

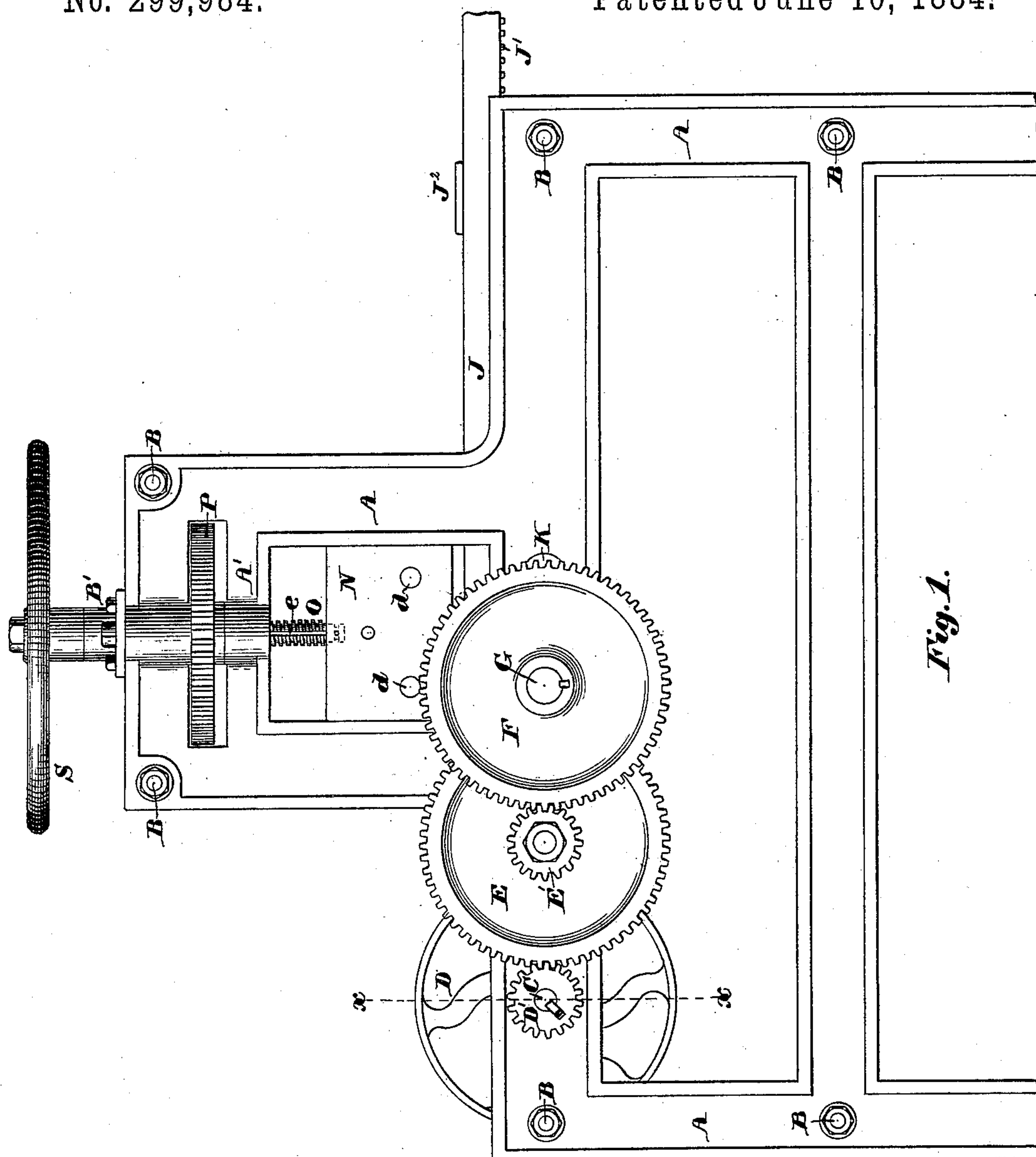
(No Model.)

3 Sheets—Sheet 1.

J. P. JAMISON.
WOOD ORNAMENTATION.

No. 299,984.

Patented June 10, 1884.



Witnesses:
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Elwin S. Stevens.

Inventor:
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Attorney.

(No Model.)

