

No. 683,199.

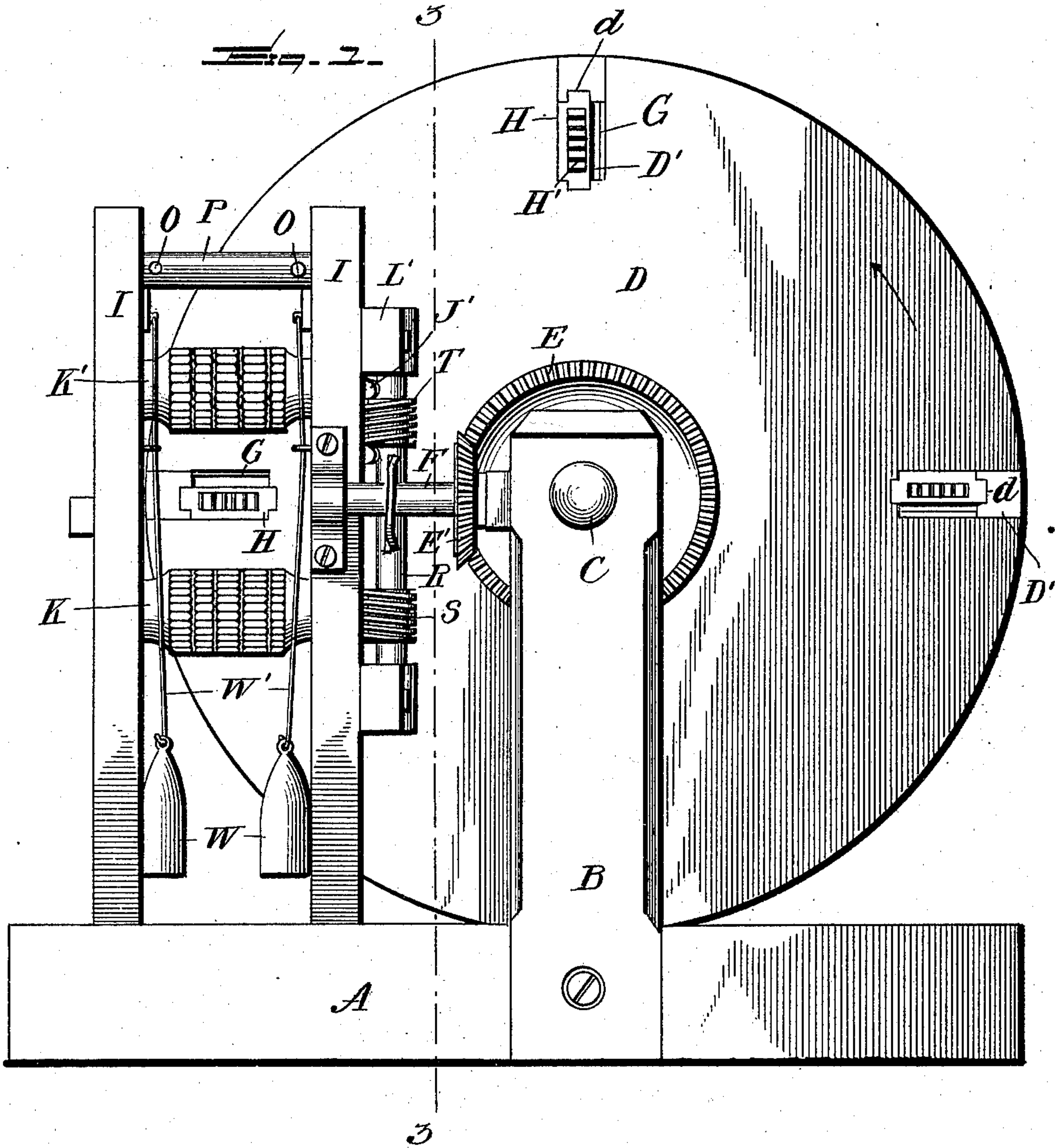
Patented Sept. 24, 1901.

A. A. DEKIN.
EXCELSIOR MAKING MACHINE.

(Application filed Apr. 26, 1901.)

(No Model.)

