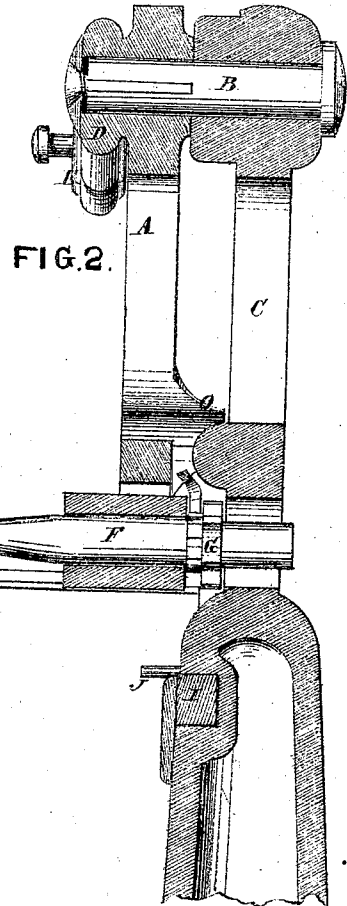
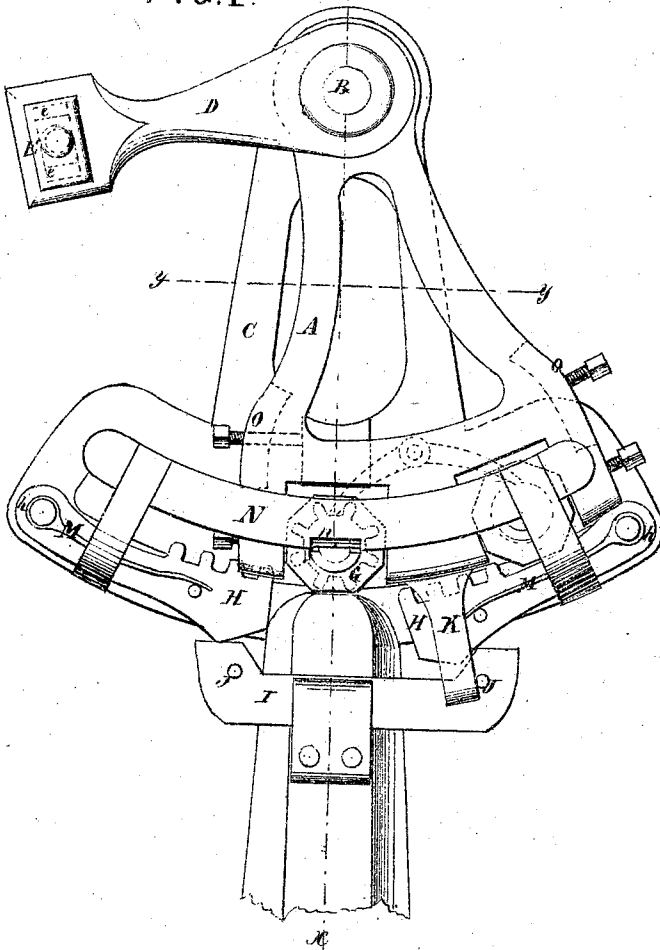
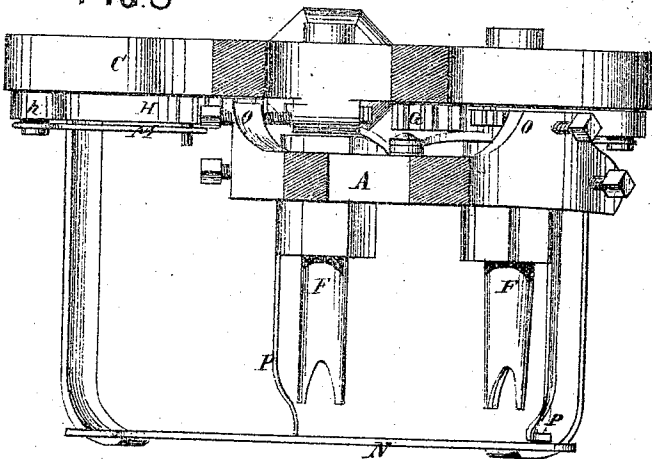


FIG. 3



WITNESSES.

