

(No Model.)

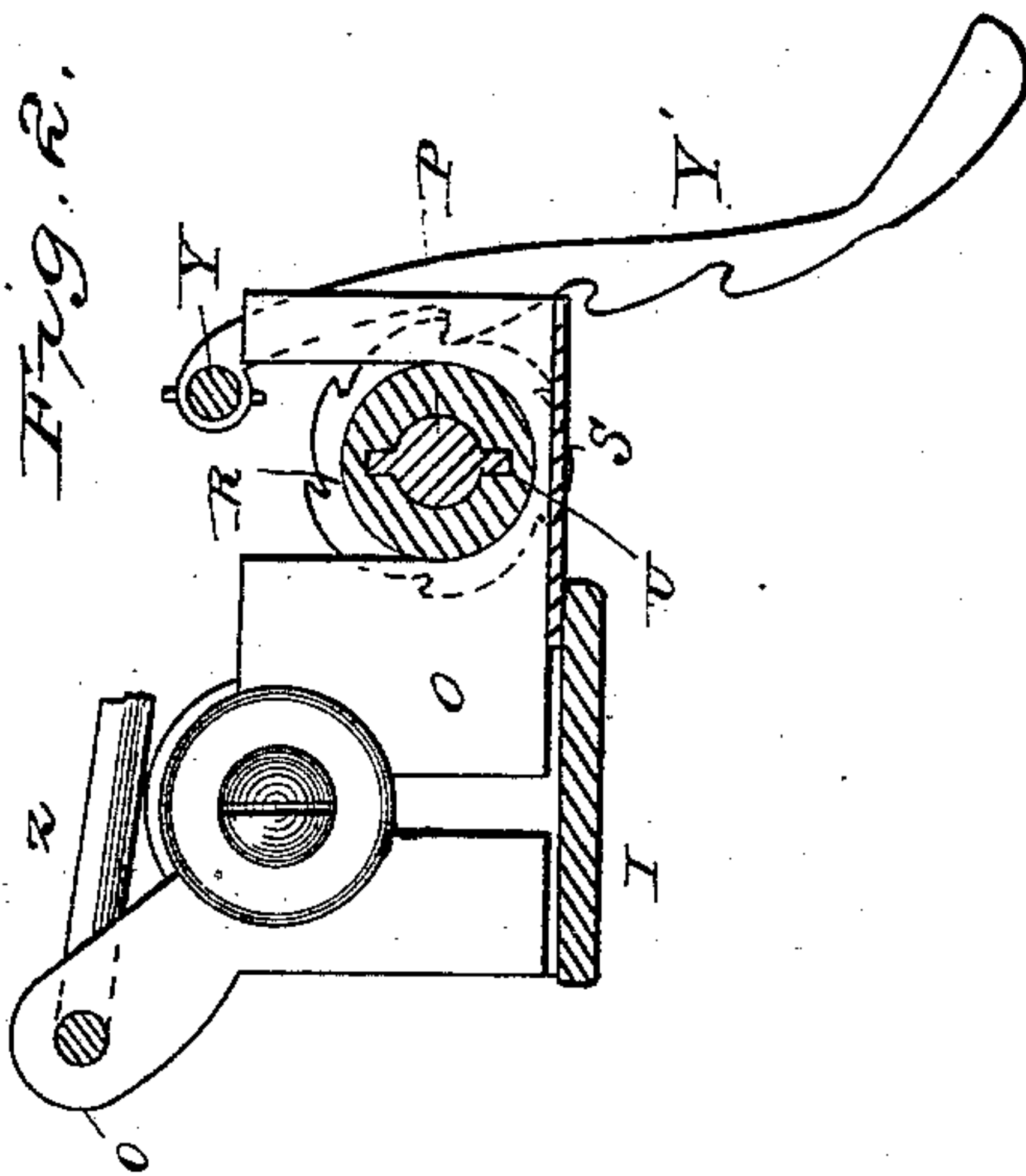
