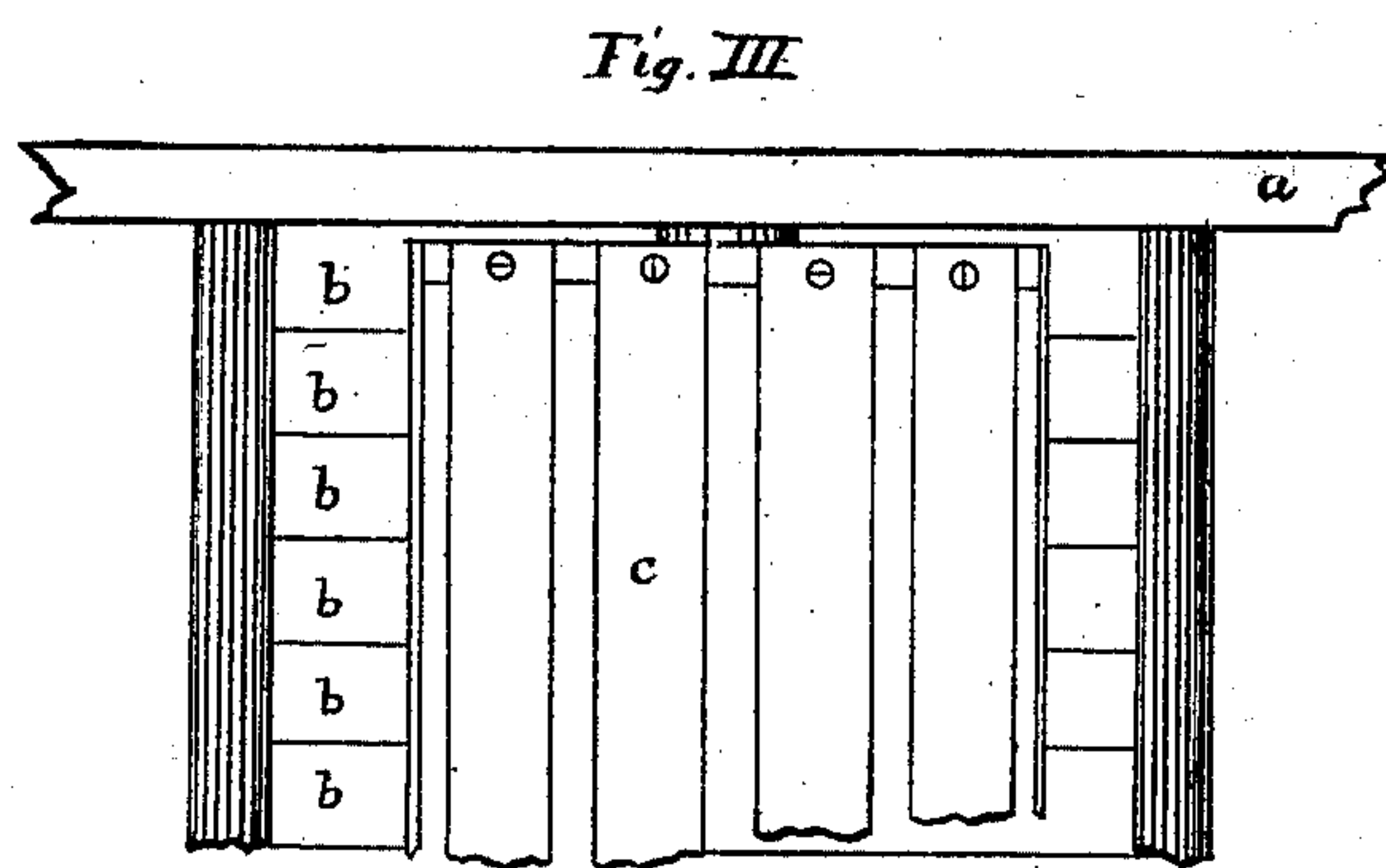
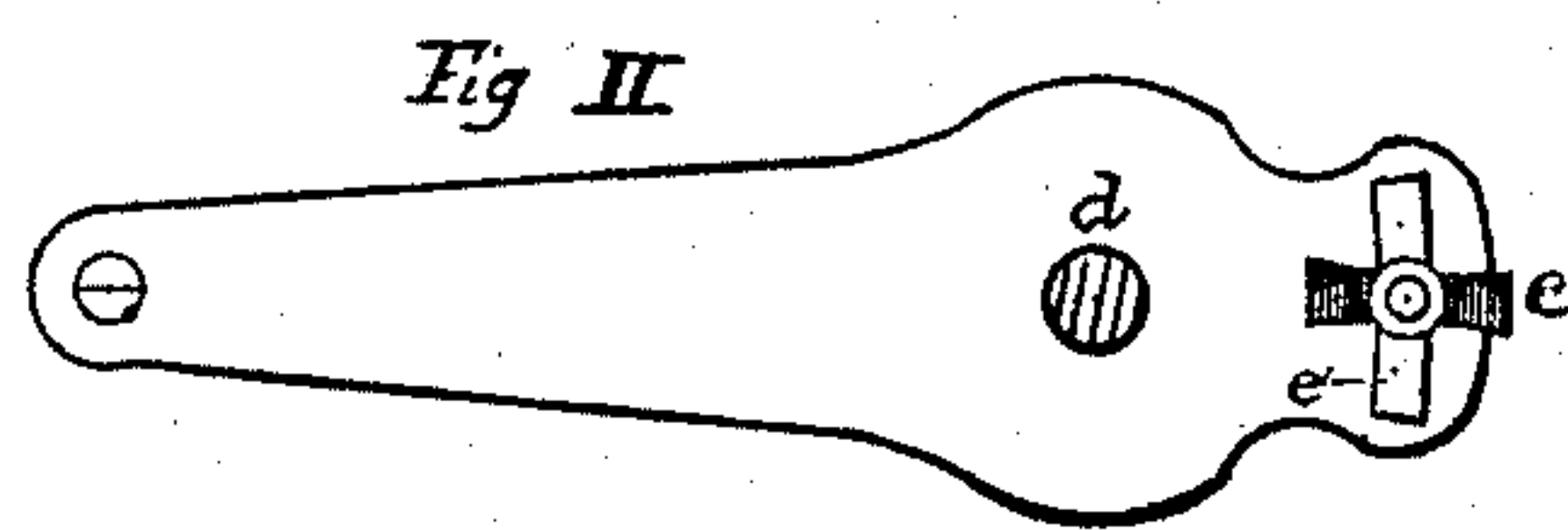
