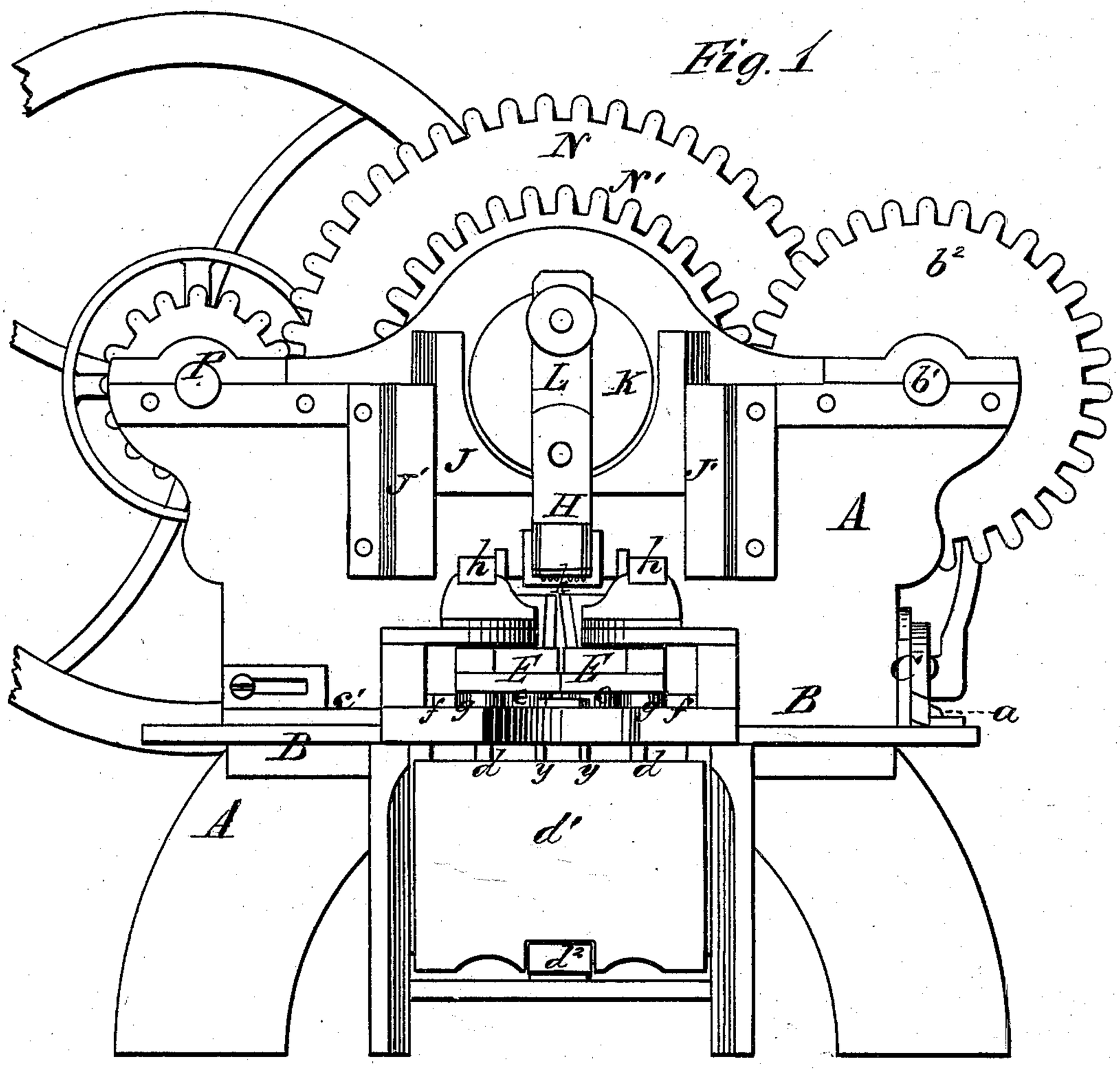
5 Sheets—Sheet 1.

D. I. PRUNER.

HORSESHOE-MACHINE.

No. 171,320. Patented Dec. 21, 1875.

