

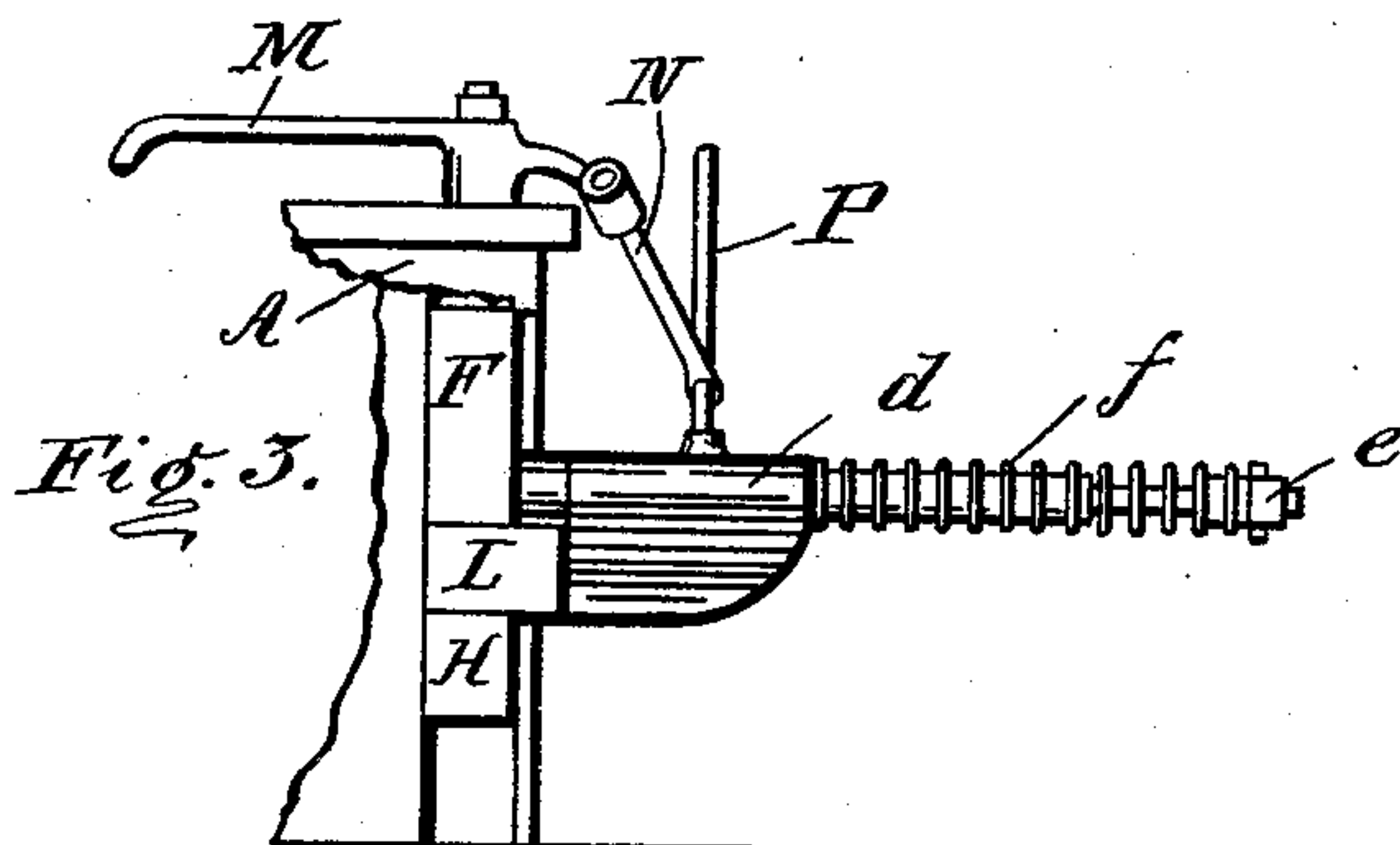