3 Sheets—Sheet 1.



WITNESSES:

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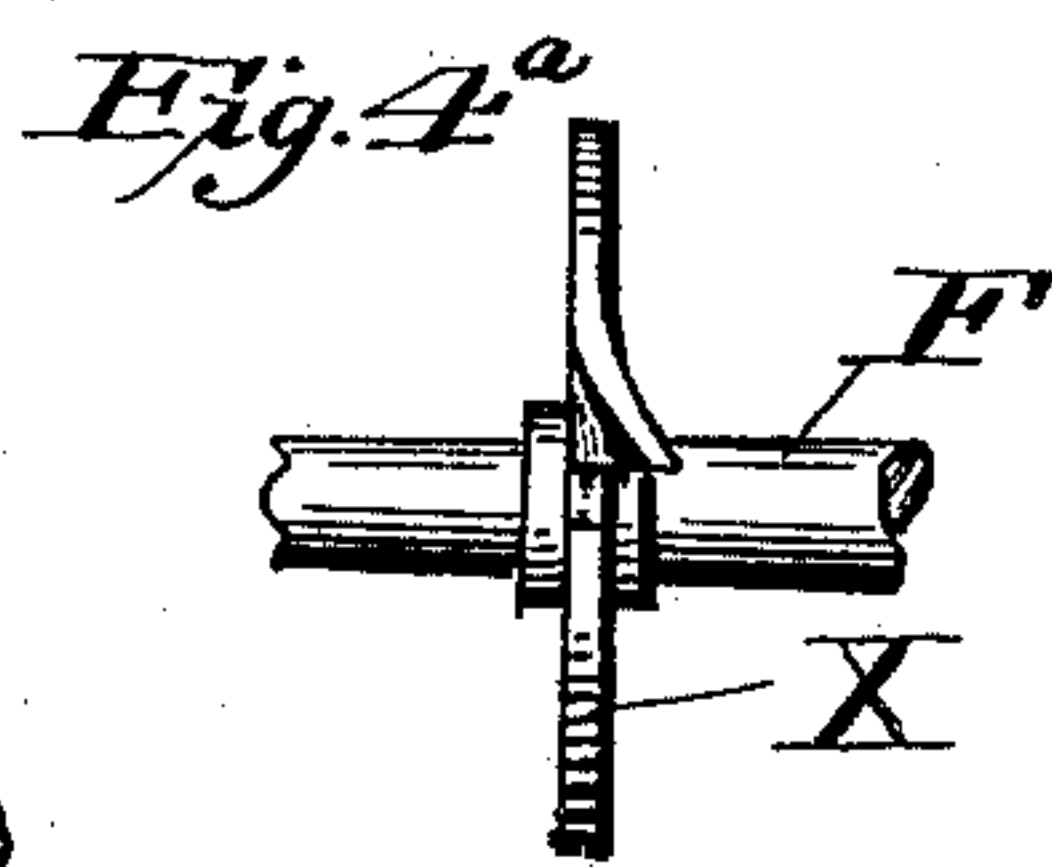
