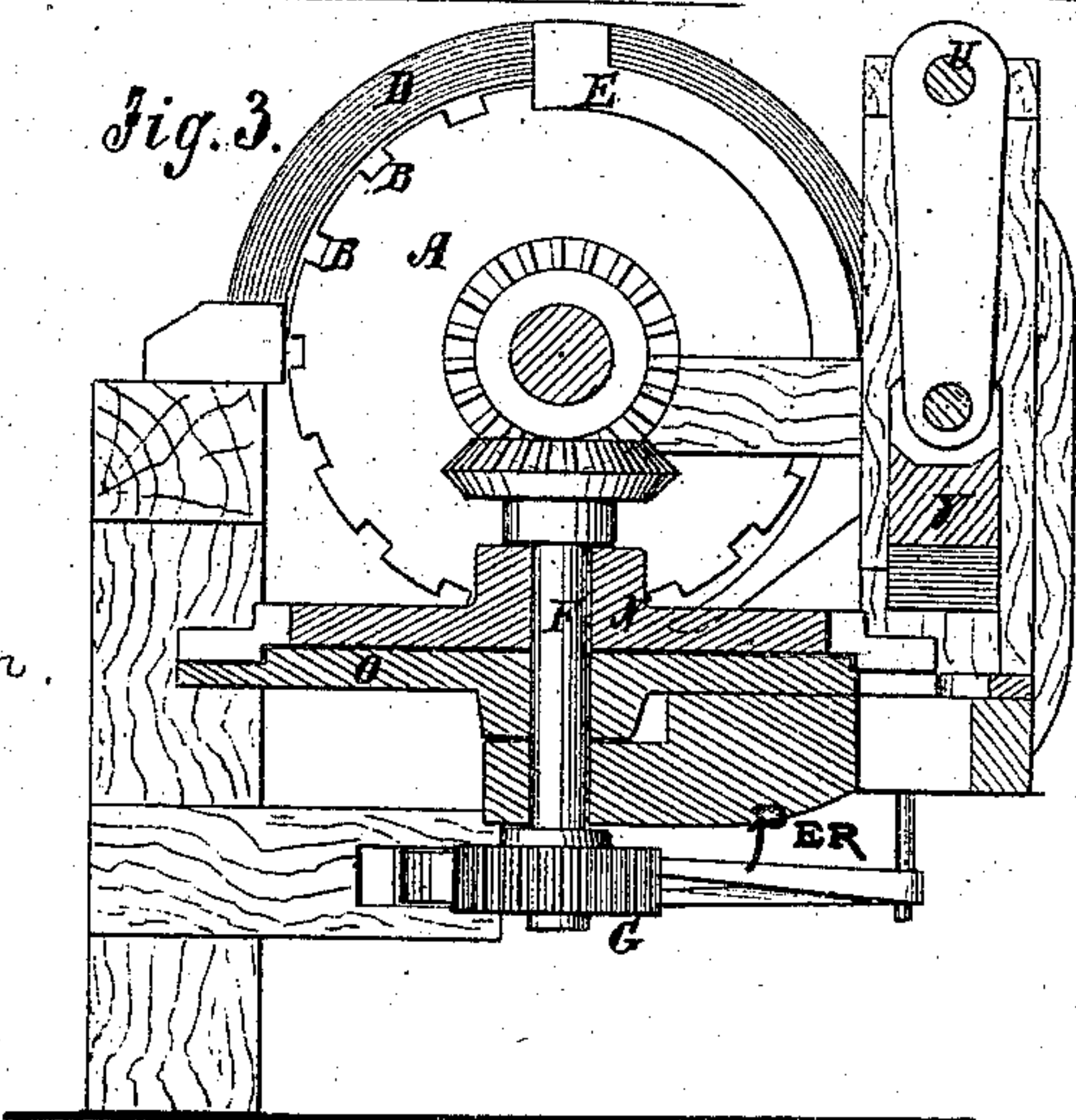
