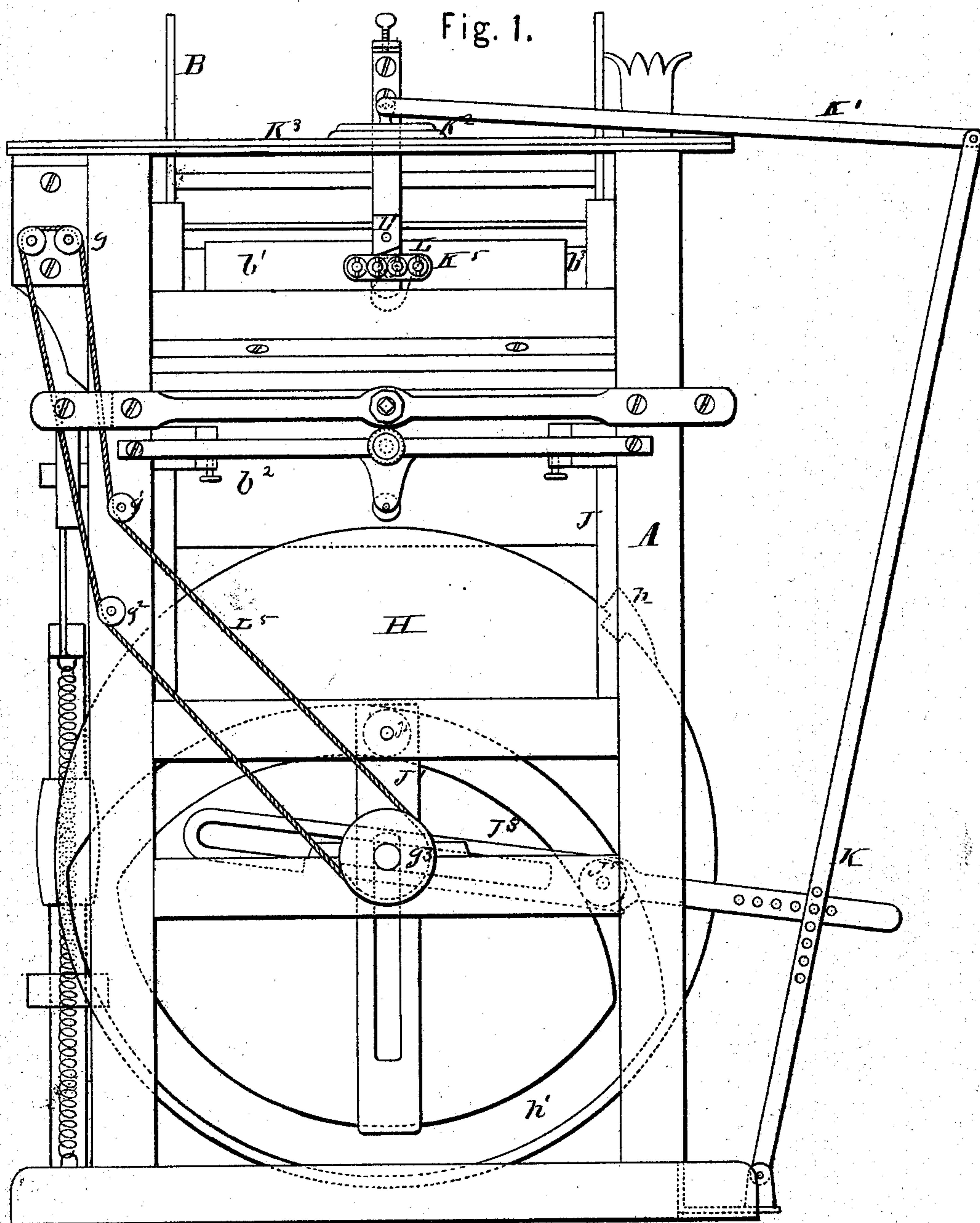


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Tag-Machines.

No. 139,259.

Patented May 27, 1873.



WITNESSES.