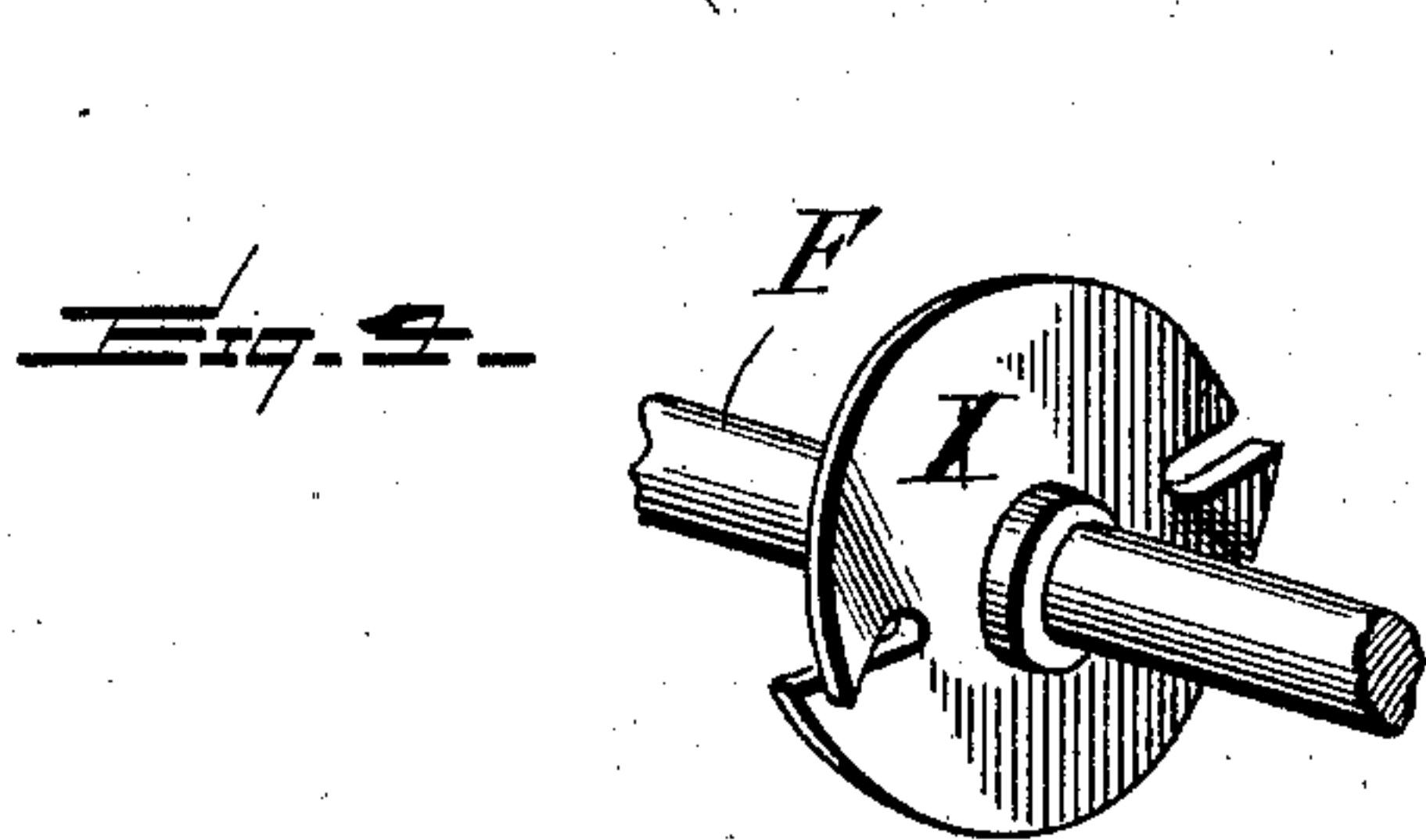
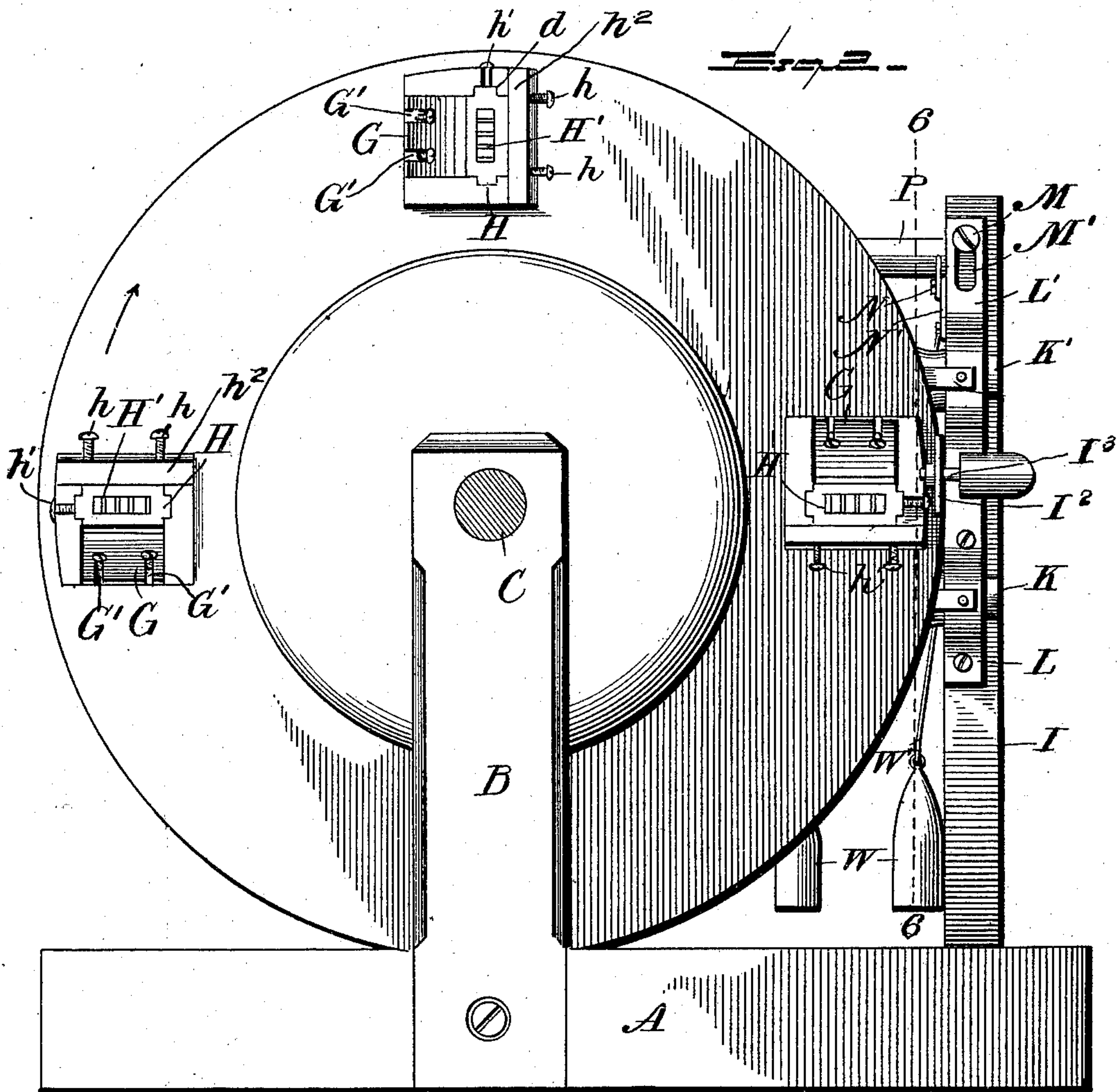
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3 Sheets—Sheet 2.



