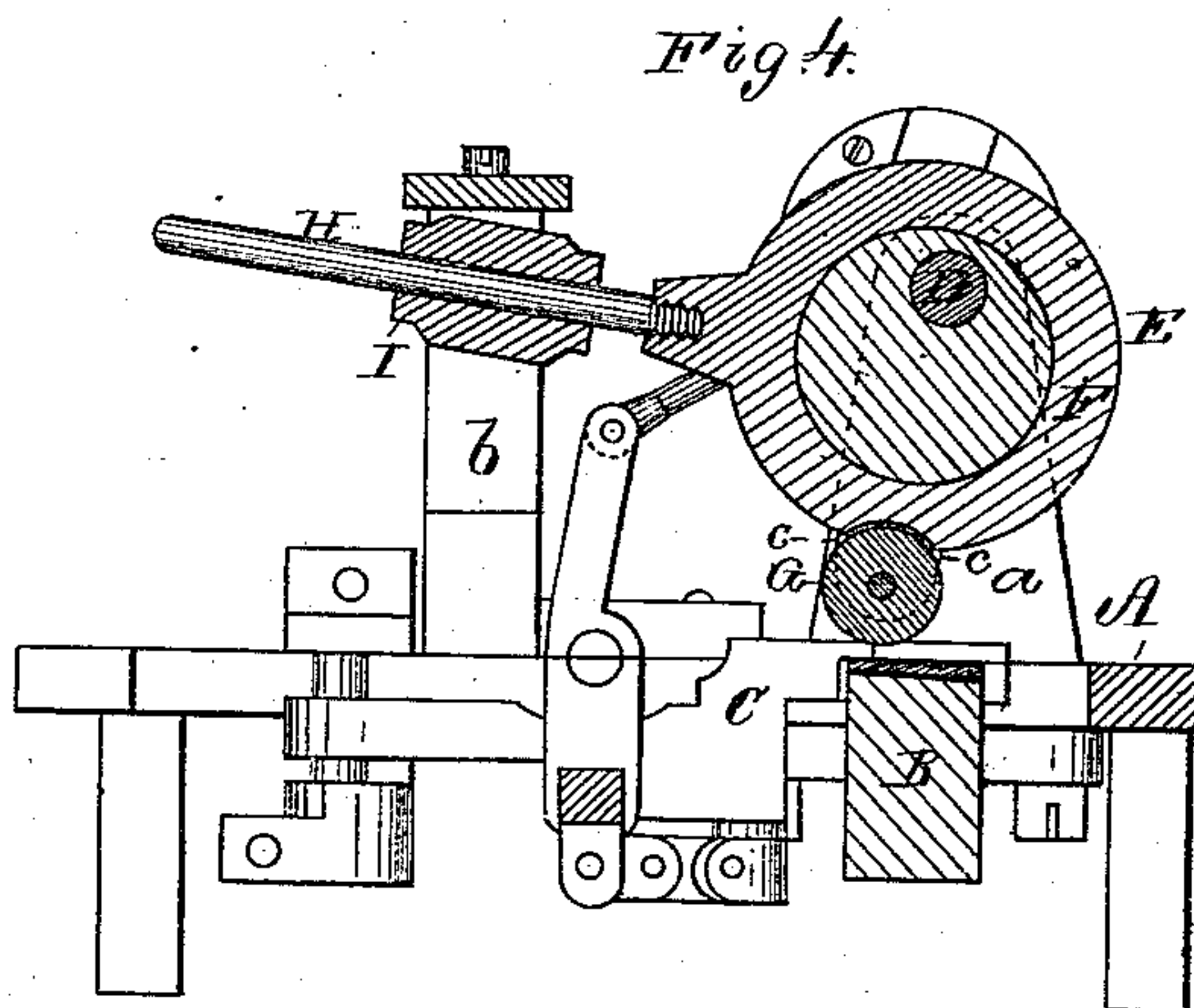