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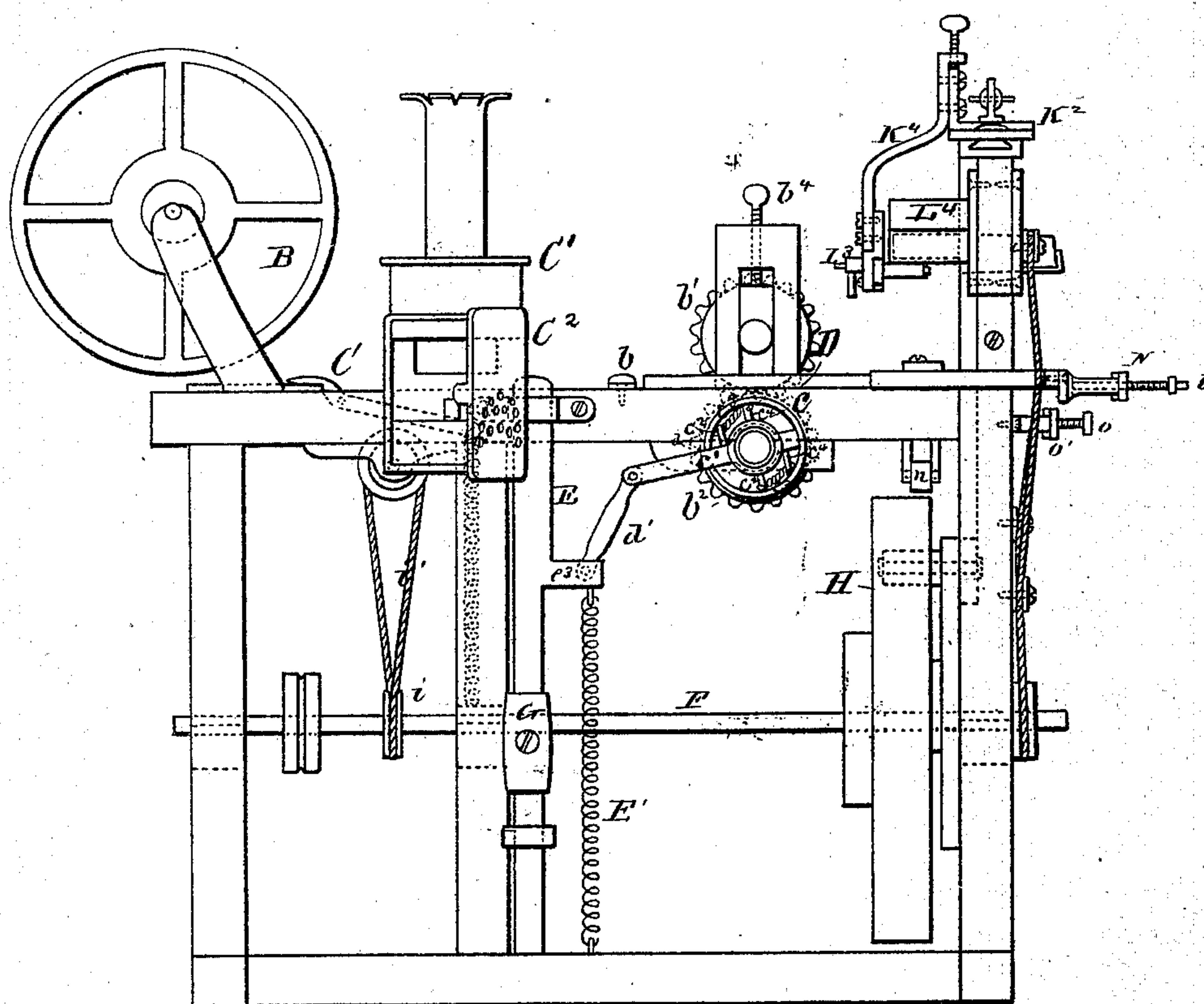


Fig. 2.