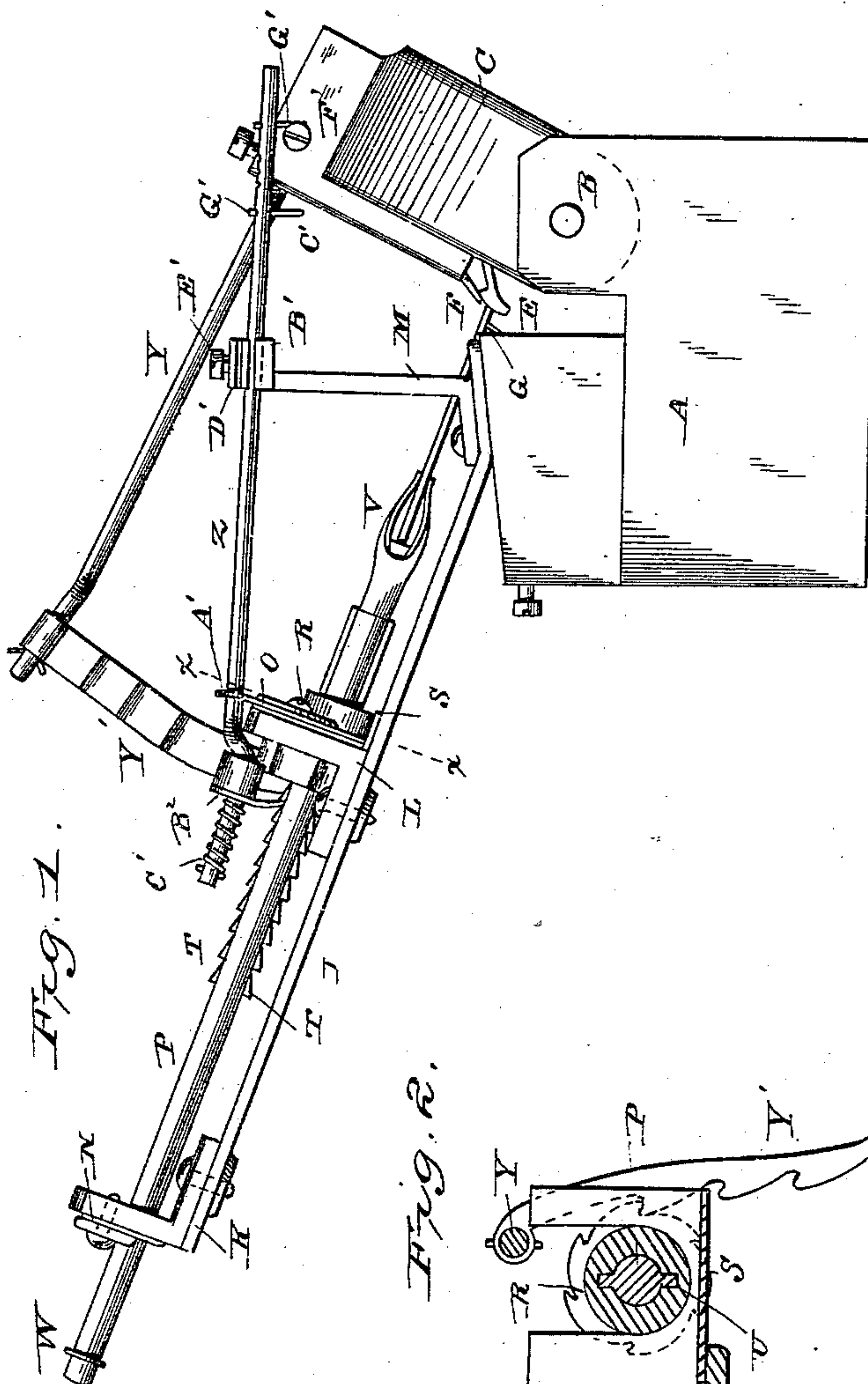
2 Sheets—Sheet 1.

