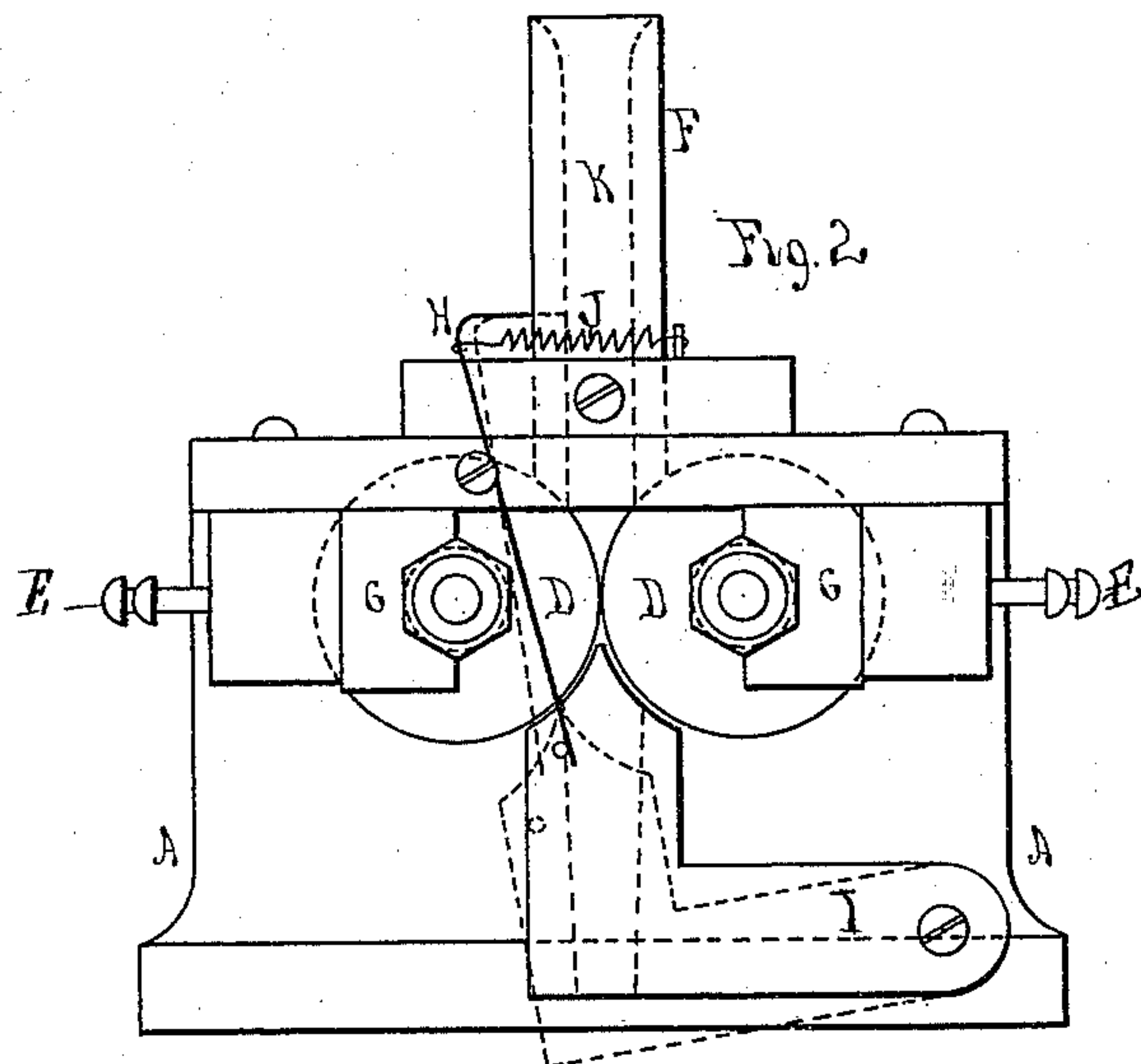