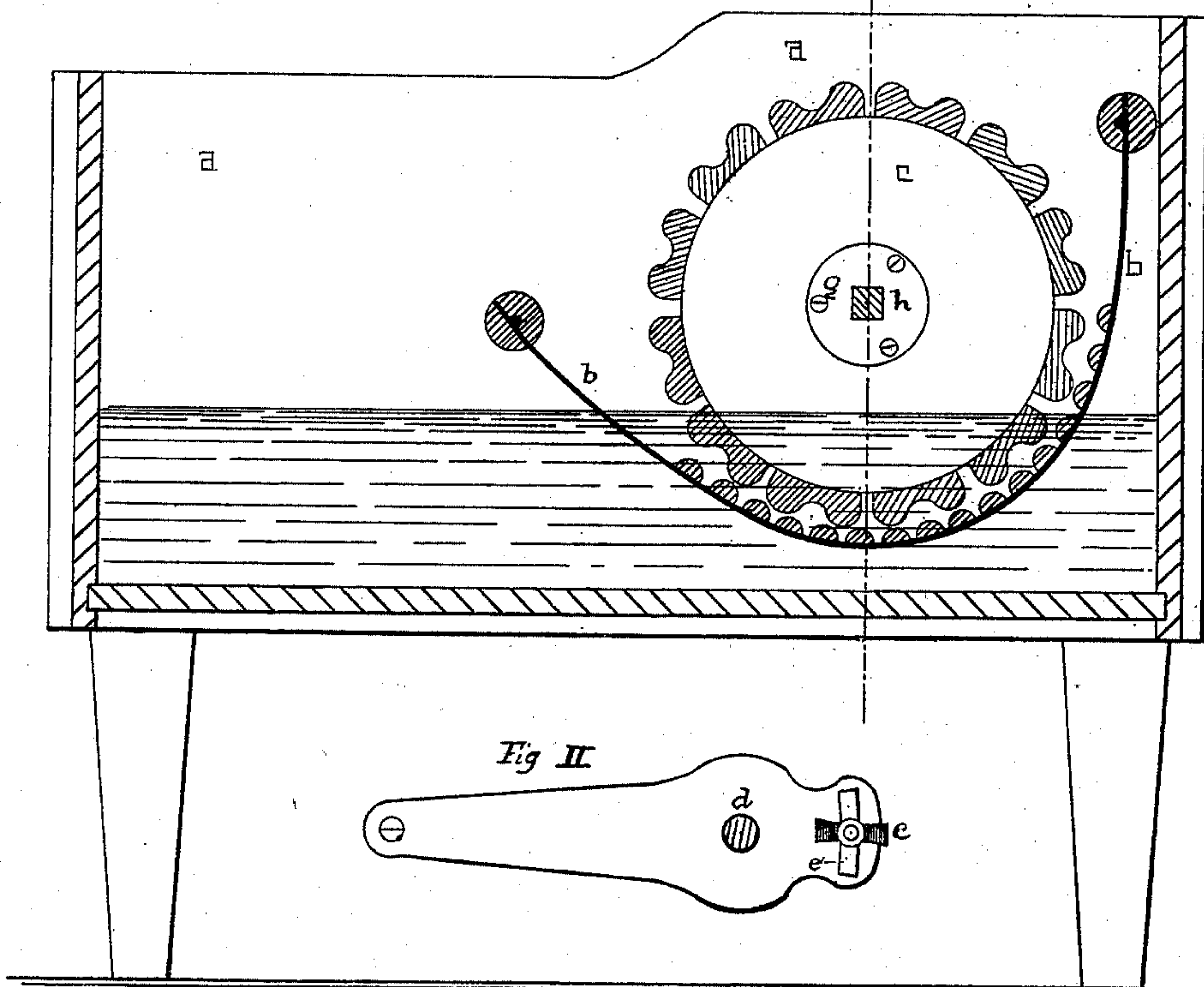