W. BROWN.

AUTOMATIC NAIL PLATE FEEDER.

No. 277,215.

Patented May 8, 1883.



Witnesses.  
Edwin L. Yewell.  
H. A. Seilman.

Inventor.  
William Brown.  
By C. M. Alexander  
Attorney.

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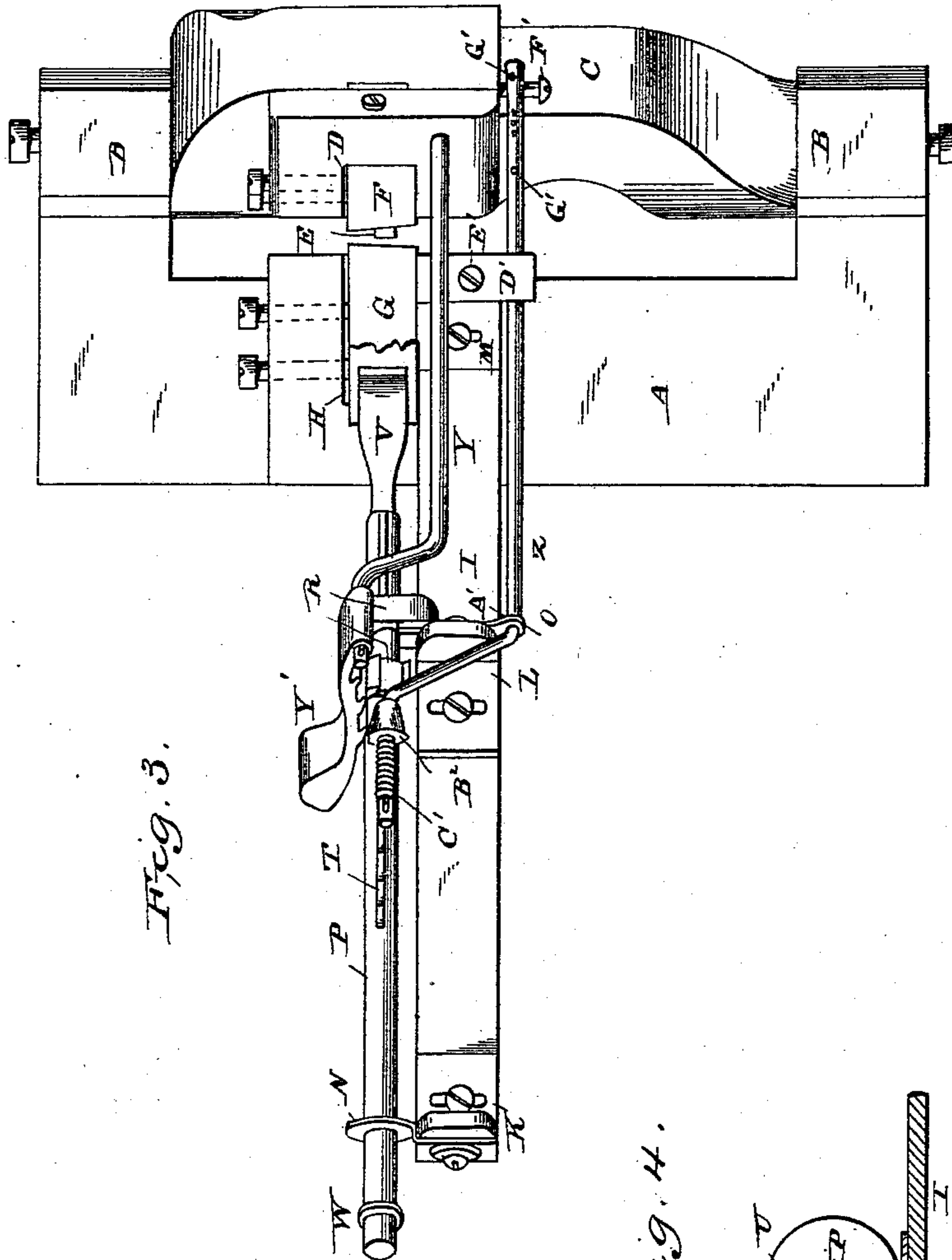
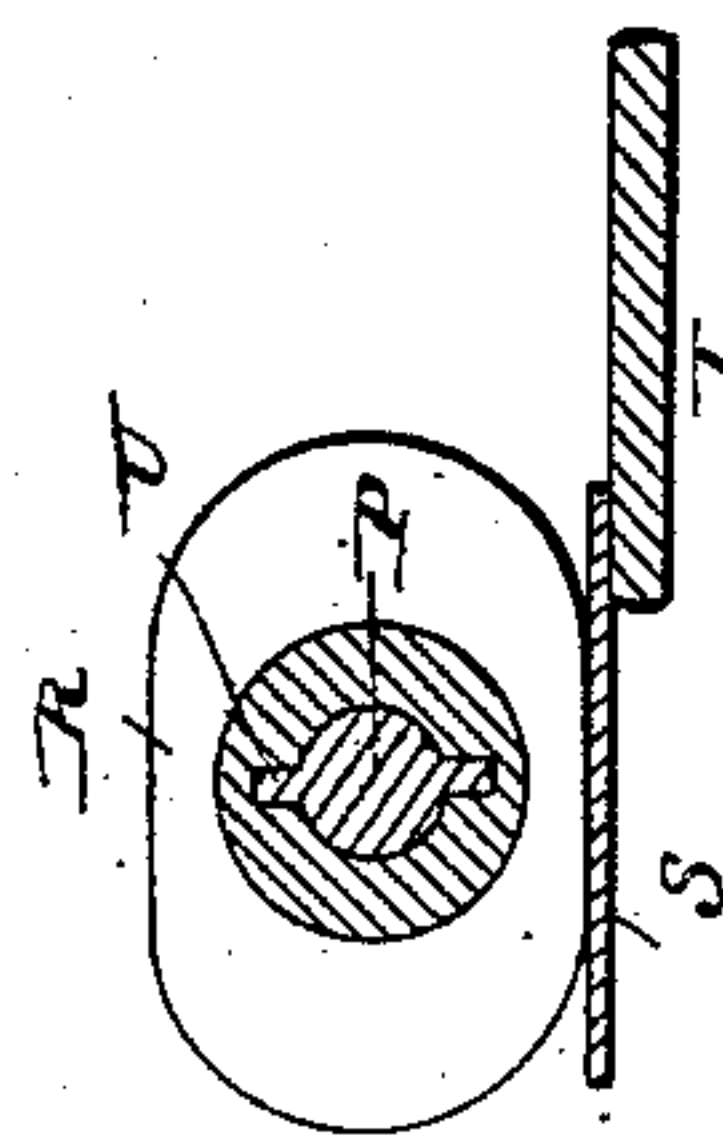