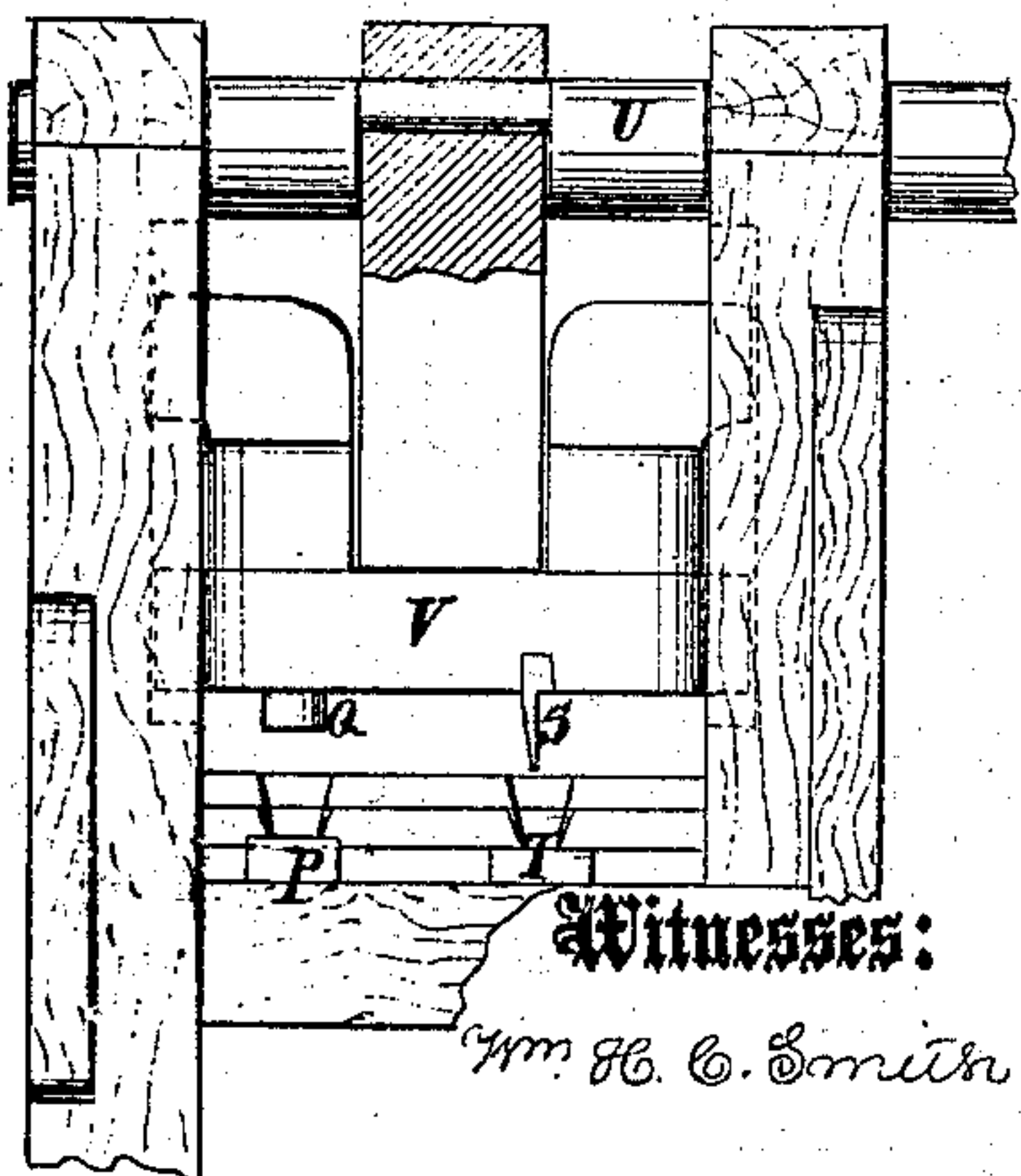
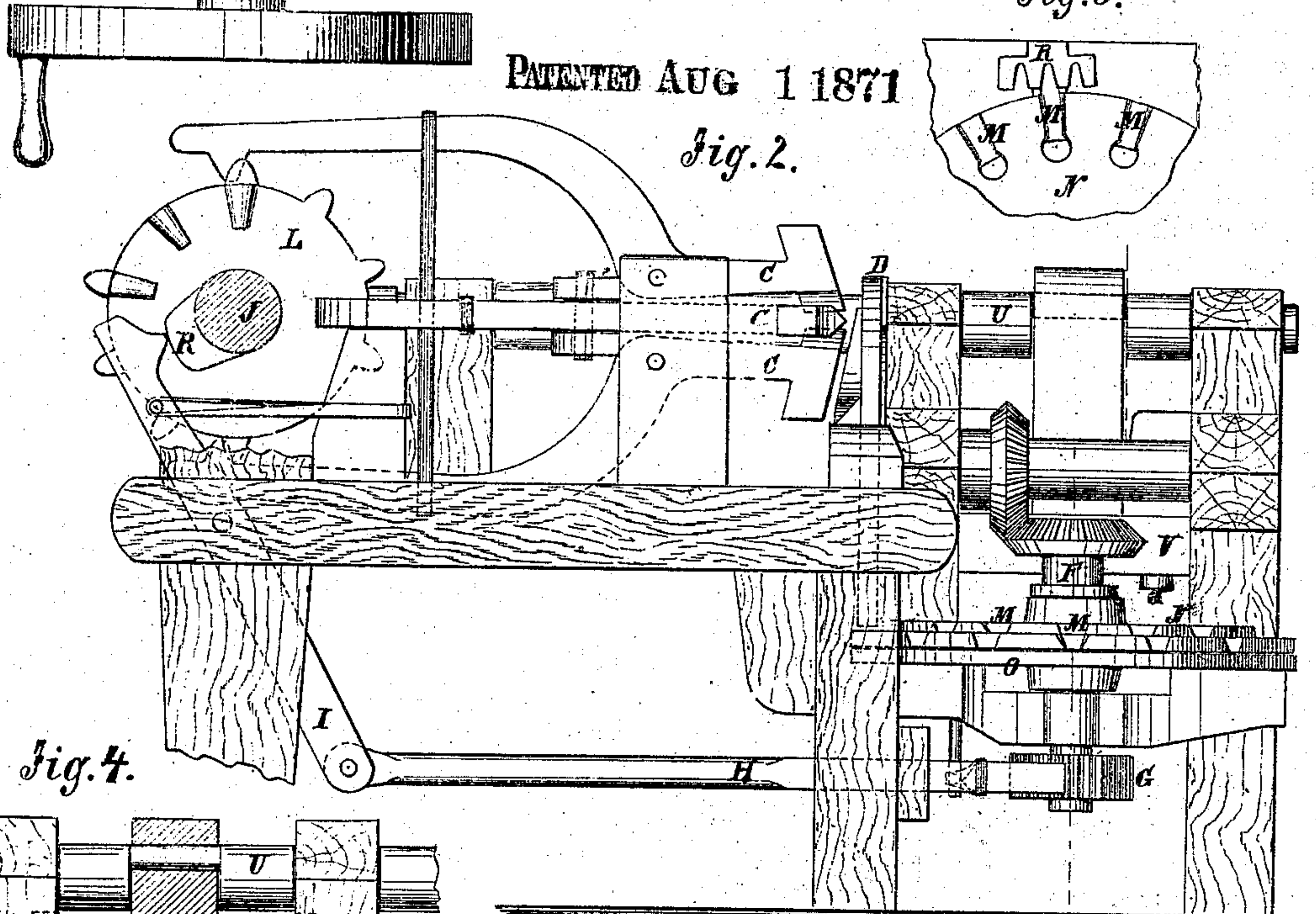
