

(No Model.)

A. SEDMIHRADSKY.
CIRCULAR KNITTING MACHINE.

No. 434,528.

Patented Aug. 19, 1890.

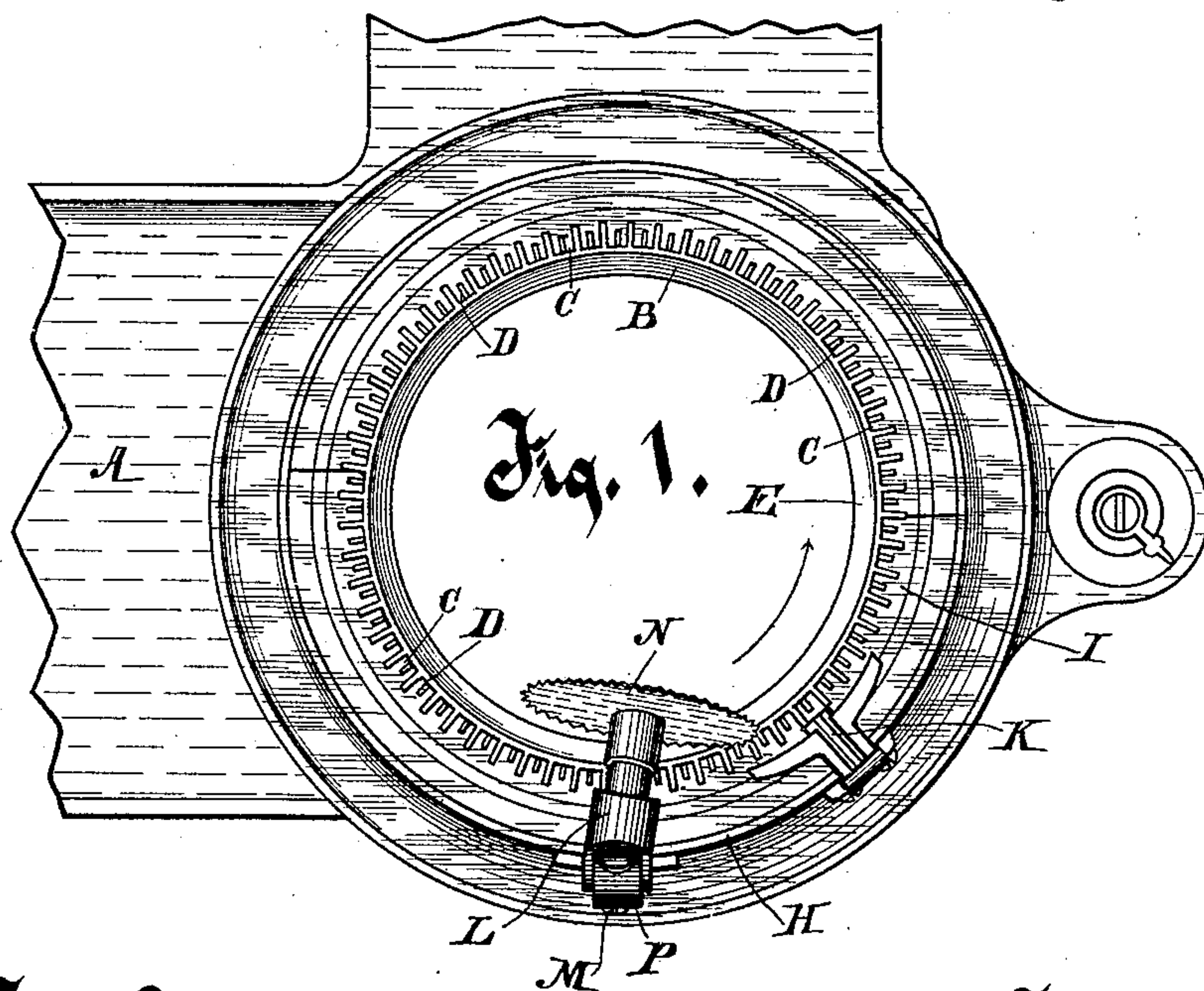


Fig. 2.