W. F. WILKINS.
Washing-Machine.

No. 222,761. *Fig I* Patented Dec. 16, 1879.



Witnesses
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UNITED STATES PATENT OFFICE.

WILLIAM F. WILKINS, OF MONTREAL, QUEBEC, CANADA, ASSIGNOR TO THE
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IMPROVEMENT IN WASHING-MACHINES.

Specification forming part of Letters Patent No. **222,761**, dated December 16, 1879; application filed
February 21, 1879.

To all whom it may concern:

Be it known that I, WILLIAM FRANCIS WILKINS, of the city and District of Montreal, Province of Quebec, Canada, have invented a new and useful Improvement in Machines for Washing Clothing, of which the following is a specification.

This invention relates to a new device for rubbing the clothing in a washing-machine, and is an improvement upon that described in Patent No. 202,391, issued to me April 16, 1878.

In a tub or box of convenient form and dimensions, preferably an oblong of about thirty inches by fifteen inches wide and eighteen inches deep, I suspend near one end elastic corrugated bands or girths by both ends, so that the middle of the bands hangs down in the tub nearly in the form of a semicircle of nine to fifteen inches diameter. The inner surface of these bands forms one side of the rubbing device, and is ribbed or corrugated either at a right angle or any other angle to the line of the edge of the bands which in practice may be found practicable and desirable.

