

(No Model.)

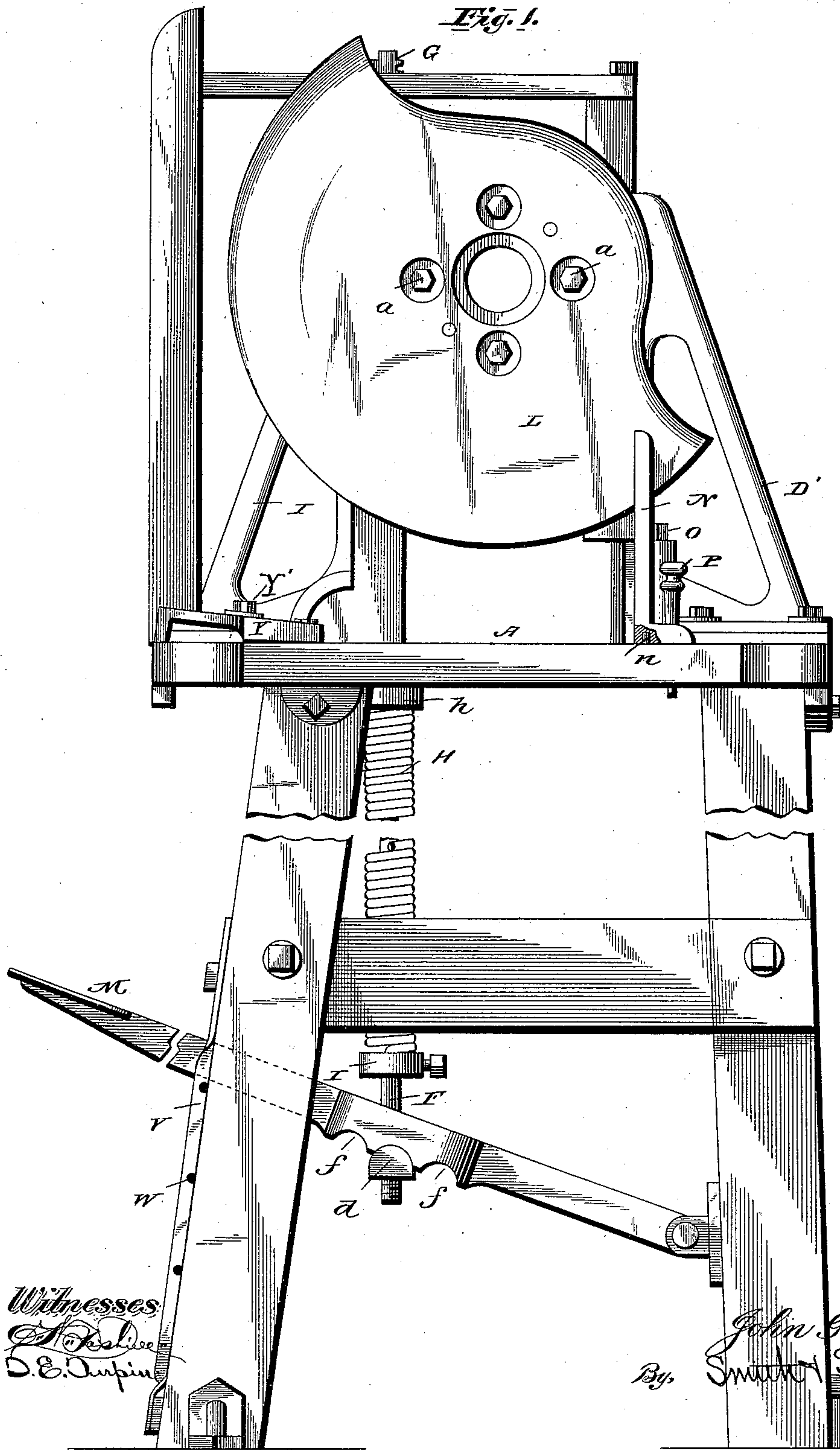
3 Sheets—Sheet 1.

J. G. LEFFINGWELL.
CUTTING MACHINE.

No. 415,045.

Patented Nov. 12, 1889.

Fig. 1.