WITNESSES:

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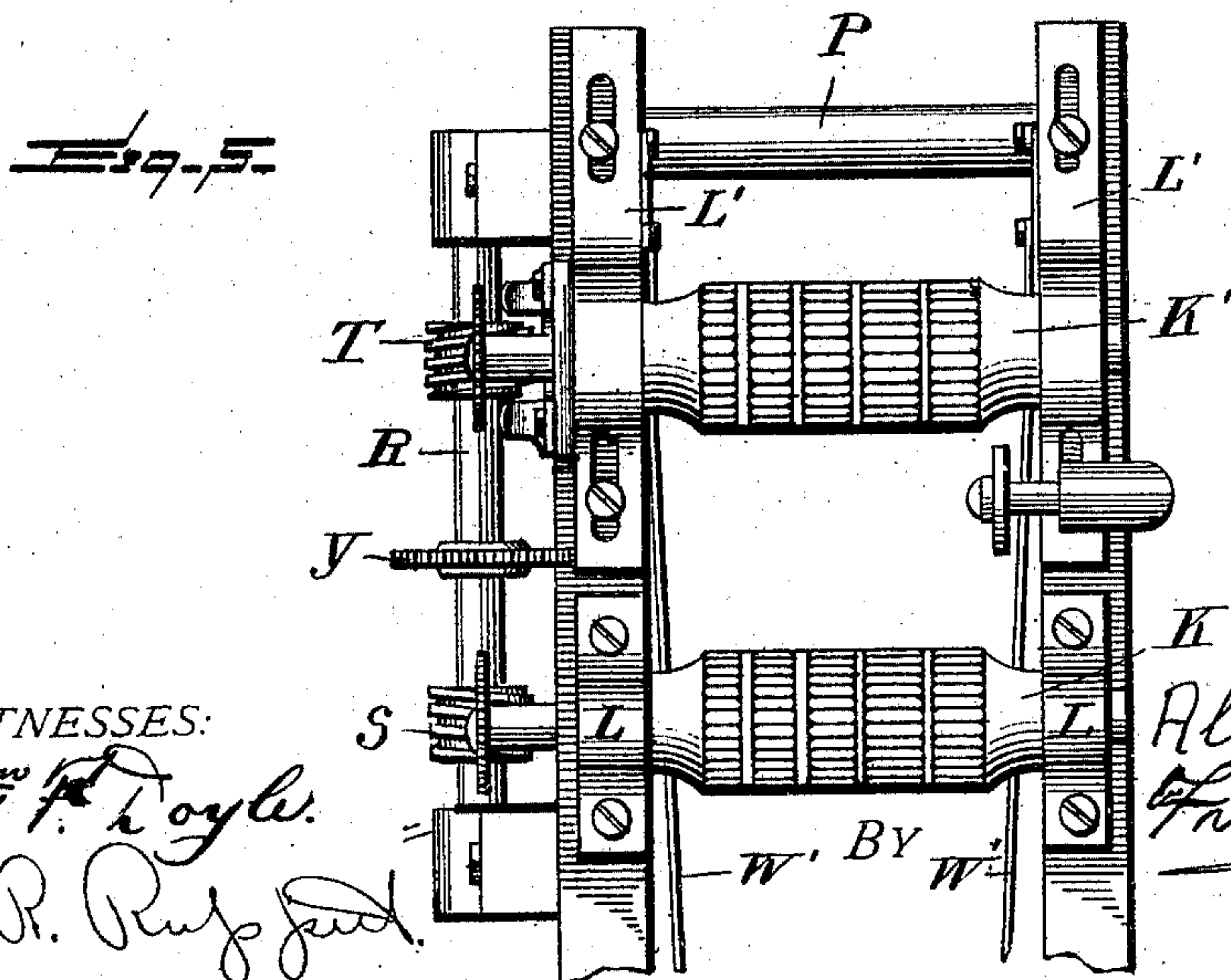