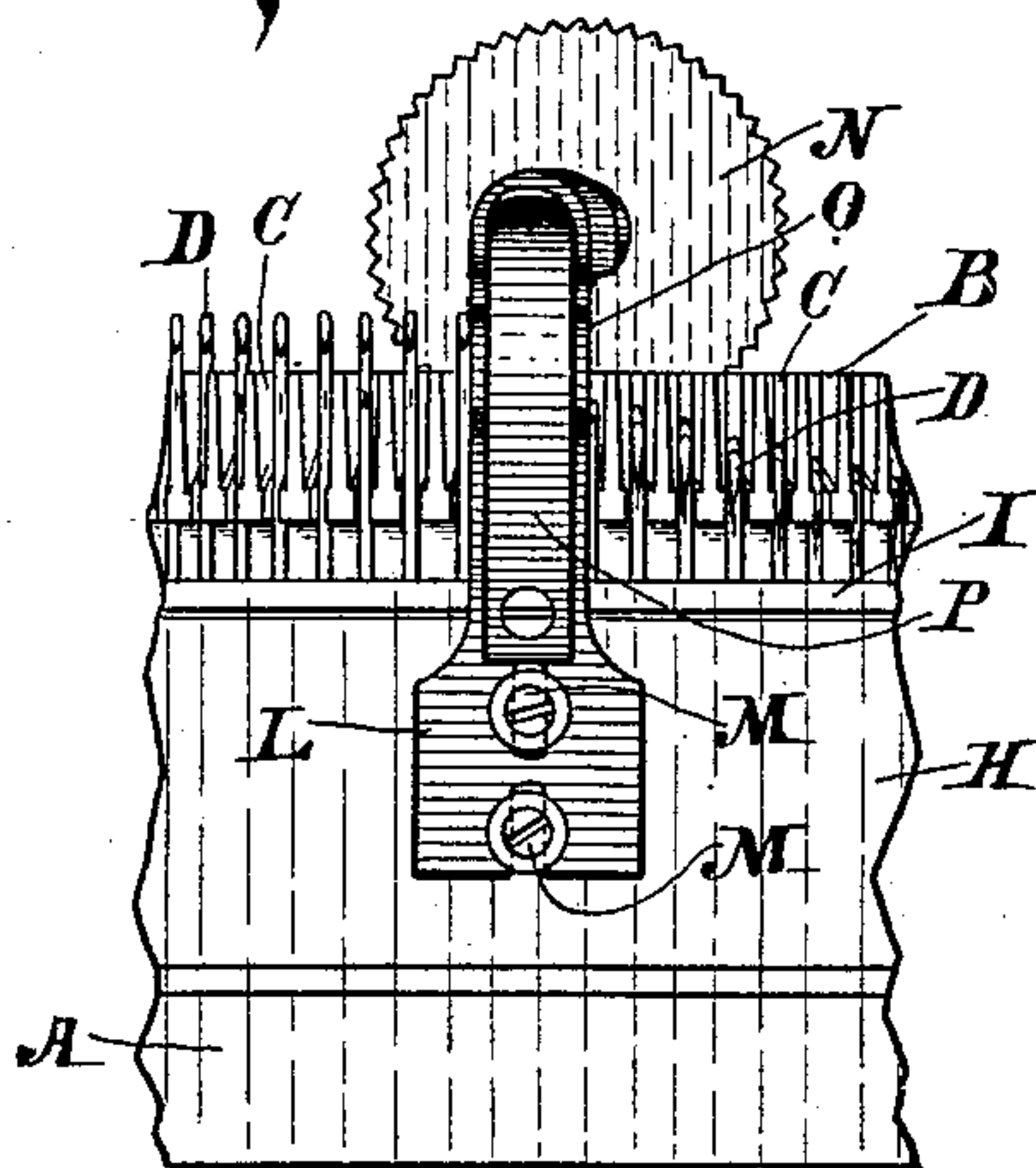
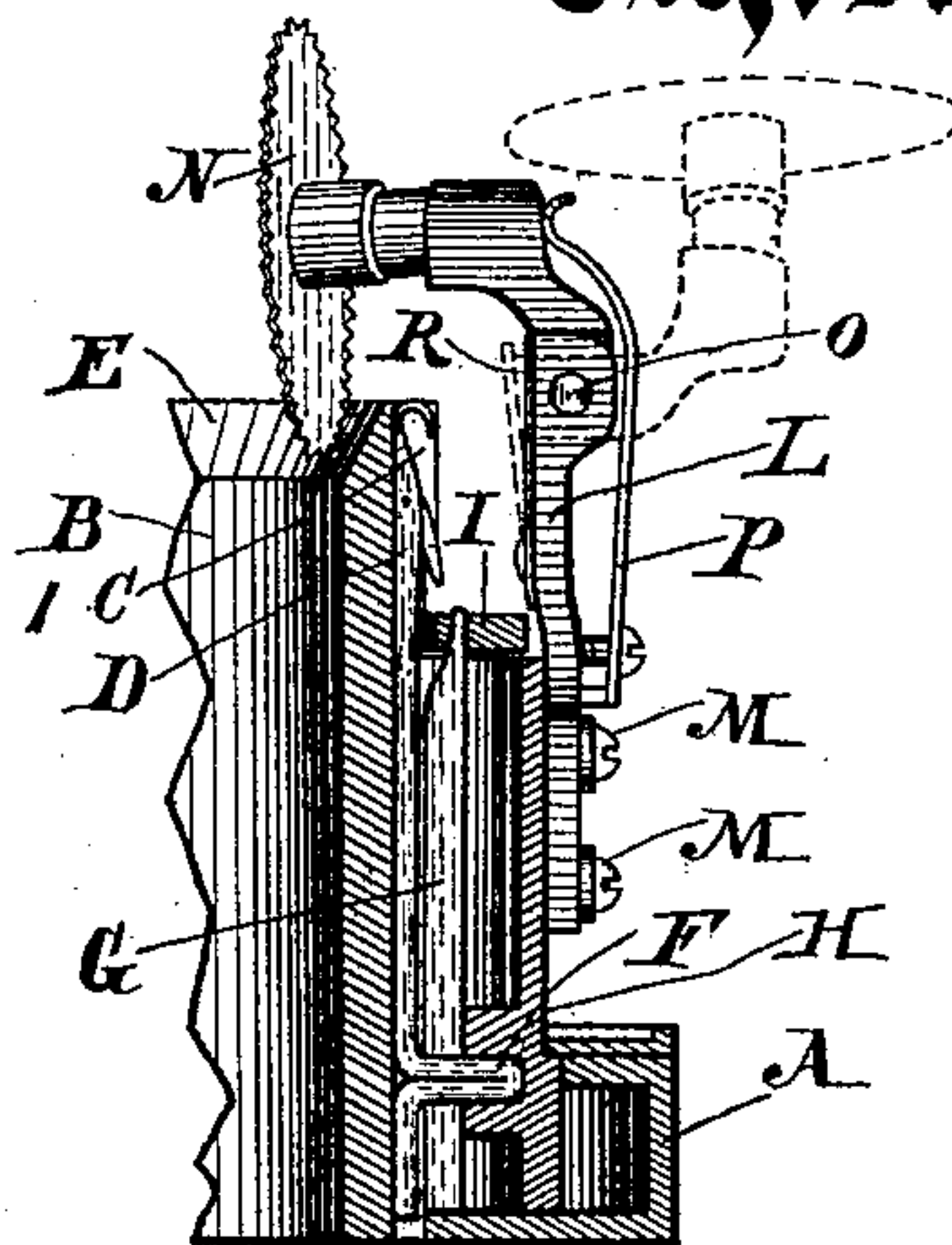