Witnesses
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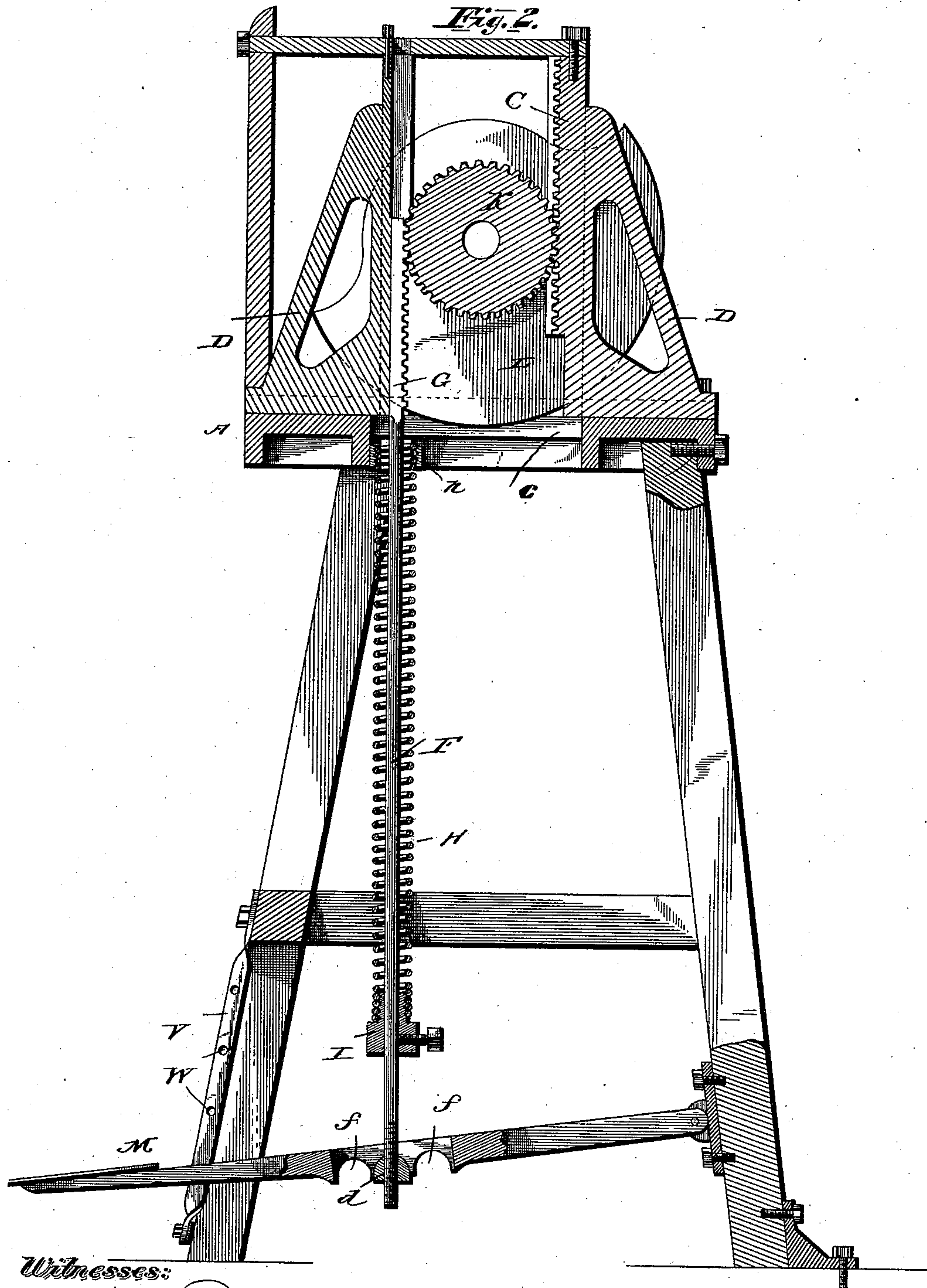
(No Model.)

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J. G. LEFFINGWELL.
CUTTING MACHINE.

No. 415,045.

Patented Nov. 12, 1889.



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(No Model.)

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J. G. LEFFINGWELL.
CUTTING MACHINE.

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Fig. 3.