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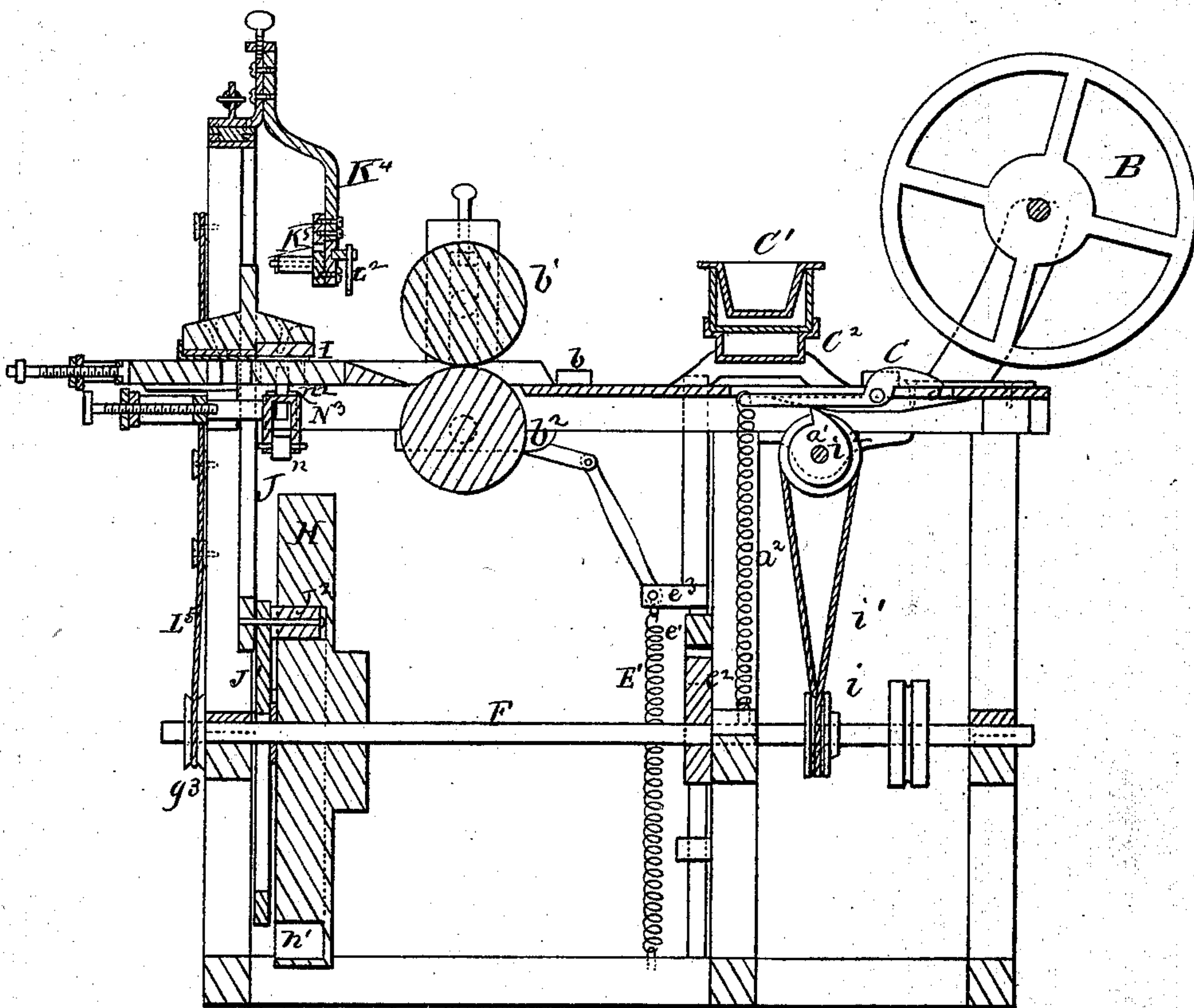


Fig. 3.

