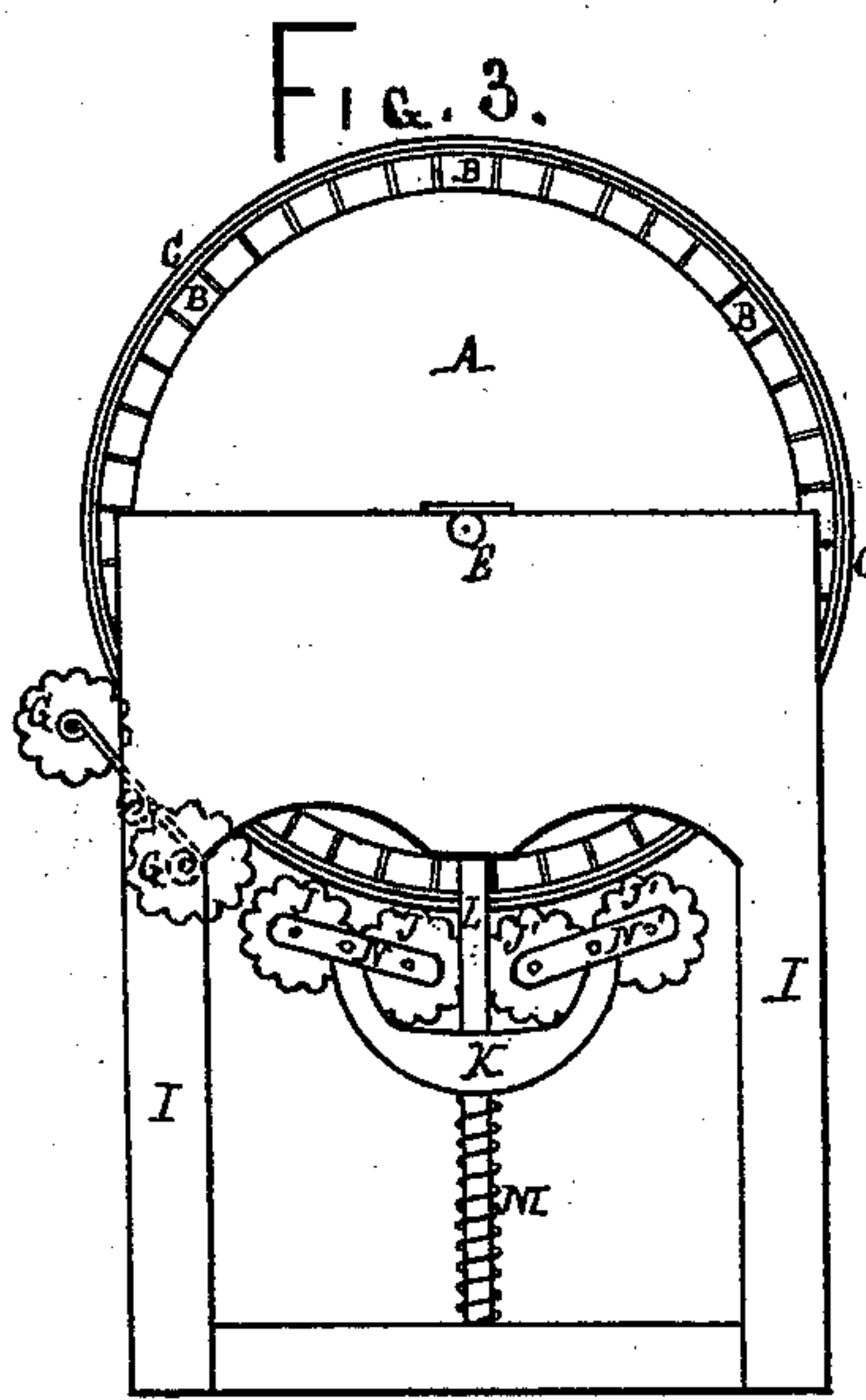
