

(No Model.)

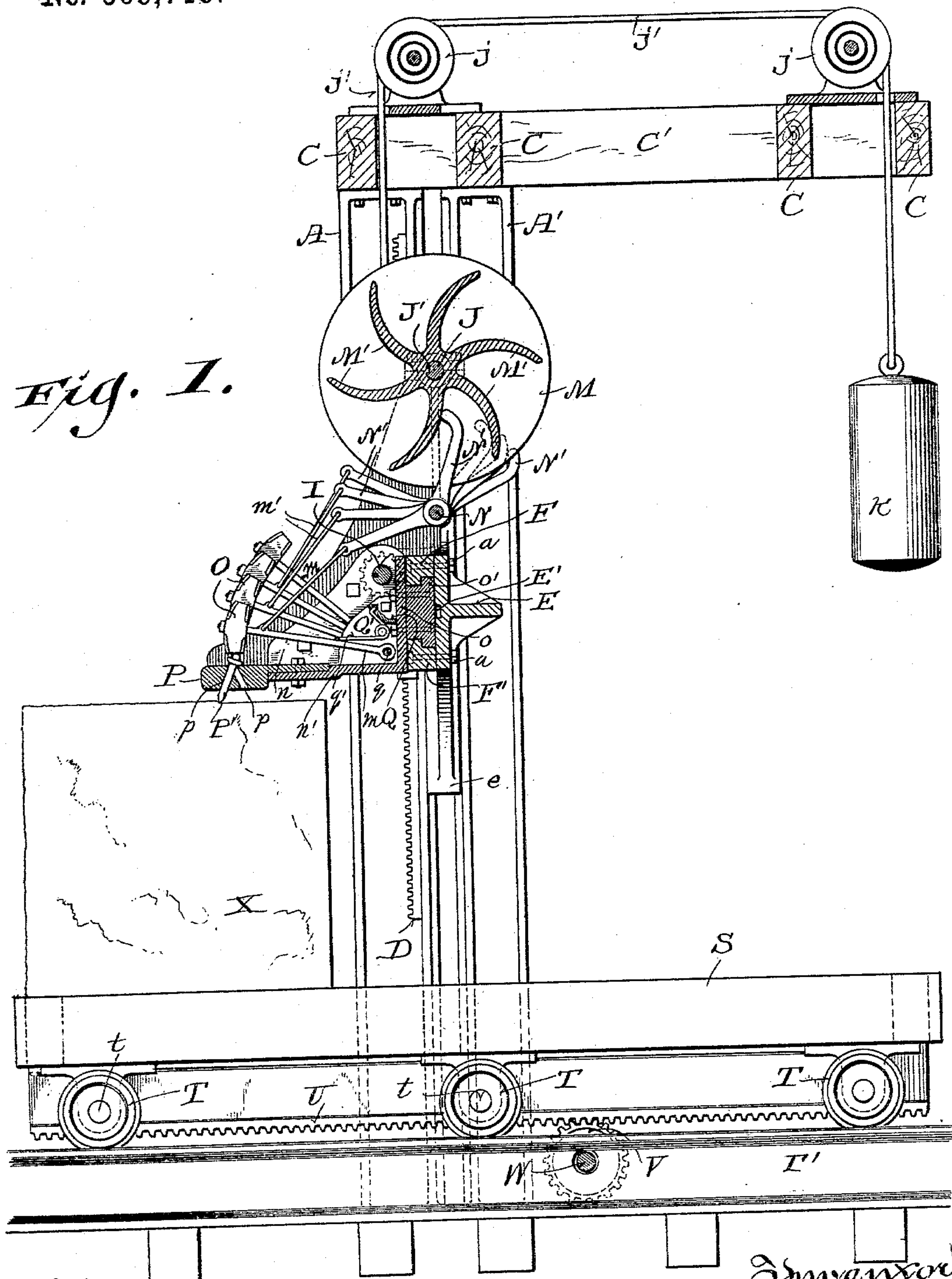
3 Sheets—Sheet 1.