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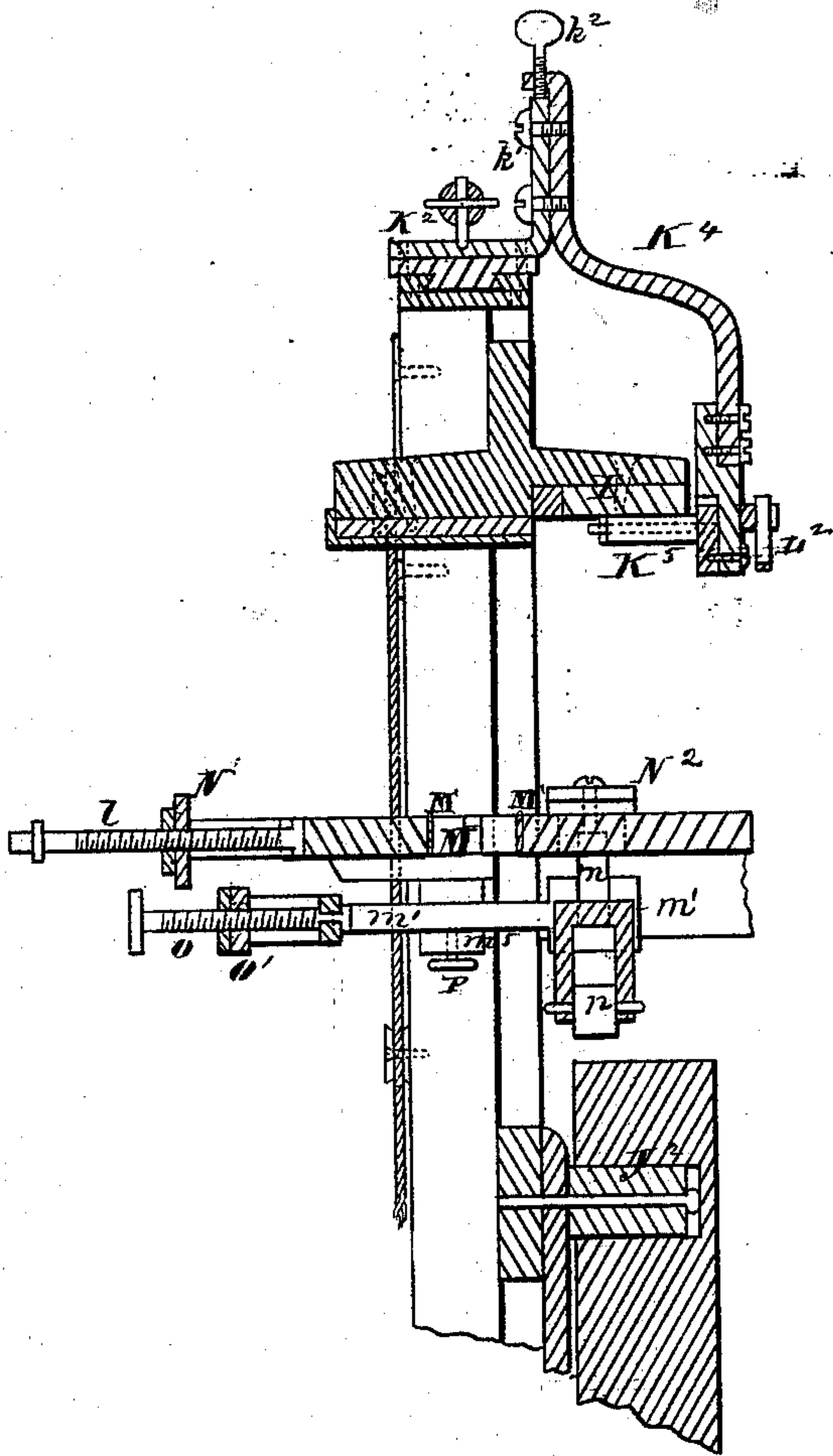


Fig. 4.

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Fig. 5.