Fig. 1



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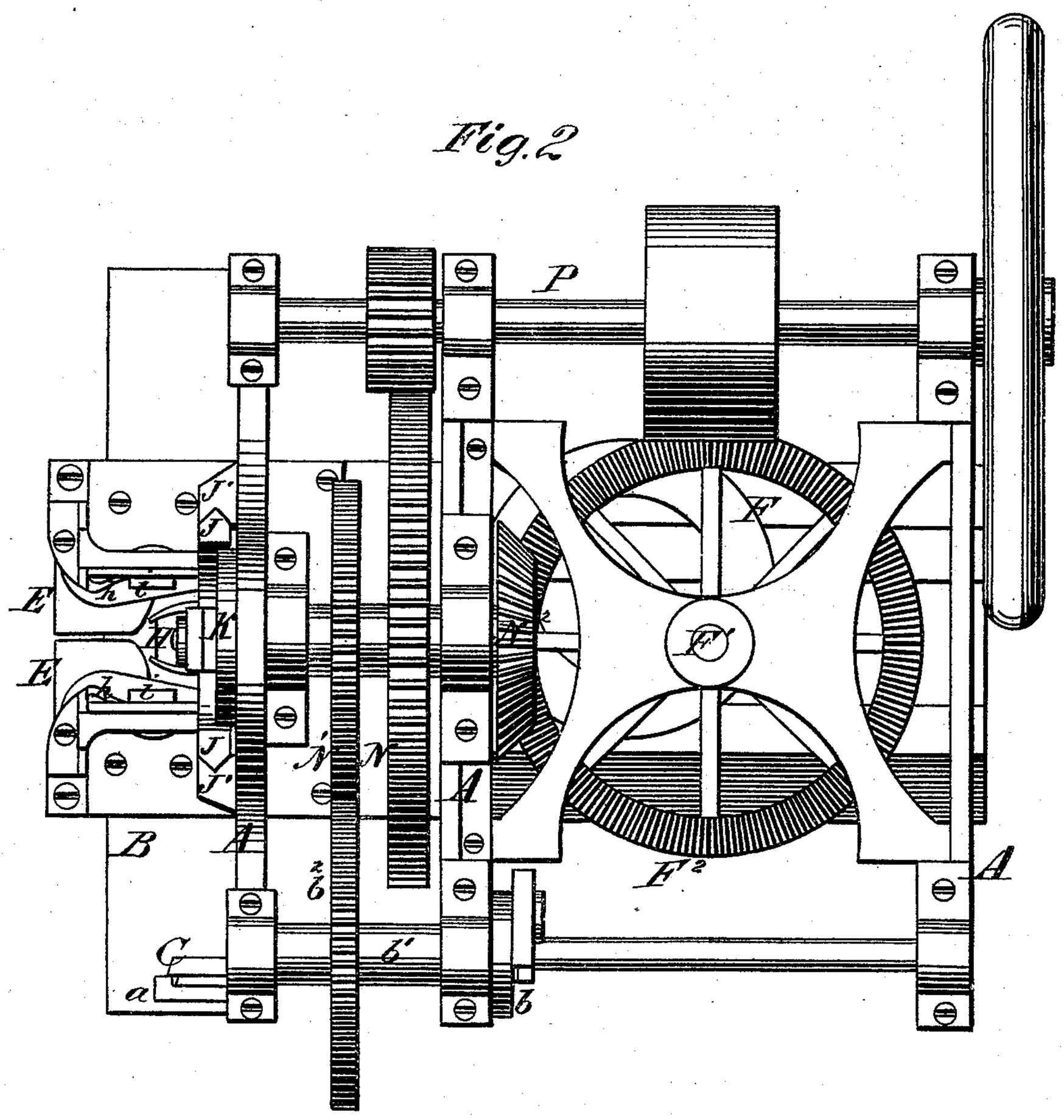
HORSESHOE-MACHINE.

No. 171,320. Patented Dec. 21, 1875.