The bands may be made of rubber, vulcanized, or of thin spring-tempered sheet-brass or other suitable metal, corrugated, and suspended at one or both ends by spiral or other springs, to give greater elasticity. The bands occupy the whole width of the tub or box, and are very narrow, and the object of using several separate ones, side by side, is to allow a greater yielding to thicker bunches of clothing, while the thinner parts are equally pressed upward and subjected to the action of the inner or upper portion of the rubbing devices. Above and within the semicircle formed by these bands or girths is suspended upon a central shaft a cylinder, constructed of wood or other suitable material, of a diameter to correspond nearly to the diameter of the semicircle formed by the bands, and of a length nearly equal to the width of the inside of the tub or box. The outer periphery of this cylinder is ribbed or corrugated either in lines parallel to the central shaft or at any angle to such lines, as may be found desirable. On each end of this cylinder, at the center, are metallic collars with a square hole through them. The central shaft

is square in that portion of it extending through the cylinder, and of a size to fit the square holes in the collars mentioned. Both ends of the central shaft, which lie in the bearing made to receive them on the outside of the tub or box, are finished round, and on one end of the shaft, outside of the bearing, is affixed a crank and handle to operate the machine.

The bearings of the central shaft are in or near one end of a bar, which is of a length equal to about half of the diameter of the cylinder, which is pivoted on a stud securely fixed on the outside of the tub, on a level with the central shaft. At the other end of the bar, and just outside of or beyond the bearing in the bar for the central shaft, is an opening elongated to nearly the full width of the bar in the arc of a circle. In the sides of the tub or box, at a point corresponding to this opening in the bar, is fixed a stud or pin with a screw-thread on its outer end, which extends through the opening in the bar, and bears upon its outer end a thumb-nut the base of which is of somewhat greater diameter than the width of the opening in the bar.

The holes through the sides of the tub or box for the central shaft are also elongated up and down to allow the central shaft to be raised or lowered, thus raising or lowering the cylinder, as may be necessary or desirable, to give the proper space between its outer periphery and the inner sides of the bands or girths for the passage of the clothing to be washed.

The square part of the central shaft must, of course, pass through the round holes in the bar, which constitute its bearing, and, being made to fit the square openings in the collars on the ends of the cylinder, will rotate it, following the motion given the handle and crank.

The thumb-nuts on the screw ends of the studs or pins passing through the bar enable the operator to fix the position of the bar, and consequently of the cylinder, at any desired point within its limit of movement, and by loosening them it may be moved up and down as it may be necessary to raise or lower the cylinder.

A suitable fastening keeps the central shaft in its proper relation to the cylinder, and when

the fastening is removed the central shaft may be withdrawn entirely and the cylinder disengaged and removed from the tub.

The bands or girths and the cylinder will be so placed in the tub that something more than one-third of the diameter of the cylinder will be in the water when the machine is in use, and the water should be three or four inches deep under the lowest part of the bands or girths. One end of the tub will contain the bands and cylinder, which together constitute the rubbing or washing devices, and the other end will contain the clothing to be washed, the whole bottom of the tub being filled with water, properly prepared with soap, up to the height above indicated.

The clothing to be washed is drawn in between the bands and the cylinder by a rotary motion of the cylinder, and is then rubbed between the bands or girths and the cylinder by a rotary or reciprocating motion, or both, of the cylinder. In this way soiled clothing can be washed clean in less than one-quarter of the time that it takes to do it by hand, with a very slight expenditure of muscular power.

A wringing-machine may be attached to the end of the tub nearest the cylinder, and the washed clothing, with the water expressed from it, delivered into a basket.

In the drawings annexed, Figure I shows a side sectional view of the tub, with the bands or girths and the cylinder in their proper positions in the tub, a view of the edge of the band or girth, and an end view of the cylinder. *a* is the tub. *b* is the band or girth. *c* is the cylinder. *d* is the vibrating bar. *e* is the thumb-nut. *e'* is the elongated opening in the vibrating bar *d*. *g* is the collar on the end of cylinder. *h* is the central shaft through the cylinder.

Fig. II is a side view of the bar in which the bearings of the central shaft are.

Fig. III shows a partial top view of the cylinder and the bands or girths.

I claim as new and my invention—

The combination, in a machine for washing clothing, of the independent elastic ribbed or corrugated bands or girths and the rotating rubbing-cylinder, all made and arranged with reference to each other and the tub, substantially as described, and for the purposes specified.

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Witnesses:

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