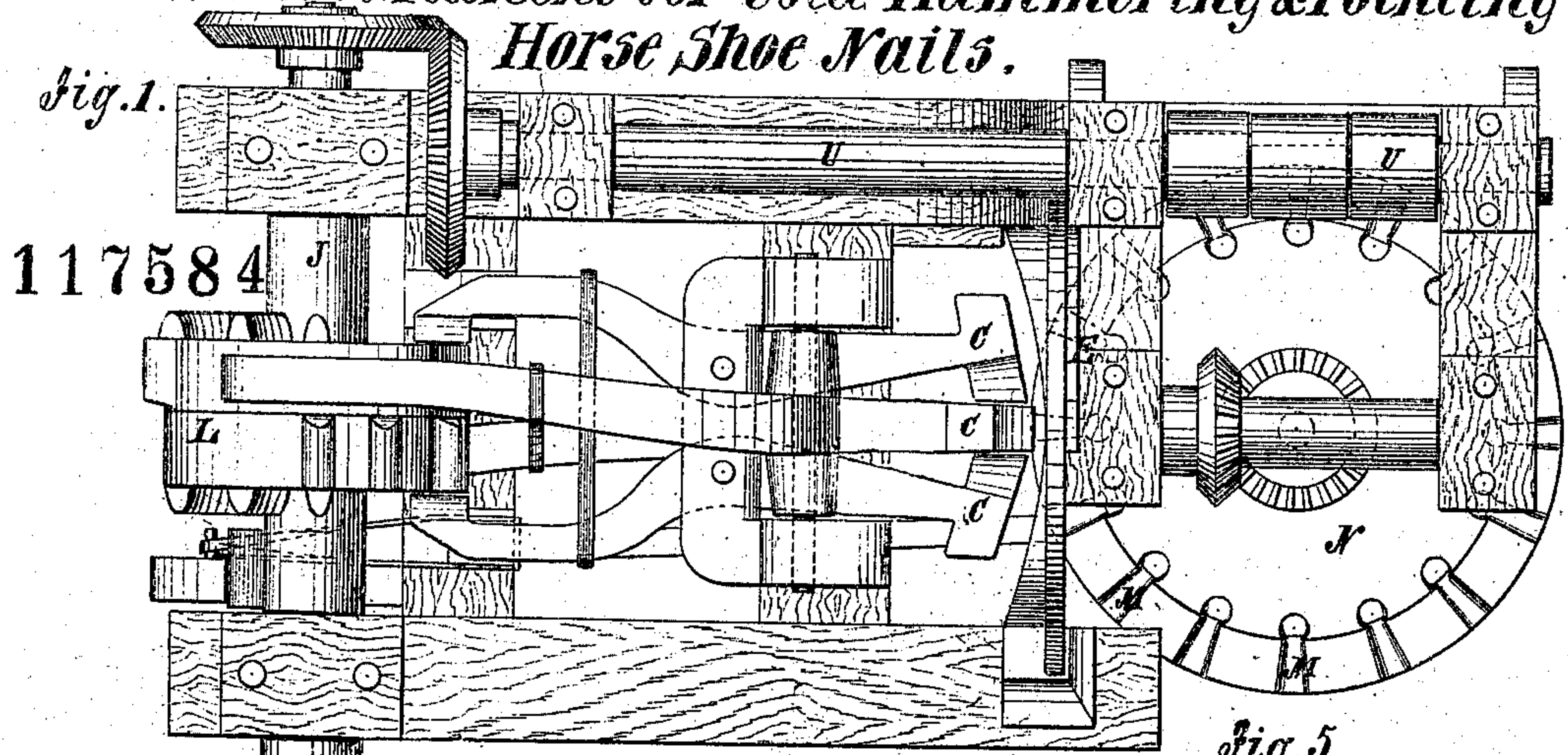


