(No Model.)

E. BOURNE.

Washing Machine.

No. 235,849. Patented Dec. 28, 1880.

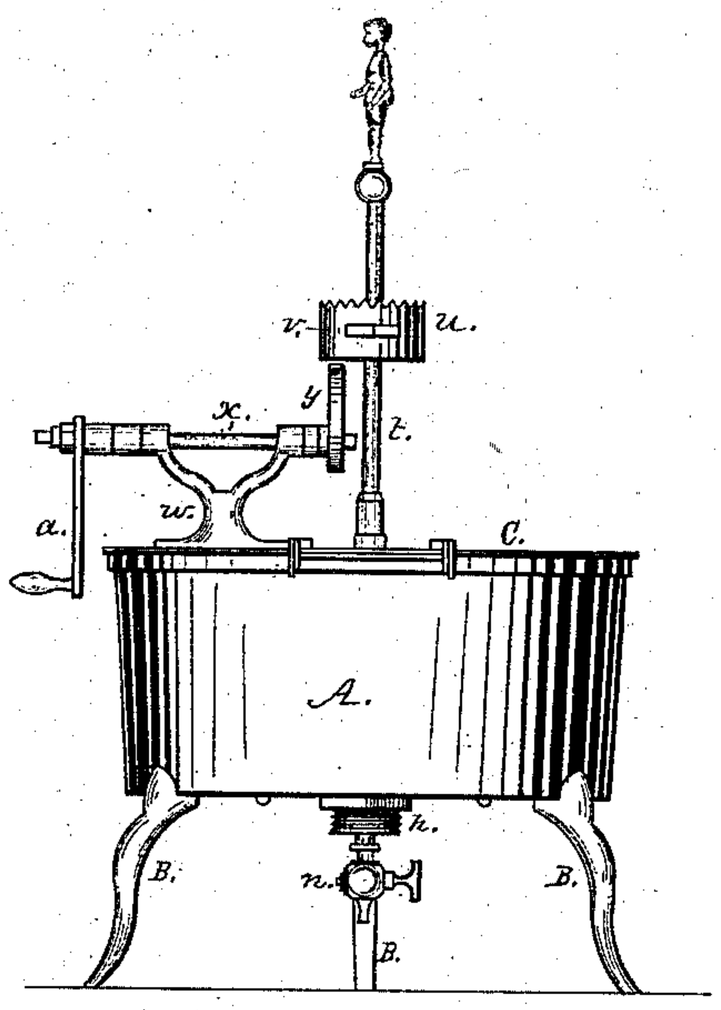


Fig. — 1.

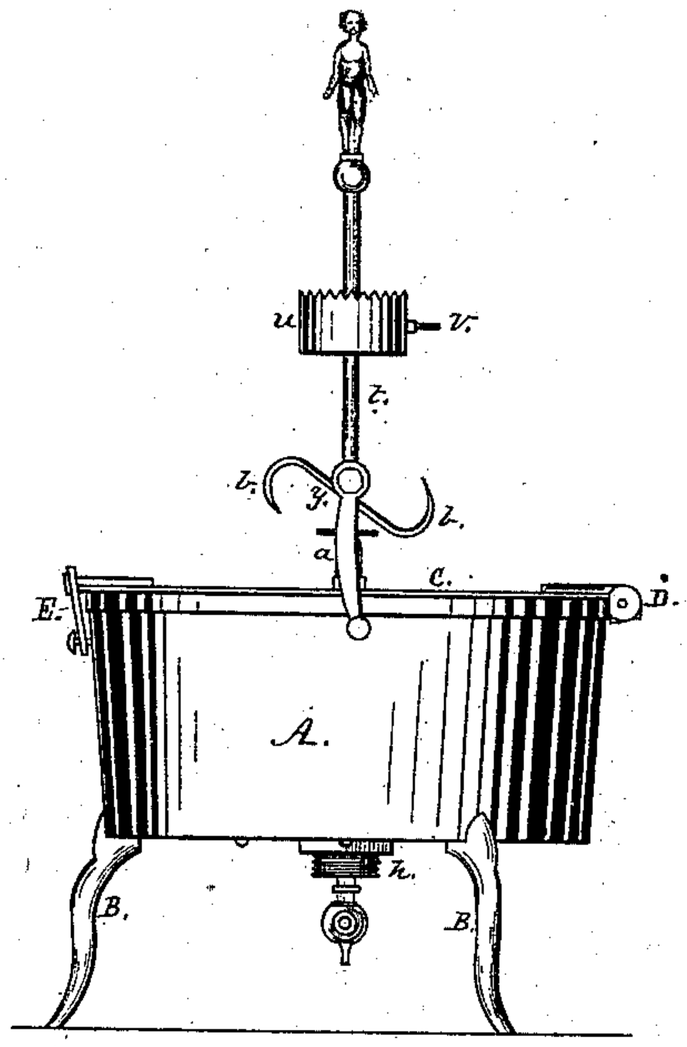


Fig. — 2.

