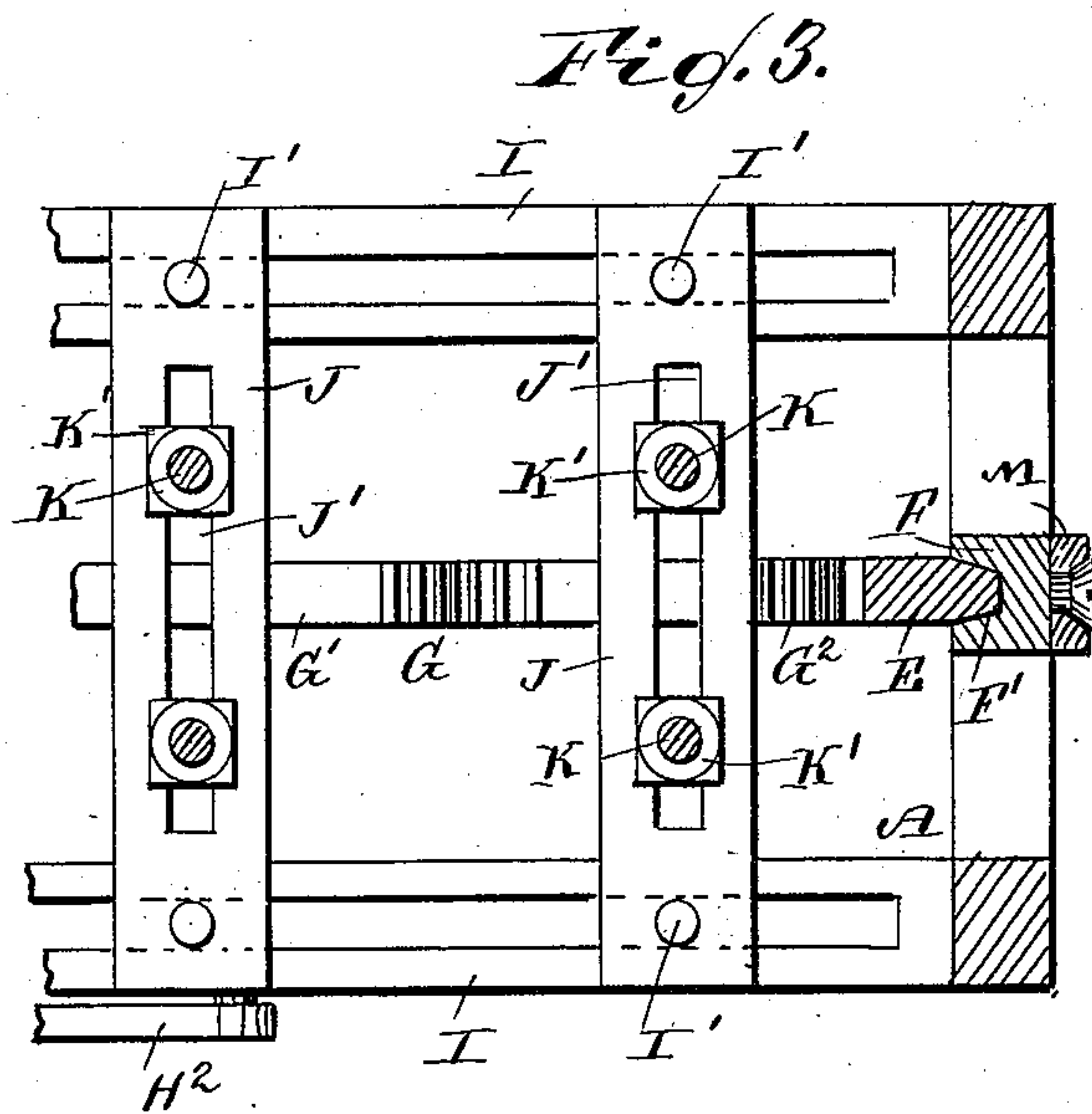
