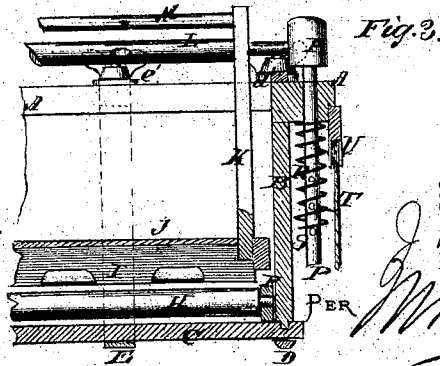
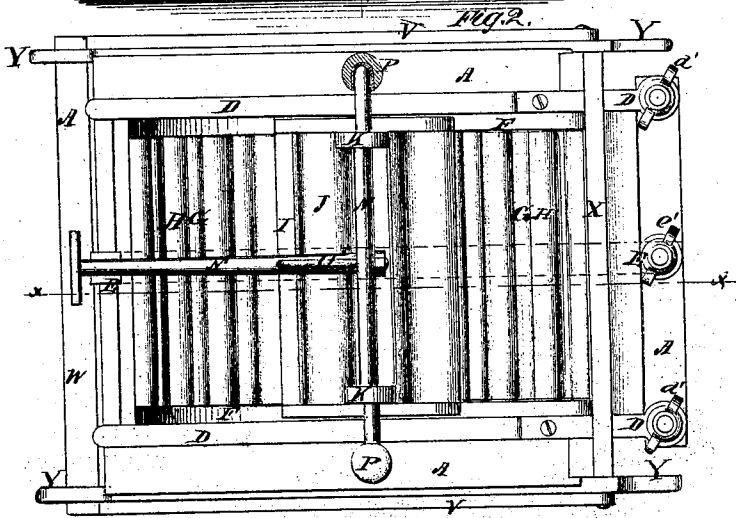
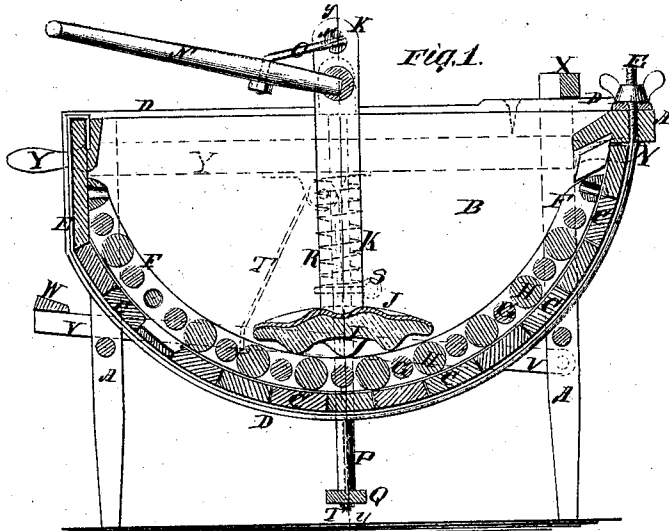


J. Balsley,

Washing Machine.

No. 101,414.

Patented Apr. 5. 1870.



Witnesses:
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J. S. Mabee

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United States Patent Office.

JOSEPH BALSLEY, OF BEDFORD, INDIANA

Letters Patent No. 101,414, dated April 5, 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, JOSEPH BALSLEY, of Bedford, in the county of Lawrence and State of Indiana, have invented a new and useful Improvement in Washing-Machine; 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 drawings forming part of this specification.

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

Figure 2 is a top view of the same.

Figure 3 is a detail vertical cross-section of the same, taken through the line *y y*, fig. 1.

Similar letters of reference indicate corresponding parts.

My invention has for its object to furnish a simple, strong, durable, and effective washing-machine, doing its work quickly and well, and which shall be so constructed that the box or tub may be conveniently tightened, to compensate for any shrinking of the timber; and

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

A is the frame of the machine, to which are securely attached the end boards B of the box or tub.

The lower edges of the end boards B are made curved or convex, and are tongued, as shown in fig. 3.

The bottom sides, which are made semi-cylindrical in form, are formed of staves or narrow strips C, made concave upon their inner, and convex upon their outer sides.

The staves or strips C are grooved transversely upon their inner or concave sides, near their ends, to receive the tongues of the end boards B, as shown in fig. 3.

The staves C are secured to each other and to the curved edges of the end boards B by the bands D E D.

The two bands D pass along the upper or straight edges of the end board B, to which they are secured near their ends by screws, as shown in fig. 2.

The bands D after passing along the upper edges of the end boards B pass around the staves or strips C, directly opposite the tongued and curved edges of said end boards.