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FIG. 4. D. J. FARMER:
Nail-Plate Feeder.

No. 118 356.

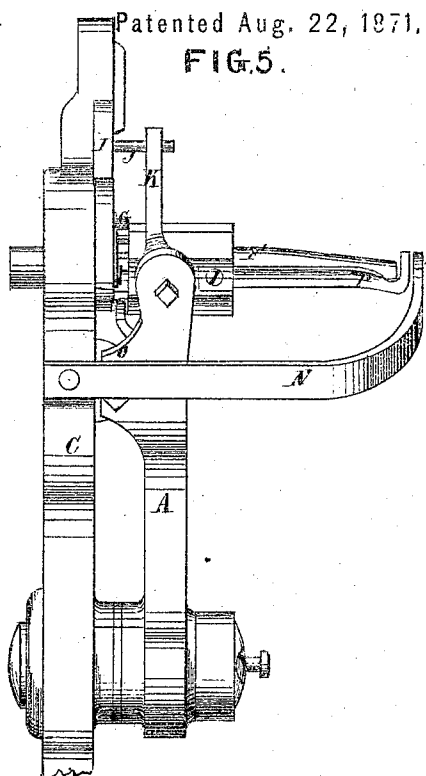
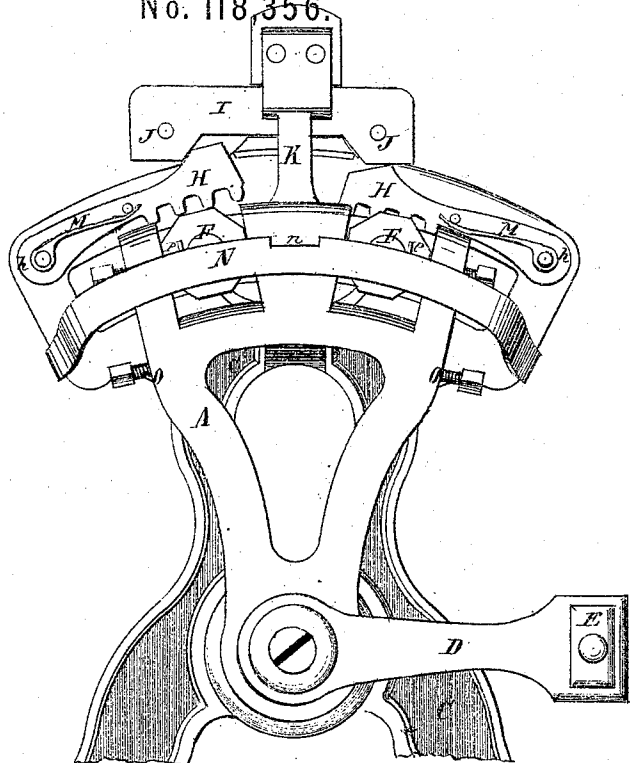
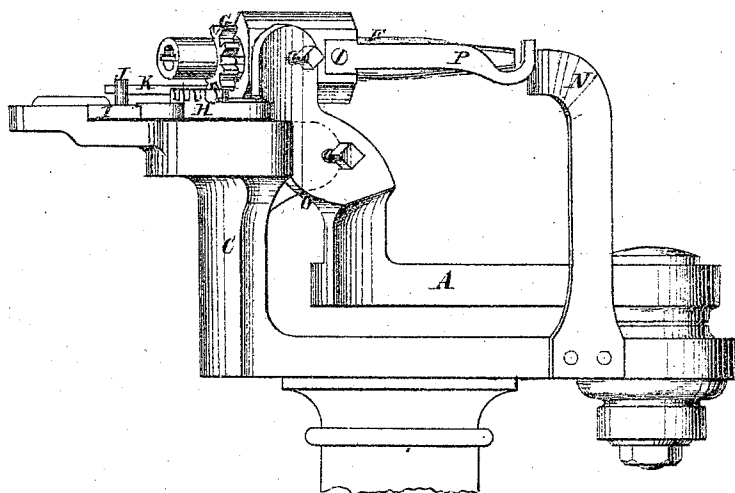


FIG. 6.