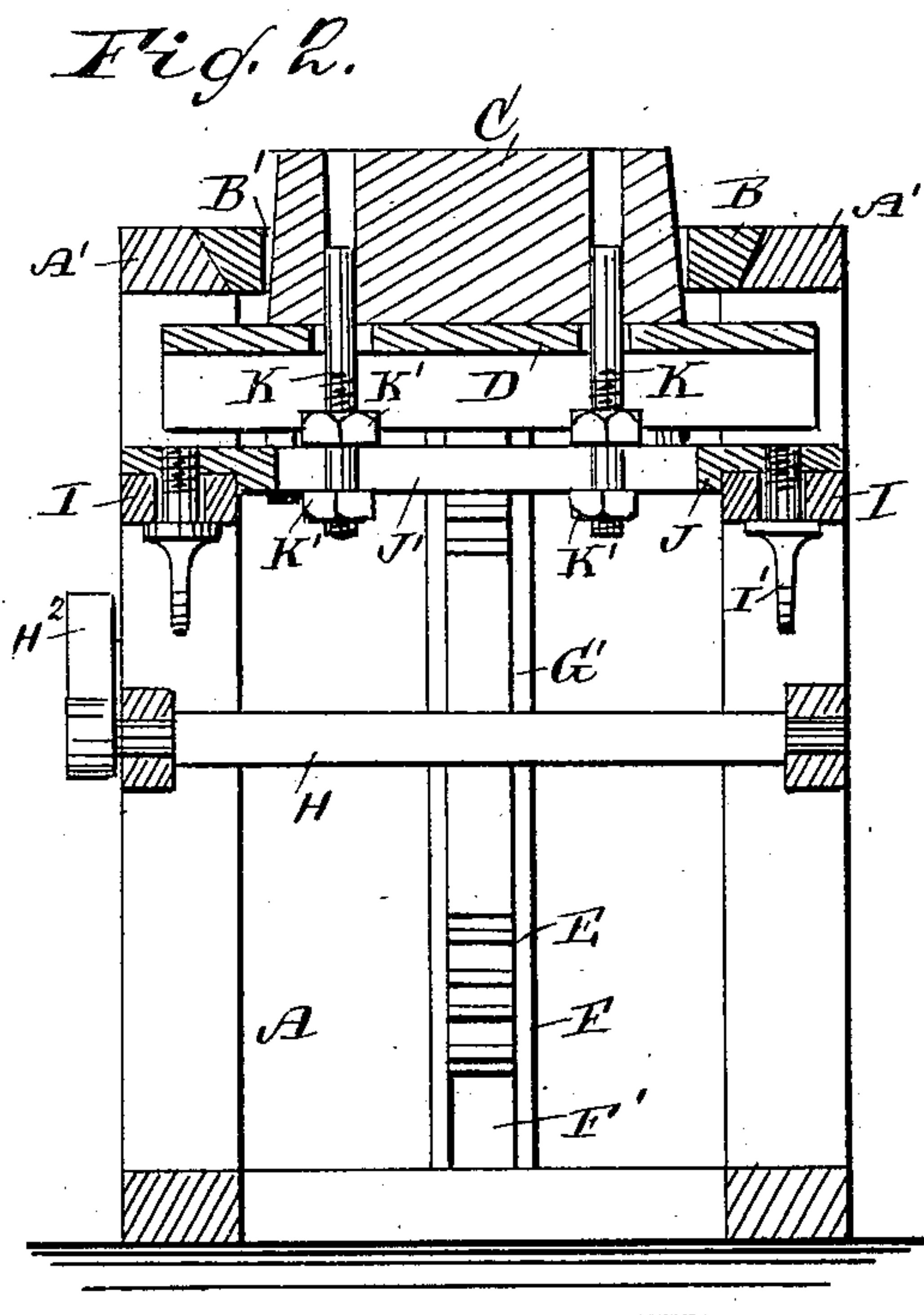
