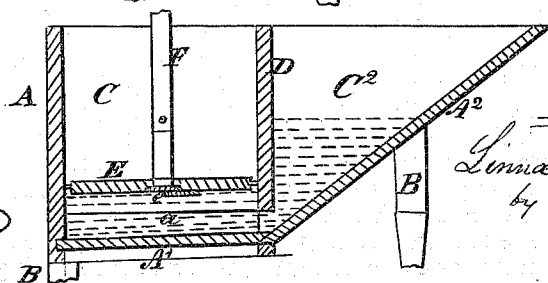
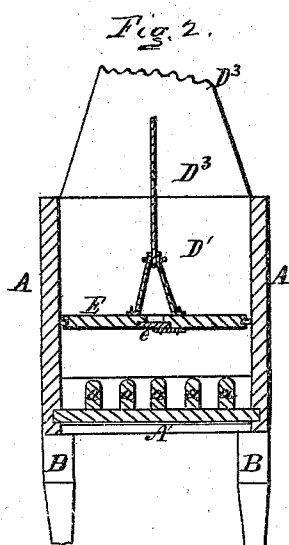
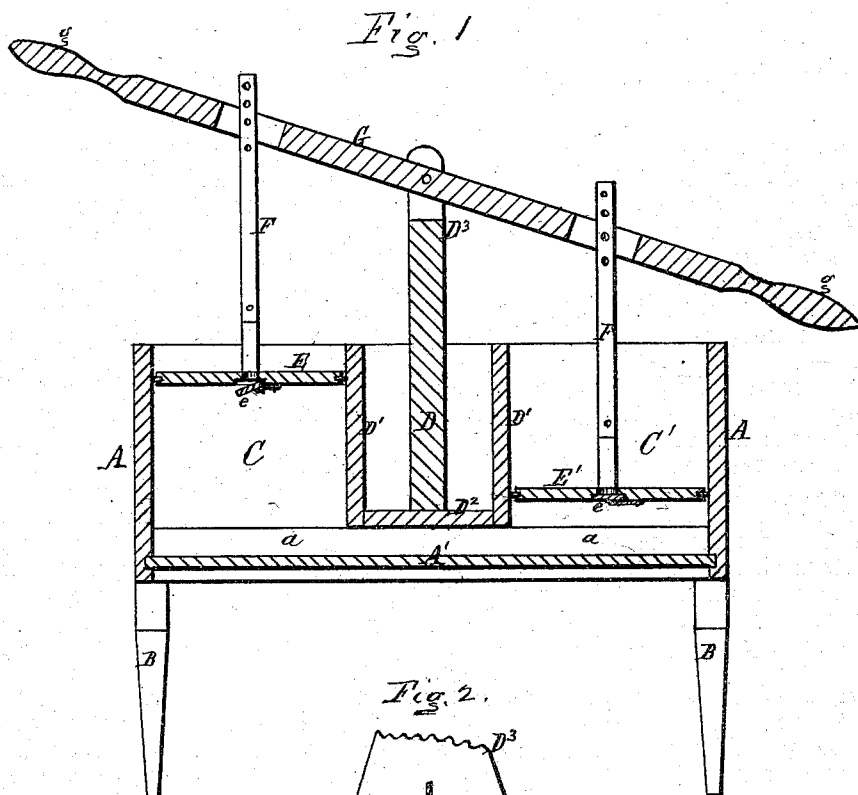


L. B. ANDERSON.

Improvement in Washing-Machines.

No. 127,290.

Patented May 28, 1872.



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LINNÆUS B. ANDERSON, OF HEWLETT'S, VIRGINIA.

IMPROVEMENT IN WASHING-MACHINES.

Specification forming part of Letters Patent No. 127,290, dated May 28, 1872.

To all whom it may concern:

Be it known that I, LINNÆUS B. ANDERSON, of Hewlett's, Hanover county, State of Virginia, have invented certain new and useful Improvements in Washing-Machines, of which the following is a full, clear, and exact description, reference being had to the accompanying drawing making part of this specification, in which—

Figure 1 represents a longitudinal vertical section through my improved machine. Fig. 2 is a transverse vertical section through the same, and Fig. 3 represents a longitudinal vertical section through a single-action machine embracing my improvements.

Similar letters of reference denote corresponding parts in all the figures.

My invention relates to a novel construction of washing-machines provided with compartments communicating by means of a series of grooves or channels, through which the water is driven alternately back and forth with such force and in such relation to the clothing operated upon as to tend to rotate the same within the compartment in which it is placed, in such manner as to continually change the portion to be acted upon by both the water and the compressing pistons or pounders, as hereinafter described.

