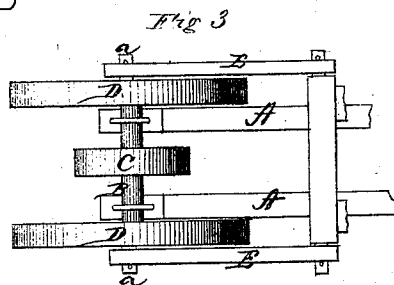
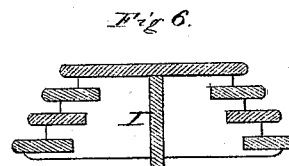
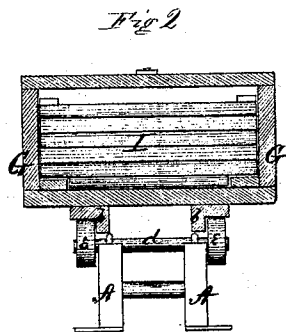
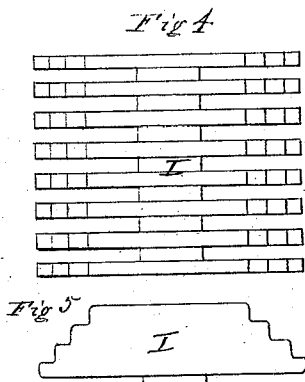
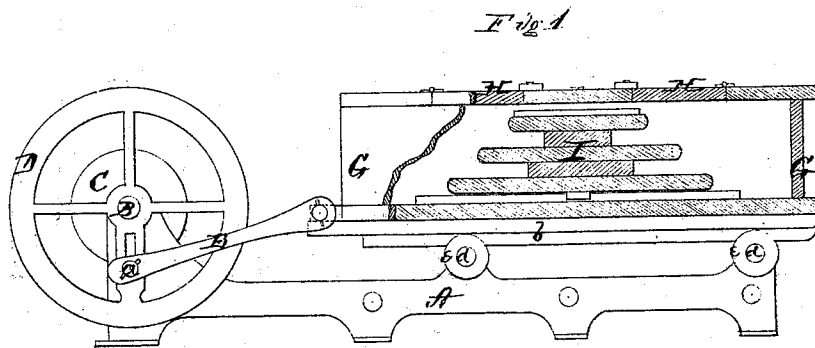


J. Johnson,
Washing Machine.
No. 99685. Patented Feb. 8. 1870.



Witnesses.

Harry King
C. L. Everb

Inventor.

Josee Johnson

United States Patent Office.

JOSEE JOHNSON, OF NEW YORK, ASSIGNOR TO HIMSELF AND JOSEPH W. OAKMAN, OF BROOKLYN, NEW YORK.

Letters Patent No. 99,685, dated February 8, 1870.

IMPROVED POWER 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, JOSEE JOHNSON, of New York, in the county of New York, and in the State of New York, have invented certain new and useful Improvements in Power 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 power washing-machine, as will be hereinafter 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 drawings, in which—
Figure 1 is a side view of my machine, part in section.

Figure 2 is a transverse vertical section of the same.

Figure 3 is a plan view of the front end of my machine, showing its working-gear.

Figures 4, 5, and 6 show views of differently-constructed plungers or shuttles, all involving, however, the same principle.

A represents the bed of my machine, at the front end of which are suitable ears or standards, to form bearings for the main shaft B, which is provided with a pulley, C, to be connected by a belt or otherwise, with the engine or power designed to work my machine.

Upon the main shaft B are also firmly secured two fly-wheels, D D, which, by pitmen E E, are connected with the box G.

One of the spokes in each of the wheels D is slotted, as seen in fig. 1, and the wrist-pin *a*, upon which the pitman E is placed, can be moved in the same, closer to or farther from the centre of the wheel, for the purpose of shortening or lengthening the stroke, as may be desired.