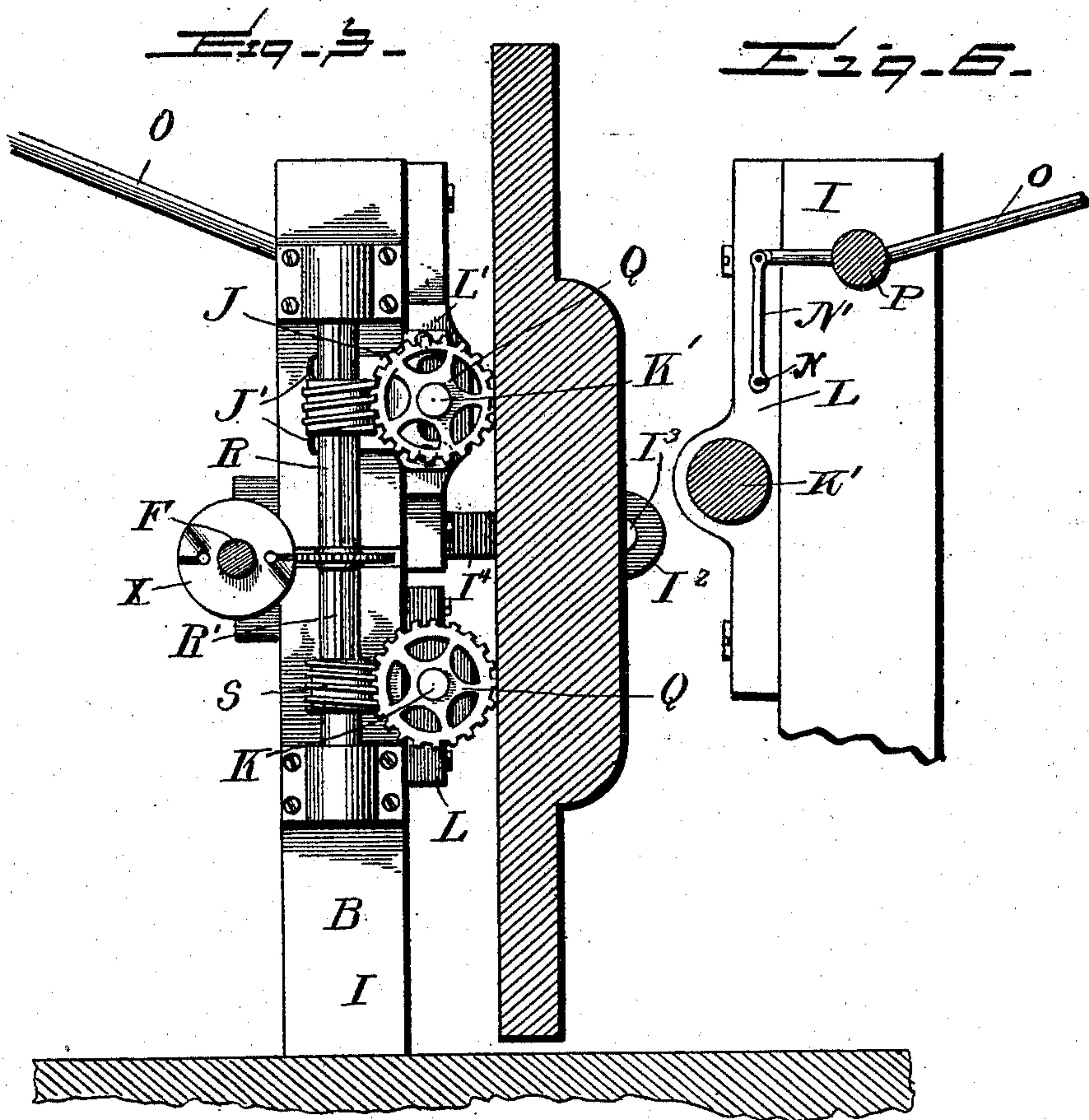
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(Application filed Apr. 26, 1901.)