WITNESSES.

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3 Plates.

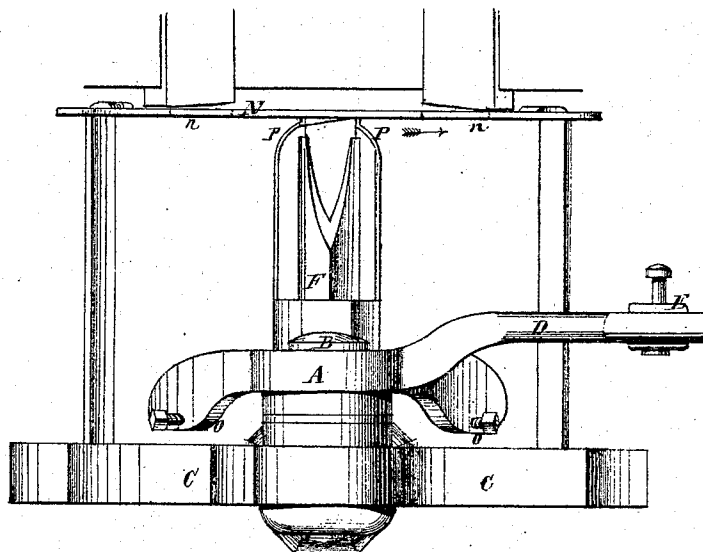
PLATE 3.

D. J. FARMER.
Nail-Plate Feeder.

No. 118,356.

Patented Aug. 22, 1871.

FIG. 7.



WITNESSES.

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UNITED STATES PATENT OFFICE.

DAVID J. FARMER, OF WHEELING, WEST VIRGINIA.

IMPROVEMENT IN CUT-NAIL MACHINES.

Specification forming part of Letters Patent No. 118,356, dated August 22, 1871.

To all whom it may concern:

Be it known that I, DAVID J. FARMER, of Wheeling, in the county of Ohio and State of West Virginia, have invented a new and Improved Nail and Tack-Plate Feeder, of which the following is a specification:

The subject of my invention is an oscillating frame mounted on a stationary frame and carrying one or more feeders or nail-plate conductors toward and from the cutters, by which the nail or tack-blanks are severed. The conductors and the cutters may be of any common form which may be adapted to work with my improved oscillating carrier. My invention further consists in improved devices for communicating and controlling the oscillation of the carrier.

Figure 1 is a front view of the apparatus. Fig. 2 is a vertical longitudinal section thereof at *xx*, Fig. 1. Fig. 3 is a horizontal section of the same at *yy*, Fig. 1. Fig. 4 is a front view, showing the oscillating arm in a reversed position. Fig. 5 is a side elevation of the same. Fig. 6 is a side elevation, showing the oscillating arm in a horizontal position. Fig. 7 is a plan illustrating a somewhat different machine in which my invention may be used.

The oscillating frame or arm A is mounted, by means of a shaft, B, in a stationary frame, C, and receives a reciprocating motion from an arm, D, which may be either in line or at an angle with the said arm A. The connection of the power with the arm D is made through the medium of a box, E, bearing at each of its ends against springs *ee* of gum elastic or other material to prevent any violence to the working parts, and cause the feeders to be brought accurately to their proper position, as hereinafter explained. For use with a nail-machine having a single pair of cutters I employ one or more tubular feeders, F, so mounted in the oscillating frame A that at each motion of the said frame the feeders will be rotated one-half round, each upon its own axis, by means of pinions G attached to the feeders and gearing with racks H, which are hinged at *h* to the stationary frame C. The racks are advanced and held to their operative position by means of a sliding cam, I, which is furnished with projecting studs J, through the medium of which it is moved in either direction by the contact of a tappet-arm, K, projecting radially from the oscillating frame A, and the same movement releases the rack,