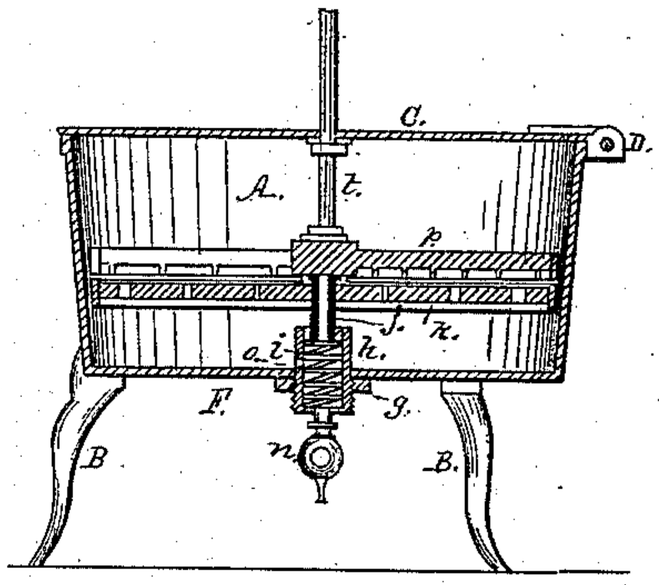


Fig. — 3.

Fig. — 4.

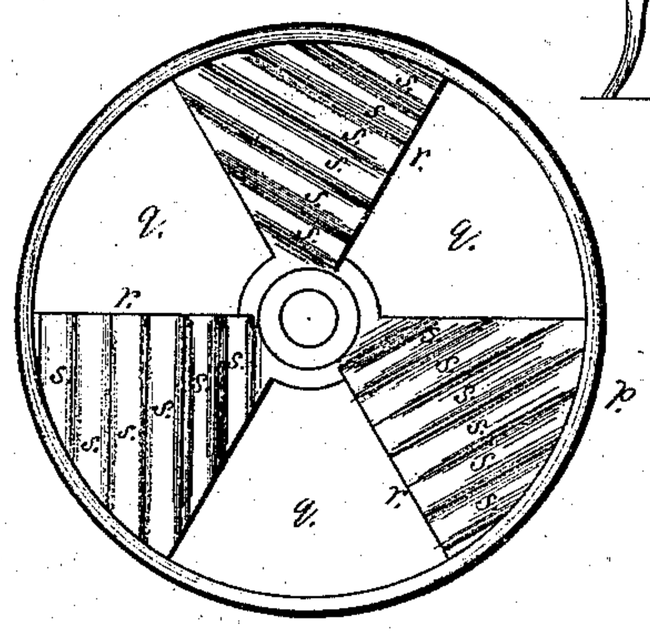
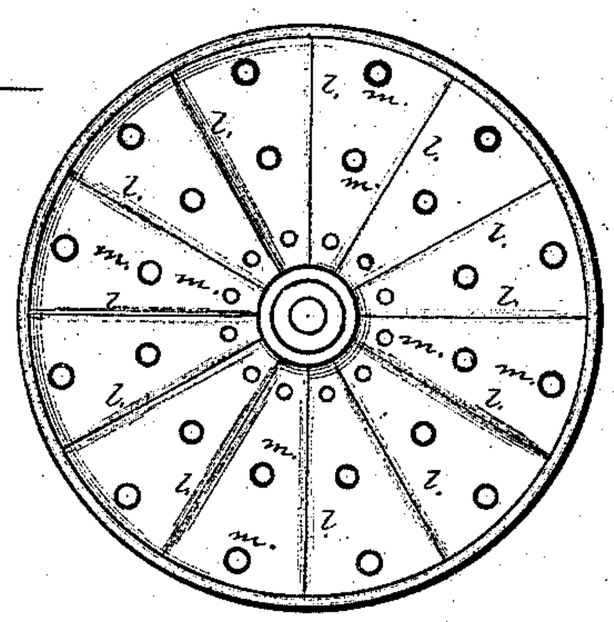


Fig. — 5.



WITNESSES:

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EDWARD BOURNE, OF ALLEGHENY, PENNSYLVANIA.

WASHING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 235,849, dated December 28, 1880.

Application filed May 4, 1880. (No model.)

