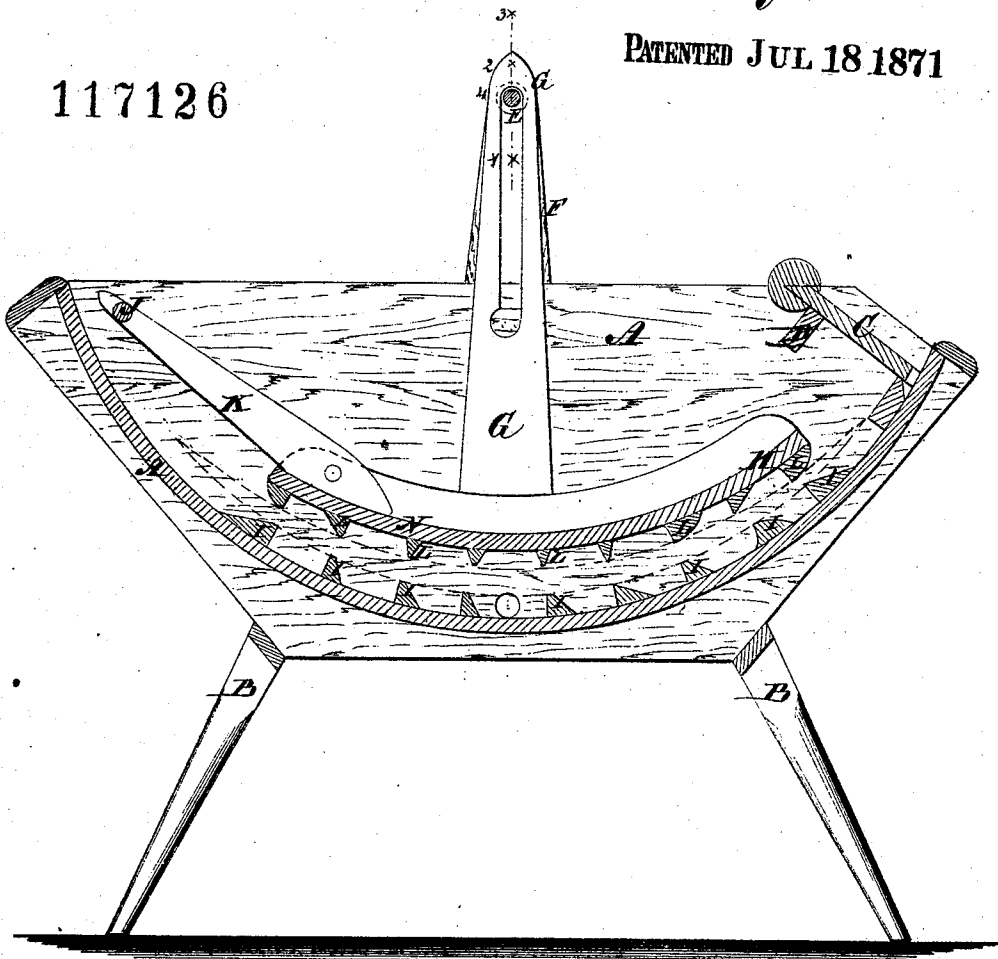


M. Van Tuken, Washing Mach.

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UNITED STATES PATENT OFFICE.

MINER VAN AUKEN, OF UTICA, NEW YORK.

IMPROVEMENT IN WASHING-MACHINES.

Specification forming part of Letters Patent No. 117,126, dated July 18, 1871.

To all whom it may concern:

Be it known that I, MINER VAN AUKEN, of Utica, in the county of Oneida and State of New York, have invented a new and useful Improvement in Washing-Machines; 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 the figure is a vertical longitudinal section of my improved machine.

My invention has for its object to furnish an improved washing-machine which shall be simple in construction, effective in operation, and conveniently and easily operated, being so constructed as to do its work quicker and better than other machines, and without injury to even the most delicate fabrics. My invention consists in improving washing-machines, as hereinafter fully described and pointed out in the claim.