Fig. 3.



Witnesses.

C. H. Keeney,

Anna Faust.

Inventor.

Adolf Sedmihradsky

Ernest Benedick
Attorneys.

UNITED STATES PATENT OFFICE.

ADOLF SEDMIHRADSKY, OF MILWAUKEE, WISCONSIN, ASSIGNOR TO THE
KALAMAZOO KNITTING COMPANY, OF SAME PLACE.

CIRCULAR-KNITTING MACHINE.

SPECIFICATION forming part of Letters Patent No. 434,528, dated August 19, 1890.

Application filed January 20, 1890. Serial No. 337,428. (No model.)

To all whom it may concern:

Be it known that I, ADOLF SEDMIHRADSKY, of Milwaukee, in the county of Milwaukee and State of Wisconsin, have invented new and useful Improvements in Circular-Knitting Machines; and I do hereby declare the following to be a full, clear, and exact description of said invention, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

In knitting a continuous fabric on a knitting-machine, especially on a circular machine, it is necessary to attach a weight, sometimes of considerable size—even twenty-five or thirty pounds—to the fabric to keep it taut and hold it down in position for receiving each successive needle through the proper loop of the fabric, the upward thrust of the needles and the yarn therein carried tending to carry the fabric away from the proper position to receive each successive upwardly-thrust needle in the process of knitting.

The object of my invention is to provide a device whereby the use of weights is entirely or largely obviated, the device being so constructed and attached to the machine as to be adapted to engage the fabric and hold it in position opposite to the upwardly-thrust needles for the proper carrying on of the knitting process.

In the drawings, Figure 1 is a top view of a circular-knitting machine, to which my device is attached. Fig. 2 is a side elevation of a portion of the circular part of the same knitting-machine with my device attached thereto. Fig. 3 is a vertical transverse section of that part of the knitting-machine shown in Fig. 2 with my device (shown partly in elevation) attached thereto, a second position of a portion of the device being shown in dotted lines.

In the drawings, A is the base of the machine, to which the needle-cylinder B is attached rigidly. The needle-cylinder is provided in its outer surface with a series of longitudinal grooves C C, in which the needles D D reciprocate endwise vertically. The top inner edge of the cylinder is beveled upwardly and outwardly, as shown at E. The needles D D are each

provided with an outwardly-projecting foot F, which extends beyond the side walls G G of the grooves C C into a cam-groove in a cylinder H, which is located about and rotates on the needle-cylinder B. The groove in the cylinder H, which receives the feet F F of the several needles, follows the inner surface of the cylinder in a wave-line, in the well-known manner, whereby as it is rotated about the needle-cylinder the needles are successively raised and lowered by the foot of each needle following the groove in the cylinder. The line of this groove and its method of lowering and raising the needles successively are indicated in the line of the top of the needles in Fig. 2, in connection with the foot of the needle D in the groove in Fig. 3.