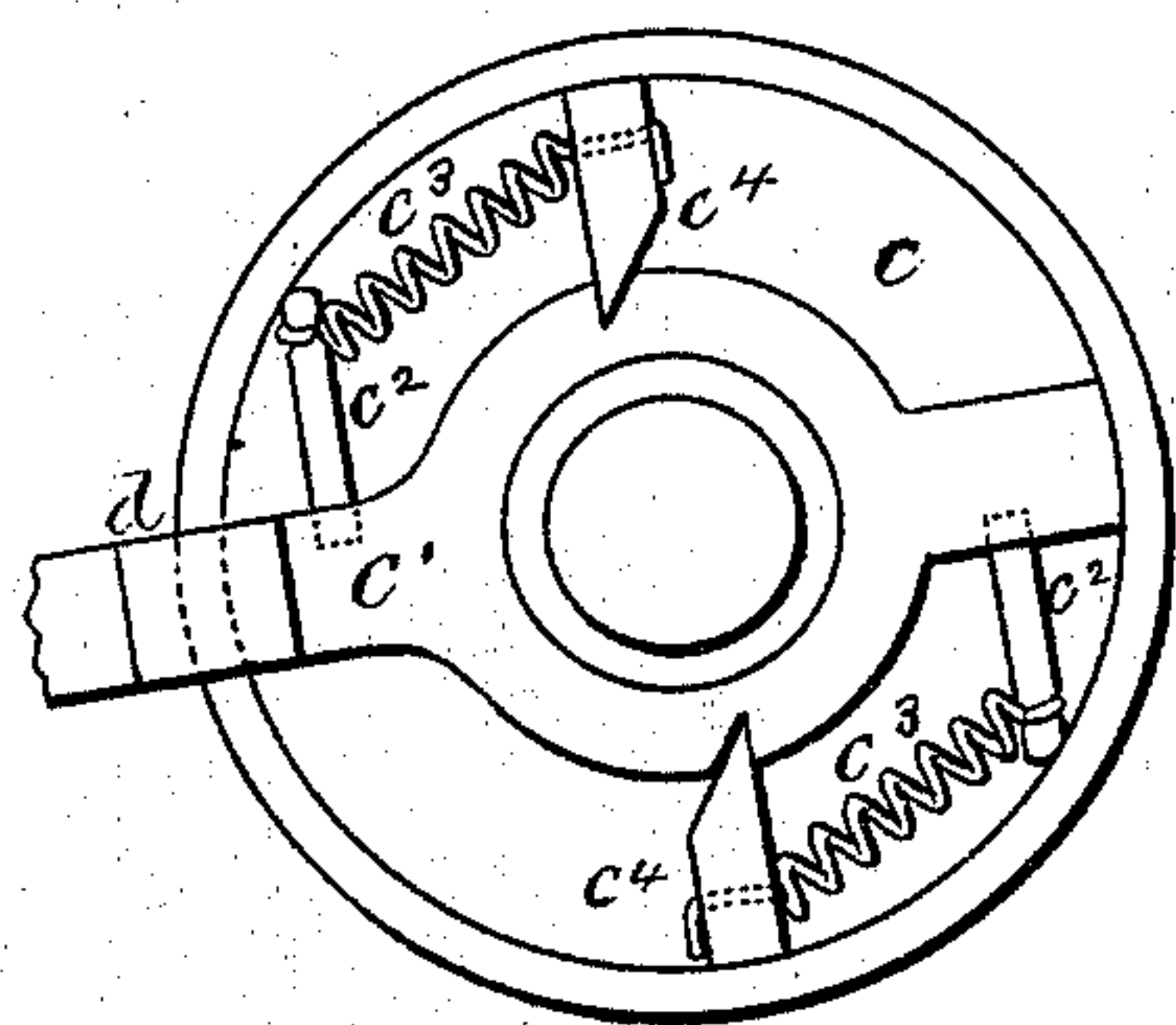