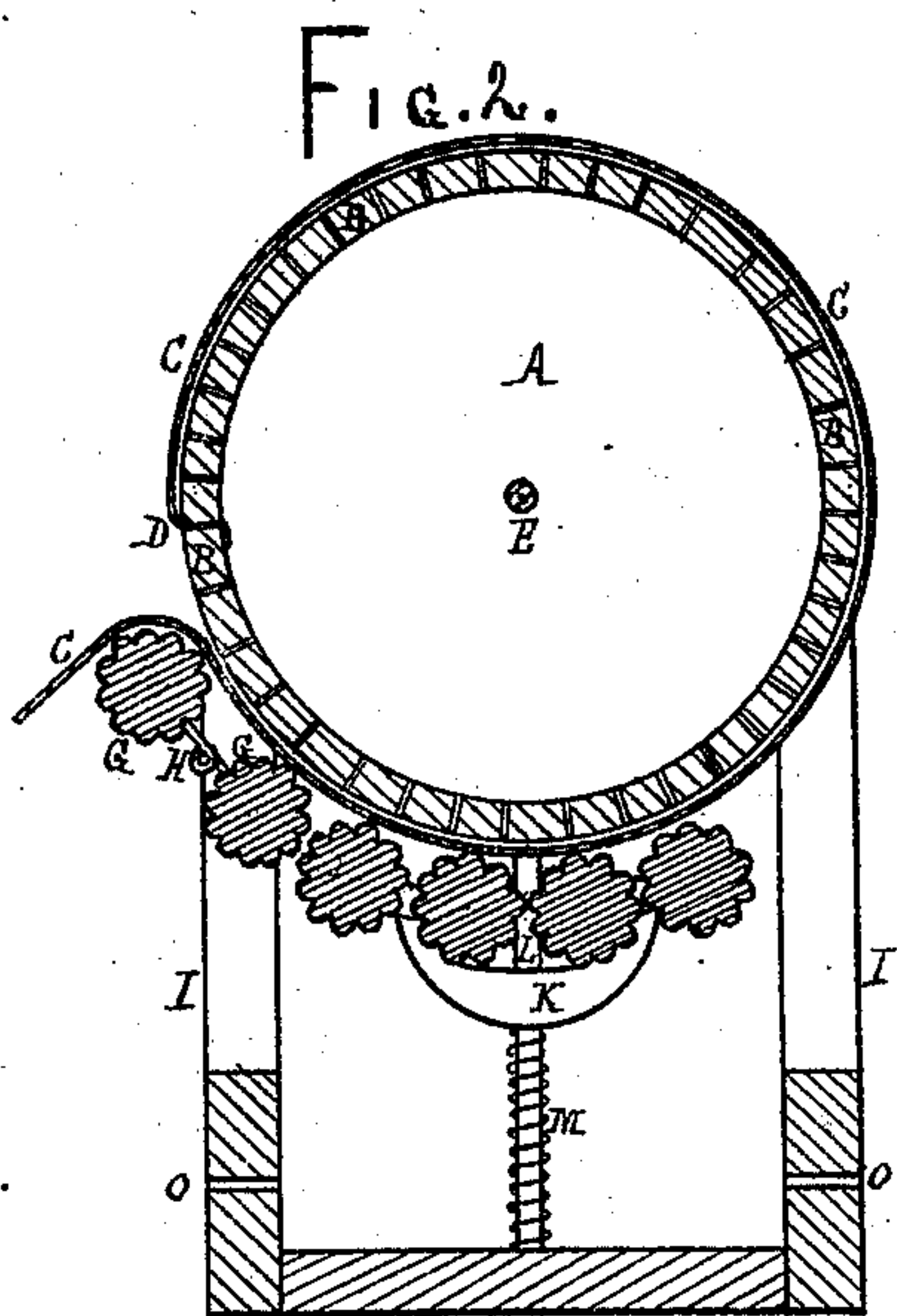