The ends of the lower parts of the bands D have screw-threads cut upon them, pass through holes in the ends of the other parts, and have thumb-nuts *d'* placed upon them, as shown in figs. 1, 2, and 3.

One end of the middle band E is secured to the middle part of one end of the machine.

The band E passes around the middle part of the staves or strips C, and its other end passes up through the middle part of the upper cross-bar of the frame A,

at the other end of the machine, and has screw-threads cut upon it to receive the thumb-nut *e'*.

By this construction, by tightening the nuts *d' e'*, the staves or strips C will be pressed close together, and close to the curved edge of the end boards B to compensate for any shrinking of the timber, enabling the tub or box to be kept at all times water-tight.

F is a concave or curved frame, fitted into the interior of the semi-cylindrical box or tub.

To the curved side bars of the frame F are pivoted the ends or journals of the rollers G H.

The rollers G are made small, and the rollers H large, and they are arranged alternately, as shown in figs. 1 and 2.

By this construction the frame F and its rollers G H may be conveniently removed from the tub or box for convenience in cleaning and washing the machine.

I, the rubber, the lower side or face of which is made convex, is corrugated longitudinally, and the corrugations or ribs are notched alternately, thus forming a surface well calculated to thoroughly rub and cleanse all parts of the clothes. Or, if desired, the rubber may be made of slats, so formed as to make the rubbing surface convex, said slats being notched alternately upon their lower edges or faces.

Upon the upper side of the rubber I is formed or to it is attached a corrugated surface or plate, J, to serve as a rubber-board when required.

To the rubber I, at or near its ends, are attached the lower ends of two uprights, K, to the upper parts of which are attached two rounds, L M.

To the lower round L is attached one end of the lever or handle N, the other end of which extends out into such a position that it may be conveniently reached to operate the rubber.

O is a brace, the upper end of which is securely attached to the lever N, and its other end is attached to the upper round M, to give strength and rapidity to the handle. The ends of the lower round L project and enter holes or rockets in the upper ends of the sliding rods P.

The ends of the round L may be tipped or ferruled with metal, and the holes or sockets in the heads of rods P may be bushed with metal to prevent wear.

The sliding rods P pass down through guide-holes or guides formed in or attached to the frame of the machine, and their lower ends are connected and held in their proper relative positions by a cross-bar, Q, as shown in fig. 1.

The sliding rods P are held down to give the desired pressure upon the clothes being washed by the coiled springs R, the upper ends of which rest against the frame of the machine, and their lower ends rest against spring-keys, pins, or other stops S, passed through holes in the said rods P, several holes being formed

in said rods for the reception of the said stops, so that the pressure upon the clothes may be regulated at will, by adjusting the position of the said stops.

To the lower ends of the rods P or to the ends of the cross-bar Q are attached the lower ends of the cords T, which pass over pulleys U pivoted to the frame A of the machine near the upper parts of the sliding rods P, from which pulleys they pass down and are secured to the foot levers or treadles V, the inner ends of which are pivoted to the lower parts of the frame A, and their outer ends are connected by a cross-bar or foot-piece, W, extending along the front side of the machine, so that the operator can at any time raise the rubber from the clothes, by bearing down with the foot upon the said cross-bar W.

X is a bar or board, extending across the rear part of the machine for the attachment of the wringer, and the ends of which are secured to the frame of the machine.

Y are bars attached to the sides of the upper parts of the frame A, and upon the projecting ends of which are formed handles, for convenience in moving the machine from place to place.

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

1. The box or tub, formed by the combination of

the tongued end boards B, grooved narrow strips or staves C, bands D E D, and hand-nuts $d' e' d'$, with each other and with the frame A, substantially as herein shown and described, and for the purpose set forth.

2. The concave frame F with its alternate large and small rollers H G, in combination with the box or tub B C D F $d' e'$ and frame A, substantially as herein shown and described, and for the purpose set forth.

3. The rubber I and rubbing board J, constructed as described, in combination with the concave roller frame F G H and box or tub B C D E $d' e'$, substantially as herein shown and described, and for the purpose set forth.

4. An improved washing-machine, formed by the combination of the frame A, box or tub B C D E $d' e'$, concave roller frame F G H, rubber and rubbing-board I J, uprights K, rounds L M, handle or lever N, brace O, sliding rods P, springs R, adjustable stops S, cross-bar Q, cords T, pulleys U, and treadles V W, with each other, substantially as herein shown and described, and for the purpose set forth.

JOSEPH BALSLEY.

Witnesses:

THOMAS H. MALOTT,
JOHN PETER FRANCIS.