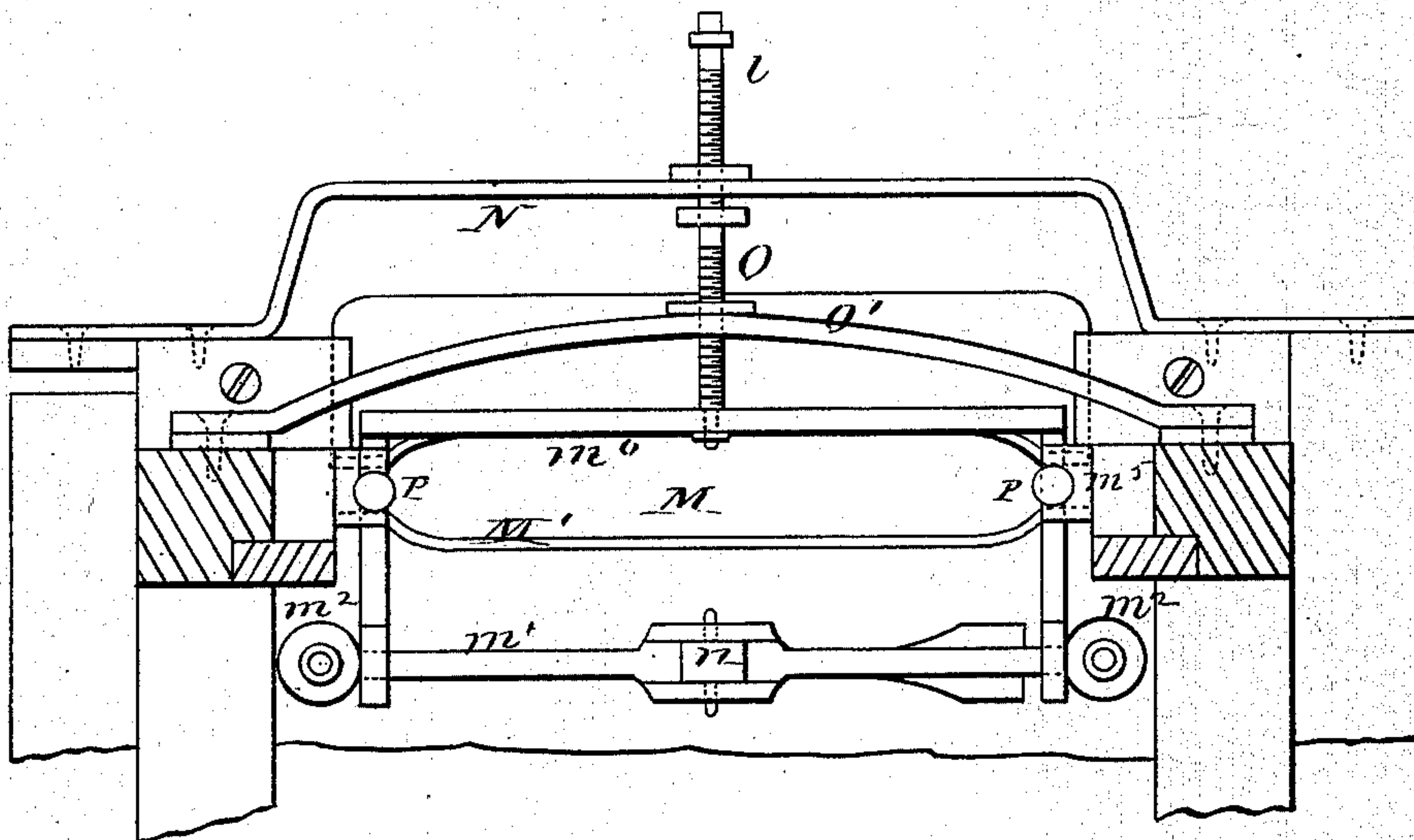