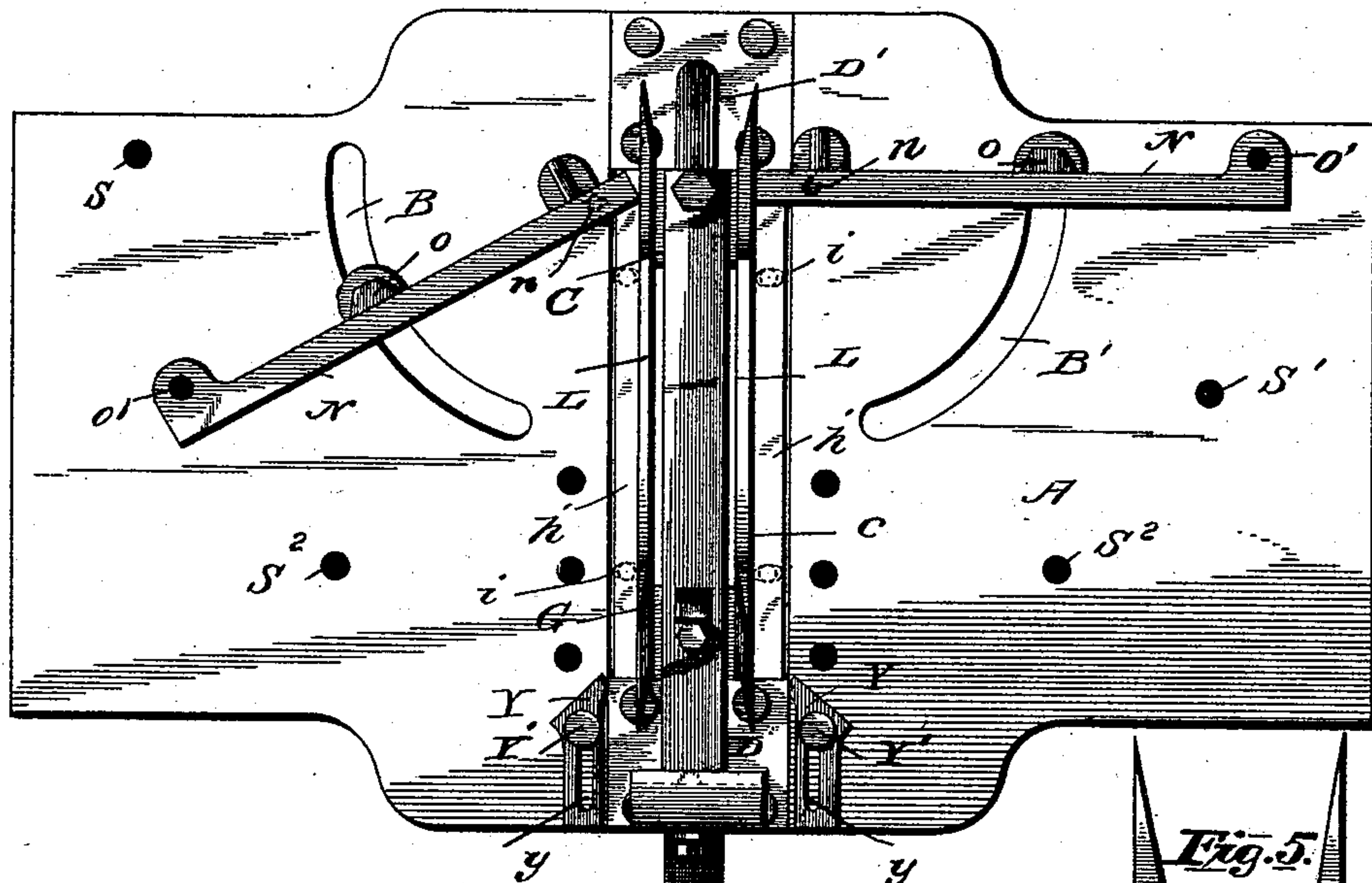


Fig. 4.