To all whom it may concern:

Be it known that I, EDWARD BOURNE, of Allegheny, in the county of Allegheny and State of Pennsylvania, have invented a new and useful Improvement in Washing-Machines; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

My invention relates to an improvement in washing-machines; and it consists of a tub provided with a perforated, corrugated, detachable, and cushioned bottom, combined with a novel constructed pounding-disk, to which is imparted a vertical and rotating motion, all as will be hereinafter fully described.

To enable others skilled in the art with which my invention is most nearly connected to make and use it, I will proceed to describe its construction and operation.

In the accompanying drawings, which form part of my specification, Figures 1 and 2 represent side elevations of my improvement in washing-machines. Fig. 3 is a vertical section of the same. Fig. 4 is a face view of the pounding-disk. Fig. 5 is a face view of the perforated, corrugated, detachable, and cushioned bottom.

In the accompanying drawings, A represents the tub, which is mounted upon legs B and provided with a lid, C, which is hinged at D and held down on the tub by a latch, E.

In the center of the bottom F of the tub A is secured, by a screw-nut, *g*, fixed to the bottom of the tub, a cylinder, *h*, in which is placed a spiral spring, *i*, on the upper end of which rests the hollow center pin, *j*, of the perforated, corrugated, and detachable bottom *k*, having ribs or corrugations, as at *l*, and perforations, as at *m*. (Shown in Fig. 5.) The lower end of the cylinder *h* is provided with a valve, *n*, for drawing off the water from the tub A, which water flows into the cylinder through an opening or openings, *o*, in said cylinder at the bottom of the tub, as shown in Fig. 3.

The pounding-disk *p* (represented in Figs. 3 and 4) has three openings, *q*, passing through it, and has three corrugated pounding-surfaces, *r*, the corrugations *s* of which are arranged obliquely to the axis of said pounding-disk.

To the upper surface of the pounding-disk *p* is attached a shaft, *t*, which passes through an opening in the center of the lid, and is provided with an adjustable lift-piece, *u*, held in a fixed position on the shaft *t* by means of a thumb or set screw, *v*.

To the lid C is secured the journal-bearing *w* of the crank-shaft *x*, on the inner end of which is an S-shaped eccentric, *y*.

The skillful mechanic, from the foregoing description and reference to the accompanying drawings, will readily understand the construction of the several parts and the relation they bear to each other. I will therefore proceed to describe the operation, which is as follows:

The clothes to be washed having been soaped and soaked in suds in the usual manner, and the tub A having been supplied with a suitable quantity of water or suds, the lid C is raised up and turned back, the clothes are removed from the soak, passed through a wringer or wrung out by hand, and placed in the tub A. The lid C is then turned down and secured by the latch E, as shown in Fig. 2. The operator then turns the crank *a*, which will revolve the crank-shaft *x*, which will revolve the eccentric *y*, the curved points *b* of which, coming in contact with the lift-piece *u*, will raise up the pounding-disk *p*, causing it to be lifted with a rotary motion, which, combined with the openings *q* in the said pounding-disk and the spring of the cushioned bottom *k*, will turn the clothes in the act of lifting said disk. The eccentric *y*, having lifted the pounding-disk *p*, passes from under the lift-piece *u*, allowing the pounding-disk to drop with the force and speed of its own gravity upon the clothes in the tub A. The perforated, corrugated, cushioned, and detachable bottom yields to the downward force of the pounding-disk, but rebounds with an upward force, which, combined with the corrugated surface of the pounding-disk and the openings and corrugations of the bottom, produces a squeezing and rubbing action upon the clothes, which rapidly separates the dirt from them.

It will be observed that the pounding-disk is lifted and dropped twice at each revolution of the crank-shaft *x*, and that at each fall of the

pounding-disk *p* the bottom *k* yields, thereby forcing the suds up through the openings *m* into the clothes, which greatly facilitates the washing process.

After the clothes have been subjected sufficiently to the action of the pounding-disk *p* and cushioned bottom *k*, they are removed from the tub A and treated in the usual way of boiling, rinsing, wringing, and drying.

Having thus described my improvement, what I claim as of my invention is—

1. In a washing-machine, the combination of the perforated, corrugated, detachable, and cushioned bottom and the vertically and rotarily moving pounding-disk, having openings *q*, and intermediate corrugated pounding-surfaces, with corrugations arranged obliquely to the axis of the disk, substantially as and for the purpose herein shown and described.

2. In a washing-machine, the combination, with a vertically and rotarily movable pounding-disk, of the perforated and corrugated bottom, with center pin, *j*, spring *i*, and perforated cylinder *h*, having valve *n*, substantially as and for the purpose herein shown and described.

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Witnesses:
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