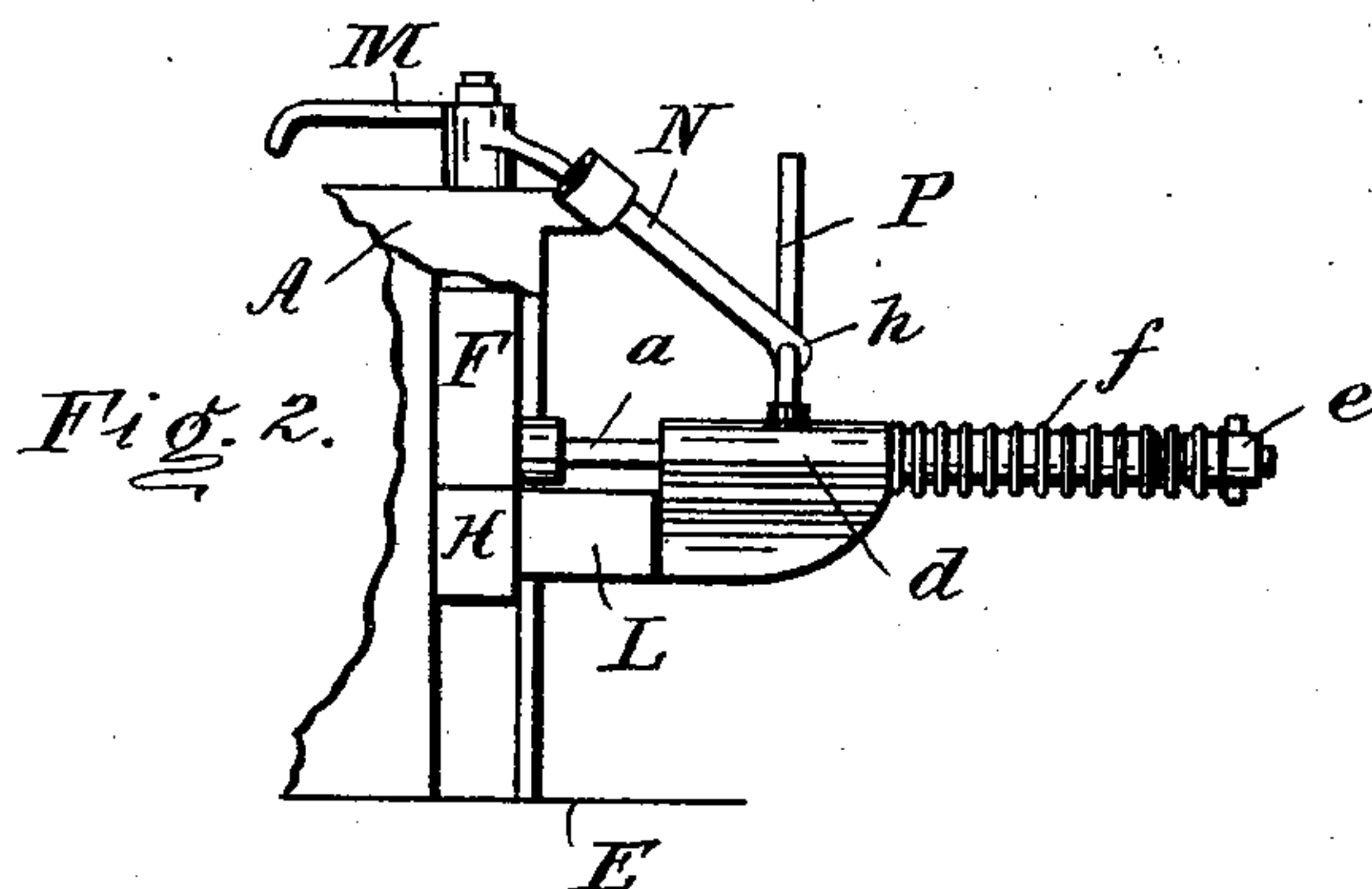