Fig. 2



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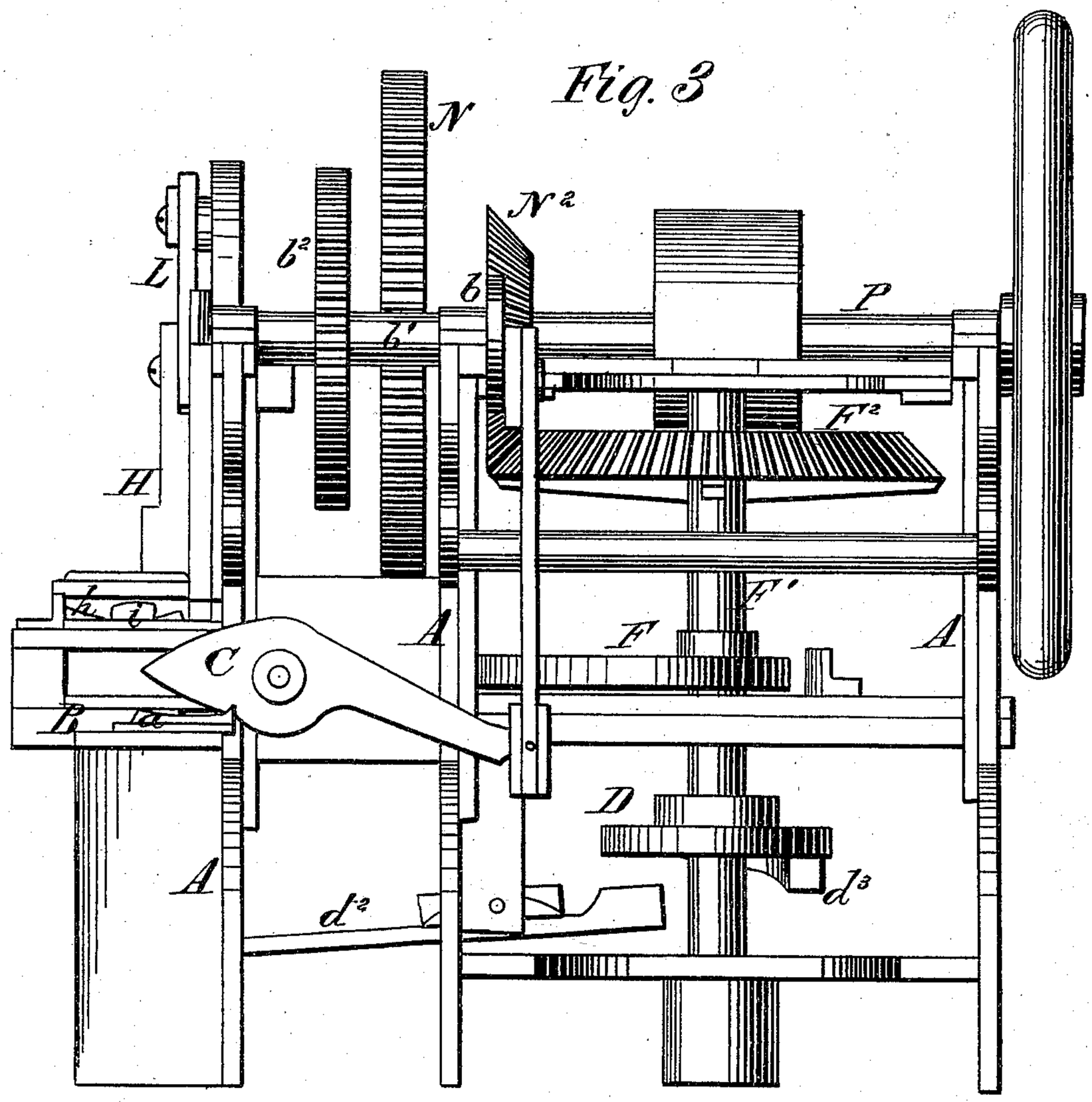
No. 171,320. Patented Dec. 21, 1875.