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3 Sheets—Sheet 3.



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UNITED STATES PATENT OFFICE.

ALBERT A. DEKIN, OF GLENFIELD, NEW YORK.

EXCELSIOR-MAKING MACHINE.

SPECIFICATION forming part of Letters Patent No. 683,199, dated September 24, 1901.

Application filed April 26, 1901. Serial No. 57,598. (No model.)

To all whom it may concern:

Be it known that I, ALBERT A. DEKIN, a citizen of the United States, residing at Glenfield, in the county of Lewis and State of New York, have invented certain new and useful Improvements in Excelsior-Making Machines; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

This invention relates to new and useful improvements in machines for cutting excelsior; and it consists in the various combinations and arrangements of parts, as will be hereinafter more fully described and then specifically defined in the appended claims.

The invention is clearly illustrated in the accompanying drawings, which, with the letters of reference marked thereon, form a part of this application, and in which drawings similar letters of reference indicate like parts throughout the several views, in which—

Figure 1 is a side elevation of the machine, showing the feeding-rollers between which the block of wood is fed against the knives carried by the rotary disk. Fig. 2 is a side elevation of the opposite face of the rotary disk. Fig. 3 is a sectional view taken on line 3 3 of Fig. 1, showing in side elevation worm splined to the vertical shaft. Fig. 4 is a detail view in perspective of the cam feeding-wheel. Fig. 4^a is a side elevation of the cam-wheel; Fig. 5, a detail view in elevation of the feeding mechanism. Fig. 6 is a sectional view taken on a small portion of line 6 6 of Fig. 2.

Reference now being had to the details of the drawings by letter, A designates the base portion of the frame, from which rise the posts B, in which the shaft C is journaled. This shaft carries the disk D, in which the cutting-blades are mounted, and also a bevel gear-wheel E, which is in mesh with a gear-wheel E' on a counter-shaft F, suitably journaled in the frame. The disk D has a series of peripheral slots D', in which the blades G are adjustably held at an angle to the face of the disk for an inclined wall of said slot by means of screws G'. The side walls of

each slot D' are grooved, as at *d d*, to receive the frames H, in which the slitting-blades H' are adjustably held. These frames H are held in adjusted positions by means of the set-screws *h*, which pass through the flanges *h*², there being one of said flanges about the marginal edge of each of said slots, and which screws bear frictionally against the edges of the frames which work in said grooves. These frames H, it will be observed, are disposed directly in front of the knives or blades G and at right angles to the face of the disk. The slitting-blades, which are spaced apart, are adjustably held within their frames by means of set-screws *h*'. In the drawings I have shown four sets of slitting-knives arranged in as many slots in the disk. The feeding mechanism comprises the two corrugated rollers K and K', the former of which is mounted in the brackets L, which are fixed to the upright posts I, which rise from the base A. The upper feed-roller K' has a vertical play and is journaled in the sliding brackets L'. These sliding brackets, which form the journal-bearings for the spindle of the roller K', are held to the upright posts I by means of the headed screws M, which are fastened to the posts and pass through the elongated slots M' in the brackets L'. Secured to the face of one of said brackets L' is a lug or screw N, to which one end of a link N' is pivoted, while the other end of said link is pivoted to one end of the lever O, which is securely fastened to the shaft P. This shaft P is journaled in the upright posts I, and the handle end of said lever projects outward a sufficient distance to offer sufficient leverage to the operator who desires to raise or lower the roller K'. The spindle of each feeding-roller has fixed thereto a gear-wheel Q, and mounted to rotate with a vertical shaft R, journaled in suitable bearings on one of the upright posts I, is a worm-wheel S, which is in mesh with the gear-wheel on the spindle of the roller K. This shaft R has a spline R', seated in a groove therein, on which the worm-wheel T is splined, said wheel having a sliding movement on the shaft R and is in mesh with the gear-wheel on the spindle of the feed-roller K'. A bracket J is secured to the sliding bracket L', which is adjacent to the gear-wheel, and has two arms J', one extending over each end