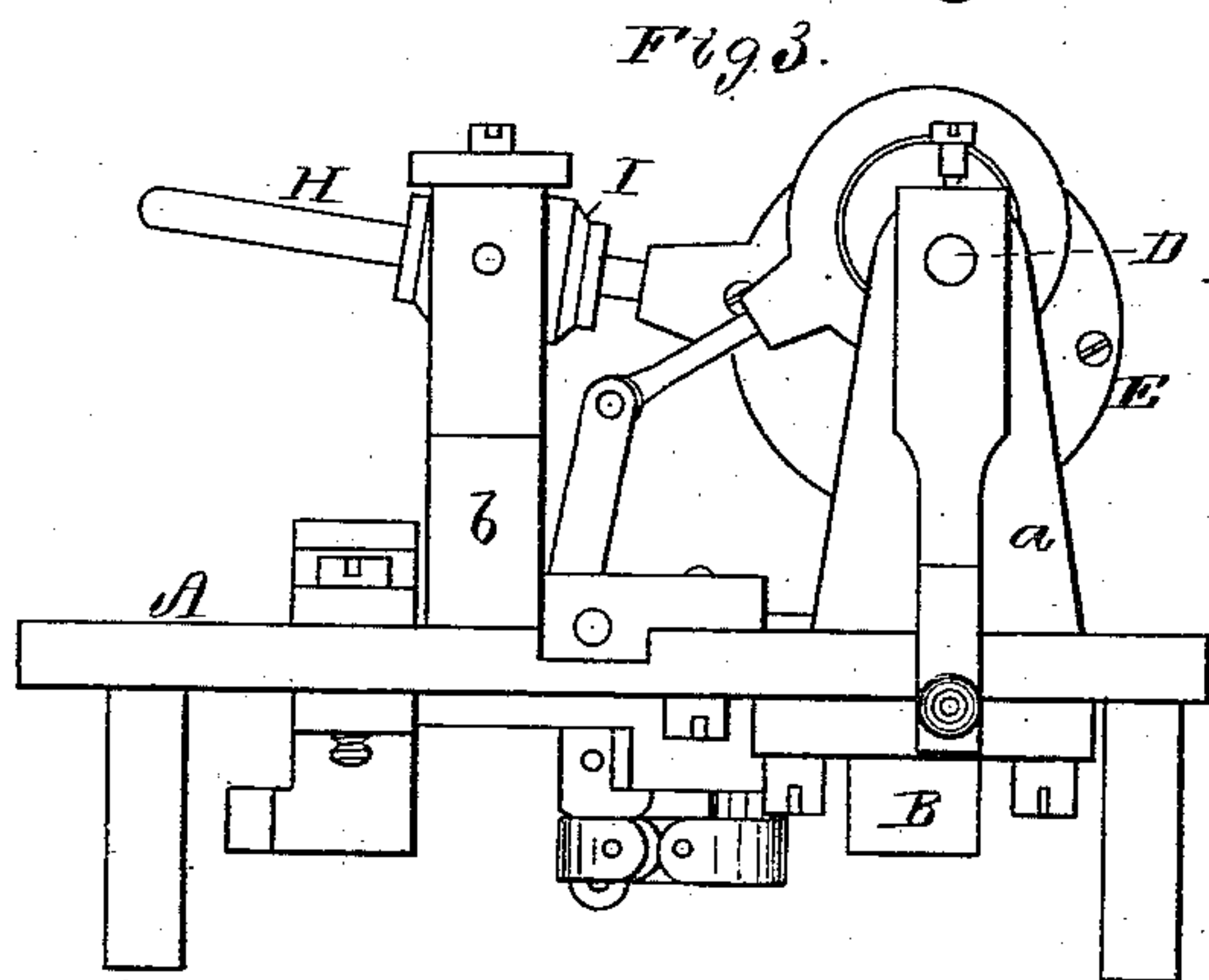
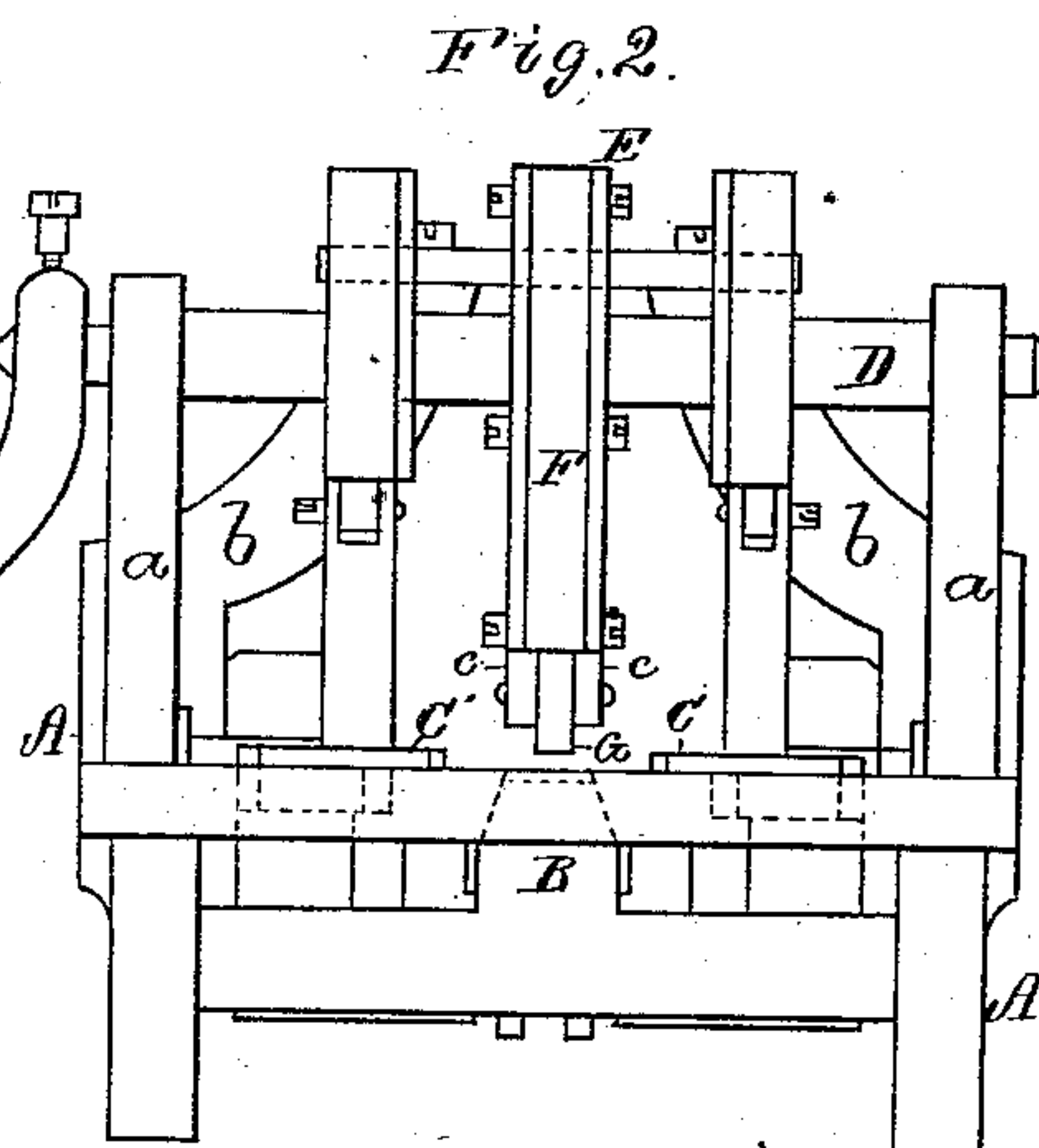