3 Sheets—Sheet 2.

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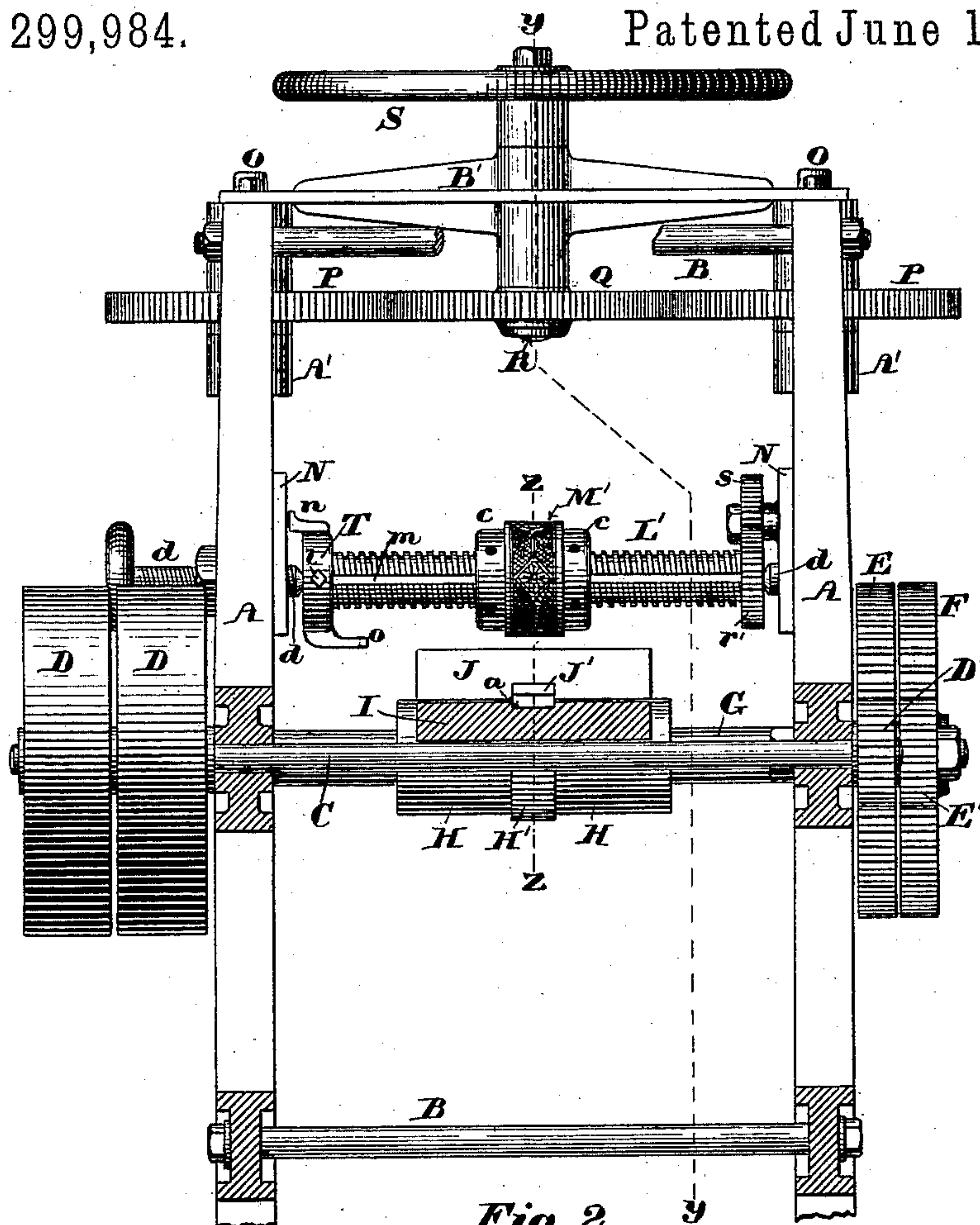


Fig. 2.