C. LOHR.  
STONE DRESSING MACHINE.

No. 569,719.

Patented Oct. 20, 1896.

*Fig. 1.*



Witnesses:  
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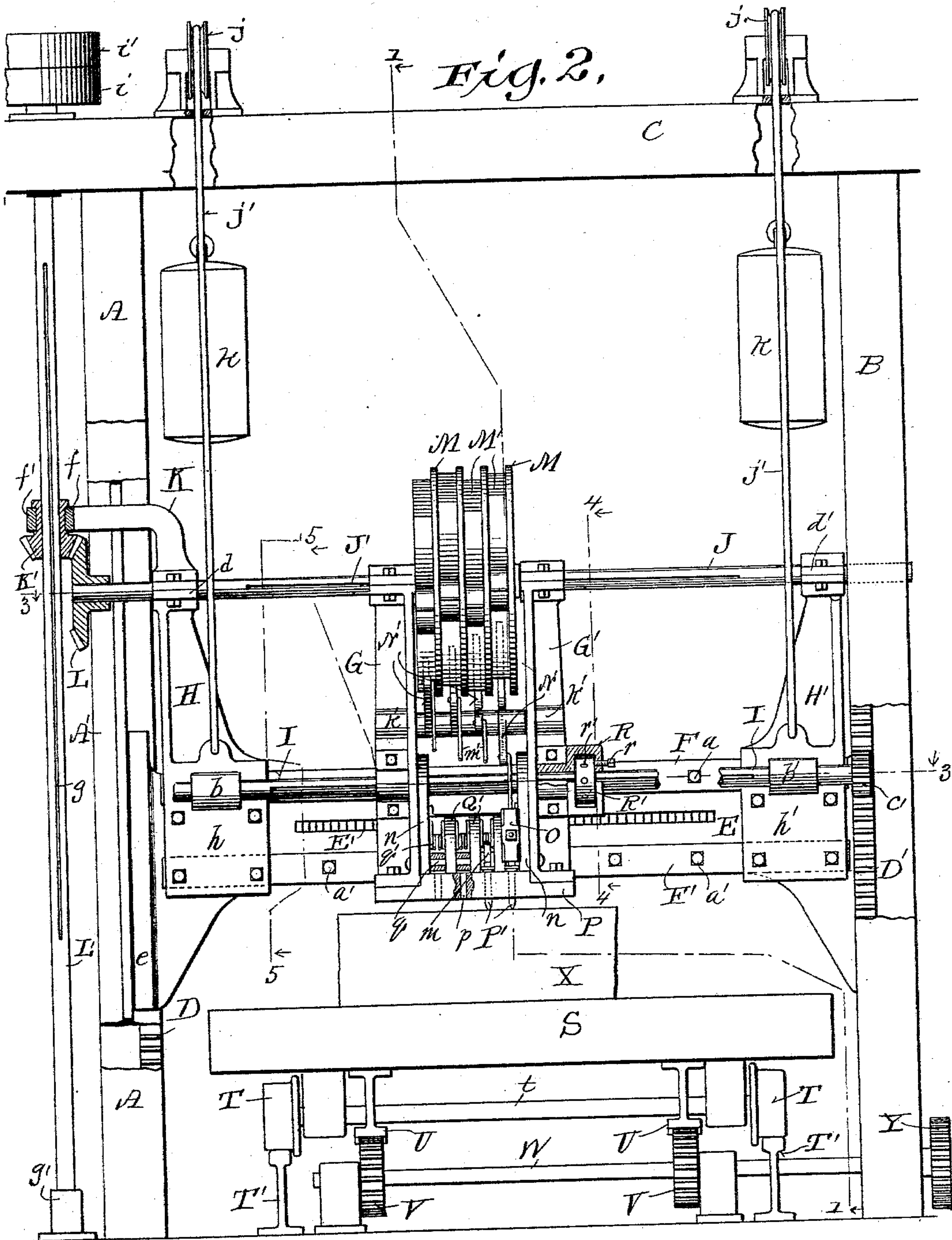
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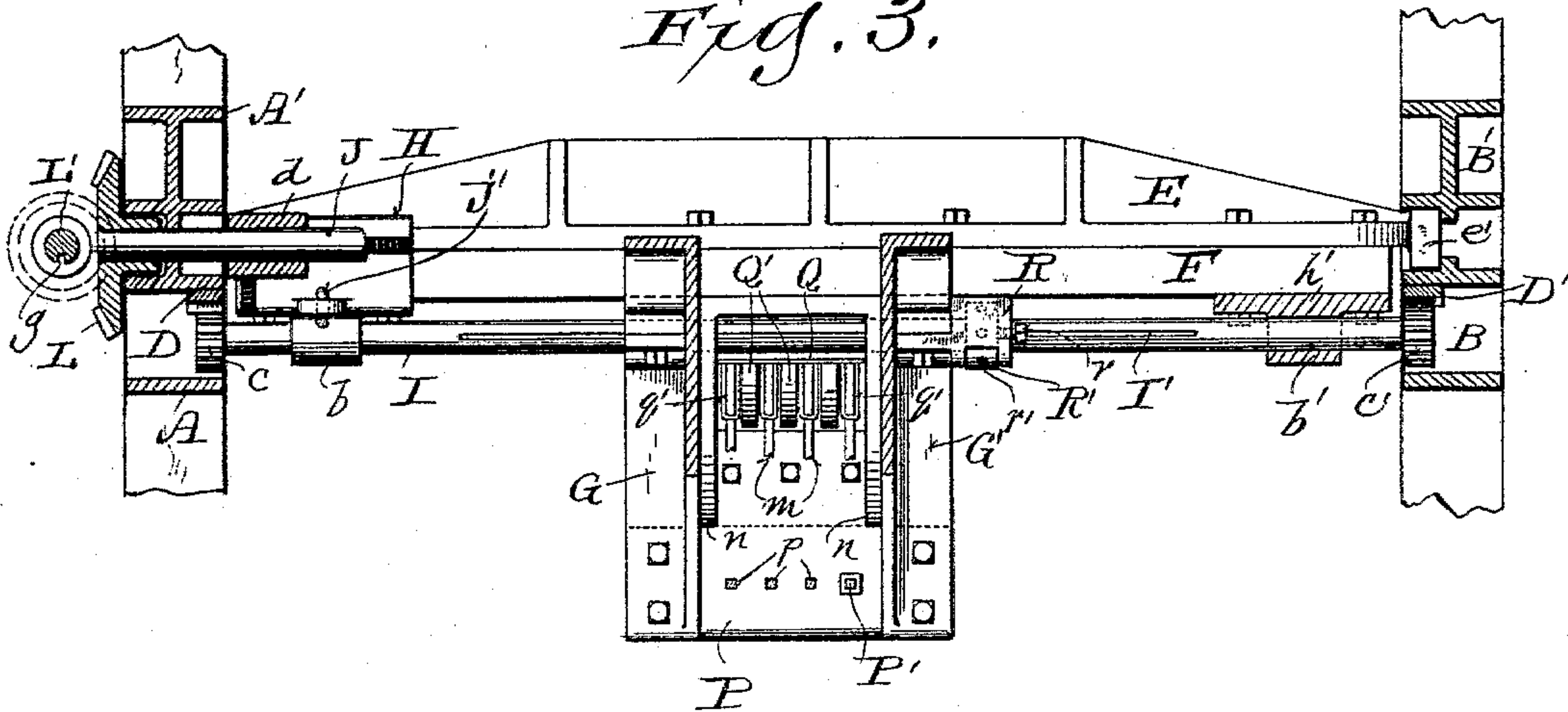


