

Powers & Robinson,
Washing Machine.
No. 107,959. Patented Oct. 4, 1890.

Fig. 1.

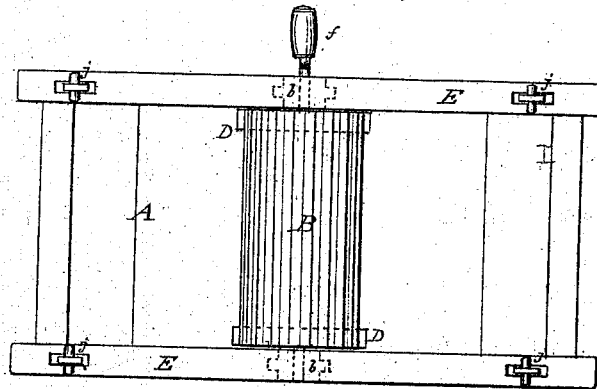
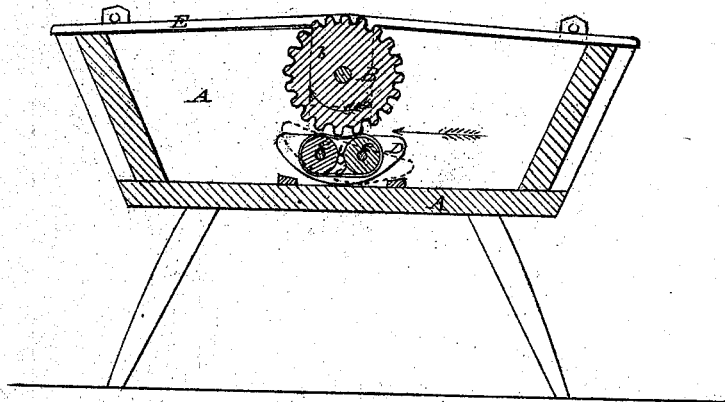


Fig. 2.



Witnesses:

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CHARLES M. POWERS AND THOMAS L. ROBINSON, OF FLUSHING, NEW YORK.

Letters Patent No. 107,959, dated October 4, 1870.

IMPROVEMENT IN WASHING-MACHINES.

The Schedule referred to in these Letters Patent and making part of the same.

We, CHARLES M. POWERS of Flushing, in the county of Queens and State of New York, and THOMAS L. ROBINSON, of Flushing, in the county of Queens and State of New York, have invented certain Improvements in Washing-Machines, of which the following is a specification.

The object of our invention is to produce a washing-machine of simple construction and ease of operation, which will rapidly and effectually cleanse fabrics of every variety of texture with less friction and wear than by the common method of washing; and

It consists, essentially in the combination of a corrugated cylinder, hung upon adjustable bearings, with pressure-springs, and an oscillating frame supporting rollers which carry an endless belt, arranged in a suitable receptacle for the suds and articles to be washed.

In the accompanying drawing—

Figure 1 is a plan of a machine embodying our invention.

Figure 2 is a central longitudinal section of the same.

The receptacle A, in which the operating device is arranged, may consist of an oblong box, of suitable dimensions, with ends preferably inclined, and supported on legs of a suitable height.

Centrally across the same is hung the cylinder B, its surface fluted or corrugated longitudinally, and its axis having support in vertically-sliding bearings *b b*, which work in the side of the box, one journal being extended through to receive a crank, *f*, upon the outside, by which it is rotated.

The bearings *b b* consist of blocks grooved in the sides of the box A, their upper ends reaching to the top thereof, and resting upon them are two spring slats, *E E*, preferably of wood, keyed at each end to the top of the box by pins *j j*, and readily detachable to admit of the cylinder being removed. These springs press downward on the sliding blocks, but yield to adapt the cylinder to the inequalities in thickness of the articles operated upon, as will be hereafter described.

Directly underneath the ends of the cylinder B are placed oscillating bearings D, each being pivoted to the side of the box, which are segments, with their convex surfaces below, and resting on the bottom of the box A.

These segments afford bearings for the journals of two rollers, *e e*, but, being otherwise disconnected, each rocks in a measure independently of the other.

The rollers are of corresponding length, or nearly so, with the cylinder B, and carry an endless belt, *d*, of like width, of canvass or other suitable material.

The ribs of the cylinder B press on the upper surface of the endless belt *d* with sufficient force to keep it taut on the rollers, and, by the friction, cause the

endless belt and rollers to revolve when the cylinder is rotated.

The operation is as follows:

The box being partially filled with water or suds, and the cylinder B turned, its motion draws the articles being washed through in the direction of the arrow, between it and the endless apron.

The rock-bearings D D are depressed on the side at which the garments enter, as shown in dotted lines in fig. 2, so as to facilitate their passage through, and, if the article is of greater thickness at one end, that bearing, moving independently of the other, adjusts the end of the roller to the required space without depressing the other end.

The axis of motion of the rock-bearing being central between the two rollers *e e*, the depression of one of them forms a wedge-shaped space, through which the articles enter easily, and are subjected to a greater pressure before they are expelled, thereby forcing the suds through the pores of the fabrics in such a manner as to effectually cleanse without injuring, pressure being substituted to a great extent for friction.

The spring slats *E E* allow the cylinder B to rise and fall, either bodily or at either end, to adjust itself to the varying thickness of the garments, and at the same time a nearly uniform pressure is maintained.

This machine possesses three great advantages:

First, it overcomes all friction, and the most delicate fabrics may be subjected to its operation without the slightest danger of injury.

Second, it is easily managed, and its parts are not subject to derangement.

Third, it is inexpensive in construction, and can, therefore, be put into market at a cost far below that of any other machine now used.

After passing through in one direction, the rotation of the cylinder may be reversed, and the articles returned in an opposite direction; or, if desired, they may, by a little care, be made to revolve around the cylinder, and passed repeatedly under its pressure in one direction, being under the inspection of the attendant while passing over the cylinder.

We claim as our invention—

1. The combination of the rollers *e e*, endless belt *d*, and independent oscillating bearings D D, with the cylinder B, substantially as and for the purposes set forth.

2. The spring slats *E E*, in combination with the cylinder B, box A, and oscillating rollers *e e*, and their adjuncts, substantially as set forth.

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Witnesses:

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