In the accompanying drawing, A represents a rectangular box or tub mounted on legs B B to give it a suitable elevation. The box A is made of such a length that it may be divided into two or more compartments, C C¹, of about equal measurements in length and width and of any desired depth. The size of the tub A and of the compartments C may, of course, be varied according to the work the machine is required to perform; but ordinarily from twelve to fifteen inches square, and from fifteen to eighteen or twenty inches in depth of the compartments C will be found ample for family use. The bottom A¹ of the tub is corrugated or ribbed on its inner face, or is provided with a number of ribs, *a*, placed longitudinally of the tub A and extending from end to end, in such manner as to form communicating grooves or channels between compartments C C¹ underneath the partition or partitions D or D¹ D¹. Where considerable play of the pistons or plungers is required, it may be found desirable to separate the compartments

C C¹ considerably, and for this purpose the two partitions D¹ are used united at their bottom edges by a flooring, D², resting on the top of strips *a*. This elongation of the communicating grooves will also be found advantageous in giving force and direction to the currents of water passing to and fro, as will be hereinafter explained; but ordinarily a single partition, D, resting, at its base, on the strips *a*, and also constituting the fulcrum of the lever for operating the pistons or plungers will be found sufficient, while at the same time making the machine more economical in construction. E E' are pistons or plungers, nearly corresponding in diameter and form to the diameter and form of the compartments C, and provided at their edges with a packing of rubber or other suitable material fitted into grooves or otherwise securely applied to the edges, so as to form practically water-tight joints between the pistons or plungers and the sides of inclosing chambers C, as shown. The pistons E are provided each with one or more valves, *e e'*, opening downward or inward, as shown, and for a purpose which will be presently explained, and are connected by upright rods or links F with a lever G, which is pivoted centrally of its length to a standard, D³, which may either form an extension of partition D, or be applied to the tub or box A in any convenient manner. The rods or links are, by preference, forked at their lower ends, and have one foot bolted to the piston or flanges on either side of a central valve, but may be fastened to said plungers in any suitable or convenient way. The upper ends of the rods F are provided with a series of perforations, adapting them to the adjustment of the pistons to the quantity of clothing to be operated upon, and are connected with the lever G by a through pin, which may be readily withdrawn to permit the removal of the pistons for the putting in and removal of the clothing. The lever G may be of any desired length extending over the ends of tub A, and provided with handles *g g'*, one at each end, adapting it to be operated by either one or two persons.

The operation is as follows: The clothing to be operated upon is placed in the compartments C C¹—say about equal quantities in each, or all in one if preferred—and filled with water, covering the clothing to a depth of two or three

inches, more or less, and the pistons inserted and connected to the lever G, as explained, when, supposing the parts to be in position, substantially as shown in Fig. 1, if power is applied to the lever G to force the piston E connected therewith downward, the valve *e* in said piston instantly closes, while that, *e'*, in the opposite piston E' opens, thereby throwing all the labor on piston E, as will be readily understood, and preventing the clothing in compartment C from being lifted by the suction of piston E'. By this arrangement the water forced out from compartment C passes through the channels or grooves in the bottom of the tub, and rushes with considerable force underneath the clothing in compartment C' to the outer wall or end of said compartment, where, being suddenly arrested, it rises upward along said end or wall, and thus, by its action on two sides of the mass of clothing, tends to rotate it in the compartments, and thereby to present a new portion to the compressing action of the plunger E' on its next downward stroke. The movement of the piston E downward is continued until considerable pressure is exerted on the clothing between the piston and the ribs *a a*, expressing the water therefrom and forcing it out of compartment C and into compartment C'. By reversing the movement of lever G the action upon the clothing in the two compartments is reversed,

and this alternate movement is continued, speedily effecting a thorough cleansing of the clothing in both compartments.

In Fig. 3, a modification in construction is shown, adapting the machine to be used with a single washing-compartment in connection with a side tank or reservoir, C², into which the water from compartment C escapes when the piston is forced downward, and so arranged as, by means of an inclined end, A², or a tube or tubes connecting with an elevated tank or reservoir, that the pressure of the water serves to cause its return with sufficient force for the purposes explained when the piston or plunger is lifted. Where this single-action machine is used the lever G may be pivoted at one end, instead of centrally, in such manner as to act like one arm of said lever.

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

A washing-machine, provided with compartments C, connected at the bottom by longitudinal grooves or channels and with pistons or plungers E operating substantially as as described.

LINNÆUS B. ANDERSON.

Witnesses:

H. H. ANDERSON,
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