of said sliding worm-wheel, whereby as the feed-roller K' is raised and lowered said sliding worm-wheel is moved therewith. For holding the roller K' down upon the block which is fed
 5 through between the two rollers weights W are provided, which are connected to ropes W', that are fastened to the sliding brackets, said ropes passing through suitable guide-eyes or over pulleys. In order to impart an
 10 intermittent motion to the block of wood from which the excelsior is being cut while the cutting is being done, I provide a gear-wheel Y, which is fastened to rotate with the up-
 15 right shaft R, and upon the counter-shaft F is a cam-wheel X, which is slit in at points diametrically opposite each other and the adjacent edges of said slits bent outward in opposite directions. As one of the edges of the cam-wheel meshes with a tooth of the
 20 gear-wheel Y one-half the circumference of the cam-wheel will turn in the space between each tooth, and when the bent portion of the half-section of the cam-wheel comes in contact with the edge of the tooth of the gear-
 25 wheel Y an intermittent motion will be imparted to the shaft on which said wheel Y is mounted. As the half-section of the cam-wheel leaves the space between two teeth of the gear-wheel the edge of the second half
 30 of the cam-wheel, which is bent in the opposite direction, will engage the space between the next two teeth, and the gear-wheel Y will remain stationary until the curved end of the second half of the cam-wheel reaches the
 35 edge of a tooth, after which another partial revolution will be imparted to the gear-wheel and the shaft carrying same. The knives are so positioned with relation to the intermittent feeding mechanism that while the
 40 blades are doing their work of slitting and cutting the shreds of wood there will be no feeding forward of the block of wood which is held between the feeding-rollers; but the moment the cutting-knives pass by the block
 45 the second half of the cam-wheel will impart the intermittent movement to the block, so that it will be positioned to be in the path of the slitting and severing blades of the rotary disk.
 50 From the foregoing it will be observed that my machine is entirely automatic, as the block is fed forward immediately after the knives leave the block.
 55 While I have shown a cam-wheel with two slits, whereby two movements are imparted

to the block at each revolution of the wheel, I do not limit my invention to any number, as I may use two or more, and, if desired, I may use any number of sets of cutting-knives.

In order to hold the disk from springing
 60 away from the feed-rollers while the excelsior is being cut, I provide an antifriction-wheel I², which is journaled on a stub-shaft I³, carried on the end of the bracket I⁴.

While I have described and shown the prin-
 65 ciples of my machine, it will be understood that I propose to make alterations in the detailed construction on my apparatus as I may see fit without departing from the spirit of my invention.

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

1. In combination, in an excelsior-cutter a disk having a series of peripheral slots, flanges
 75 about three marginal edges of each slot, a casing carrying slitting-knives mounted in oppositely-disposed grooves in said flanges, a headed screw mounted in one end of said casing adapted to rest in a recess in one of said
 80 flanges, and adjusting-screws passing through a flange at right angles to said grooved flanges, and adapted to engage and hold the casing in the peripheral slot as set forth.

2. In an excelsior-cutting apparatus the
 85 combination with rotary disk, cutting-knives, standard, stationary feed-roll, an arm projecting laterally from said standard, an antifriction-wheel journaled at its outer end and engaging the face of the disk adjacent to its
 90 edge, journaled blocks L mounted on said standard, pivotal pins carried by said blocks, cords secured to the pivotal pins on the journaled blocks, and weights fastened to the ends
 95 of said cords, a feed-roll journaled in said blocks, a rod or shaft journaled near the upper end of the standard, arms projecting laterally from said shaft and links having pivotal connection with said pins with said arms,
 100 one of the arms being extended in an opposite direction to form a lever whereby the journaled blocks may be raised and lowered, substantially as shown and described.

In testimony whereof I hereunto affix my signature in presence of two witnesses.

ALBERT A. DEKIN.

Witnesses:

C. M. BASSETT,
 GEO. W. JACKSON.