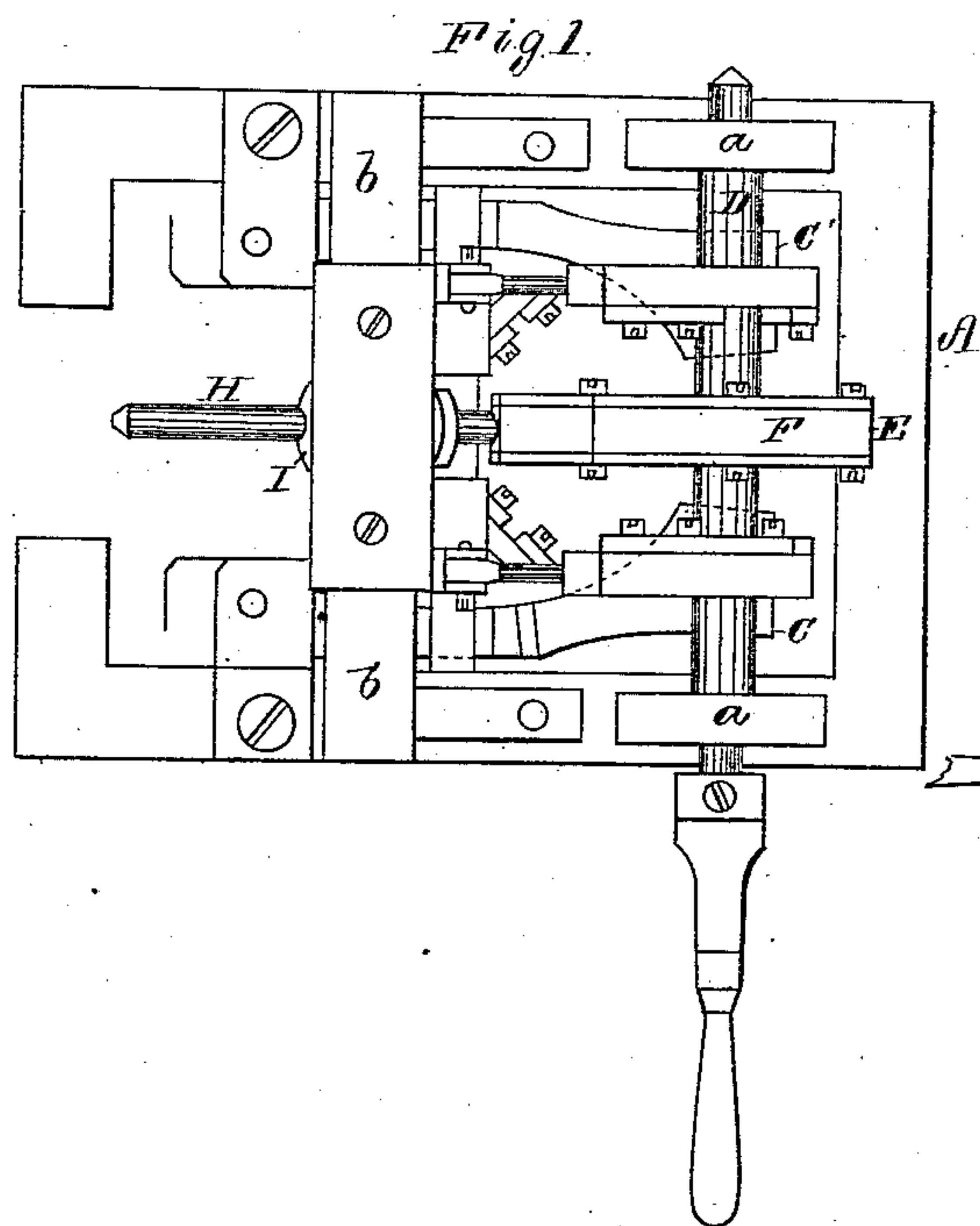