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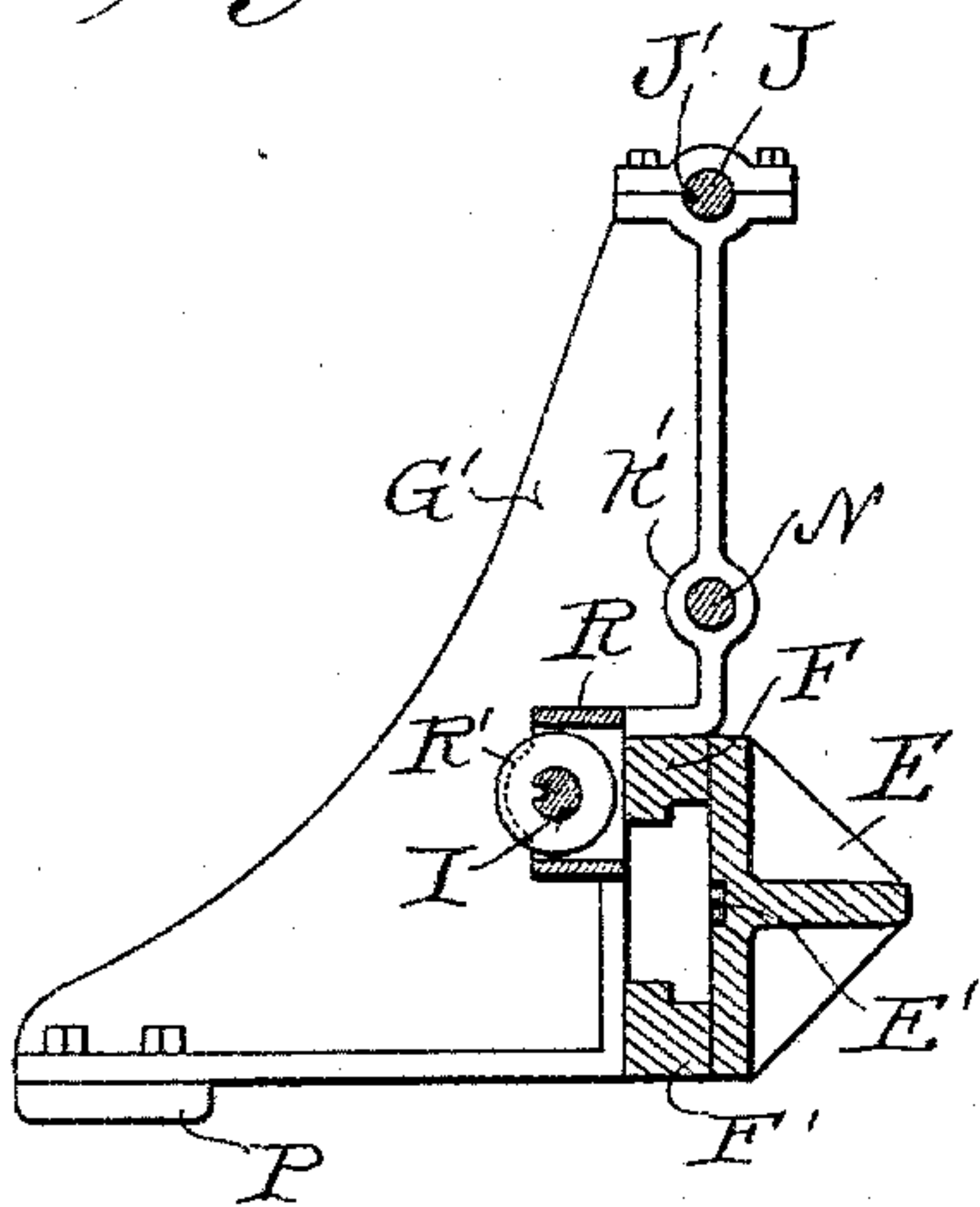