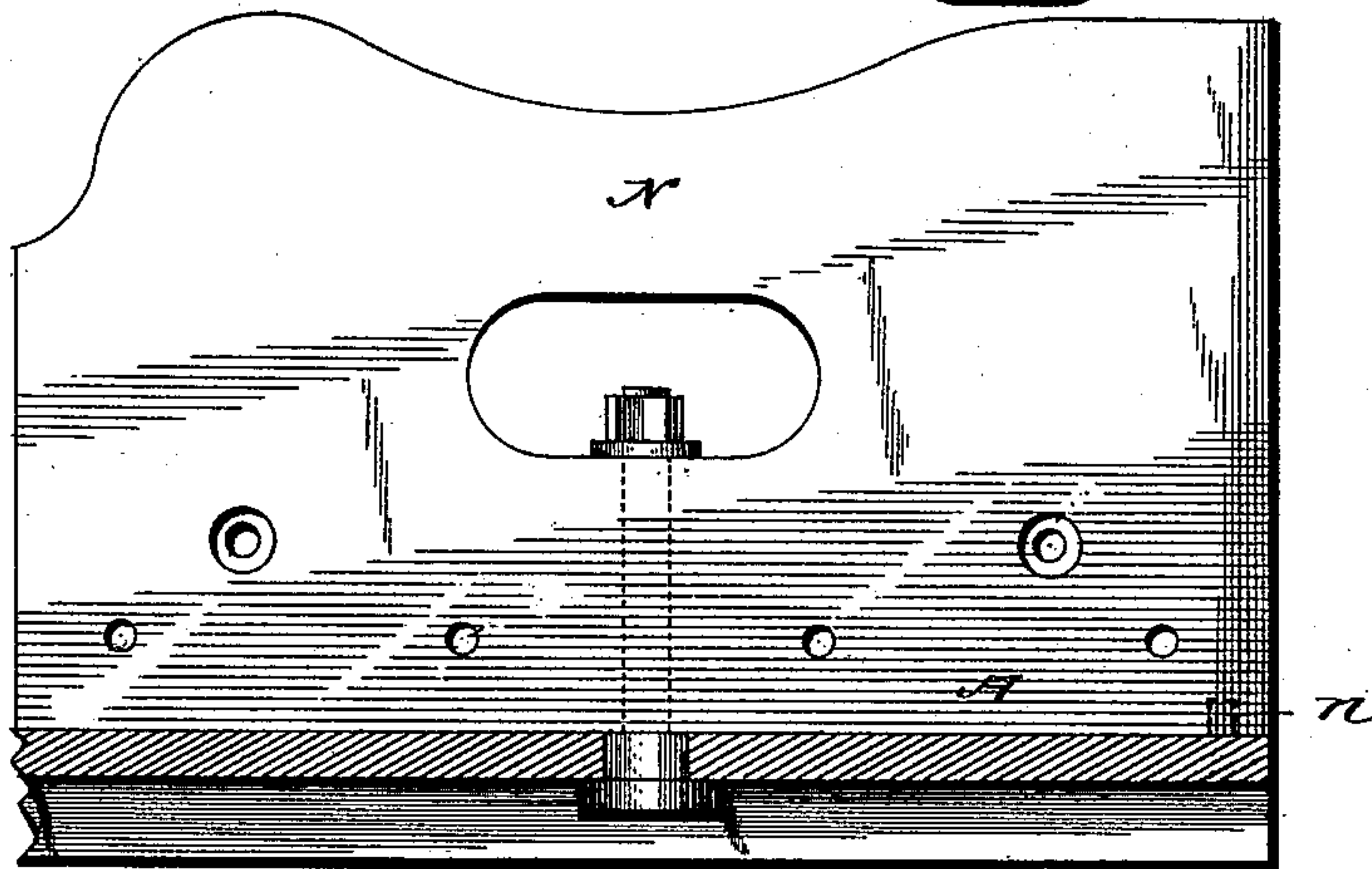
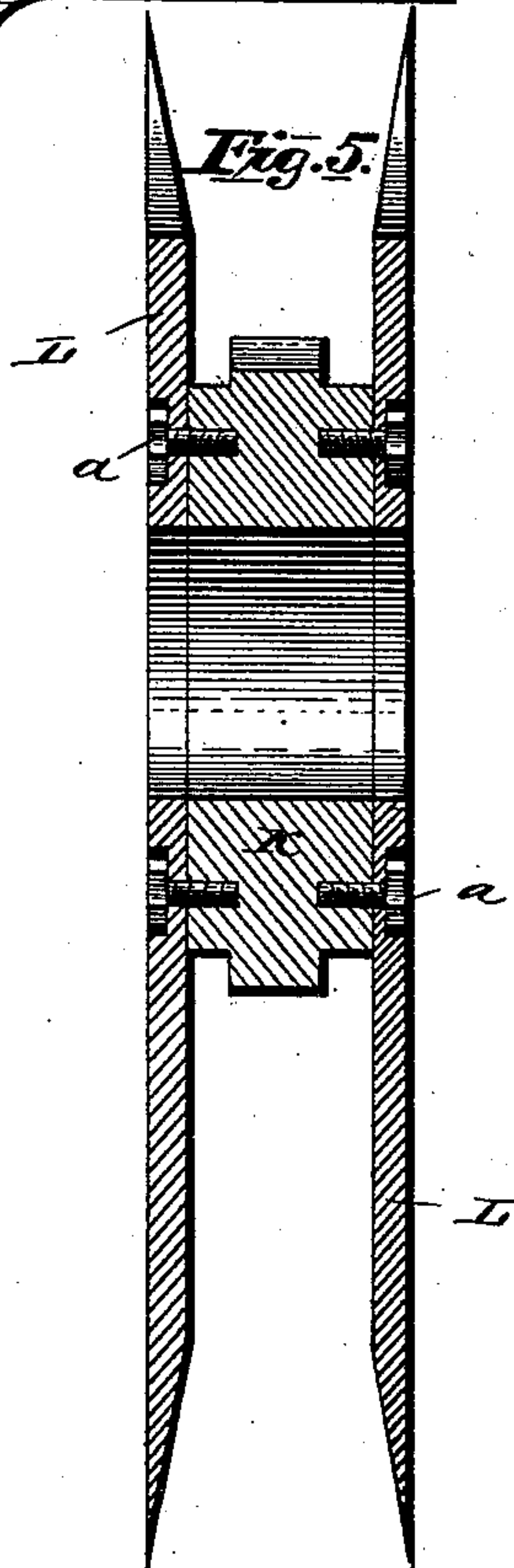