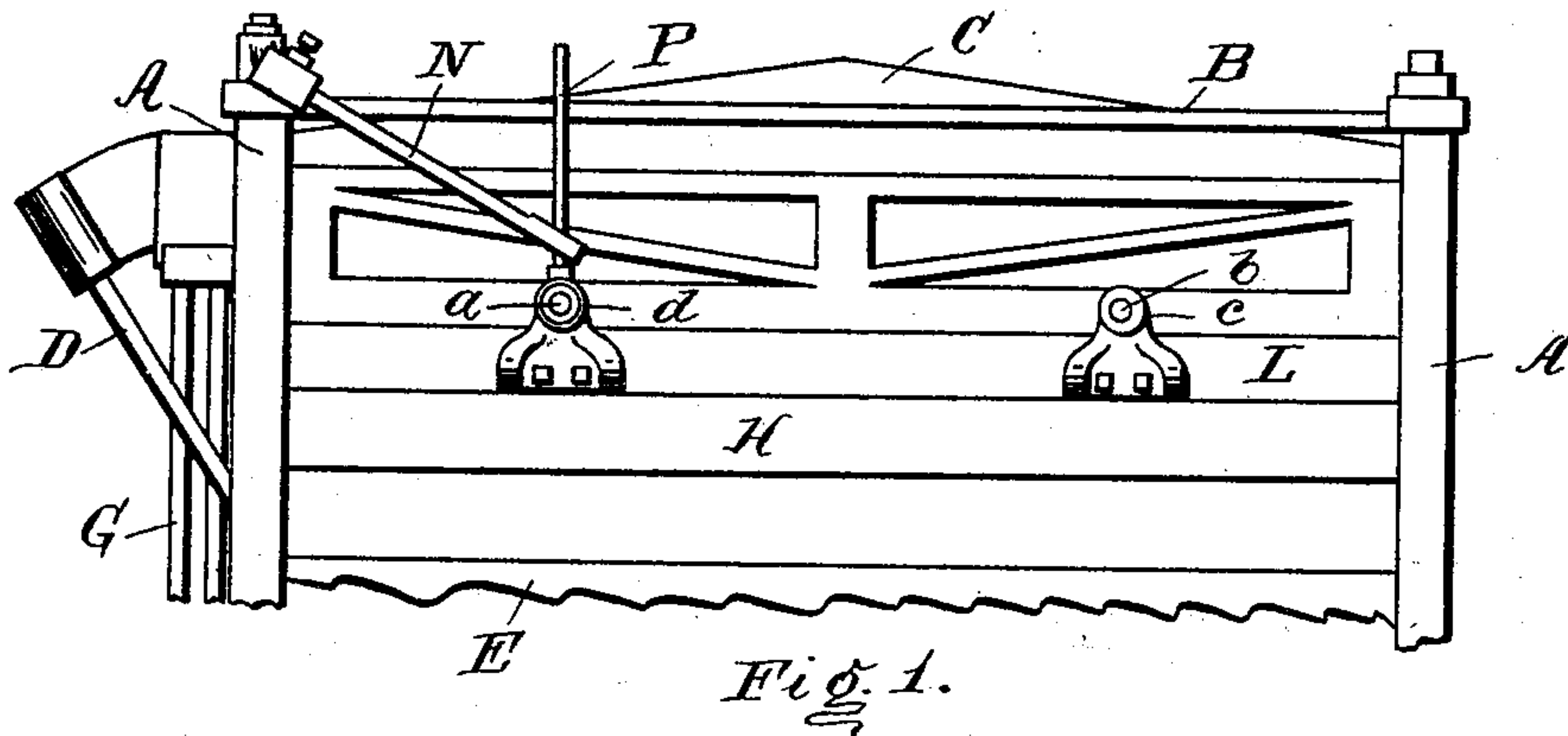
No. 673,090.