Fig. 3



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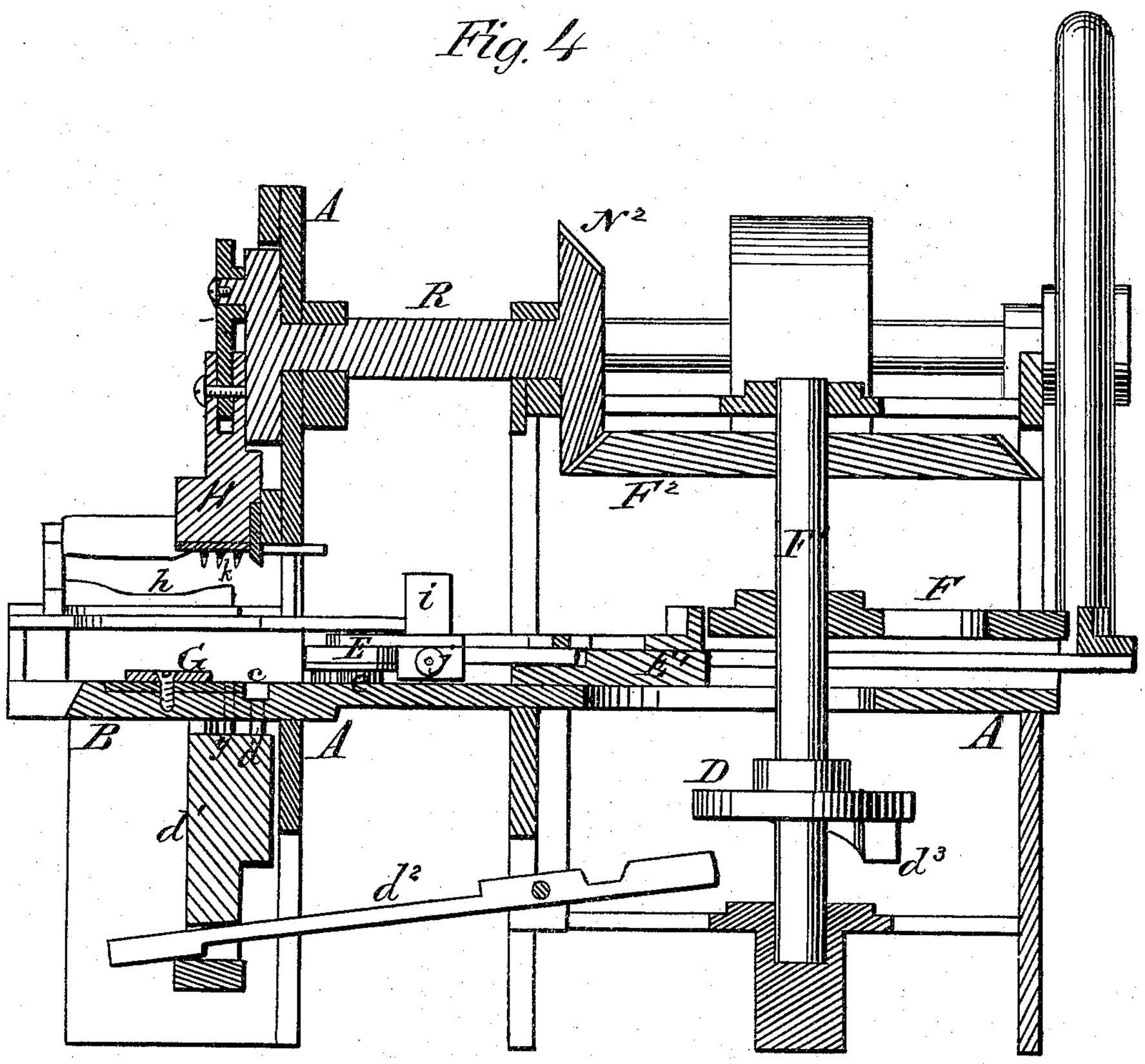
No. 171,320. Patented Dec. 21, 1875.