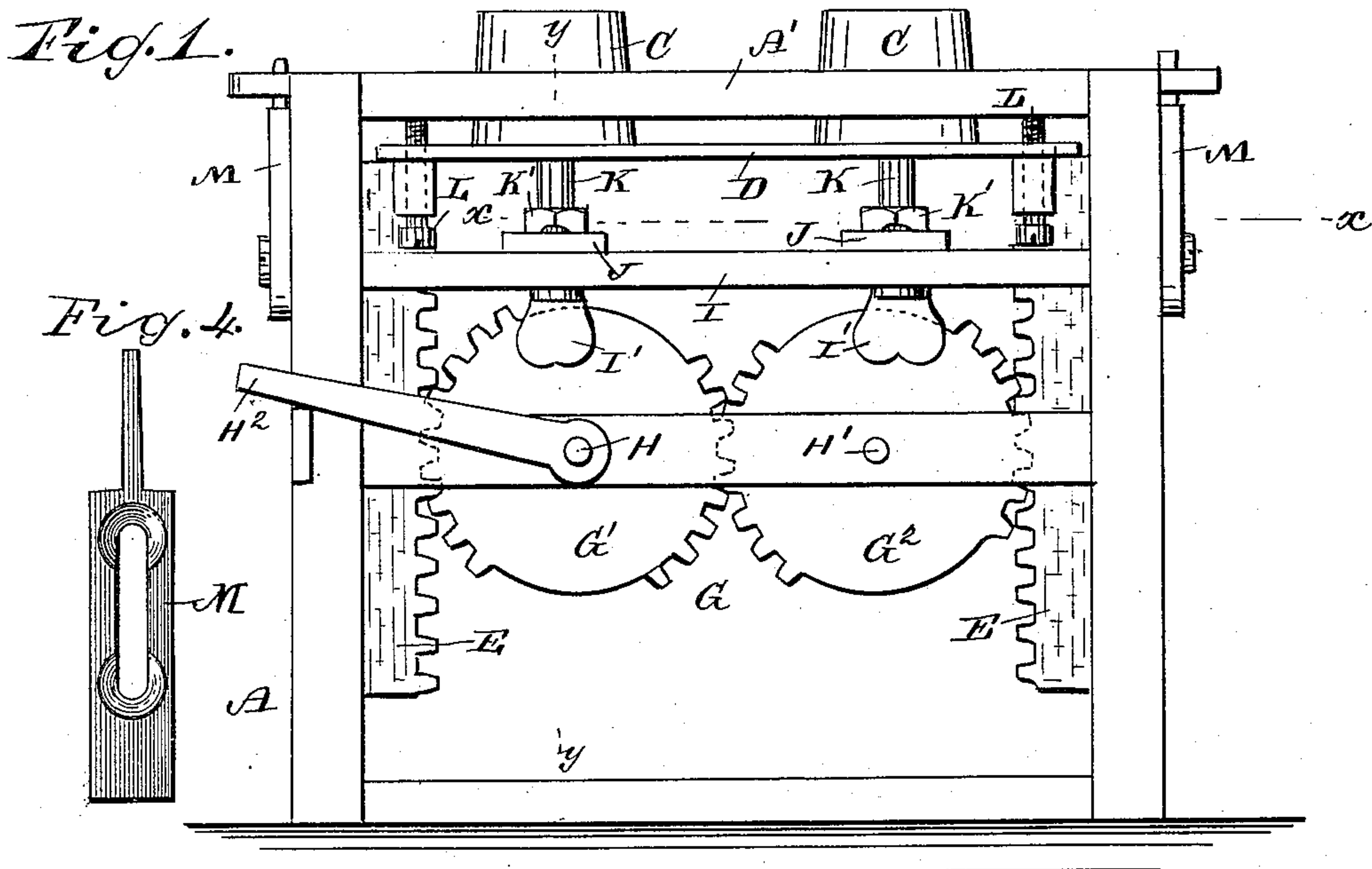