A is the box of the machine, which is made with straight or vertical sides and a curved bottom, and which is supported upon legs B of such a length as to raise the machine to a convenient height. C is the dash-board, which is attached to the rear end of the box A in an inclined position. To the under side of the board C, near its upper edge, is attached a strip, D, to prevent water from being dashed toward the operator by the board C when driven against said board C by the rubber in operating the machine. The strip or fender D may be set at right angles with the dash-board C, or at any other angle that will produce the same effect. The edges of the bottom of the box A are inserted in grooves in the vertical sides of the said box, which grooves are struck upon the arc of a circle, the center of which is at a point (1) a little below the rod E, from which the rubber is suspended and upon which it is pivoted. The ends of the rod E are attached to standards F, the lower parts of which are attached to the vertical sides of the tub A. The rod E passes through longitudinal slots in the arms G, to the lower ends of which the rubber H is attached. The slots in the arms G are made with an offset or scroll at the side of their lower ends to serve as a pivot in turning the rubber back to rest upon the dash-board C. The rubber H is made upon an arc of a circle of the same radius as the arc of the bottom of the box,

thus bringing the center (2) of the circle above the pivoting-rod E. The effect of this arrangement is to give a crescent form to the space between the rubber and bottom through the entire sweep of said rubber, the arcs of said crescent meeting beyond the ends of the rubber when said rubber hangs free and is at rest. The pendulous arms G may be at or raised from the point 1 to the point 4, or to any other distance, thus enabling the crescent space to be varied as may be desired. The ribs I, attached to the bottom of the box A, are made of such a form as to tend to draw the clothes being washed into proper position beneath the rubber or toward the center of the box A. The ribs I are made with their rear sides inclined and with their forward sides of a much steeper incline, or curved. All the ribs I may be of the same form, or several forms may be used in the same machine, as may be desired.

In using the machine the operator takes hold of the handle J attached to the outer ends of the inclined arms K, the inner ends of which are attached to the forward part of the rubber H, and has thus an advantage of leverage over the rear part of said rubber, the tendency of which is to drive the clothes to the rear part of the machine; but, by making the ribs I of any one or of all the forms shown, or their equivalent, the said advantage of leverage will be acted upon in two ways: 1st, by the forward sides of the ribs I being made with their forward faces square, or of other resisting form; and 2d, by the rear faces of said ribs I being made of an inclined or non-resisting form. By this construction, as the handle is raised the clothes in the back part of the box A will be moved forward toward the center. This result may be more surely effected by making the ribs L, attached to the lower or convex side of rubber H, of such a form as shown in the figure that they will move over the clothes more easily as the said rubber moves toward the rearward, and will tend to carry the clothes with them as the rubber moves forward, a smaller number of ribs, L, being necessary to drive the clothes toward the center from the forward part of the machine when the operator pushes down upon the handle, on account of the advantage of leverage. The rear segment of the rubber H is made longer than the forward part, as shown in the figure. This

construction of the rubber H gives a proper pressure to the clothes in the rear part of the machine to drive them over the non-resisting sides of the ribs I toward the center. When the rubber is inverted to rest upon the dash-board C for convenience in putting in and taking out the clothes, any water that may drip from it or may run down the arms K to which the handle J is attached is conducted through one or more openings, *c'*, in the lower part of the said dash-board C, and back into the box A through a channel beneath said dash-board, said channel being formed by chamfering the edge of the board or cleat beneath said dash-board, as shown in the figure, the end of said board or cleat being also chamfered when made as long as the breadth of the interior of the box A.

In using the machine the rubber is turned back to rest upon the dash-board. The proper amount of clothes and water is put in and the rubber turned down into working position. The operator takes hold of the handle J and pushes down about two inches and then raises the handle about four inches, giving to the rubber such a movement as would be given by a pitman and two-inch crank. These movements are rapidly repeated, cleaning the clothes quickly.

The clothes are not operated upon by this machine in the manner of machines that do their work by rubbing simply, but in the manner as

follows: By pushing down upon the handle J the clothes in the crescent-shaped space between the ribs of the bottom and the ribs of the rubber receive a tumbling squeeze and slight rub, and by raising the handle J the same effect is produced in the forward part of the box A, the front and back of the rubber alternately driving the clothes toward the center.

A very important feature of my invention consists in the peculiar form of the rib; which is convex on the outer and concave on the inner face. The concave side facilitates the raising of the clothes over its top edges, which is what a square face cannot do. After the clothes pass up the concave side of rib and over point where the concave and convex lines meet, they are given another slight rub as they fall between the ribs; so, on their return toward the center, they are driven against the rounded side, a rub being given again, and not a mere slide produced.

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

The rod E, standards F F, slotted and offsetted arms G, rubber H, arms K, handle J, board C, and fender D, all combined, constructed, and arranged as and for the purpose specified.

MINER VAN AUKEN.

Witnesses:

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