A. D. BINGHAM.

Machine for Making Horseshoe Nails.

No. 161,379.

Patented March 30, 1875.



Witnesses.

S. W. Piper

L. N. Hobbes

Albert D. Bingham

by his attorney.

R. M. Ledy

# UNITED STATES PATENT OFFICE.

ALBERT D. BINGHAM, OF NASHUA, NEW HAMPSHIRE.

## IMPROVEMENT IN MACHINES FOR MAKING HORSESHOE-NAILS.

Specification forming part of Letters Patent No. **161,379**, dated March 30, 1875; application filed October 28, 1874.

*To all whom it may concern:*

Be it known that I, ALBERT D. BINGHAM, of Nashua, of the county of Hillsborough and State of New Hampshire, have invented a new and useful Improvement in Machinery for Making Horseshoe-Nails; and do hereby declare the same to be fully described in the following specification, and represented in the accompanying drawings, of which—

Figure 1 is a top view, Fig. 2 a front elevation, Fig. 3 a side elevation, and Fig. 4 a longitudinal and vertical section, of my invention, as arranged with the driving-shaft frame, anvil swage-roller, and lateral hammers of a horseshoe-nail machine, the purpose of my improvement being to operate the swage-roller relatively to the anvil, and with more power and to better advantage than when such roller is carried by an arm extended from the shaft.

In carrying out my invention I employ an eccentric and its collar, a slide or arm, and a rock-shaft, and support the swage-roller by projections from the said collar, all as represented in the said drawings, in which—

A denotes the frame of the machine, provided with standards *a a* and *b b*. Within this frame is the anvil B, whose upper surface is usually inclined more or less from the horizontal plane, such anvil and the lateral hammers C C' being as usually made and provided with mechanism for actuating said hammers. The driving-shaft D has its bearings

in the standards *a a*, and is arranged over the anvil. Such shaft at its middle is provided with an eccentric, E, to whose collar F the swage-roller G is applied by means of and between arms *c c* extended therefrom, and provided with bearings to receive the journals of the said roller. From the collar F there projects a slide arm or rod, H, that goes laterally and loosely through a rocker-shaft, I, arranged between and pivoted to the two standards *b b*. This rock-shaft and slide-rod permit the collar of the eccentric to move up and down and forward and back, or conform to the motions of the eccentric, and they maintain the collar and swage-roller in their due relations to the anvil. The eccentric not only operates to depress the swage-roller with much force but to move it longitudinally over the anvil to great advantage, in order to effect the swaging or tapering of a nail-blank when resting on the anvil.

What I claim in the horseshoe-nail machine as my invention is—

The eccentric E, its collar F, the slide rod or arm H, and the rock-shaft I, arranged and applied together and to the driving-shaft D, swage-roller G, and the back standards *b b*, all essentially as and to operate as specified.

ALBERT D. BINGHAM.

Witnesses:

WILLIAM BARRETT,  
SAML. W. MCCALL.