

B. Pine,

Washing Machine.

No. 100,062,

Patented Feb. 22, 1870.

Fig. 1

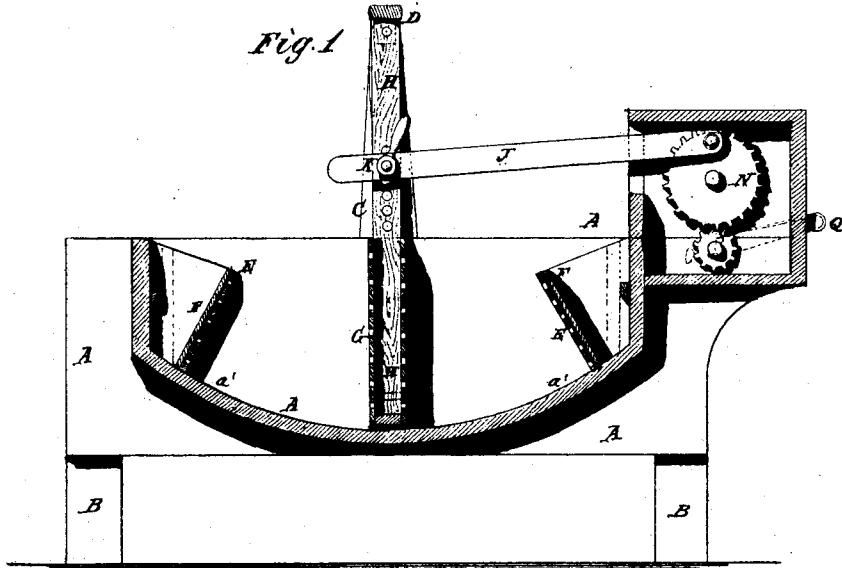


Fig. 2

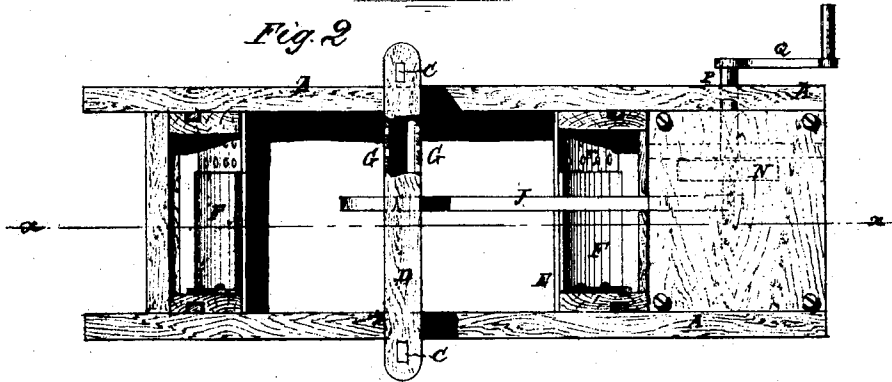


Fig. 3

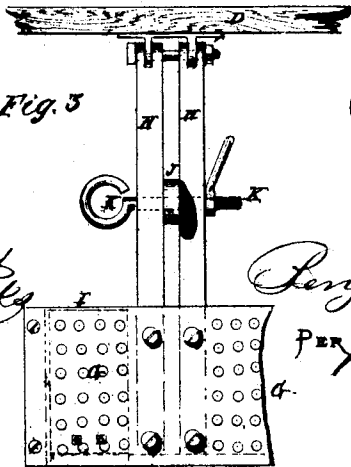
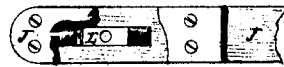


Fig. 4



Witnesses:

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# United States Patent Office.

BENJAMIN PINE, OF NEW YORK, N. Y.

Letters Patent No. 100,062, dated February 22, 1870.

## IMPROVED WASHING-MACHINE.

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

To all whom it may concern:

Be it known that I, BENJAMIN PINE, of the city, county, and State of New York, have invented a new and useful Improvement in Clothes-Washer; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same, reference being had to the accompanying drawing forming part of this specification, in which—

Figure 1 is a vertical longitudinal section of my improved machine, taken through the line *x x*, fig. 2.

Figure 2 is a top or plan view of the same, part being broken away to show the construction.

Figure 3 is a detail view of the presser.

Figure 4 is a detail view of the forward end of the connecting-bar.

Similar letters of reference indicate corresponding parts.

My invention has for its object to furnish an improved washing-machine which shall be simple in construction, easily operated, and effective in operation, washing the clothes quickly and thoroughly by pressure, and without injuring the most delicate fabrics; and

It consists in the construction and combination of various parts of the machine, as hereinafter more fully described.