which has just done its work and permits its retraction, so that it will not engage with the feeder on the return stroke. The gravity of the racks serves to retract them when the device is placed in the position shown in Figs. 1, 2, and 3, but this action may be aided by the springs M. In other positions of the device, as, for example, those shown in Figs. 4, 5, and 6, springs M or counterbalance-weights in lieu thereof are indispensable. A cord or friction arrangement may be substituted for the rack and pinion in turning the feeder. The rotary feeders described and represented in Figs. 1 to 6 inclusive, being employed to reverse the plate after each stroke to form the tapering points of the nail or tack-blanks alternately at opposite edges of the plate, may be used with a single pair of cutters. Some parts of my device are, however, adapted for use with a non-rotating feeder, by employing the well-known duplex arrangement of cutters shown in Fig. 7, so that, as the plate is fed back and forth between two pairs of cutters set obliquely to each other, the several blanks will be tapered alternately in opposite directions, as before. The plates are advanced through the feeders by means of pushers of common form, actuated either by springs or by cords and weights in a well-known manner. N is a gauge-bar, against which the end of each plate rests until it is brought opposite the cutters, when the notch or recess *n* permits it to pass until arrested by the customary gauge of the cutters themselves, which determines the width of blank severed. O O represent adjustable stops, employed to limit the motion of the oscillating frame A. P P are springs, bearing against an edge of each plate, in order to hold against the end of the recess *n* that edge of the plate from which the head or wider end of the blank is to be cut, in order to secure more uniformity of size and shape in the severed blanks.

The feeding apparatus, under the various modifications which I have described and which are represented in the accompanying drawing, is adapted for use either over or under the nail-cutting machine. As represented in Figs. 1, 2, and 3, it is adapted for use on top or above the cutters; in the position shown in Figs. 4 and 5 it is applied underneath. Supposing a blank to have been just cut from the feeder F, which is shown in the center of the stationary frame in Fig. 1,

an upward movement of the arm D will move the frame A to the left, bringing the other feeder F opposite to the recess *n* and to the cutters, so that another blank will be severed. At the same time the pinion G on the feeder first referred to, passing over the rack H, which is for the time being in the advance or operative position, turns the said feeder one-half round so as to invert the blank in readiness for the next cut. This done, the radial arm K, striking the pin J at the left-hand end of the sliding cam I, releases the rack H so that it will not act on the first feeder F on its return stroke; but the rack, having been advanced by the same motion of the sliding cam, will rotate the feeder last cut from as the frame A moves to the right to bring the first feeder again opposite the cutters. It will be apparent that any number of feeders can be used in this manner in an oscillating frame, A, each one being one-half rotated, so as to invert the plate after every cut, in order that the taper of the blank may be toward one and the other edge of the plate alternately. As the last feeder of a series of any number reaches the cutters the radial arm K slips the sliding cam so as to change the positions of the racks, as before explained. Dotted lines in Fig. 1 show pawls employed to prevent the feeders from turning back. In the illustration given in Fig. 7 the feeder or feeders, not being rotated, must be applied to one and

the other pair of cutters alternately. This may be effected by vibrating a single feeder between the two pairs of cutters or by carrying a series of feeders around in a continuous circuit.

I do not claim under this application the distinctive features of the machine shown in Fig. 7, but reserve the right to apply for a separate patent therefor. I do not claim any peculiarity in the construction or arrangement of the conductors or of the cutters, but propose to use one or more conductors, and one or more pairs of cutters, the said conductors and cutters being each constructed and arranged in any common or suitable manner, or as described in either of the patents heretofore granted to me for machines having carriers different from that herein described.

I claim as my invention—

1. The combination of the oscillating frame A and stationary frame C with one or more nail-plate feeders or conductors of suitable form and the cutters, substantially as herein set forth.

2. The box B, springs *e e*, and stops O, in combination with the oscillating frame A, stationary frame C, and one or more nail-plate conductors and pairs of cutters, substantially as set forth.

DAVID J. FARMER.

Witnesses:

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J. L. READ.