Fig. 5.



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UNITED STATES PATENT OFFICE.

JOHN G. LEFFINGWELL, OF NEWARK, NEW JERSEY, ASSIGNOR OF ONE-HALF TO MARGARET A. MATTESON, OF SAME PLACE.

CUTTING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 415,045, dated November 12, 1889.

Application filed November 21, 1888. Serial No. 291,428. (No model.)

To all whom it may concern:

Be it known that I, JOHN G. LEFFINGWELL, a citizen of the United States, residing at Newark, in the county of Essex and State of New Jersey, have invented certain new and useful Improvements in Cutting-Machines; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention has relation to machinery for the cutting of strips from boards, plank, or other timber for the manufacture of picture or other frames, for trimming corner and other pieces to be used in building, and generally for simplifying and perfecting the art of cutting timber smoothly and with great rapidity.

In the accompanying drawings, Figure 1 is a side elevation of my improved machine. Fig. 2 is a vertical longitudinal sectional view of the same. Fig. 3 is a top plan. Fig. 4 is a detail side elevation of one of the fences to show more clearly the manner of attachment between the same and the top or bed plate of the machine-frame, and Fig. 5 is a vertical transverse section through the cutter-head.

Referring to the said drawings by letter, A represents a table or bed-plate, preferably of heavy cast iron or steel, and which is provided with arc-shaped slots B B' in its face, and also with a central elongated opening c to receive the cutting-knives hereinafter described.

D D' represent standards rising from the bed-plate A, the last named of which is provided on its inner side with a toothed and rigid rack, marked C.

F indicates a pitman-rod provided at its upper end with a rack-bar G, and at its lower portion with a retracting spring H. This spring is attached to the lower end of the pitman-rod by screwing it on a block I, and then fastening this block to the pitman by a thumb-screw, as shown. The upper end of the spring is secured to the frame by screwing it into a female-threaded nut h, as represented in Fig. 2 of the drawings.

K indicates a toothed pinion bolted or

otherwise secured removably to the cutting-knives hereinafter described, and adapted to engage and work with the rack-bars C and G.

