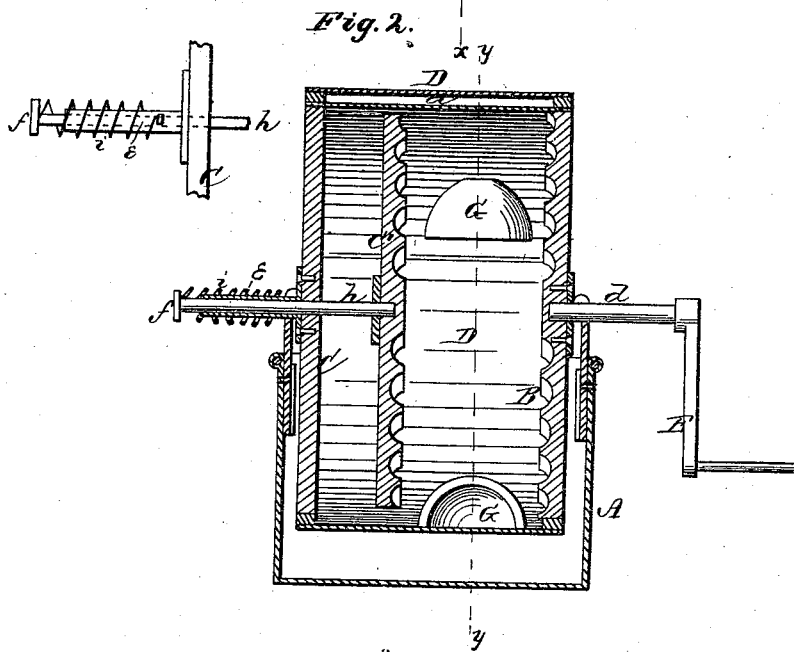
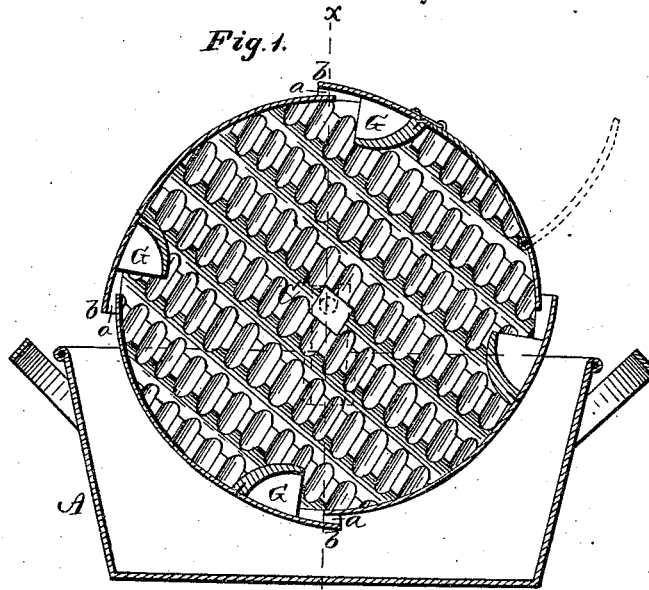


A. ISRAEL.
Washing-Machine.

No. 161,793.

Patented April 6, 1875.



WITNESSES

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UNITED STATES PATENT OFFICE.

ALEXANDER ISRAEL, OF KIMMSWICK, MISSOURI.

IMPROVEMENT IN WASHING-MACHINES.

Specification forming part of Letters Patent No. 161,793, dated April 6, 1875; application filed February 15, 1875.

To all whom it may concern:

Be it known that I, ALEXANDER ISRAEL, of Kimmswick, in the county of Jefferson and in the State of Missouri, have invented certain new and useful Improvements in Washing-Machines; and do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings and to the letters of reference marked thereon, making a part of this specification.

The nature of my invention consists in the construction and arrangement of a washing-machine, as will be hereinafter more fully set forth.

In order to enable others skilled in the art to which my invention appertains to make and use the same, I will now proceed to describe its construction and operation, referring to the annexed drawing, in which—

Figure 1 is a longitudinal vertical section of my washing-machine, taken through the line *y y*, Fig. 2. Fig. 2 is a transverse vertical section of the same through the line *x x*, Fig. 1.

A represents the boiler in which the water is heated, and the drum containing the clothes partially immersed. The drum consists of two circular heads, B C, connected by means of a cylinder or casing, D, arranged at suitable intervals, with transverse slots *a* and overlapping lips *b*, for the admission of fresh air and hot water into the drum. The inner side of the head C is corrugated in two directions, and forms a rotary wash-board. From the center of the same projects a rod, *d*, forming one journal, the other journal being formed of a hollow tube, *e*, attached to the opposite head B. Through this tube *e* passes a shaft, *h*, into the drum, and to the inner end of said shaft is attached a circular wash-board, C', which is corrugated on the side facing the head or wash-board C. On the outer end of the shaft *h* is a head, *f*, and to this head is attached one end of a spiral spring, *i*, which surrounds the tube *e*, and has its other end attached thereto, so as to draw the shaft inward. The journals *d e* are placed in suitable

bearings attached to the boiler A, and on the journal *d* is fastened a crank, E, for revolving the drum. On the inside of the casing D are secured cups G G, for conveying hot water to the top of the clothes in the drum. A part of the casing D is hinged, to form a door to put in and take out the clothes.

By the construction of this machine all dirt, grease, or sweat may be extracted from any textile fabric by the use of pure heated soap-water, contact with fresh air, rotary motion, and friction by means of the stationary wash-board and the movable self-adjusting corrugated wash-board, without the aid of confined steam, which is very injurious to such fabrics.

Fresh hot water is continually renewed on the surface of the fabrics by means of the cups G, distributed around the inner periphery of the drum.

The machine will accommodate itself to any reasonable number of articles by means of the self-adjusting rotary wash-board C', acted upon by the spring *i*, which so compresses even a small number of articles as to bring them in contact with the corrugated surfaces of the wash-boards.

Fresh air is introduced to the fabrics confined in the drum by means of the slots *a* on the outer periphery of the drum, which also admit hot water when immersed in the boiler beneath the drum.

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

In combination with the washing-cylinder, having interior corrugated and stationary rubber B, slots *a*, and cups G, the corrugated board C', connected to the rod *h*, and adjustable within the cylinder by means of the exterior spring *i*, as and for the purposes set forth.

In testimony that I claim the foregoing I have hereunto set my hand this 13th day of January, 1875.

ALEXANDER ISRAEL.

Witnesses:

ALEXANDER TROXELL,
WILLIAM NEVES.