# H.A.Wills. Machine for Cold Hammering & Pointing Horse Shoe Nails.



Inventor:

H. A. Wills.

Munn & Co.

Attorneys.



# UNITED STATES PATENT OFFICE.

HARRY A. WILLS, OF VERGENNES, VERMONT.

## IMPROVEMENT IN MACHINES FOR POINTING HORSESHOE-NAILS.

Specification forming part of Letters Patent No. 117,584, dated August 1, 1871.

*To all whom it may concern:*

Be it known that I, HARRY A. WILLS, of Vergennes, in the county of Addison and State of Vermont, have invented a new and Improved Machine for Cold Hammering and Pointing Horseshoe-Nails; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same, reference being had to the accompanying drawing forming part of this specification.

This invention relates to improvements in machines for hammering and pointing horseshoe-nails; and it consists in the hereinafter-described arrangement of carrying-disks, guards, a set of hammering-dies, flattening and pointing-dies, and operating devices for working the said devices.

Figure 1 is a plan view of my improved machine. Fig. 2 is a side elevation. Fig. 3 is a sectional elevation taken on the line *xx* of Fig. 2. Fig. 4 is a partial side elevation, showing the flattening and pointing-dies; and Fig. 5 is a detail view, showing a part of one of the carrying-disks and the pointing-die in plan view.

Similar letters of reference indicate corresponding parts.

A is an intermittingly-rotating carrying, holding, and delivering-disk, of metal, with notches B in the periphery, working on a horizontal axis in front of a set of four hammering-dies, C, under a guard, D, and behind a guard, E. Said disk is geared with the vertical shaft F, extending downward, and having a ratchet-wheel, G, on the lower end, with which a pawl, H, works to impart one movement to the disk for each revolution of the driving-shaft J, by which the pawl is worked through the medium of a lever, I, and tappet R. The nails, being previously roughly shaped, are put in the notches B under the guard D, and pointing toward the hammers C, by hand, or any competent feeding mechanism, so that the heads will pass in front of the guard E, by which and the guard D they are so confined in the notches as to be readily carried to the hammers and held for being acted on by them. The ham-

mers are operated by the tappet-wheel L, whereon the tappets are so arranged that said hammers will be at rest both when the nail is being carried to the position for being acted on by them, and when being carried away. After being hammered on the sides and edges the nails are carried down and delivered into the slots M in the horizontally and intermittingly-revolving disk N on the vertical shaft F, and working over the fixed disk O, said slots being suitably shaped to receive the heads of the nails at the inner ends, while the points project beyond the disk as much or a little more than the distance from the point it is required to hammer them. These slots M are arranged relatively to the notches B of disks A, and the two disks are so geared together that a slot will always be ready to receive a nail from disk A as soon as the nail passes beyond the guards D and E and falls out. This disk, working intermittently like disk A, carries the nails first over the anvil P, where they are hammered by a die, Q, and then over the pointing-die R, through which they are forced by the punch S, by which and said die the edges are trimmed off, and the nails are discharged through the hole T in the disk O. These punches Q and S, being mounted in the slide V, are worked by a crank-shaft U, which gears with the main driving-shaft J, as shown in Fig. 1.

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

1. The notched intermitting rotating disk A, guards D and E, and the hammer-dies, arranged and operating substantially in the manner described.

2. The notched intermittingly-rotating disks A and N, guards D and E, the hammer-dies, stationary disk O, anvil P, die T, and punches Q and S, arranged and operating substantially in the manner specified.

HARRY A. WILLS.

Witnesses:

JAS. J. BARNERD,  
JOSEPH LIBERTY.