Fig. 6.

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UNITED STATES PATENT OFFICE.

CORNELIUS M. O'BRIEN, OF HIGHTSTOWN, NEW JERSEY.

IMPROVEMENT IN TAG-MACHINES.

Specification forming part of Letters Patent No. **139,259**, dated May 27, 1873; application filed August 10, 1872.

To all whom it may concern:

Be it known that I, CORNELIUS M. O'BRIEN, of Hightstown, in the county of Mercer and State of New Jersey, have invented a new and valuable Improvement in Tag-Machines; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawing making a part of this specification, and to the letters and figures of reference marked thereon.

Figure 1 of the drawing is a representation of an end view of my invention. Fig. 2 is a side view of my invention. Fig. 3 is a vertical cross-section of my invention. Fig. 4 is a sectional detail view of my invention. Fig. 5 is a detail top view of my invention. Fig. 6 is a detail view of my invention.

My invention has relation to certain improvements in making tags; and it consists in the construction and novel arrangement of the devices hereinafter described, whereby a roll of double-width tag-paper is cut in two as it unrolls from the reel, and is thence carried on, folded at the proper edges, punched, printed, and stamped, and two tags thereby produced at one continuous operation.

Referring to the drawing, A designates the frame of the machine having a flat upper surface. B designates the reel having a sliding head to admit of adjustment to different widths of paper. The reel is wide enough to receive a roll of double-width tag-paper. C is a pair of shears, one jaw of which is stationary, and so slotted and arranged as to admit of vertical adjustment. The other jaw is movable, and is worked through a slot, *a*, by means of a cam, *a*¹, and spring *a*². The paper from the reel passes between said jaws, and is cut through the middle into two parts. *b* designates guides, which direct the paper to the rollers *b*¹ *b*². *C*¹ represents a mucilage or paste tank attached to a furnace, *C*², which rests on standards, and is raised slightly above the surface of the frame A. The paste or mucilage may be applied to the edges of the paper as the same moves toward the rollers. The paste-tank may be separated from the frame, not being an essential part of the machine. The rollers *b*¹ *b*² are geared together at D and feed the paper to the printing, stamping, and

punching devices. The upper roller is cut away at *b*³ to let the folded edges of the paper pass easily between them. This roller is adjustable, and has its bearings raised and lowered in slotted standards by means of screws *b*⁴. The rollers *b*¹ *b*² have an intermittent motion given to them by the following means: Keyed to one end of the lower roller is a disk, *c*, having an annular rim and a central flanged collar. A yoke, *c*¹, embraces said collar, and holds, on opposite sides thereof and projecting in opposite directions, studs, *c*², to which are attached springs, *c*³, connected to beveled or wedge-shaped blocks *c*⁴. The yoke is loose upon the collar, hence the yoke may turn independently of the disk. The blocks *c*⁴ are thrown into oblique positions between the collars and the annular rim by means of the springs *c*³, and are thus caused to bite the rim and collar of the disk as the yoke is raised, and to thereby turn said disk forward, and through it communicate the required movement to the rollers. As the yoke falls the blocks *c*⁴ release themselves from the disk and allow the latter to remain in position until the next upward motion of the yoke begins. By this means the motion of the rollers is rendered intermittent. The purpose of having this motion intermittent is to cause a cessation of the feed during the printing, punching, and stamping operations. The arm of the yoke extends back, is recessed at *d* to embrace the rim of the disk, and is, by means of a link, *d*¹, connected to a vertically-reciprocating post, E, through which the rising-and-falling movement of the yoke is obtained. By means of another link, marked *e*, the post E is connected to a crooked lever, *e*¹, which, being pivoted to and underneath the top of the frame A, passes across from one side to the other. A cam, *e*², on the main shaft F elevates this lever and causes an upward movement of the post E, and also of the yoke. A spring, *E*¹, secured to the arm *e*³, to which the link *d*¹ is pivoted, produces the downward movement of said post, lever, and yoke. The link *e* is pivoted to an arm projecting from an adjustable collar, G, embracing the post. When this collar is raised or lowered the stroke of the post and yoke, and consequently the movement of the feed-rollers,

is regulated accordingly. The object of this regulation is to enable different-sized tags to be produced. The further the rollers turn at one operation the greater extent of paper will be fed, and vice versa. The main shaft F runs lengthwise of the frame, and holds, near its forward end, a large wheel, H, having a beveled stud, h , on its periphery, and a cam-groove, h' , cut in its face. The same shaft likewise holds a belt-pulley, i , connected by a belt, i^1 , to a shaft, i^2 , upon which is the cam a^1 having the function of actuating the movable jaw of the shears in the direction which will cause it to cut the paper. The spring a^2 , attached to the end of said jaw, produces the opening movement. The type I, for printing the address upon the tag, are carried by a frame, J, which moves up and down, at the forward end of the machine, between guides and through slots appropriately located. This frame is provided with a depending standard, J^1 , having a friction-roller, J^2 , which travels through the cam-groove h' as the wheel H revolves, and thus causes said frame to have a vertically-reciprocating motion in order that the type may press upon the tag, and then rise to receive ink. The bar or standard J^1 is slotted so as to work over the main shaft. A slotted plate, J^3 , sliding also upon the main shaft, passes partly across the face of the wheel H and beyond its periphery. This plate also carries a friction-roller, J^5 , which works in the cam-groove h' , and gives said plate a nearly-horizontal reciprocating movement. The outer end of said plate is pivoted to a rod, K, which is hinged to the bottom of the main frame, and rises to or near the highest portion thereof. A link or pivoted arm, K^1 , connects the rod K at the top to a plate, K^2 , which is adapted to slide along a flanged bar, K^3 , and which carries a bracket, K^4 , to which are journaled the inking-rollers K^5 . The part of said bracket to which the inking-rollers are applied consists of a horizontal bar, L, pivoted at the center, and limited in play by an oblique-ended block L^1 . A spring, L^2 , acts upon a stud, L^3 , and throws the inking-rollers down after being tilted. These rollers are tilted when they come to the supply-rollers L^4 in order that they may pass under and keep in close contact with the same. When the type are raised the inking-rollers are carried along underneath them, from the side of the frame having the rollers L^3 to the opposite side. When the type descend the inking-rollers return above them. The rollers L^4 are operated by a belt, L^5 , from the main shaft F, passing over the rollers g g^1 g^2 , and around the pulley g^3 , as shown. M represents an opening in the frame, A, close to the type. To the edges of said opening knives M' are attached. These knives are of a form to stamp out two tags. The stamping operation is conducted simultaneously with the printing, but the tags printed at one operation are not stamped until the second operation. The outer portion of the type-bed constitutes the blank of the