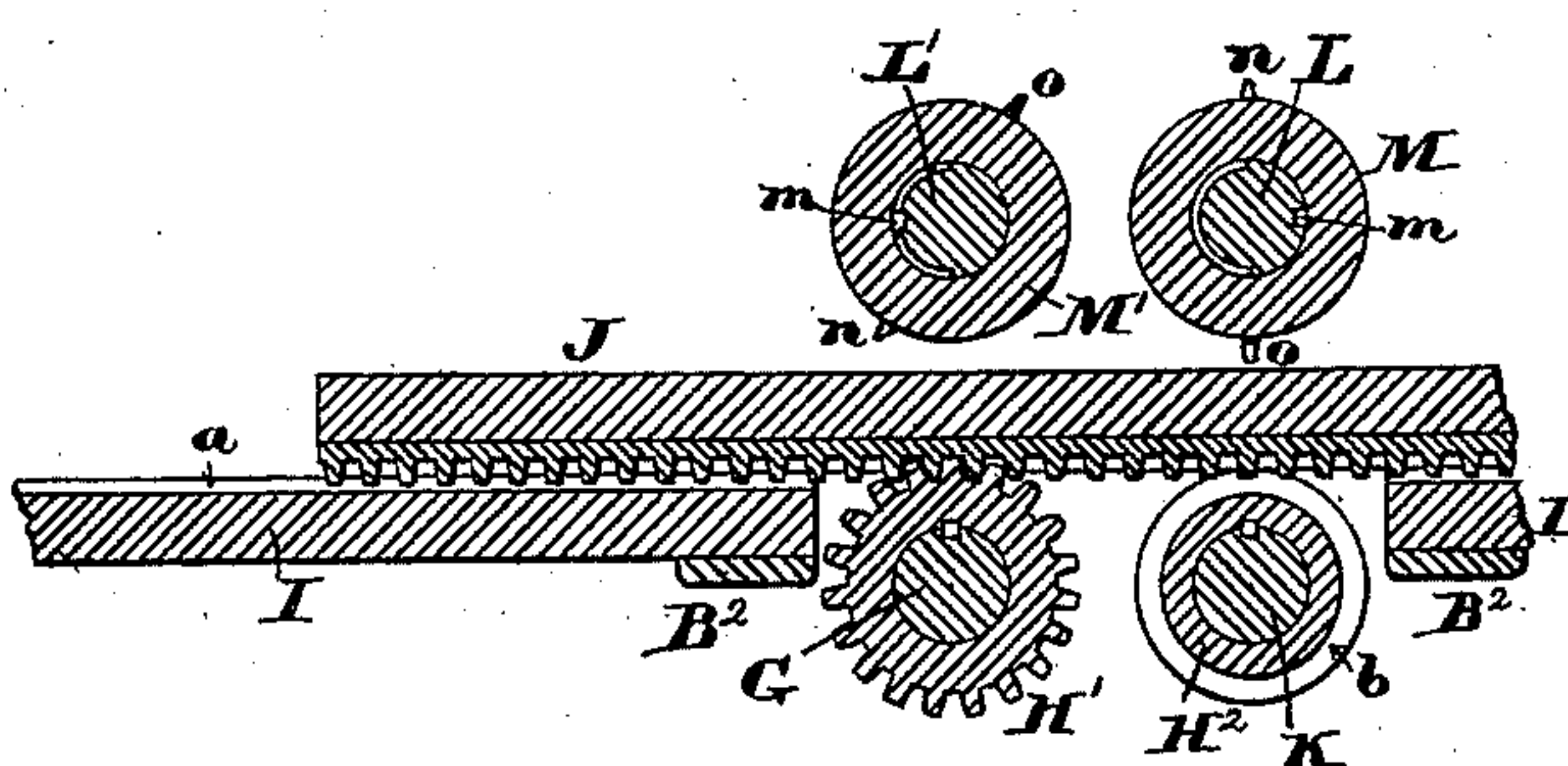


Fig. 4.