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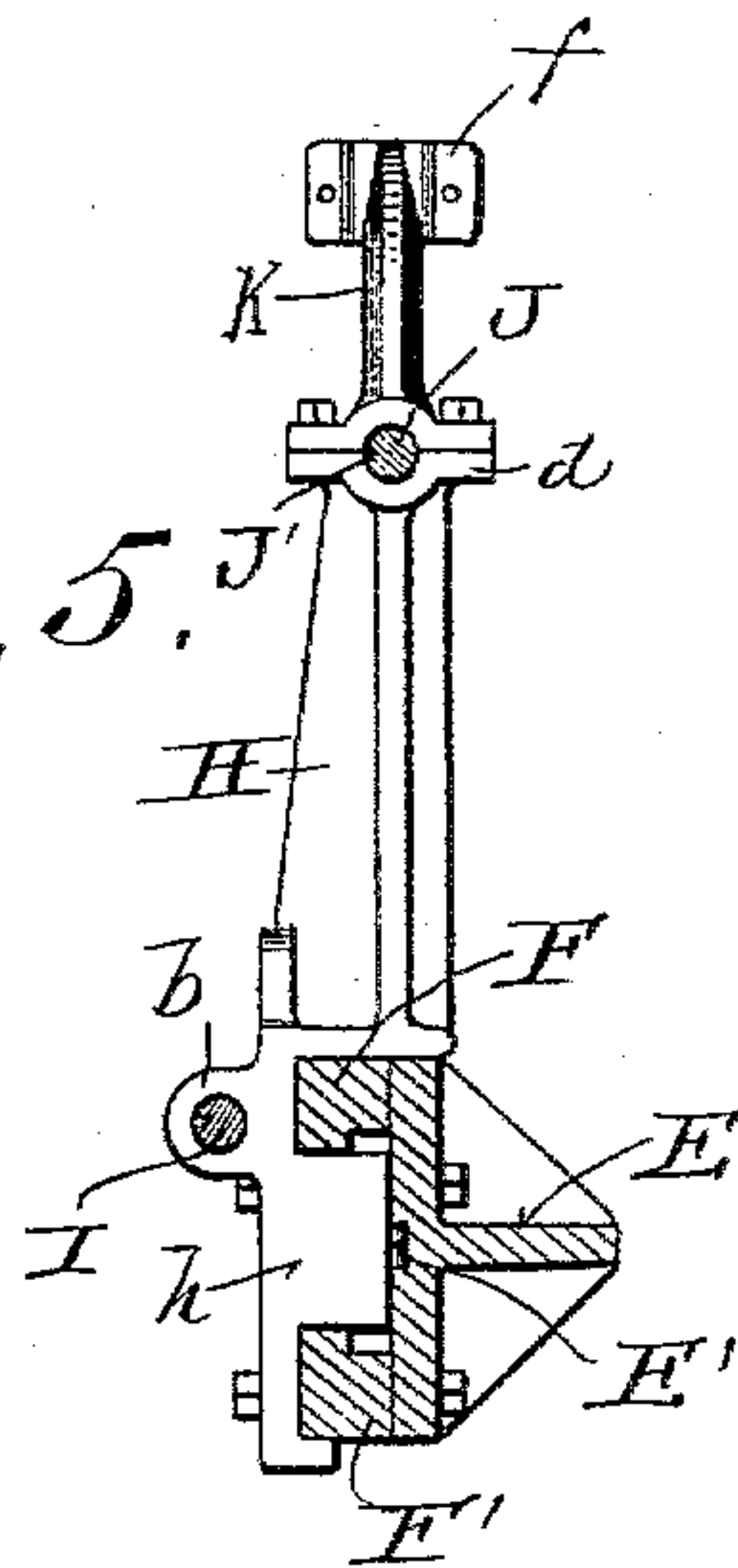
*Fig. 3.*