L represents cutting-knives, preferably arc-shaped and beveled on their inner sides, and which are arranged one on each side of the pinion K, to which they are connected by removable bolts a, as shown. These knives L when pressed downward enter the central opening c, over which the timber to be cut or trimmed is placed.

For ordinary light work a treadle may be used in operating this machine, such as I have illustrated on the drawings. It is marked M and connected with the lower end of the pitman and screw thereon. I cut a thread on the lower end of the pitman, and screw thereon the elongated nut d, which is rounded on its upper surface, as shown. On the bottom of the treadle I form circular recesses f. These recesses are respectively adapted to rest and rock on the nut d. It is obvious that the sweep of the treadle is regulated and made adjustable at will by this method of connection with the pitman-rod.

The letters h' represent removable and adjustable plates arranged upon the bed-plate, one on each side of the central opening. They are respectively provided with slots i and thumb-screws, by means of which they may be moved to or from the knives at will, and thereby enable the operator to use a knife of any desired thickness.

N represents fences or guide-wings pivoted at one end to the bed-plate, as shown at n on the drawings. They are also provided with bolts o, that pass through the slots B B', respectively, and are thereby adapted for swinging to the right or left, as may be desired.

In order to adjust the fences to the desired angle right or left, I perforate the bed-plate, as shown at S, and secure the fence at any point required by passing a pin through the opening o' of the fence into a perforation S. The angles thus secured are positive. By pinning the fence to openings S a ninety-degree angle is secured. By pinning it to S² the angle is twenty-two and a half, while by pinning it to S' it is forty-five.

In order to provide for holding a support-

ing-strip under the rabbet of a picture-frame, I have provided an adjustable clamp Y. This clamp is removably connected with the bed by means of a set-screw Y' passing through its slot y and into an opening of the plate, and may by those means be adjusted outward or inward at will.

It will be observed that the treadle of this machine works between bars V. These bars are perforated, as shown at W, to receive a supporting-pin. The object of this construction is to enable the operator to adjust the sweep of the treadle and thereby the movement of the knives and pinion to the work to be performed. Thus, for example, if the timber to be cut is hard or of great thickness, the pin is passed through the top openings and over the treadle, whereby the latter may be moved throughout the entire length between such pin and a bar or stop at the bottom of the bars. If, however, the work to be performed is light, the pin is passed through a lower opening. A little experience will enable an operator to comprehend the arrangement and enable him to adjust the sweep of the treadle to the work in hand.

Having described my invention, what I claim is—

1. In a cutting-machine, the combination, with a suitable slotted bed-plate and frame, of an arc-shaped cutting-knife, a spur-wheel axially secured to this knife and engaging with a fixed rack of said frame, a fixed knife h' , secured to the said bed-plate, a vertically-movable rack engaging with said pinion opposite the fixed rack, and an adjustable fence N, substantially as described.

2. In a cutting-machine, the combination, with a slotted bed-plate and a guiding-frame thereon, of arc-shaped vertically and circu-

larly movable cutting-knives, the intermediate toothed pinion axially secured to these knives, a fixed rack and a vertically-movable rack engaging with said pinion, stationary cutting-blades h' , adjustably secured to the bed-plate on opposite sides of its slot, a spring-actuated pitman-rod extension of the said movable rack, means for depressing this rod and its rack, and adjustable fences or gages for properly presenting the work to the cutters, substantially as described.

3. The combination, with a bed-plate provided with stationary but adjustable cutting-blades h' and an adjustable gaging-fence, of a circularly-movable cutting-blade L, adapted to receive vertical movements, the stationary and movable racks for giving these movements to said blade L, a pitman-rod extension of the movable rack, and a recoil-spring on said rod, substantially as specified.

4. The combination, in a cutting-machine, of the following instrumentalities, to wit: a slotted bed-plate provided with stationary knives on each side of the slot of said plate, adjustable gage-fences and adjustable clamps Y, cutting-blades of segmental or arc form, a toothed pinion secured to these blades between them, a stationary rack C, a vertically-movable rack G, engaging with said pinion, a pitman-rod extension of the rack G, provided with a recoil-spring, and a treadle to which said rod is suitably attached, all substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

JOHN G. LEFFINGWELL.

Witnesses:

S. PERIT RAWLE,
HENRY A. JODULL.