Fig. 4



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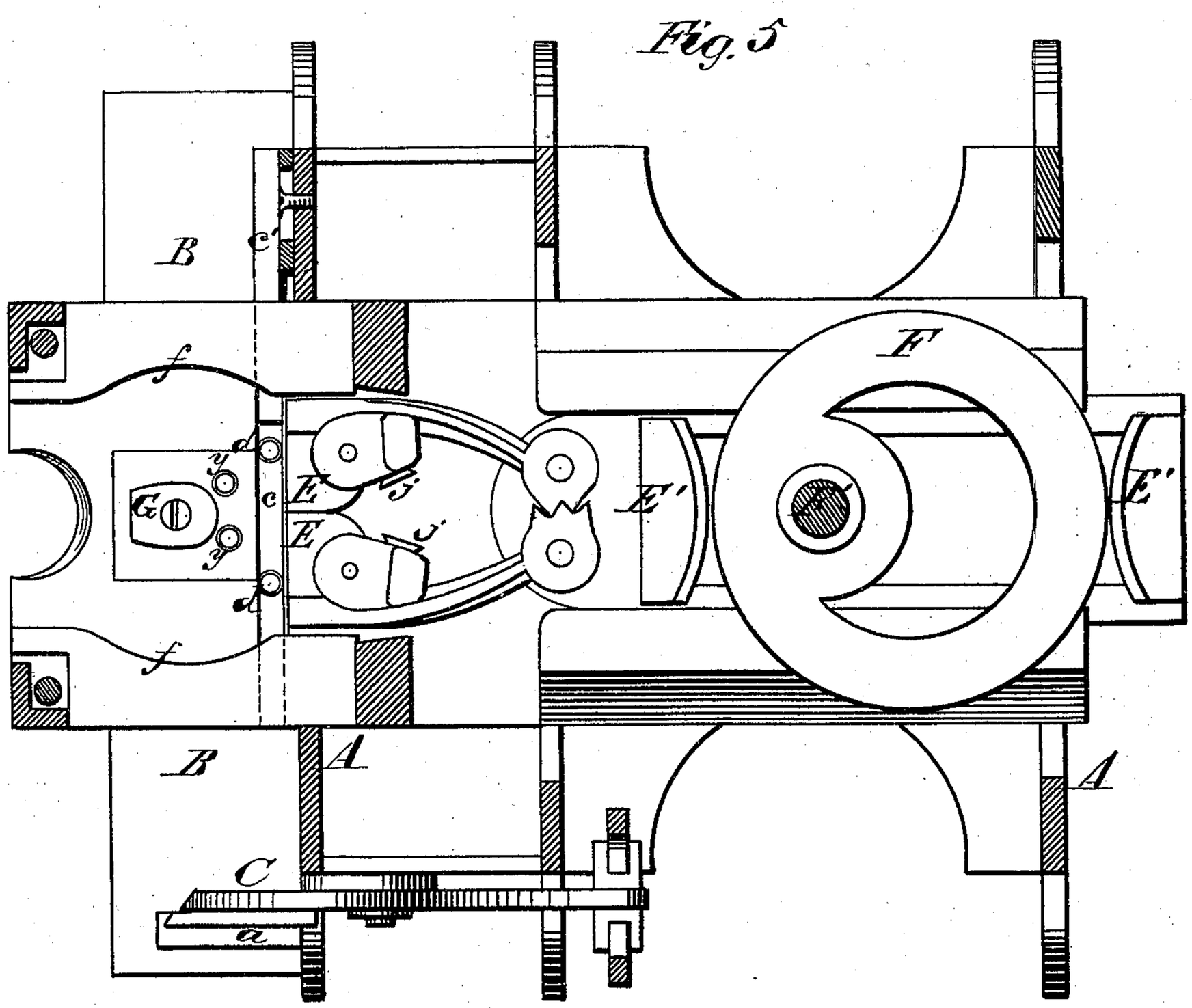
No. 171,320. Patented Dec. 21, 1875.

Fig. 5



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UNITED STATES PATENT OFFICE.

DAVID I. PRUNER, OF McVEYTOWN, PENNSYLVANIA.

IMPROVEMENT IN HORSESHOE-MACHINES.

Specification forming part of Letters Patent No. **171,320**, dated December 21, 1875; application filed November 6, 1875.