The box G is of any dimensions desired, and provided, under its bottom, with tracks *b b*, or rails turned upside down, and on the bed A are shafts *d d*, provided with rollers or wheels *e e*, upon which the tracks *b b* rest. By the revolutions of the main shaft B, the box G will, of course, obtain a reciprocating motion upon the rollers *e e*.

The object of thus reversing the order of things—that is, of placing the track on top of the wheels, instead of *vice versa*—is to get the smallest possible weight of the box G. It will readily be seen that the shafts *d d*, with the rollers or wheels *e e*, will weigh more than the tracks *b b*, and hence, to lessen the weight of the box, I have placed the track under the bottom of the box, as above described.

The box G is water-tight, and provided with two

hinged lids, H H, so that the clothes can be put in the same at each end.

Within the box G is placed a plunger, I, which works as a shuttle, back and forth, and receives its motion from the reciprocating motion of the box. The plunger I is so constructed as to be of the form of stair-steps at each end, and closed in the centre. This may be done in various ways, and I do not confine myself to any particular mode of constructing the same. Figs. 1 and 6 show plungers made of horizontal boards, and figs. 4 and 5 are plungers made of boards placed vertically, and their ends cut out, so as to form stair-steps, as shown particularly in fig. 5.

The action of this plunger upon the clothes placed at each end of the box is very peculiar, and far superior to anything yet known or used. By the reciprocating motion of the box G, the plunger also obtains a reciprocating motion. At each stroke the plunger moves forward, carrying with it the entire volume of water, and strikes the clothes, pressing them against the end of the box, and at the same time turning them, as it were. The reaction of the water at once reverses the motion of the plunger, and by the motion of the water, not only will the clothes turn over, but also spread out, as they must necessarily follow the plunger in its backward course. In this manner the clothes are unrolled or spread out, to be again compressed and turned by the plunger at its next stroke.

In the old machines, where a plunger or beater was operated by a crank, lever, or other means, it would just move so far, whether there were few or many clothes in the box, and, consequently, to properly wash anything, there must be just a certain amount, and no more nor no less.

But by this loose plunger or shuttle, any amount of clothes may be put in, as the plunger will always have the same force, the machine running at a uniform speed. The force of the blow is readily regulated by changing the wrist-pin *a*, thereby lengthening or shortening the stroke, and thereby the speed. This has, of course, to be determined by practice.

Another important feature of my machine is the arrangement of the fly-wheels on the main shaft, with their pitmen, which are not wider than the width of the box, the main shaft being on the same plane with the bottom of the box, and the wheels not extending any higher than the box itself. By this means, I am enabled to place a table over the wheels and shaft, and utilize the space which would otherwise be the most dangerous; and the machine will not need any wider room than enough to let the box operate freely, or at least all the space around it would be left open for any purpose needed.

If desired, I may provide the ends of the box with ribs or slats, against which the clothes would be com-

pressed by the action of the plunger. This would give the water play behind the clothes.

To prevent unnecessary friction by the motion of the plunger in the box, I place ways or ribs in the bottom, at each side, upon which ways the plunger moves, and the centre-piece of the plunger extends below said ways, nearly to the bottom of the box. By this means the water is allowed to pass under the end of the plunger, and strike the centre-board with its full force, so as to drive the plunger with it.

Having thus fully described my invention,

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

1. A loose plunger or beater, operating within a re-

ciprocating box of a washing-machine, substantially as shown and described and for the purposes set forth.

2. The box G, constructed as described, and provided, on the under side of its bottom, with tracks *b b*, in combination with the wheels *e e*, shafts *d d* and B, fly-wheels D D, and adjustable pitmen E E, arranged as described, with the bed A, for supporting the shafts *d d*, and wheels *e e*, and main shafts B, substantially as shown and described.

In testimony that I claim the foregoing, I have hereunto set my hand, this 20th day of December, 1869.

Witnesses:

JOSEF JOHNSON.

C. L. EVERT,

E. M. CROPLEY.