Fig. 3.

Fig. 4.



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# UNITED STATES PATENT OFFICE.

WILLIAM BROWN, OF DUNCANNON, PENNSYLVANIA.

## AUTOMATIC NAIL-PLATE FEEDER.

SPECIFICATION forming part of Letters Patent No. 277,215, dated May 8, 1883.

Application filed July 6, 1882. (No model.)

*To all whom it may concern:*

Be it known that I, WILLIAM BROWN, of Duncannon, in the county of Perry, and in the State of Pennsylvania, have invented certain new and useful Improvements in Automatic Feeders for Nail-Machines; 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, making a part of this specification.

This invention relates to certain improvements in nail-machines; and it has for its objects certain improvements in mechanism for feeding the blank to the knives, and for operating the feed mechanism, as more fully hereinafter specified. These objects I attain by the means illustrated in the accompanying drawings, in which—

Figure 1 represents a side elevation of my improved machine. Fig. 2 represents a sectional view taken on the line  $xx$  of Fig. 1, looking from the bed of the machine. Fig. 3 represents a top view of the apparatus; and Fig. 4 represents a sectional view taken on the line  $xx$ , looking toward the bed of the machine.

The letter A indicates the bed of the machine, which is provided with pillow-blocks B at each side, between which is located the cutting-jaw C, which has its journals bearing in the pillow-blocks, so as to swing back and forth between the same. The said jaw in front is provided with a recess, D, in which is pivoted a gage, E, which is pressed normally forward by means of a spring, and is designed to hold the nail to the header after it has been cut off. As this forms no part of my present invention, further description of it is deemed unnecessary. The said recess is adapted to receive and hold a removable knife, F, which is clamped in position by means of set-screws, as usual.

G indicates the bed-knife, which is clamped in a recess, H, in the bed, as usual.