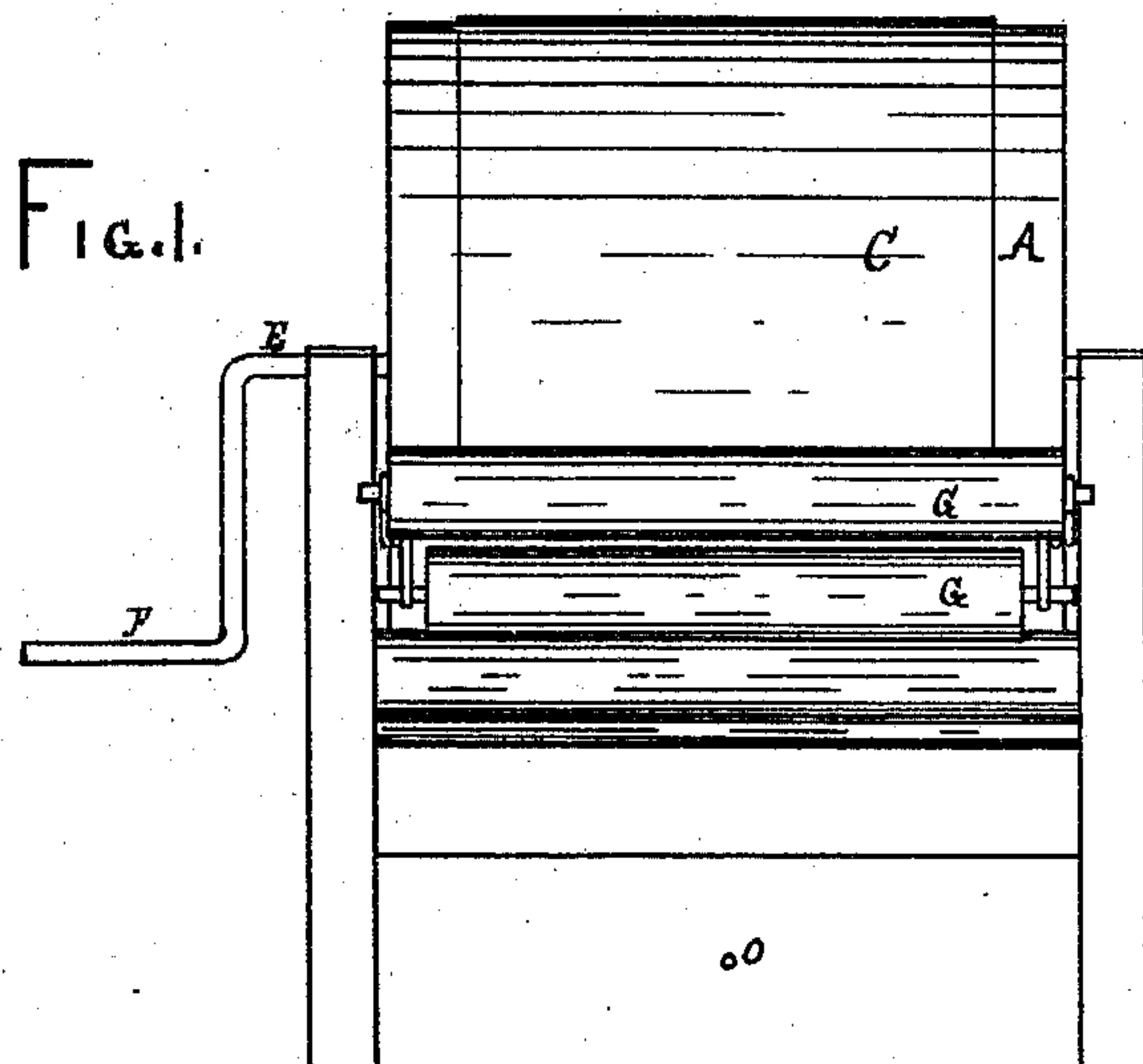