(No Model.)

P. C. SMITH.
SAND MOLDING MACHINE.

No. 332,962.

Patented Dec. 22, 1885.



WITNESSES:

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UNITED STATES PATENT OFFICE.

PATRICK C. SMITH, OF INDIANAPOLIS, INDIANA.

SAND-MOLDING MACHINE.

SPECIFICATION forming part of Letters Patent No. 332,962, dated December 22, 1885.

Application filed October 2, 1885. Serial No. 178,804. (No model.)

To all whom it may concern:

Be it known that I, PATRICK C. SMITH, of Indianapolis, in the county of Marion and State of Indiana, have invented a new and Improved Sand-Molding Machine, of which the following is a full, clear, and exact description.

The object of my invention is to provide a new and improved sand-molding machine for hand-rammed molding, in which the patterns can be easily changed and adjusted to suit the different forms and sizes of the work.

The invention consists of gear-wheels operated by a lever and meshing into racks which carry the follower-plate, of adjustable pins, and of a device for regulating the depth of the mold.

The invention also consists of various parts and details, hereinafter more fully set forth and described.

Reference is to be had to the accompanying drawings, forming part of this specification, in which similar letters of reference indicate corresponding parts in all the figures.

Figure 1 is a side elevation of my improvement. Fig. 2 is a vertical cross-section of the same on the line *y y*, Fig. 1, and Fig. 3 is a sectional plan view of the same, in part on the line *x x* of Fig. 1. Fig. 4 is a detailed side view of one of the flask cope or drag guides applied to the supporting-frame.

The frame A, of suitable construction, is provided with the top frame, A', and with the face-plate B, having the apertures B', through which pass the patterns C, resting on the follower-plate D, placed below the face-plate B. The follower-plate D is firmly secured to the racks E, which work in grooves F' of the upright guides F, attached to the main frame A. The racks F receive a simultaneous up or down movement by means of the quadrant-gearing G, consisting of the gear-wheels G' and G'', fastened on the shafts H and H', respectively, which are mounted in the frame A. The shaft H is provided with a lever, H². The frame A is also provided with the slotted side bars, I, on which are placed the cross-bars J, each having a slot, J'. The cross-bars J are adjustable on the side bars, I, by means of the thumb screws or bolts I'. To the cross-bars J are attached the upright pins or studs K, which are adjustable in the slots J' by slacking the nuts K', which fasten the studs or pins K to the cross-bars J. The pins

or studs K project upward through holes in the follower-plate D to the face of the plate A, to prevent the green-sand cores from falling out of their places when the patterns are drawn down from the mold. The follower-plate D is provided with the set-screws L—one at each corner—to regulate the height of the patterns C above the face-plate B. The frame A is provided on the ends with the adjustable and reversible guides M, which hold the cope or drag of the flasks in place on the face-plate B.

The operation is as follows: The patterns C, of any style and size, rest on the follower-plate D and pass through the apertures B' of the face-plate B. The moving of the lever H² up or down causes the follower-plate D to rise or descend by means of the quadrant-gearing H G and the racks E, carrying with it the patterns C. The upper movement of the follower-plate D is limited by the upper end of the set-screws L striking against the bottom of the face-plate B.

It will be seen that the adjustability of the pins or studs K on the cross-bars J and the adjustability of the latter on the slotted side bars, I, of the frame H permit of the accurate and easy adjustment of the pins to the patterns C, and also permit the use of patterns of different sizes and forms.

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

1. In a sand-molding machine, the adjustable studs or pins K, and the slotted cross bar J, adjustable on the side bars, I, in combination with the follower-plate D, substantially as shown and described.

2. In a sand-molding machine, the stationary slotted side bars, I, the thumb-screws I', the cross-bars J, having the slots J', the studs or pins K, and the nuts K', all combined and arranged substantially as described, for supporting the sand-cores, as specified.

3. In a sand-molding machine, the face-plate B, having the apertures B', the follower-plate D, the racks E, the adjustable pins or studs K, and the adjustable slotted cross-bars J, in combination with the quadrant-gearing G and the set-screws L, substantially as shown and described.

Witnesses: PATRICK C. SMITH.
DAVID GREENWOOD,
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