stamping-die to press the paper against the knives. The outer part of the lower die is movable between the sides of the frame, and is adjusted so that various-sized tags may be stamped by means of an adjusting-screw, l , attached to a bent plate or bracket, N, as shown. m designates the eyelet-punches attached to a transverse bar, m^1 , which lies within notches in the end of the side bars of a frame, m^6 . The punches are threaded, and adjustable by means of thumb-heads m^2 , and pass through holes or slots in the top of the frame at either end of the printing devices. N^2 designates the punch-blanks, which are flanged to let the paper pass under, and are adjustable upon the frame. The bar m^1 carries a friction-roller, n , which the stud h on the wheel H comes in contact with and causes the punches to rise. A spring, n^3 , lowers the latter. The sides of the frame m^1 are dovetailed, and are supported by correspondingly-recessed blocks m^5 , along which the frame may be adjusted to change the position of the blanks to suit the requirements of tag-making. An adjusting-screw, O, working in a bent frame, O' , is employed to adjust the frame m^1 . Screws P, passing into the blocks m^5 from underneath, when tightened against the sides of frame m^1 hold said frame firmly in whatever position it is adjusted to. In the operation of this machine, the paper is first cut by the shears, then folded at the edges after having paste applied, (if the same is required,) next passed between the feeding-rollers, and finally subjected, when the type-bed descends, to the operation of printing, punching, and stamping. The bracket K^4 should be attached to the plate K^2 , which has an upright side piece, k^1 , as shown in an adjustable manner, so that by turning the adjusting-screw k^2 the pressure of the inking-rollers may be regulated.

I am well aware that it is not new to provide a tag-machine with feed-rollers having intermittent motion, or with mechanism for printing, cutting, and punching the tag. Hence I do not claim, broadly, such invention.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. The frame J, carrying the type and cutting-bed, in combination with the adjustable knives M' , substantially as described.

2. In a tag-machine, the combination, with the shears O, cam a^1 , and spring a^2 , of the feed-rollers b^1 b^2 , shaft F, cam e^2 , and the intermittent clutch c , substantially as specified.

3. In a tag-machine, the combination, with the slotted bed, and the operating-cam a^1 and spring a^2 arranged under said bed, of the shears, vertically and longitudinally arranged in the central line of the bed, and working through its slot, substantially as and for the purpose specified.

4. The inking-rollers K^5 attached to the pivoted block L, in combination with the beveled stop L^1 , springs L^2 , and supply-rollers L^4 , substantially as described.

5. In combination with the shears C, arranged to divide the paper to form the ends or butts of the tags, the knives M M', the latter adjustable, as shown, bent to cut the tops, sides, and corners of two tags simultaneously, substantially as specified.

6. The adjustable frame m^1 , recessed blocks m^5 , screws P, frame O', and adjusting-screw O, in combination with the bar m^1 , substantially as specified.

In testimony that I claim the above I have hereunto subscribed my name in the presence of two witnesses.

CORNELIUS M. O'BRIEN.

Witnesses:

GEO. E. UPHAM,
D. D. KANE.