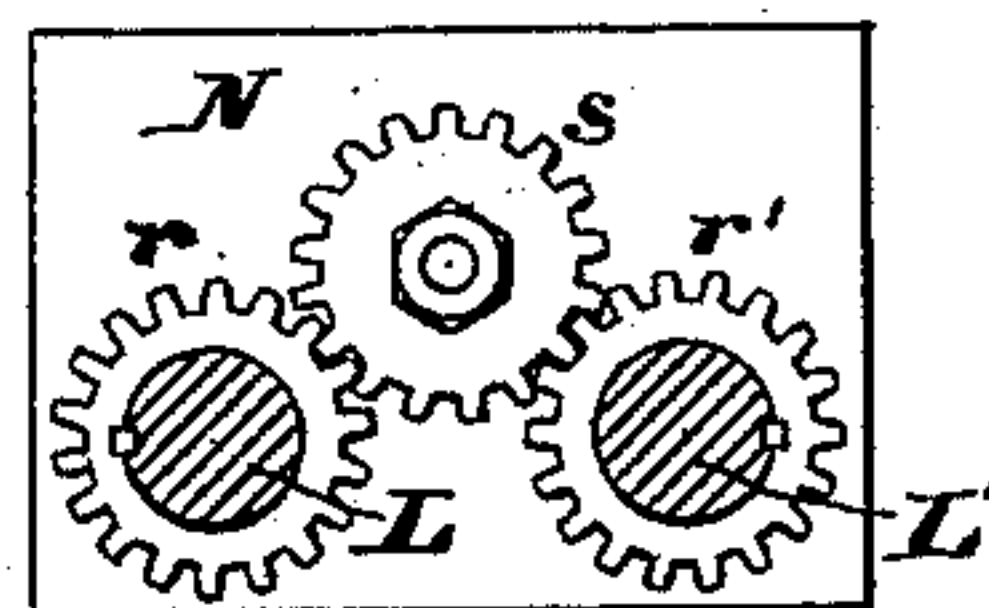


Fig. 6.

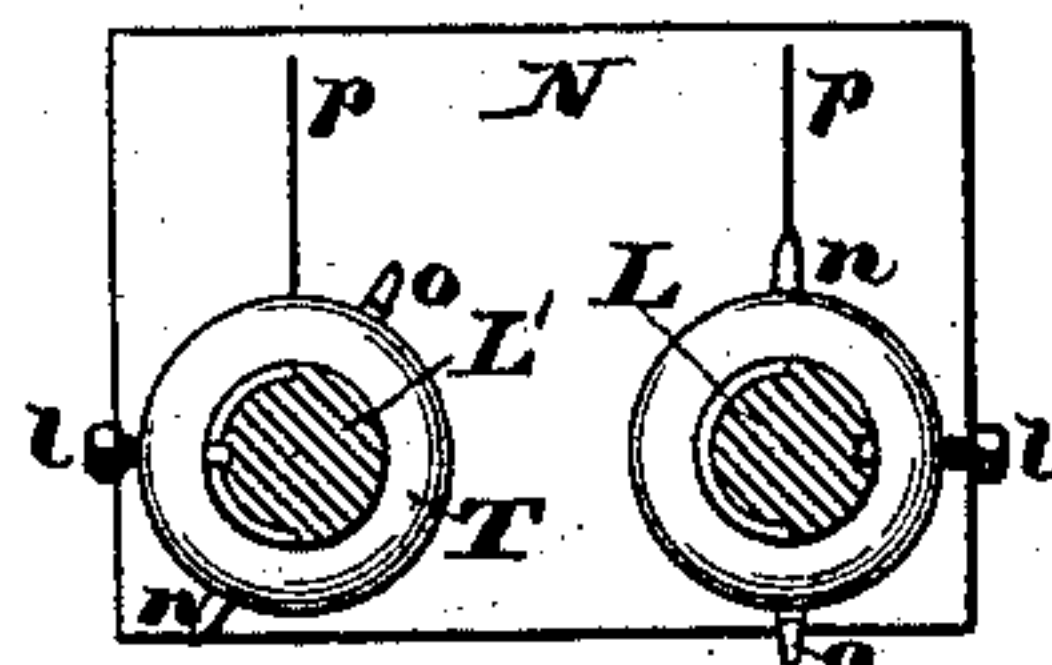


Fig. 5.