To all whom it may concern:

Be it known that I, DAVID I. PRUNER, of McVeytown, in the county of Mifflin and State of Pennsylvania, have invented a new and valuable Improvement in Machines for the Manufacture of Horseshoes; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings, making a part of this specification, and to the letters and figures of reference marked thereon.

Figure 1 of the drawings is a representation of an end view of my horseshoe-machine. Fig. 2 is a plan view of the same. Fig. 3 is a side view. Fig. 4 is a vertical section. Fig. 5 is a horizontal section.

This invention has relation to machinery which is designed for making horseshoes; and the nature of my invention consists in a novel combination of devices, hereinafter described, whereby the rods of which the shoes are made are cut off the proper length, bent around a former, and at the same time creased, then punched, and the shoe-blanks discharged from the machine.

In the annexed drawings, the letter A designates the frame of the machine, at the front of which is a table, B, and the mechanism for cutting off the rods and forming the shoe-blanks. The rod of which the shoes are made is taken directly from the rollers of the rolling-mill, which give the proper shape to it, and fed to the shapers over a shear-bar, *a*, when it is cut by means of a vibrating shear, C. This shear C cuts the rod in proper lengths to form the shoes, and it receives its motion from an eccentric, *b*, on the shaft b^1 of a spur-wheel, b^2. The sections cut from the rod are fed forward into a channel, *c*, against an adjustable gage, *c'*. The next operation is to lift the section out of its channel *c*, so that it can be taken by the benders. This is done by means of lifting-pins *d d*, which are fixed into a vertically-movable slide, d^1, actuated by means of a lever, d^2, and a tappet, d^3, on a horizontal revolving disk, D. The tappet or cam d^3 is adjustable, for the purpose of properly timing the throw of the lifting-pins. E E designate two jaws, which are formed on the ends of two curved arms that are pivoted to a rectilinear reciprocating head, E', actuated by means of an eccentric, F, on a vertical shaft, F^1. The jaws E E have rolling benders *e e* on their bottoms, which bend the sections of shoe-rod about a former, G, which is secured upon the raised portion of the table B, as shown. The bending-wheels *e e* are held up to their work by means of curved guides *f f* fixed on the table B, on opposite sides of the former G, and equidistant therefrom, against which guide-wheels *g g* bear. The wheels *g g* are on the bottoms of the jaws, and prevent undue friction of the jaws E E against said guides *f f* during the formation of the shoes. Above the jaws E E are curved guideways *h h*, on which slide hooks *i i*. These guideways are concave longitudinally, and are for the purpose of causing the said jaws to dip while making their forward and backward strokes. The object of giving this dipping motion to the jaws is to cause two rolling creasers, *j j*, on them to leave the creases in the shoe tapering at the ends.

After the jaws recede from the table B a follower, H, descends upon the shoe around the former G, and, by means of punches *k*, makes the perforations through the shoe for the nails. After the follower recedes, the shoes are lifted from the former G by pins *q* on the slide d^1, and when the jaws move forward again they discharge the shoe from the table B. The follower or punch-head is fixed to a sash, J, working between guides J' J', and this follower is connected to a wrist-pin on a disk, K, by means of a pitman-rod, L. The disk K is keyed on a shaft, R, carrying three wheels, N N^1 N^2. The wheel N receives motion from a pinion on a driving-shaft, P. The wheel N^1 gives motion to the wheel b^2, and the wheel N^2 gives motion to the wheel F^2 on shaft F^1.

The several parts which form the shoes will be made adjustable, so as to adapt the machine for making shoes of various sizes.

What I claim as new, and desire to secure by Letters Patent, is—

1. The creasers *j* and jaws E, combined with the curved guides *h* and means, substantially as described, for bending the shoe-rods about a former.

2. The guide-channel *c* and gage *c'*, com-

bined with the shear C, lifters *d d*, and devices for bending the shoe-rods about a former, substantially as described.

3. The follower H, having punches K fixed into its lower end, in combination with creasers *j*, benders *e*, and a former, G, substantially as described.

In testimony that I claim the above I have hereunto subscribed my name in the presence of two witnesses.

D. I. PRUNER.

Witnesses:
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