*Fig. 4.*



*Fig. 5.*



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# UNITED STATES PATENT OFFICE.

CHARLES LOHR, OF MILWAUKEE, WISCONSIN.

## STONE-DRESSING MACHINE.

SPECIFICATION forming part of Letters Patent No. 569,719, dated October 20, 1896.

Application filed August 25, 1896. Serial No. 603,842. (No model.)

*To all whom it may concern:*

Be it known that I, CHARLES LOHR, a citizen of the United States, and a resident of Milwaukee, in the county of Milwaukee and State of Wisconsin, have invented certain new and useful Improvements in Stone-Dressing Machines; and I do hereby declare that the following is a full, clear, and exact description thereof.

My invention relates to stone-dressing machines; and it consists in certain peculiarities of construction and combination of parts, hereinafter set forth, and subsequently claimed.

In the drawings, Figure 1 is a side elevation of my improved device, partly in section, on the line 1 1 of Fig. 2. Fig. 2 is a front elevation of my said device, partly broken away or in section to better illustrate certain details of construction. Fig. 3 is a horizontal sectional view on the line 3 3 of Fig. 2. Fig. 4 is a detail sectional view on the line 4 4 of Fig. 2. Fig. 5 is a like sectional view on the line 5 5 of Fig. 2.

Referring to the drawings, A A' and B B' are supporting and guide columns forming a part of the frame of my machine.

C C' C' represent the horizontal upper timbers of said frame.

D D' are vertical rack-bars secured to the inner faces of the hollow columns A B.

E is a horizontal sliding head having ends *e e'*, which have vertical movement between the adjacent exterior faces of the columns A A' and B B', respectively. Secured to the front face of the head E, as by bolts *a a'*, are horizontal shouldered rails F F', and G G' are the side pieces of a carriage, which side pieces rest against and upon the said rails, as best shown in Fig. 4.

H H' are brackets, whose lower ends *h h'* rest against and are secured to the head E and rails F F', as best shown in Fig. 5, said ends being provided with bearings *b b'* for the reception of a shaft I, having at its opposite ends pinions *cc'* for engagement with the described rack-bars D D', while the upper ends of said brackets are provided with boxes *d d'* for the reception of another shaft, J. From the upper part of the box *d* of bracket H there extends an arm K, terminating in a split collar *ff'* for the reception of the hub of a bevel-pinion K', which meshes

with a bevel gear-wheel L, fast on the adjacent end of the described shaft J. Through the pinion K' and its hub there extends a vertical shaft L', provided with a longitudinal groove *g*, by means of which and a key or feather (not shown) on said hub the said shaft and pinion are revolved together, the said shaft L being stepped in a suitable bearing *g'* in the base of the frame and provided at its upper end (above the upper timber C) with fast and loose pulleys *i i'*, whereby belting from a suitable source of power may be applied to operate the machine through the shaft J, as hereinafter described.

The top of the frame is provided with a series of pulleys *j*, mounted in suitable blocks, and suitable cables or analogous devices *j'* are secured to the brackets H H' and pass up over these pulleys, and at their free ends carry counter-weights *k*, as shown in Figs. 1 and 2.

The shaft J is provided with an exterior longitudinal groove J', and between the described side pieces G G' of the carriage said shaft carries a series of disks M M, each having cast therewith or secured thereto a series of radially-disposed curved tappet-arms M' M'. There is a suitable key or feather in the described groove J' to spline the disks M to the shaft J and permit longitudinal movement of the carriage and disks on said shaft.

N is another shaft, journaled in suitable bearings *k' k'* of the side pieces G G' of the carriage, and having secured thereto a series of bell-crank levers N' N', whose upper arms have curved ends for successive engagement with the tappet-arms M' M' of the disks M, and whose lower arms are connected by links *m'* to the shanks *m* of hammers O.