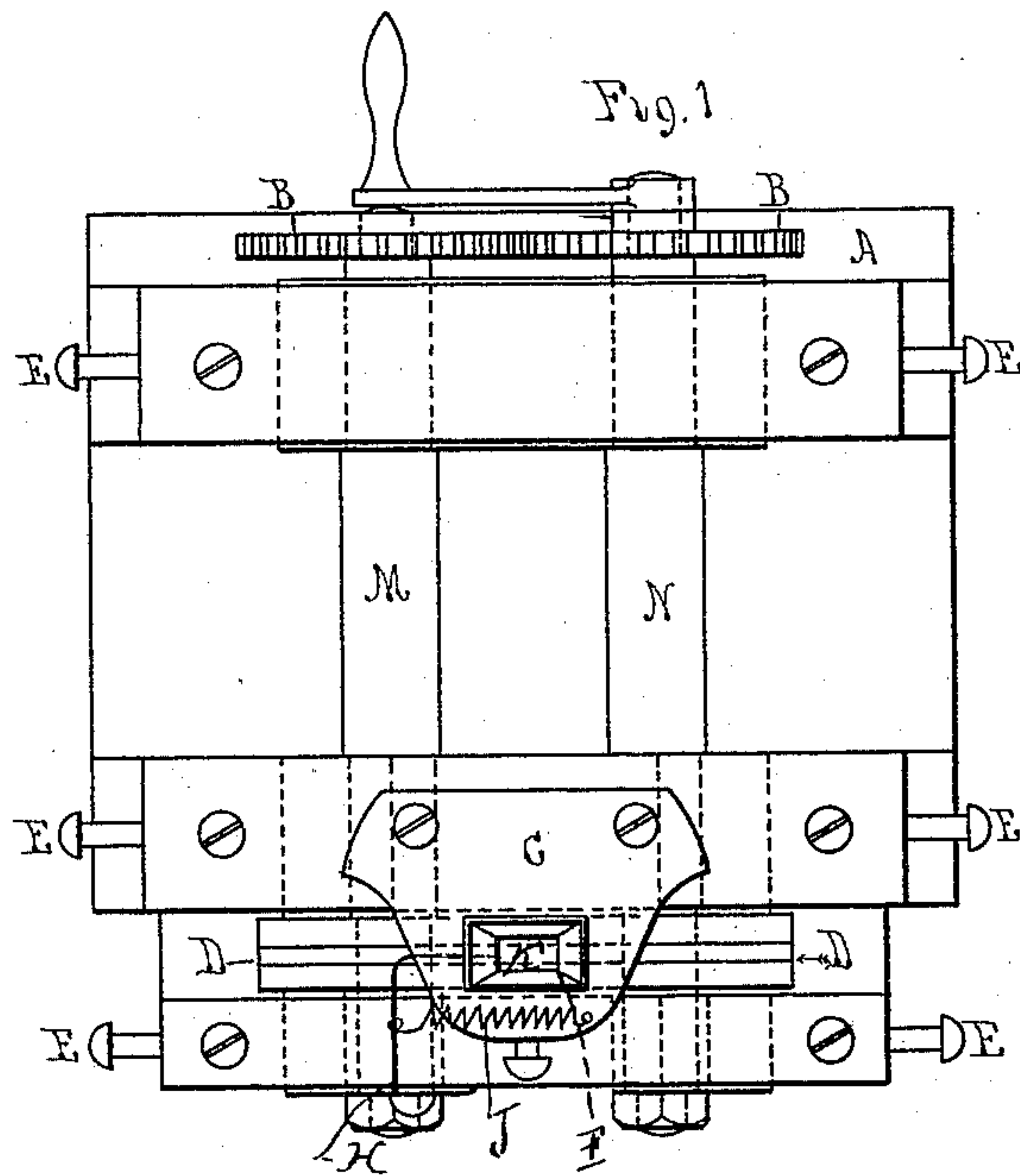