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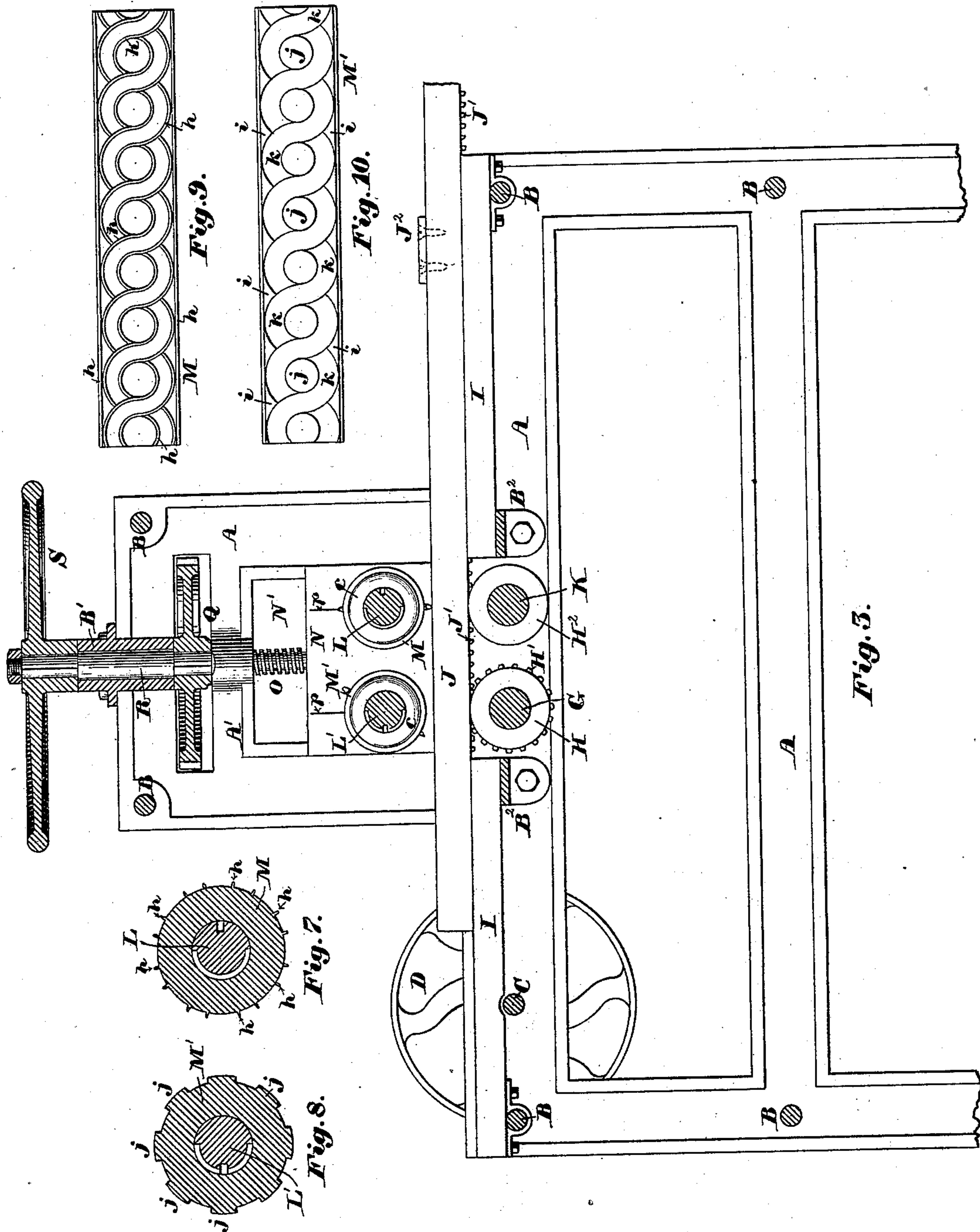
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3 Sheets—Sheet 3.

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Patented June 10, 1884.



Witnesses:
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UNITED STATES PATENT OFFICE.

JOHN P. JAMISON, OF CAMBRIDGEPORT, MASSACHUSETTS.

WOOD ORNAMENTATION.

SPECIFICATION forming part of Letters Patent No. 299,984, dated June 10, 1884.

Application filed April 16, 1884. (No model.)

To all whom it may concern:

Be it known that I, JOHN P. JAMISON, of Cambridgeport, in the county of Middlesex and State of Massachusetts, have invented certain new and useful Improvements in Machines for Embossing Wood in Imitation of Carving, of which the following, taken in connection with the accompanying drawings, is a specification.

My invention relates to a machine for ornamenting wood in imitation of carving by compression; and it consists in the combination of two die-rolls arranged to revolve in unison and act upon the material in succession, one die being constructed to outline the surfaces to be depressed by cutting the fibers of the wood, and the other die being constructed and arranged to operate to depress the portions so outlined and complete the design.