The lower part of the carriage that carries the hammers has end plates *n n* bolted to the side pieces G G', a bottom plate *n'*, and a back plate *o*, which latter bears against the forward faces of the rails F F', and to the rear face of this back plate *o* there is bolted a shouldered block *o'*, which corresponds in shape to the shouldered rails, to slide between their opposing shouldered faces, as best shown in Fig. 1.

P is the chisel-board, whose rear portion is supported upon and bolted to the bottom plate *n'* and whose front portion at each side



extends under and is bolted to the side pieces G G' of the carriage, and which is provided with angularly-disposed perforations to receive the chisels P'. There are two series of these perforations *p p*, coinciding at the top of the chisel-board, but diverging as they extend downward, so that the chisels may be set with their points extending forward or backward, as desired, but with their heads substantially in the same location in either instance.

Q is a spring-plate extending between the end plates *n n* of the carriage, and Q' Q' are partitions resting against and secured to the bottom plate *n'* and back plate *o* of the carriage. The hammer-shanks *m* terminate in eyes, by means of which they are secured to a transverse rod *q*, passing through the partitions Q', and springs *q' q'* bear on the upper surfaces of said hammer-shanks, the upper ends of said springs being secured to the spring-plate Q, as best shown in Fig. 1.

R is a housing bolted to the side piece G' and containing a collar R', which surrounds shaft I. This shaft has an exterior longitudinal groove I', by means of which it is held to the said collar R' by a suitable key or feather, so that the collar will revolve with the shaft, but be capable of being moved longitudinally thereon, as afterward explained. The collar R' is provided with a circumferential series of openings *r' r'* in its periphery, and the housing R has a set-screw *r*, while the sliding head E is formed with a series of toothed or notched indentations E' on its front face, as best shown in Fig. 2.

S is the platform that receives the stone X to be dressed, and this platform is provided with suitable axles *t t* and wheels T T, traveling upon rails T' T', and from the under side of said platform there depend rack-bars U U for engagement with pinions V V on a shaft W, mounted in suitable bearings and carrying at its end a proper gear-wheel Y for engagement with the power (not shown) for operating the platform.

The operation of my improved machine will be readily understood from the foregoing description of its construction, taken in connection with the accompanying drawings, it being understood that the object of my invention is to devise means for imparting to stone-dressing chisels the same impact and action by machinery as they now receive when operated by hand, and thereby to expedite the operation of dressing stone and decrease the labor required.

Let it be understood that the parts are arranged in the relative positions shown in Fig. 1. Now when power is applied to the vertical shaft L', Fig. 2, by means of a belt (not shown) applied to the fast pulley *i* the said shaft will be revolved, and this, through the gear-wheels K' L, will revolve the shaft J, and with it the disks M and their tappet-arms M', thus causing the hammers O O to fall successively upon the heads of the chisels P'

P', and as the platform S is being moved forward all the time by any suitable power (not shown) this continues until the chisels have operated entirely across the face of the stone. The power is then stopped, (as by shifting the belts, or otherwise,) and, if desired, the chisels may be set in the other series of perforations and a pinch-bar inserted in one of the toothed notches E' and leverage exerted against one of the side pieces G or G' of the carriage to move the same the required distance on the shafts I J, so as to bring the chisels in line with the uncut portions of the stone adjacent to the paths just cut, and the machine started up, with the carriage S moving in the reverse direction to that of its first travel, at the end of which the power is again stopped, the chisels reset to their original positions, and the original operation repeated, and so on until the entire top surface is dressed. Now if it is desired to go over the surface again for a deeper cut it becomes necessary to lower the carriage. To do this, first the set-screw *r* in the housing R is loosened. The carriage is practically counterbalanced by the weights *k k*, and to lower it a rod or lever is inserted into the openings *r'* of the collar R', and the latter, and with it the shaft I, is turned the required distance, the engagement of the rack-bars D D' and the pinions *c c'* on the ends of the shaft I insuring that the descent shall be equal at both ends, and then the set-screw *r* is again tightened, and the machine is ready for the next cut.