G. L. HALL.

MACHINES FOR ROLLING HORSESHOE NAILS.

No. 169,357.

Patented Nov. 2, 1875.



Witnesses
Phobster Locke
Chas. D. Moore

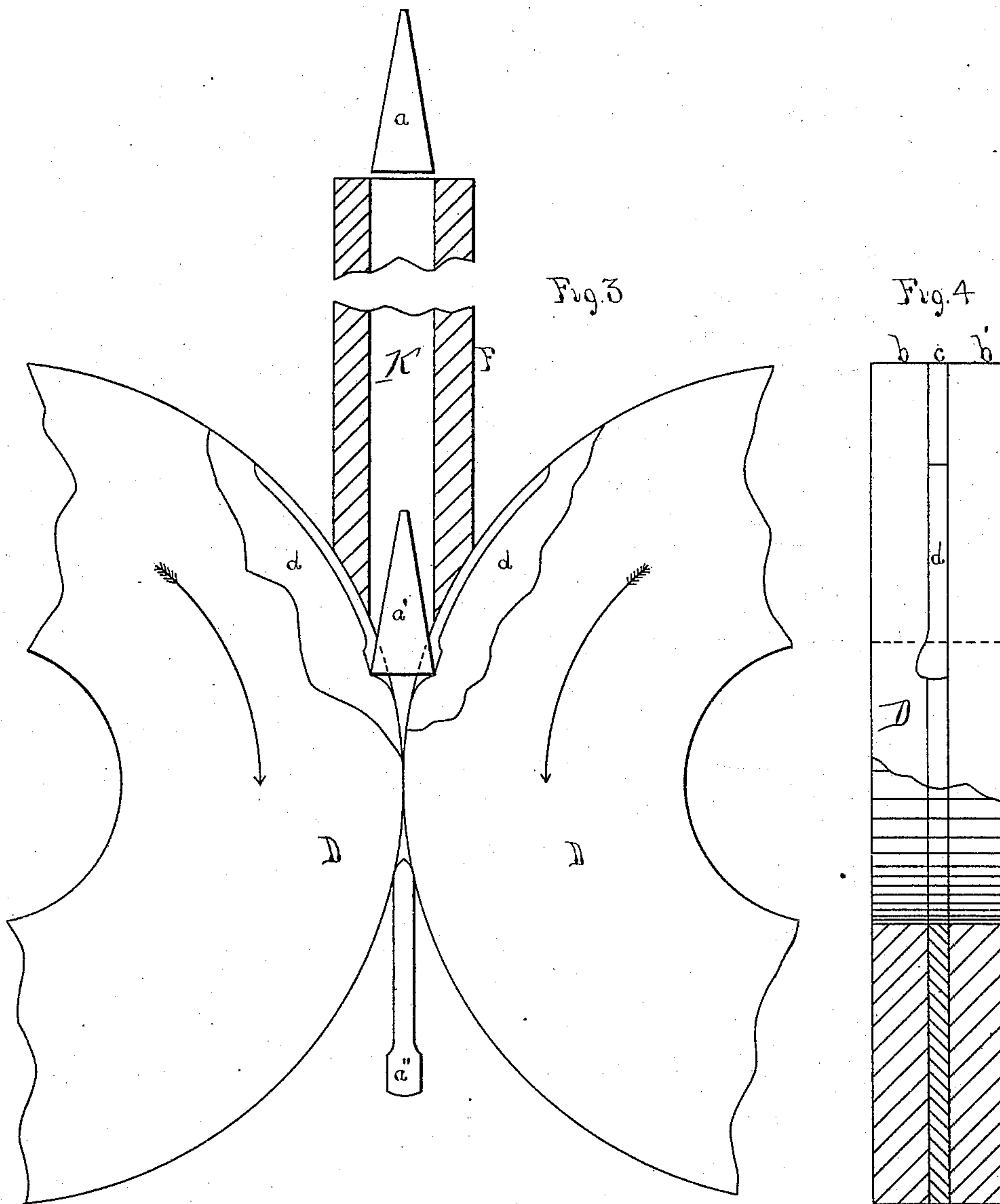
Inventor
George L. Hall

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Witnesses

Robert Locke

Chas Moore

Inventor

George L. Hall

UNITED STATES PATENT OFFICE.

GEORGE L. HALL, OF BOSTON, MASSACHUSETTS, ASSIGNOR TO C. W. HODGDON, OF SAME PLACE.