Patented Apr. 30, 1901.

C. SEYBOLD.
PAPER CUTTING MACHINE.

(Application filed Jan. 18, 1901.)

(No Model.)



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PAPER-CUTTING MACHINE.

SPECIFICATION forming part of Letters Patent No. 673,090, dated April 30, 1901.

Application filed January 18, 1901. Serial No. 43,807. (No model.)

To all whom it may concern:

Be it known that I, CHARLES SEYBOLD, a citizen of the United States, residing at Dayton, in the county of Montgomery and State of Ohio, have invented certain new and useful Improvements in Paper-Cutting Machines, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification.

My improvements relate to machines for cutting of paper in which a clamp-bar is employed for clamping and holding rigid the paper while being acted on by the cutting-knife; and it especially relates to that class of machines in which the clamping-bar has been divided lengthwise into two parts, the lower portion being adapted to be operated by the foot independently of the upper portion, more particularly for the purpose of gaging the paper to be cut, and in which the upper portion of the clamp is operated automatically by the power-operating mechanism of the machine as distinguished from simple hand-clamp machines.

In the use of an automatic power-clamp in a paper-cutting machine it is of course essential that the clamp shall travel to the paper before the knife begins its operation on the pile in order that the pile of paper may be held with absolute rigidity under the stroke of the knife. As ordinarily constructed the clamp must of course be raised with the knife to allow for the insertion of the pile of paper to be cut thereunder, and in order that the full capacity of the machine may be employed for high piles as well as low piles of paper the clamp is raised to the full limit with every stroke, no matter what the size of the pile. In modern machines it is desired to give rapid movement to the knife-cutting mechanism, and when the number of strokes of the knife is increased per minute the movements of the clamp have to be increased accordingly, and as the clamp has to get to the paper first it is found that in these rapid machines, especially when a comparatively low pile of paper is being operated upon, the rapid movement of the clamp displaces the sheets of paper, which ordinarily thus becomes a bar to high-speed capacity in the machine. It is to overcome this difficulty that my invention is

directed, and the invention relates solely to a certain novel construction and operation of the clamp under which for either high or low piles of paper both the clamp and cutting-knife can be operated at high speed and under which construction also the clamp may be operated with much higher power.

In the drawings, Figure 1 is a rear elevation of the upper portion of a paper-cutting machine, showing my improved clamp. Fig. 2 is a side elevation of the same with the sectional piece out of operation. Fig. 3 is a similar side elevation with the sectional piece in operation.

In the drawings I have not illustrated anything more of the paper-cutting machine than is necessary to explain my invention, which relates to the clamp. The machine in its other features belongs to that general class of machines, such as is shown and described in my Patent No. 511,972, of January 2, 1894, and the improvements thereon that have been made from time to time.

A A show the upper portions of the side frame; B, one of the cross-braces; C, the upper portion of the knife-carrier frame; D, one of the operating-bars for the knife; E, the upper portion of the table-top, and F the upper portion of the clamp to which the clamp-pulling bars are attached, the knife and clamp being operated by power, the working mechanism for which is placed under the table. H is the lower half of this ordinary clamp, which is normally held up against the upper half of the clamp F by suitable weights or springs, but arranged to descend with the power-clamp F and also to be operated as a gage by the foot-treadle. Rigidly attached to the rear face of the power-clamp F are two studs or pins *a b*, and upon these pins is hung an additional section of the clamp L, sleeves *c d* being securely bolted to this section L, the sleeves being mounted on the pins. One of these pins *a* is made very much longer than the other and carries a collar *e* on its outer end, between which collar and the outer face of the sleeve *d*, which is made much longer than the other sleeve, a coiled spring *f* is mounted, so as normally to press the section L of the clamp against the face of the lower section H. Now when a high pile of paper is placed under the clamp the clamp operates

in its usual way, and as the pile of paper is high the clamp only has to move a very short distance before it reaches the paper, and consequently its speed can be regulated so as not to disturb the paper in the high pile even with high speed for the cutting-knife. When a low pile of paper is placed under the clamp, the operator lowering the lower section by the treadle leaves an open space between the upper section F and the lower section H, and as soon as this space becomes wide enough the coiled spring F forces this intermediate section L between the other two sections, and the clamp is thus extended to bear the same relation to the low pile that it did with the high pile without the intermediate section.

Mounted on a suitable stud on top of the machine is a hand-lever M, carrying the arm N. This arm is bifurcated at its outer end at *h* and embraces the pin P, mounted vertically on the sleeve *d*. As the clamp descends the pin merely slides down in the bifurcations in the arm N, and in order to throw out the intermediate section as the clamp is raised the hand-lever M is shifted to throw out the arm N, and thus remove the intermediate section L and allow the ordinary spring or weight to bring the lower section H of the clamp into its normal position in contact with the power-section F. The intermediate section L is preferably lightened in weight as much as possible consistent with the requisite

strength, and the thickness of this section of course depends on the proportions of the machine and the ordinary height of the piles that are to be operated on.

Inasmuch as with my improved construction of clamp the throw of the clamp is diminished, I am enabled to obtain a much greater leverage for my clamp-pulling bars, as the decrease of the distance through which the clamp is to travel enables me to increase the power correspondingly.

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

1. In a paper-cutter, the combination, with a power-operated clamp having an independently-movable lower section, of an intermediate section, and means for interposing the intermediate section for low piles of paper, substantially as shown and described.

2. In a paper-cutter, the combination, with a power-operated clamp having an independently-movable lower section, of an intermediate section mounted on the upper section to slide laterally, and spring to interpose said intermediate section when the lower section is operated independently for low piles of paper, as shown and described.

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