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

1. In a stone-dressing machine, the combination of vertical supporting and guide columns, a vertically-arranged power-shaft having a longitudinal groove therein, and a vertically-movable pinion splined thereto, a counterbalanced sliding head movable in said guide-columns, a transverse horizontal shaft geared to said pinion on the vertical shaft and supported on said sliding head, and carrying revolving tappet-arms, a carriage supported by and horizontally movable on said sliding head and transverse shaft, a chisel-board supported by said carriage, and having chisels adjustably arranged therein, a series of hammers pivotally attached to said carriage in line with said chisels, a series of bell-crank levers journaled in said carriage in engagement with said tappet-arms, links connecting said hammers with said levers, and a bracket-arm on said sliding head connected to and supporting the pinion on the said vertical shaft, substantially as set forth.

2. In a stone-dressing machine, the combination of vertical supporting and guide columns, vertical rack-bars on said columns, a vertically-arranged power-shaft having a longitudinal groove therein and a vertically-movable pinion splined thereto, a counterbalanced horizontal transverse sliding head



vertically movable in said guide-columns, brackets rising from said sliding head, and one of said brackets having an arm connected to and supporting the pinion on the vertical shaft, a transverse horizontal shaft journaled in said brackets, and geared to the pinion on the vertical shaft, revolving tappet-arms splined to said transverse shaft and capable of longitudinal movement thereon, a carriage supported by and horizontally movable on said sliding head and transverse shaft, a chisel-board with adjustable chisels, pivoted spring-controlled hammers, and bell-crank levers linked to said hammers and in engagement with said tappet-arms, all carried by said carriage, another transverse horizontal shaft journaled in said brackets and carrying pinions at its ends in engagement with the rack-bars on the vertical columns, and means for controlling the revolution of said last-named transverse shaft, substantially as set forth.

3. In a stone-dressing machine, the combination of vertical supporting and guide columns, a vertically-arranged power-shaft having a longitudinal groove therein and a vertically-movable pinion splined thereto, a counterbalanced horizontal transverse sliding head vertically movable in said guide-columns and provided with a series of toothed or notched indentations in its front face, brackets rising from said sliding head and one of said brackets having an arm connected to and supporting the pinion on the vertical shaft, a horizontal transverse shaft journaled in said brackets and geared to the pinion on the vertical shaft, and provided with a longitudinal groove, horizontally-movable revolving disks splined to said transverse shaft and provided with radially-disposed curved tappet-arms, a carriage supported by and horizontally movable on said sliding head and

transverse shaft, the revolving disks and tappet-arms on the latter being inclosed between the side pieces of said carriage, and a chisel-board with adjustable chisels, pivoted spring-controlled hammers, and bell-crank levers linked to said hammers and in engagement with said tappet-arms, all carried by said carriage, substantially as set forth.

4. In a stone-dressing machine, the combination with a sliding head and a revolving horizontal shaft supported thereby, of a carriage supported and horizontally movable on said sliding head and shaft, a series of revolving disks splined to the shaft and carrying radially-disposed curved tappet-arms, said disks and arms being inclosed between the side pieces of said carriage, a chisel-board supported on and secured to said carriage and provided with two series of angularly-disposed openings therethrough, coinciding at top and thence diverging downwardly, chisels loosely held in said openings, a transverse rod extending through said carriage from side to side, a series of hammers having shanks pivotally attached to said rod, a transverse spring-plate extending across said carriage, a series of springs secured to said spring-plate and bearing upon the shanks of said hammers, and a transverse shaft provided with a series of bell-crank levers the upper arms of which are in engagement with said tappet-arms, and the lower arms of which are linked to the said hammer-shanks, substantially as set forth.

In testimony that I claim the foregoing I have hereunto set my hand, at Milwaukee, in the county of Milwaukee and State of Wisconsin, in the presence of two witnesses.

CHARLES LOHR.

Witnesses:

H. G. UNDERWOOD,  
B. C. ROLOFF.