# C. Pendleton,

## Washing Machine,

No. 24,754. Patented July 12, 1859.

Fig. 1.

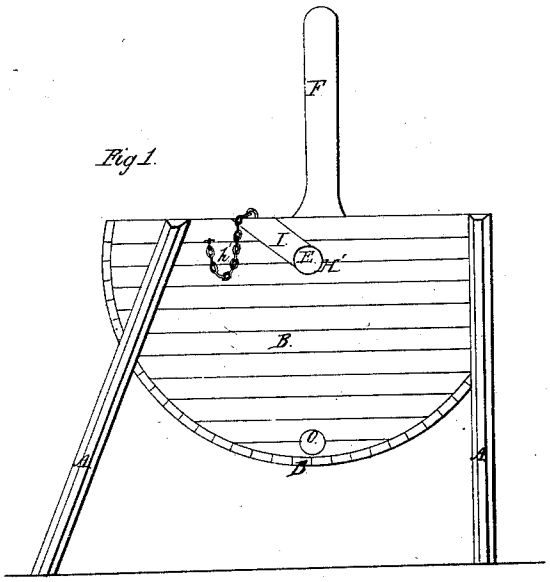



Fig. 2.

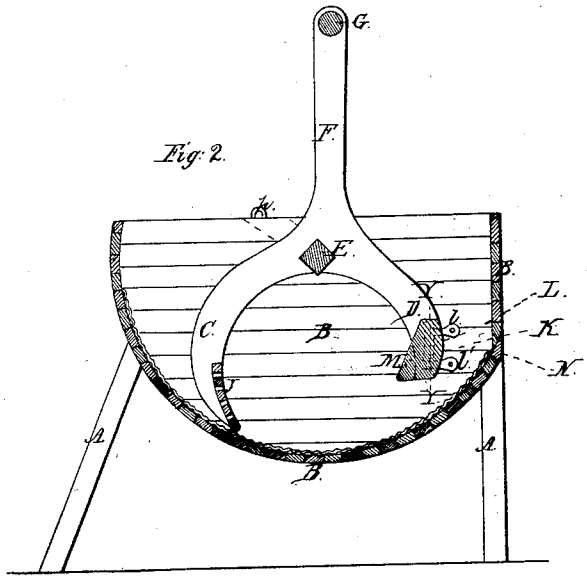



Fig. 3.

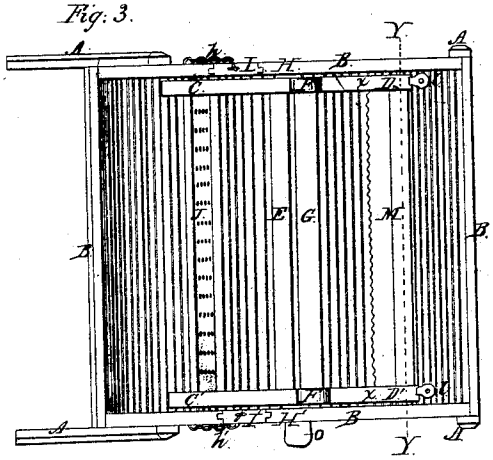



Fig. 4.

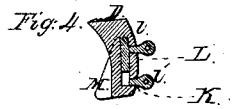
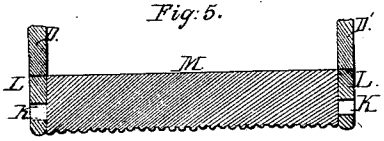



Fig. 5.

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# UNITED STATES PATENT OFFICE.

CHARITY PENDLETON, OF GALENA, ILLINOIS.

## WASHING-MACHINE.

Specification of Letters Patent No. 24,754, dated July 12, 1859.

*To all whom it may concern:*

Be it known that I, CHARITY PENDLETON, of Galena, in the county of Jo Daviess and State of Illinois, have invented certain Improvements in Washing-Machines, the construction and operation of which I have described in the following specification and illustrated in its accompanying drawings with sufficient clearness to enable competent and skilful workmen in the arts to which it pertains or is most nearly allied to make and use my invention.

My said invention consists in:—1st, the combination of the cylindric reciprocating motion of two horizontal bars or rails with a corrugated, concave, cylindric surface, having its axis coincident with the axis of motion of the said bars or rails and so constructed and arranged, that one of the said bars or rails will turn over or gather up the clothes to be washed while the other bar or rail will, by the return stroke, rub them in the ordinary manner of hand-washing (for which purpose its lower surface is also corrugated) and will also partially or wholly draw or spread them along or over the corrugated cylindric surface before mentioned, as hereafter more fully set forth. 2d, an arrangement by which the corrugated bar before described may be lowered or raised (without altering the position of the other rail) nearer to or farther from the cylindric surface, and retain in the desired position, as hereinafter more fully described. 3d, so constructing and arranging the corrugations on the lower surface of the movable bar or rail and the corrugations on the bottom of the machine that their directions will be at right angles to each other, thereby securing a much more effective action upon the clothes for the purpose of cleansing them, than if the said directions had been made parallel, as more fully described hereafter.

My said improved washing-machine, is illustrated in the accompanying drawings as follows.

Figure 1, is a side elevation of my machine. Fig. 2, is a vertical section by a plane parallel to the side. Fig. 3, is a plan. Fig. 4, is a vertical section through the line XX on Fig. 3, showing the construction of the corrugated rubber or knuckle, and the mode of connecting and attaching it to the arm. Fig. 5, is a section through the line Y Y, on Figs. 2 and 3, looking toward the vertical end of the machine, and showing from another point of view the parts illustrated in the last figure.