A is the box or tub of the machine, which is made rectangular in its general form, and which is supported upon legs, B, of such a length as to raise the machine to a convenient height.

The bottom *a* is made curved upon the arc of a circle having its center upon the axis of the presser.

To the middle parts of the sides of the box A are attached two uprights, C, the upper ends of which are connected by the cross-bar D.

E are perforated metallic or wooden plates, placed at a little distance from the ends of the tub A, with their upper or top parts inclined toward the middle of the said tub, as shown in figs. 1 and 2. The plates E are perforated with numerous holes to allow the water to pass through them freely, and may be permanently or detachably secured in place. I prefer to make them detachable, for convenience in washing the tub.

F are plates or valves, extending from a half to two-thirds of the length of the perforated plates E, as shown in fig. 2. The outer ends of the plates or valves F are pivoted to the sides of the tub or to the ends of the perforated plates E, so that their inner or free ends may move back and forth freely.

G is the presser, which is formed by attaching two perforated plates to the lower end of the bar or bars H. The ends of the two plates G are kept at the proper distance apart by being attached to short bars placed between them, as shown in fig. 3. The lower

edges of the perforated plates G are also supported by a bar placed between them, as shown in figs. 1 and 2.

I is a plate or valve, placed in the space between the perforated plates G, upon one side only of the bar or bars H, and pivoted at its lower end so that it may lie along the one or the other of the perforated plates G, according to the direction in which the presser may be moving. The upper end of the bar or bars H is pivoted to the cross-bar D, so that the lower edge of the presser, as it swings back and forth, may move along the curve of the bottom *a* of the tub A.

Between the bars H, when two bars are used, or in a slot in the bar, when only one is used, is pivoted the forward end of the connecting-rod or bar J, by a bolt or pin, K, passing through the said connecting-bar and through one or the other of the holes in the said bars H, so that by raising or lowering the pivoting-bolt K the length of the swing of the presser may be adjusted according to the quantity of clothing to be operated upon.

The pivoting-pin or bolt K passes through a slot in the connecting-bar J and through a block, L, placed in a recess formed in the said bar for its reception.

At each end of the block L is placed a rubber block or spring, M, as shown in fig. 4. This construction allows the presser to yield when stopped by the clothes to allow the crank to pass its center.

The other end of the connecting-rod J is pivoted to the crank-pin attached to the large gear-wheel N, the journals of which revolve in bearings attached to the end of the tub A, and the teeth of which mesh into the teeth of the small gear-wheel O, attached to the inner end of the shaft P, which revolves in bearings attached to the end of the tub A, and to the outer end of which the crank Q is attached, by means of which the machine is operated.

The gearing N O P is incased, as shown in figs. 1 and 2, to prevent anything from coming in contact with it.

In using the machine the clothes to be washed are placed in about equal quantities upon each side of the presser, and as the said presser moves back and forth, they are pressed against the perforated end plates E, squeezing out the water, which dissolves the dirt and carries it out of the clothes with it.

As the presser moves toward either end of the tub, pushing the clothes before it, the water forces back the valve F from the perforated plate E, and flows into the end chambers of the tub. As the presser moves back, the valve F closes down against the perforated plate E, and the water can only get out by flowing through the perforations in the end part of said perforated plate E uncovered by the valve F. The movement of the presser through the water at the same time forces the valve I against the rear plate G of the

presser, so that the water is forced to take a diagonal course, and striking against the clothes it turns the clothes around, so that when the presser returns each time it will find the clothes in a different position, thus insuring the clothes being thoroughly washed in all their parts.

Having thus described my invention,

I claim as new and desire to secure by Letters Patent—

1. The combination of the valves or pivoted plates F and I with the perforated plates E and G of the washer, substantially as herein shown and described, and for the purpose set forth.

2. The combination of the swinging presser G I H and the end plates E F, whether fixed or detachable,

with each other and with the tub A, connecting-rod or bar J, crank gear-wheel N, small gear-wheel O, shaft P, and crank Q, substantially as herein shown and described, and for the purpose set forth.

3. The combination of the block L and rubber spring M with the slotted and recessed bar J, and with the pin or bolt K by which the said bar J is pivoted to the bar or bars H of the presser, substantially as herein shown and described, and for the purpose set forth.

The above specification of my invention signed by me this 30th day of December, 1869.

BENJAMIN PINE.

Witnesses:

GEORGE W. MABEE,  
JAMES T. GRAHAM.