(No Model.) 2 Sheets—Sheet 1.

F. F. RAYMOND, 2d.

NAIL MAKING MACHINE.

No. 376,208. Patented Jan. 10, 1888.

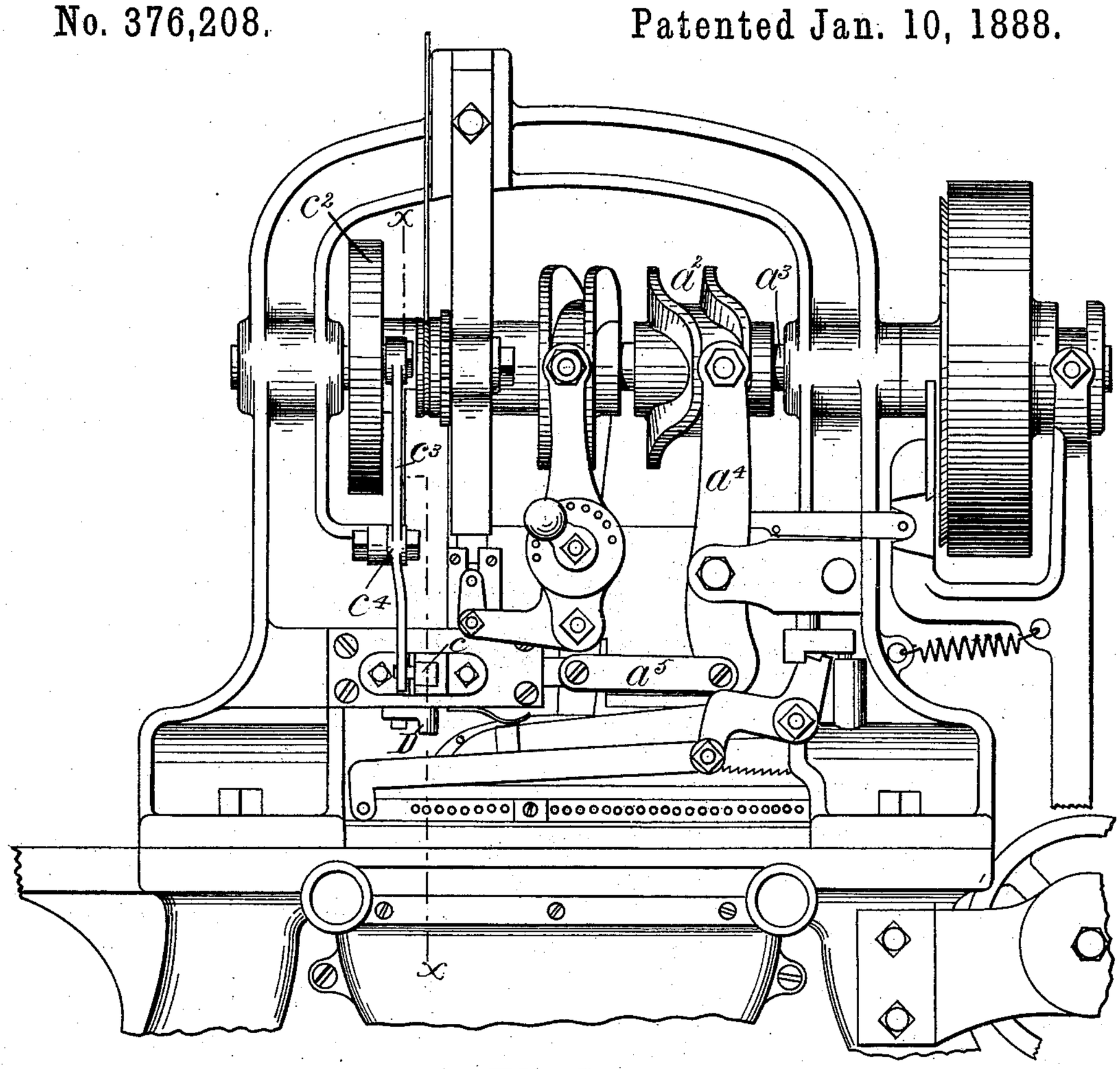

Fig. 1.