It further consists in a novel arrangement of indexes for setting said die-rolls in the proper position to impress the design upon the material at the desired point, which will be readily understood by reference to the description of the drawings and to the claims to be hereinafter given.

Figure 1 of the drawings is a side elevation of a machine embodying my invention. Fig. 2 is a vertical transverse section on line xx on Fig. 1. Fig. 3 is a vertical longitudinal section on line yy on Fig. 2. Fig. 4 is a partial section on line zz on Fig. 2. Fig. 5 is a section through the die-shafts, and showing the indexes in elevation. Fig. 6 is a section through the same shafts, and showing the gears connecting said shafts in elevation. Fig. 7 is a transverse section through the outlining-die. Fig. 8 is a similar section through the embossing or finishing die; and Figs. 9 and 10 are respectively developments of the peripheries of the outlining and finishing dies upon a flat plane.

A A are the side frames of the machine, connected together by the tie-rods B B and girts B' and B² B², and having mounted in suitable bearings formed therein the driving-shaft C, having secured upon one end thereof the pulleys D D, and upon the other end the pinion D', which meshes into and imparts motion to the spur-gear wheel E, mounted upon a stud set in the frame A, and having firmly secured upon its hub the pinion E', which in turn en-

gages with and imparts motion to the spur-gear wheel F, firmly secured upon the end of the shaft G, as shown in Figs. 1 and 2.

A bed-roll, H, made in two parts, is secured upon the shaft G, and between the two parts of said roll is also firmly secured upon said shaft the pinion H'. (Shown in Figs. 2, 3, and 4.)

A stationary table or bed, I, made in two sections, is mounted upon and secured to the girts B² B² and two of the tie-rods B B, as shown in Fig. 3. Upon this stationary table I is placed the movable table J, provided upon its under-side with the toothed rack J', extending longitudinally thereof, the teeth of which engage with the teeth of the pinion H', so as to be moved endwise by the rotation of said pinion, said movable table being guided in its movement by a groove, a , in the stationary table I, into which the teeth of the rack J' project, as shown in Figs. 2 and 4, said table also being provided with the adjustable abutment J² to compel the stock to move with the table J. Another bed-roll, H², provided with a central circumferential groove, b , for the passage of the teeth of the rack J', is secured upon the shaft K, which is also mounted in bearings in the frames A A, in which it is revolved by friction of the table J thereon.

Directly above the bed-rolls H² and H are adjustably mounted upon the threaded shafts L and L' the outlining-die M and the finishing-die M', made in the form of cylinders and clamped in the desired positions on their respective shafts by means of the nuts c c in a well-known manner. The shafts L and L' are mounted upon centers d d , set in the blocks N N, which are fitted to slide vertically in the slots N' in the frames A A, said blocks being arranged to be adjusted vertically for the purpose of adapting the die-rolls M and M' to operate upon stock of different thicknesses by means of the screws O O, which work in nuts formed in the horizontal bars A' of the frames A, and move endwise through the hubs of the gear-wheels P P, which are connected thereto by spline-keys (not shown) and the longitudinal grooves e , as shown in Fig. 1, so that the screws O O must revolve with said gears P P, while at the same time they are free to move upward or downward through said gears. The gear-wheels P P are revolved by the in-

intermediate gear-wheel, Q, secured to the lower end of the shaft R, having its bearing in the girt B', and having mounted upon its upper end the hand-wheel S, by revolving which both blocks N N and both dies M and M' are simultaneously raised or lowered, as may be desired, to adjust the dies to the thickness of the stock to be acted upon. The outlining-die roll M has formed thereon and projecting therefrom a knife or knives, *h*, arranged in the form of and adapted to cut into the surface of the wood to be ornamented the outline of the design, as shown in the transverse section of said die illustrated in Fig. 7, and in the development of the periphery of said die in Fig. 9. The finishing-die roll has formed upon its periphery projecting surfaces corresponding to the surfaces that are to be depressed in the wood, as shown in Figs. 8 and 10, in the latter of which the parts marked *i* and *j* are the raised portions of the die-surface, and the serpentine surfaces *k k* are the sunken surfaces.