A removable ring I is placed over the space between the rotating cylinder H and the needle-cylinder B to exclude foreign matter. A yarn-holder and guide K is secured to the cylinder H, and is adapted to receive and feed the yarn to the machine.

An arm L is secured adjustably to the cylinder H by means of set-screws M M passing through vertical slots in the arm and turning into the cylinder H. This arm extends upward somewhat above the edge of the needle-cylinder, and turns inward over the edge, the top laterally-extending part of the arm being deflected at an oblique angle to that radius of the cam-cylinder which prolonged would pass through the arm. The arm carries on its free end a rotating notched or toothed wheel N. This arm is secured to the cylinder H opposite that part at which its cam-groove is raising the needle, and has raised it so that its top end is about even with the top of the needle-cylinder, which is the position occupied by the needle just before the moment it enters the loop of the fabric being knitted. The wheel N is so located and poised on the arm L that as the cylinder H is rotated it engages the fabric opposite the beveled edge E just in advance of the point at which the needle is thrust up into the fabric through the old loop, and continues its engagement with the fabric until the needle has been thrust up through the loop and to its highest position of travel in the process of knitting. As the

cylinder H is rotated the front or advancing edge of the wheel N engages the fabric near to and opposite the beveled edge E at a point downwardly and forwardly from its axis, which point of engagement, as the cylinder and wheel continue to rotate, is carried downwardly directly beneath its axis, whereby the fabric is drawn downwardly more forcibly and is held in that position at the moment the needle is thrust upward through the loop of the fabric. To give the wheel N the proper poise and position with reference to the beveled edge E, the top of the arm L is thrown a little forward, downward, and inward, as seen in Figs. 1 and 3.

As in some kinds of work this device is not needed—as, for instance, in widening and narrowing the toe of a stocking—a hinge O is provided in the arm L, whereby the top of the arm and the wheel may be thrown back away from the needle-cylinder in the manner shown in dotted lines in Fig. 3.

To hold the top of the arm L and the wheel N firmly in position a spring P is secured to the lower part of the arm, which bears against the rear part of the top of the arm and holds that part of the arm and its supported wheel in position. This spring may be swung to the right or left away from in front of the top of the arm, whereby the wheel can be thrown up into the position shown in dotted lines in Fig. 3. Another spring R is shown in Fig. 3, which is secured to the inner side of the arm L, and bears against a face of the upper part of the arm when it is thrown back in the position shown in dotted lines, whereby the wheel is held yieldingly temporarily in that position.

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

1. In a circular-knitting machine, the combination, with the stationary needle-cylinder and a cam-cylinder rotating about the needle-cylinder, of an independent toothed wheel pivoted on an arm fixed on the cam-cylinder, the arm extending above the needle-cylinder and the toothed wheel being located mostly

above and on the inside of the needle-cylinder opposite the cam on the cam-cylinder and arranged at an oblique angle to the radii of the needle-cylinder and adapted to engage the knitted fabric at a point a little in front of the needles as they are thrust upward by the cam and by the forward movement of the wheel to force the fabric down, so as to pass beneath the wheel opposite the upward thrust-needles, substantially as described.

2. In a circular-knitting machine, a needle-cylinder and a cam-cylinder rotating thereon, and an independent toothed wheel pivoted on an arm fixed on the cam-cylinder, the wheel being located mostly above on the inside of and at a little distance from the downward-beveled top edge of the needle-cylinder, the top of the arm on which the wheel is supported being turned inwardly over the needle-cylinder and being deflected at an oblique angle to that radius of the cam-cylinder which being prolonged would pass through the wheel-supporting arm, so that the front edge of the toothed wheel is nearer to the inner beveled edge of the cylinder than its rear edge is, substantially as described.

3. In a circular-knitting machine, the combination, with a rotating cam-cylinder, of an arm carrying a toothed wheel located mostly above and on the inside of the needle-cylinder, which arm is secured adjustable vertically on the cam-cylinder and is jointed above the cylinder, so that the wheel may be swung away from over the needle-cylinder, which arm is also provided with a spring holding the wheel-supporting part yieldingly normally over the needle-cylinder, and with another spring adapted when in action to hold the wheel-supporting part yieldingly away from the needle-cylinder, substantially as described.

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

ADOLF SEDMIHRADSKY.

Witnesses:

C. T. BENEDICT,
ANNA FAUST.