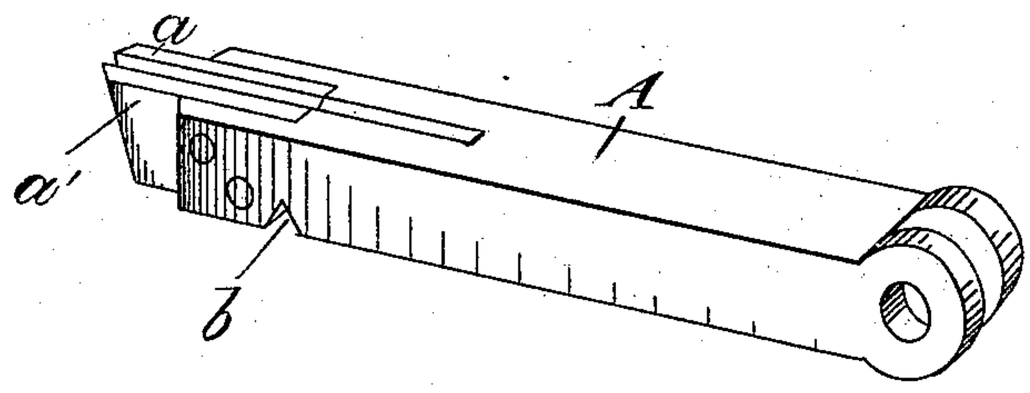

Fig. 3

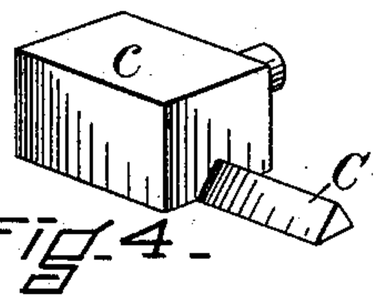

Fig. 4.

WITNESSES

J. M. Dolan.

Fred. B. Dolan.

INVENTOR

F. F. Raymond

(No Model.) 2 Sheets—Sheet 2.

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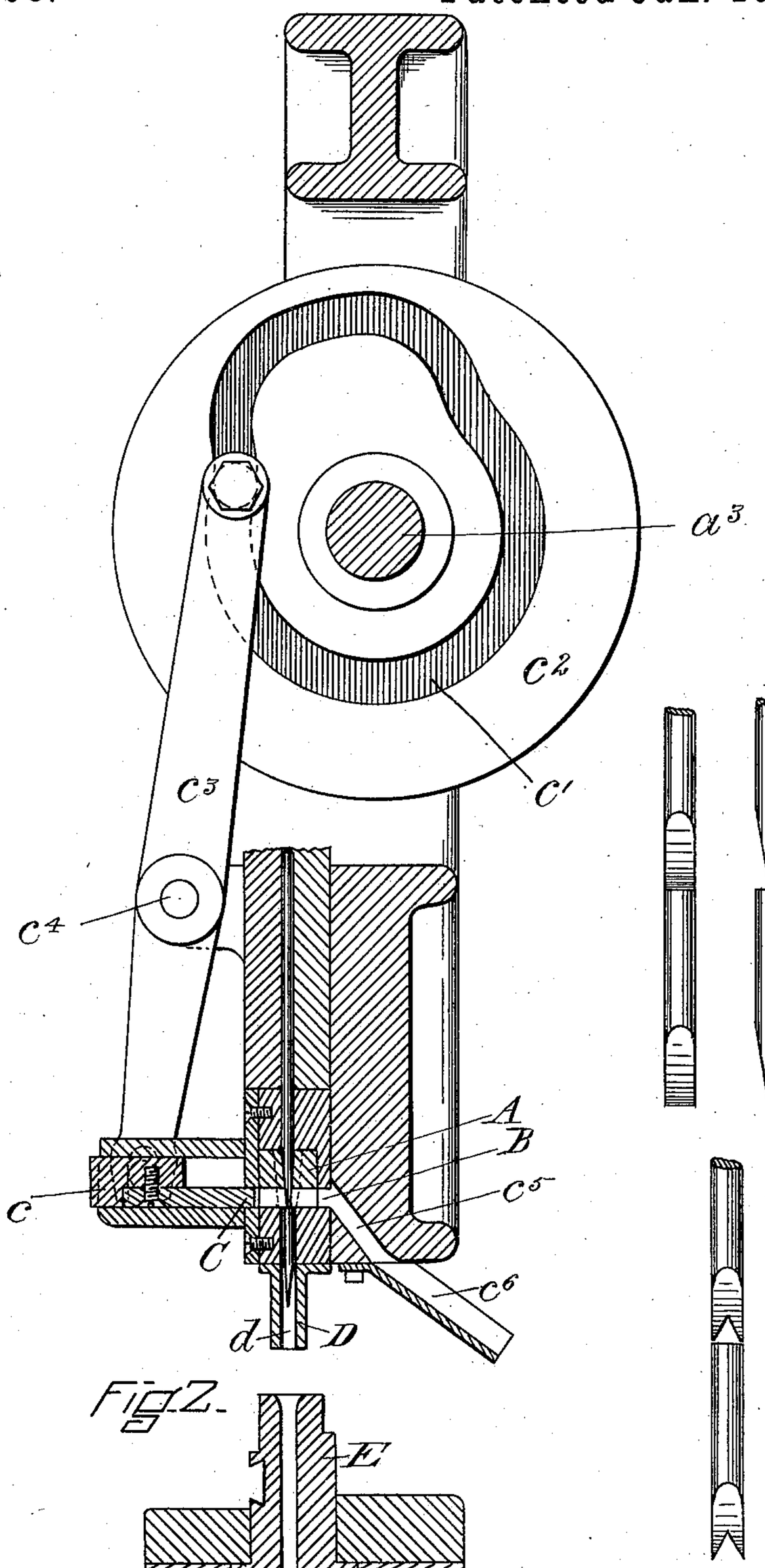

Fig. 2.