Sometimes it is desirable to have a given part of the design bear a certain relation to a given point upon the piece of wood to be ornamented; and in order that this result may be readily attained, I fit upon each of the screw-shafts L and L' an index-collar, T, so that it may be readily moved from the position it occupies in the drawings to a position in close proximity to the clamping-nut *c*, which secures the die M or M' in position, said collar being prevented from being moved around said screw-shaft by the set-screw *l*, the point of which fits accurately and works in the longitudinal groove *m*, formed in said screw-shaft, as shown in Fig. 2. Two index-fingers, *n* and *o*, are secured to the collar T upon opposite sides thereof, and project therefrom in opposite directions, as shown in Fig. 2, the purpose of which will presently appear.

The block N, which carries the centers upon which are mounted those ends of the die-roll shafts L and L' upon which the collars T are mounted, has cut in its inner face two perpendicular lines, *p*, coincident with the axes of said shafts, which lines serve, in conjunction with the index-fingers *n* and *o*, as a means of setting the dies on their shafts, so that they shall bear the proper relation to the work to be ornamented. The die-roll shafts are connected together so as to revolve in unison by means of the gear-wheels *r* and *r'*, mounted, respectively, upon the shafts L and L', and the intermediate gear-wheel, *s*, mounted upon a stud set in the block N, as shown in Figs. 2 and 6.

The operation of my invention is as follows: The die-rolls being properly set on their shafts so that the designs upon them shall register one with the other, and the dies being adjusted in height according to the thickness of the stock to be acted upon, said stock is placed upon the table J in the desired position, with its rear end against the abutment J², and the

driving-shaft is set in motion, and the table J, with the stock thereon, will be moved endwise to carry the stock beneath the die M, which is made to rotate as soon as the stock is brought in contact therewith, and embed its knives therein and cut the outline of the design into the surface of the wood. A continuation of the forward movement brings the stock beneath the die M', which, registering accurately with the design outlined on the wood by the die M, depresses certain portions of the wood bounded by said outline, while certain other portions are left untouched, thus forming upon the surface of the wood an ornamental design in imitation of carving, having clean and well-defined outlines unmarred by having portions of the fibers broken down beyond the outline of the design, as has often been the case with the devices heretofore in use for this purpose.

When it is desired to have a particular point in the design correspond to a given spot on the piece of wood to be ornamented, the collar T is moved along its shaft till the index-finger *o* reaches the center of the die-face and the die is turned around its shaft till the desired point coincides with the index-finger, when the die is firmly clamped to its shaft by screwing up the nuts *c c*. The collar T is then moved back to the position shown in the drawings and secured to the shaft by the set-screw *l*, when said shaft is turned upon its centers till the index-finger *n* coincides with the line *p*, when the desired point on the die will be directly in the center of the under side of the die, and the piece of stock, with the point that it is desired to have correspond with the specified point of the die marked thereon, can be placed in the desired position beneath the die, which may then be lowered upon it by turning the hand-wheel S.

It is obvious that the die M' must be so set upon its shaft that when a given point in the design upon the die M is perpendicularly below the axis of its shaft the corresponding point in the design upon die M' must be at such a point that it must move around its axis of revolution a distance equal to the horizontal distance between the axes of the dies M and M' before said point on die M' will be perpendicularly below the axis of its shaft.

What I claim as new, and desire to secure by Letters Patent of the United States, is—

1. In a machine for embossing designs upon wood in imitation of carving, two die-rolls connected together by gears and arranged to revolve in unison and to act upon the surface to be ornamented in succession, and provided the one with cutting-knives to outline the design by cutting the fibers of the wood, and the other with projecting surfaces adapted to depress certain portions of the wood bounded by said outlines, substantially as described.

2. In combination with a moving table or bed carrying the stop to be ornamented, the die-roll M, provided with the cutting-knives

h, adapted to cut the fibers of the wood to outline thereon the design, and the die-roll M', provided with the projecting surfaces *i* and *j*, all arranged and adapted to operate substantially as and for the purposes described.

3. The combination of the die-roll M or M', adjustable around the shaft L or L', provided with the groove *m*, the collar T, provided with the index-fingers *n* and *o* and the set-screw *l*, and the block N, provided with the

line *p*, all arranged and adapted to operate substantially as described.

In testimony whereof I have signed my name to this specification, in the presence of two subscribing witnesses, on this 14th day of April, 15 A. D. 1884.

JOHN P. JAMISON.

Witnesses:

N. C. LOMBARD,

WALTER E. LOMBARD.