The letter I indicates an inclined flat bar of metal secured to the bed of the machine, and extending to the front thereof. The said bar is provided with laterally-adjustable standards K L M. The standards K L are provided with adjustable brackets N O, slotted as shown, and secured by binding-screws, so that the said

brackets may be adjusted vertically. The said brackets are provided with bearings for a nipper-rod, P, and a rotating cam and ratchet-wheel section, R, the bearing in bracket O consisting in a vertical open slot in which the section R can play vertically, substantially as specified. The bracket has a shelf or bearing, S, against which the cam bears as it is rotated, as and for the purposes more fully hereinafter explained. The nipper-rod is provided on opposite sides with longitudinal ratchets T, and passes loosely through the section R, the ratchets passing through suitable grooves, U, which cause the nipper-rod and said section to turn together, as more fully hereinafter explained. The said nipper-rod is provided at the lower end with spring-nippers V to seize and hold the plate, and at the upper end with a shoulder, W, to prevent the rod from advancing after the blank has been fed out.

The letter Y indicates an arm secured to the cutting-jaw, which extends forward, its free extremity being bent, as shown, and having pivoted to it a lever, Y', having a series of teeth, which are equal in number to half the number of teeth on the ratchet-wheel before mentioned, the said pawl being intended to give the ratchet-wheel a half-revolution at every cut of the knife, as and for the purposes hereinafter explained.

The letter Z indicates a rod supported in bearings A' B', the forward end of which rod is bent, the extremity extending over the nipper-rod, and being provided with a longitudinally-movable pawl, B<sup>2</sup>, adapted to engage the longitudinal ratchets T and advance the nipper-bar forward step by step. The said pawl is held to a normal position by means of a spiral spring, C'.

The letter D' indicates a bearing faced with leather or other similar material, attached to the standard M by means of the set-screw E', by means of which it may be made to press upon the rod Z, and act as a tension device to hold the rod until positively moved forward or backward by means of a pin, stud, or screw, F', secured to the cutting-jaw, which pin, stud, or screw strikes alternately against the pins G' as the cutting-jaw moves back and forth.

The operation of my invention is as follows:



The parts being in position as indicated in Fig. 1 of the drawings, upon swinging the cutting-jaw forward the knives separate one nail-blank, which is held by the gage until the next operation, by which time it will have been removed by suitable devices forming no part of my invention, and which it is unnecessary here to describe. As the cutting-jaw swings forward the ratcheted pawl drops down upon the ratchet-wheel, its upper ratchet engaging one of the ratchet-teeth. At the same time the longitudinally-movable pawl engages one of the teeth of one of the longitudinal ratchets. When the cutting-jaw is swung back the toothed pawl gives a half-rotation to the ratchet-wheel and the nipper-bar, while the cam elevates it, so as to permit the plate to turn. When the nipper-rod completes its half-revolution the cam causes the plate to fall flat on the bed-knife. The plate is then fed in against the gage by the rod Z by means of its pawl, and there held by the tension until the nail is cut. The object of turning the plate at each cut is to give the blank nail the proper taper on both sides, each cut being made obliquely across the edge of the nail-plate; and the object of the tension device and spring-pawl is to permit the works to adjust themselves to the gage, so as to permit different widths of nails to be cut.

Having thus described my invention, what I claim, and desire to secure by Letters Patent, is—

1. In combination with the cutter-jaw, its cutter, and the stationary cutter secured to the bed of the machine, the nipper-bar journaled at its upper end in an adjustable bearing secured to an inclined bar attached to the bed, the cam and ratchet section secured in an open adjustable bearing attached to said bar, the nipper-rod being provided with longitudinal ratchets and passing through the said section, the pawl, ratchet, and ratchet-wheel, and the shelf or cam-bearing, all arranged to operate substantially as specified.

2. In combination with the nipper-rod, the cutter-jaw adapted to operate against a suitable gage, the cam-section and its bar and cam-bearing, the ratcheted pawl and ratchet-wheel, and the feed rod and pawl and longitudinal ratchets, all arranged to operate in the manner substantially as specified.

3. In combination with the feed-rod and the movable pawl thereon, the tension-bearing and the spring for holding the pawl normally, and the nipper-rod adapted to feed the blank against a suitable gage, whereby provision is made for feeding the blank for different-sized nails, substantially as specified.

In testimony whereof I affix my signature, in presence of two witnesses, this 10th day of June, 1882.

WILLIAM BROWN.

Witnesses:

H. A. TAULMIN,  
CHAS. D. DAVIS.