IMPROVEMENT IN MACHINES FOR ROLLING HORSESHOE-NAILS.

Specification forming part of Letters Patent No. **169,357**, dated November 2, 1875; application filed August 23, 1875.

To all whom it may concern:

Be it known that I, GEORGE L. HALL, of Boston, in the county of Suffolk and Commonwealth of Massachusetts, have invented a Machine for Forming Horseshoe-Nails, of which the following is a specification:

The object of my invention is to prevent the making of imperfect nails, either by the clogging in the dies of a nail, or its misdirection in being discharged therefrom, by the discharge-conductor being held to the die in such a manner that, when a nail is carried out of its proper course, or when imperfectly formed, the discharge-conductor is forced down, and a stop or cut off (which is held in place by a pin projecting from said conductor) allowed automatically to close the feed-conductor, and thus prevent the further passage of blanks to the dies until the machine is properly adjusted, all of which will be more fully seen by reference to the accompanying drawings, in which like letters represent the same parts in each of the figures, of which—

Figure 1 is a top view of my invention, showing its general arrangement. Fig. 2 is an end view of the same, showing the relative arrangement of the feed-conductor, the dies, the stop or cut-off and its spring, and the discharge-conductor—the heavy lines showing the discharge-conductor in place, the dotted out of place, as left by the imperfect discharge of a nail. Fig. 3 is an enlarged sectional view of the dies and feed-conductors, showing the V-shaped blank as it enters the dies before being formed thereby, and also showing the discharge therefrom of the nail after being formed. Fig. 4 is a circumferential view of the die, showing its three disks and its points of separation.

A represents the bed and frame, designed to hold the dies and their driving mechanism in place. B B are two gear-wheels, designed to connect the arbors M N, and so timed or set that the corresponding faces of the dies will come together. C is a bed supporting the feed-conductor F. D D are two sectional dies, which are each secured to the arbors M N. E E are set-bolts, designed to hold and adjust the boxes G G to the arbors M and N, and the faces of the dies D D one to the other. H is a stop or cut-off, designed to close the feed-conductor F, when it (the stop) is disengaged by the discharge-conductor I, when forced down by improper work. I is a dis-

charge-conductor, designed to receive the perfectly-formed nails, and conduct them from the machine. It is also designed to drop, should a nail be imperfectly formed or misdirected in coming from the dies, and at the same time disengage the stop H, which automatically closes the feed-conductor F, and prevents the feeding of more blanks until the machine shall have been properly adjusted. J is a spring, designed to operate the closing-lever or cut-off H. K is the interior of the conductor F. M N are arbors, to which the gears B B and the dies D D are each securely fastened. *a* and *a'* represent the V-shaped blanks as prepared and designed by me for the manufacture of nails. *a''* is a nail after being formed from a V-shaped blank. *d d* are dies formed in the central disk *c*. *b b* are disks designed to clamp on each side of the disk *c*, to form a complete die, and *c* is a central disk, in which it is designed to form the die. The shafts have their bearings in the simple frame A, and the dies are held securely in place by four strong adjustable bearings, placed one on each side of each die. The dies D D are uniformly rotated in the direction of the arrows, and the V-shaped blanks dropped into the feed-conductor. The dies receive the V-shaped blank at the point in the dies designed to form the head of a nail, (see Fig. 3 of the drawings,) and there compress it, first forming the head, then the body, of the nail as it is discharged from the dies, the discharge-conductor receiving and discharging all perfectly-formed nails. The imperfect or misdirected nails are forced down against the discharge-conductor, pressing it away from the dies, and at the same time disengaging the cut-off lever H, which cuts off the feed-conductor, thereby preventing the insertion of blanks until the discharge-conductor is properly adjusted, and the imperfect nails removed from the machine, thus avoiding the liability of breaking or injuring either the dies or discharge-conductor.

I claim as my invention—

The combination of the discharge-conductor I, frame A, dies D D, cut-off H, spring J, and the feed-conductor F, substantially as herein described and set forth.

GEORGE L. HALL. [L. S.]

Witnesses:

P. WEBSTER LOCKE,
CHAS. D. MOORE,