Fig. 5.

Fig. 6.

WITNESSES

J. M. Dolan.

Fred. B. Dolan.

INVENTOR

F. F. Raymond 2d

UNITED STATES PATENT OFFICE.

FREEBORN F. RAYMOND, 2D, OF NEWTON, MASSACHUSETTS.

NAIL-MAKING MACHINE.

SPECIFICATION forming part of Letters Patent No. 376,208, dated January 10, 1888.

Application filed November 12, 1886. Serial No. 218,680. (No model.)

To all whom it may concern:

Be it known that I, FREEBORN F. RAYMOND, 2d, of Newton, in the county of Middlesex and State of Massachusetts, a citizen of the United States, have invented a new and useful Improvement in Nail Making and Distributing Machines, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming a part of this specification, in explaining its nature.

The invention is an improvement upon that described in my patent, No. 346,137, dated July 21, 1886; and it relates especially to means for pointing and severing the nail. In the machine described in the patent referred to, the nail-point is formed by two cutters, which remove sections of the wire on opposite sides thereof to form long flat beveling or inclined surfaces which may come together at the point, and thus at the same time sever a nail previously pointed; or the severing may be accomplished by a subsequent horizontal movement of the nozzle-block carrying the nail-blank while the point-cutting dies remain stationary. This produces a nail having a wide point formed by two converging inclined or beveled surfaces. While this produces a very fair nail for ordinary purposes, it is desirable for some uses to provide a nail having a notch or recess cut across the wide point to produce separate clinching-points, and my invention relates especially to the mechanism whereby I am enabled to make a nail having a point of this character.

In the drawings, Figure 1 is a view in rear elevation of the said patented machine containing my improvement. Fig. 2 is a vertical section upon the dotted line *x x* of Fig. 1. Fig. 3 is a view in perspective of the cutters for forming the beveled or flat point and the cutter-holding block. Fig. 4 is a view of the cutter for forming the cross-notch in the beveled point and its holding-block. Fig. 5 is a view of the wire with a flat tapering point, showing it from two sides. Fig. 6 is a view representing the wire provided with the notch at its point.

a a' are the cutters for forming the flat or beveled point. They are carried by the slide-block A, which is moved or reciprocated by means of the cam a^2 on the shaft a^3, the lever a^4, and link a^5, as described in said patent, the only difference being in the construction of the cam, which is made to give the block A a somewhat longer rest at the end of its forward movement.

There is formed across the frame of the machine and the block A a passage, B, in line with the feedway or throat of the machine, and across this passage there is arranged to be reciprocated the cutter C, which is shaped like an inverted **V** in cross-section. The passage B is likewise shaped in cross-section. This cutter C is mounted or carried by a block, *c*, which is reciprocated by means of a cam-groove, *c'*, and disk c^2 on the shaft a^3, and the lever c^3, which is pivoted at c^4. The passage B opens into a waste-escape passage, c^5, in the frame of the machine, which extends to the chute c^6. The section *b* of the passage B, formed in the slide-block A, is of course only in line with the remainder of the passage B when the block has been moved sufficiently to sever from the wire the sections which are removed in forming the flat or beveled point. The block then becomes stationary, and the cutter C is then moved through the passage *b*, severing or removing from the point of the nail a triangular or inverted-**V**-shaped section, the base of which is wider than the diameter of the wire, and the top of which extends upward to any desired extent. The combined action of these cutters—namely, the cutters *a a'* and cutter C—provides the nail with a point such as is shown in Fig. 6. The cutter may be of a width to completely sever the nail-blank from the end of the wire, and preferably it is made of such width, and the nail thus severed drops from the hole *a* in the nozzle D into the distributer E, or is moved therefrom upon the feeding of the wire.

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

1. The combination of the frame of the machine, through which the feedway extends, the block supporting the sliding cutters *a a'*, with said sliding cutters *a a'*, and with the point-cutting and notching-cutter C, having a movement across the feedway transverse the line of movement of the cutters *a a'*, substantially as described.

2. The combination, in a nail-making machine, of the frame of the machine having a

cross-passage, B, which intersects the feedway through which the wire is fed, die or block A, having the cross-passage *b*, and the reciprocating cutter C, as and for the purposes described.

3. The combination of the frame of the machine, having the cross-passage B, which intersects the feedway through which the wire is fed, die or block A, having the cross-passage *b*, and the waste or escape passage c^5, with the punch or cutter C, substantially as described.

4. The combination of the frame of the machine, having a feedway for the wire and a cross-passage, B, the die or block A, having the cross-passage *b*, with the cutter or punch C, the cam-groove *c'*, and the lever c^3, substantially as described.

5. The combination of the slide-block A, having the cutters *a a'*, and the cross-passage *b*, with the feedway of the machine, and the cutter or punch C, inverted-V-shaped in cross-section, substantially as described.

FREEBORN F. RAYMOND, 2D.

Witnesses:
FRED. B. DOLAN,
ARTHUR W. CROSSLEY.