A, A, are the legs or supports of my machine.

B, B, &c., are the sides, bottom, and end of the receptacle or tub for receiving the clothes to be washed.

C, C′, and D, D′, are curvilinear arms at each side of the tub, jointed to and secured to the axis E, to which axis are also secured the levers F, F′, which levers are connected by the rounded rail G; the two arms C and D and the lever F being so positioned and attached to each other and to the axis E, that the said arms and lever are in the same vertical plane on the inner and outer surfaces, or what is known among mechanics as flush with each other; and the same mode of construction is adapted in the arms C′ and D′ and the lever F′. The axis E is rounded into a cylindrical form at the extremities, and takes a bearing on the sides of the tub at H, H′, as shown in Figs. 1 and 2, and is kept in position:—laterally by shoulders which separate the cylindrical ends from the original square part:—and vertically by the pieces I I′ being slid into apertures prepared for the purpose in the sides of the tub. These pieces I, I′, are themselves kept in position by having tongues wrought on their edges which fit into grooves in the sides of the apertures, thereby preventing a lateral displacement as shown in Fig. 3, and are hung by small chains *h*, *h′*, to the sides of the tub to secure them against being lost or mislaid.

The arms C, C′, are brought nearly to an edge at the lower part and are then rounded off; they are made larger than the arms D, D′, so as to have their lower ends nearly in contact with the bottom of the tub, and are connected by the perforated bar or rail J, which is let into the said arms a distance equal to its thickness, and secured so as to present a flush surface inside.

Slots or mortises K are cut in the lower ends of the remaining arms D, D′, into which tenons L, cut on the ends of the rubber bar or rail M, are inserted. These mortises are made longer than the tenons to allow the bar or rail M to be slid up or down so as to increase or diminish the distance between it and the corrugated cylindrical bottom of the tub, that distance being varied so as to accommodate the said rail or bar to the quantity of clothes to be operated upon,

without altering the elevation or position of the bar J, and when brought into the required position, is secured there by one of the set screws *l*, *l'*. The construction of this part of the machine is shown more particularly in Figs. 4 and 5.

The tub is constructed with a cylindrical bottom continued as far as the position which the perforated rail or scraper J will occupy when the rail G is brought to its lowest position to the left; at this point the bottom is turned vertically upward so as to form an end. The entire of the cylindrical part is covered with corrugated zinc or other suitable material, and some of the usual methods are adopted, to render it water tight.

The method of operating my improved washing machine is as follows:—The dirty clothes and a sufficiency of water having been put into the tub, the rail M, is elevated or depressed so as to suit the quantity of clothes, and when adjusted to the proper distance is fixed in position by turning one or both of the set screws *l*, *l'*; the rail G is then depressed toward the left hand, by which operation the perforated bottom rail J is forced along the bottom of the tub from left to right, and being nearly in contact with the bottom as before stated, it gathers the clothes before it into a heap until it has accumulated them in the mixtilineal angle formed by the vertical end of the tub and the circular bottom at N: the circular motion of the clothes along the bottom being thus suddenly checked by the vertical surface, their evident tendency is to turn over; but before a sufficient time elapses to allow this to be accomplished, the rubbing rail M is moved in the opposite direction, and the result is that the said rail M in passing down toward the bottom of the tub catches upon the clothes so heaped up, rubs over their surface, and in the act of rubbing distributes them again over the bottom of the tub, at the same time, and by the same motion rubbing them against it, to be again taken up by the rail J, and so on alternately.

By this device, remarkable at once for its simplicity and efficiency, I am enabled to imitate the two fundamental motions in common washing by hand, namely, 1st the palm motion by which the article to be cleaned is gathered into a heap, which is accomplished by the rail J; (which rail I have perforated to allow it to move easily through the water, and also to allow the suds to pass from the clothes that are in contact with it), and 2d the motion by which in common washing, the article is rubbed against a corrugated board, and which I imitate, (but in a much more effective manner) by forcing the under surface of the clothes forward in contact with a corrugated surface, while a surface of the same description, but with the corrugations at right angles to the others, is passed over and in contact with their upper surface. It will also be readily perceived that the perforated bar, or rail J, in gathering up the clothes, must from the nature of the case, gather them up in every possible variety of position, so that every portion of their surface must of necessity pass between, and be operated by, the upper and lower corrugated surfaces.

When the operation of washing is finished, the plug O is withdrawn from the side of the tub, and the water allowed to run out. This plug may also be secured to the side of the machine by a chain, should it be deemed necessary.

The particular improvements which constitute my said invention, and which I claim as having been originally and first invented by me are:—

1. The combination of the two horizontal bars or rails J and M, having a circular reciprocating motion, with the fixed, corrugated, cylindric surface forming the bottom of the machine, and having its axis coincident with the axis of motion of the said bars J and M; the parts being constructed and arranged as hereinbefore described, and operating so as to produce the effects previously stated.

2. The combination of the slot or mortise K, in the arm D, and the tenons L, L', at the ends of the corrugated rubbing bar M, with the perforated bar J, by which the position of the said corrugated rubbing bar M, may be altered with respect to the bottom of the machine, so as to increase or diminish its distance therefrom, substantially as set forth, and without altering the position of the bar J.

3. The combination of the corrugations on the lower surface of the rubbing bar M, with similar corrugations on the bottom or concave of the machine, but so arranged that the directions of the two sets of corrugations will be at right angles to each other, as hereinbefore more fully described, and for the purpose set forth.

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Witnesses:

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