C. CAMPBELL.
WASHING-MACHINE.

No. 176,736.

Patented May 2, 1876.



Witnesses
Jas. D. Patton
J. Carpenter.

Inventor
Charles Campbell
per George E. Buckley
att'y

UNITED STATES PATENT OFFICE.

CHARLES CAMPBELL, OF PHILADELPHIA, PENNSYLVANIA.

IMPROVEMENT IN WASHING-MACHINES.

Specification forming part of Letters Patent No. **176,736**, dated May 2, 1876; application filed December 17, 1875.

To all whom it may concern:

Be it known that I, CHARLES CAMPBELL, of Philadelphia, Pennsylvania, have invented certain new and useful Improvements in Washing-Machines; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawings, making part hereof.

My invention consists of the combination of a revolving cylinder, a cloth or flap attached at one end to said cylinder to hold the clothing to be washed between it and the cylinder, and four spring-rollers, impinging their whole length across the convex surface of the cylinder, the said rollers held against the cylinder by means of arms pivoted at their middles to a spring-supported bearing.

To enable others skilled in the art to make and use my invention, I will describe its construction and operation.

In the drawings, Figure 1 is a side elevation of my device; Fig. 2, a cross-section; Fig. 3, an end view.

A is the cylinder; B, the slats or strips covering or forming its convex surface; C, a cloth or flap, one end of which is fastened across the convex surface of the cylinder at D; E, the axis of the cylinder; F, the crank or handle by which the cylinder is revolved; G G, fluted rollers, the ends of the axes of which are secured in springs H, which are elastic, and which springs are pivoted or secured at their middle to the uprights of the frame I at the ends of the rollers. J J J' J' are also fluted rollers (longitudinally fluted or scalloped) secured at their ends to an elastic self-adjusting bearing, which is accomplished by the following means: The cross-arm K is pierced by and slides loosely upon the vertical standard L, and is sustained by the spiral springs M. Upon the ends of this arm K are second cross-arms N N', pivoted at their middle to the ends of the arm K, and at their extremities supporting the ends of the axes of the rollers J J J' J'. O is a hole through the bottom of the frame, through which to pass a rod, wire, or other security, to fasten the machine onto the bottom of a tub of water.

The operation of the machine is as follows: I set the machine in a tub containing water sufficient to cover the rollers when the machine stands on the bottom. The cloth or flap C is then lifted, and the clothing to be washed is spread between this cloth and the convex surface of the cylinder, the cloth being laid down upon the clothing. Commencing at and proceeding upward from the point D, as the clothing is laid on the cylinder A is revolved in a direction downward from the point D, and, when all is ready, the cylinder is revolved as rapidly as is desired, the springs H and M keeping the fluted rollers against the cloth C with a gentle pressure. The clothing is thus being constantly soaked and pressed by the flutes as it dips into water immediately below the point D, when in place in the tub. The spaces between the slats B permit the water to circulate through the clothing and into the interior of the cylinder. By pushing up spring M from the bottom and inserting a pin in the standard L, to keep the spring there, the pressure of the rollers J J J' J' can be regulated. By moving the height of this pin different pressures can be obtained. The cloth or flap C protects the clothing being washed from wearing friction from the rolls, but does not preclude the pressure of these rolls from having its proper effect. Where the clothing is heavy, its effect, as well as of all projecting parts, is, when it reaches the rollers, to press the first one back, but it will be seen that this does not interfere with the rest, as any one or more may be depressed, but the remaining ones will retain their position. The forcing down of one does not tend in any great degree to force the other up, as, by the cross-arm K, arms N, and springs M and H, each one is independent in its action, while they all have a common bearing.

The opening in arm K, to admit standard L, is large enough, or so slotted as to permit this arm to be sogged down on one side or the other with ease.

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

In a washing-machine the combination of

a revolving cylinder, a cloth or flap attached at one of its ends to said cylinder to hold the clothing to be washed between it and the cylinder, and four spring-rollers impinging their whole length across the convex surface of the cylinder, the said rollers held against the cylinder by means of arms

pivoted at their middles to a spring-supported bearing, substantially as set forth.

CHARLES CAMPBELL.

Witnesses:

W. W. DOUGHERTY,

ALBERT E. ZACHERLE.