S. B. SHULTZ

Washing-Machine.

No. 207,215. Patented Aug. 20, 1878.

Fig: 1.

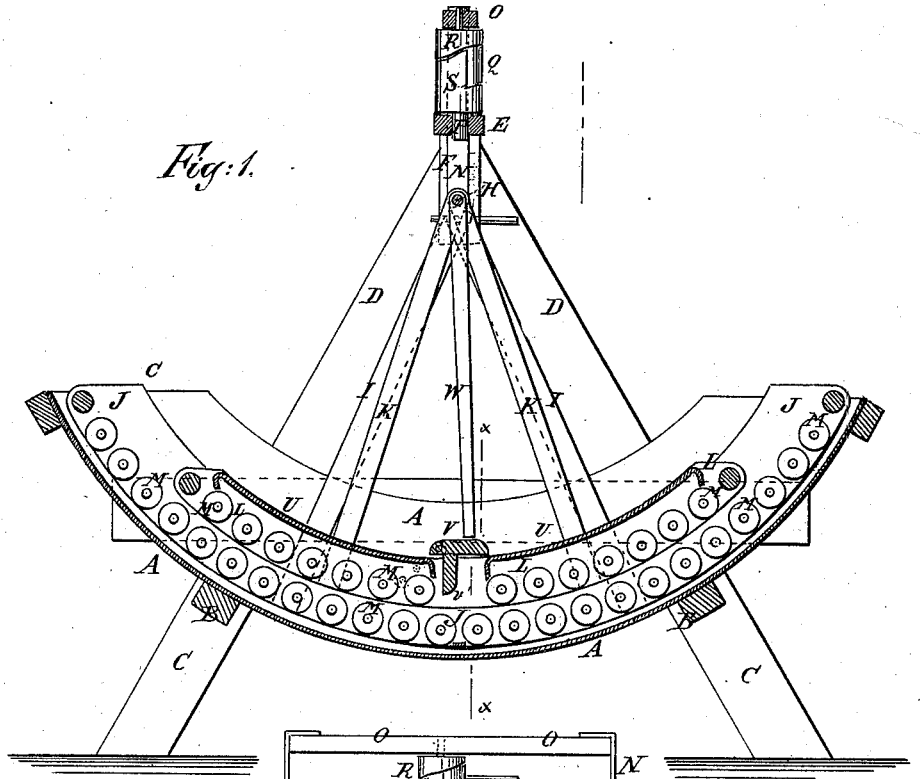


Fig: 2.

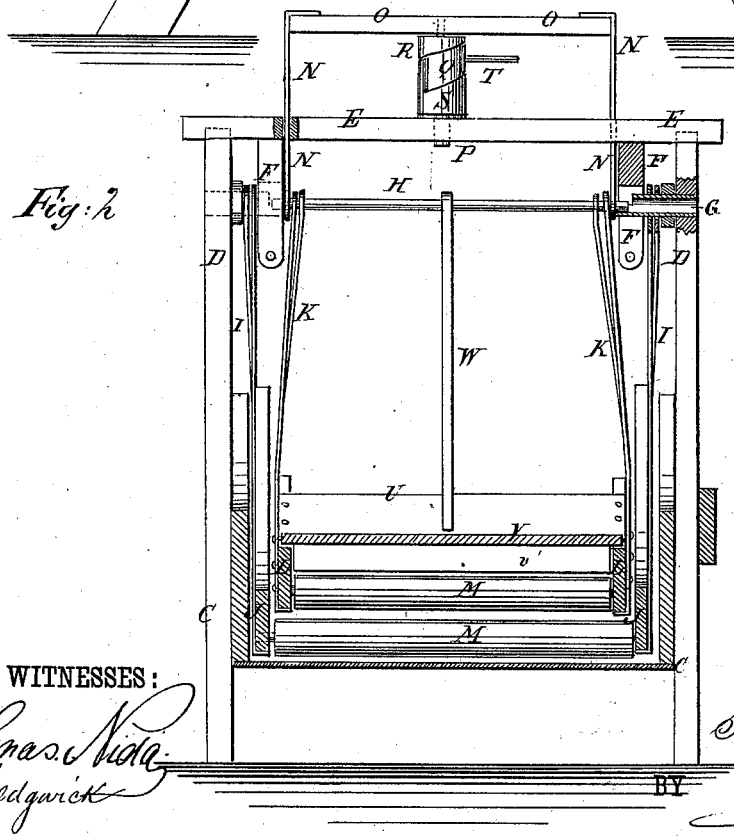
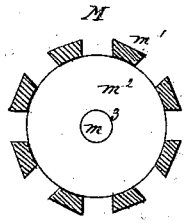


Fig: 3.



WITNESSES:

Chas. Nida.

C. Sedgwick

INVENTOR:

S. B. Shultz.

Munn & Co

ATTORNEYS.

UNITED STATES PATENT OFFICE.

SAMUEL B. SHULTZ, OF PRINCETON, ILLINOIS.

IMPROVEMENT IN WASHING-MACHINES.

Specification forming part of Letters Patent No. **207,215**, dated August 20, 1878; application filed June 3, 1878.

To all whom it may concern:

Be it known that I, SAMUEL B. SHULTZ, of Princeton, in the county of Bureau and State of Illinois, have invented a new and useful Improvement in Washing-Machines, of which the following is a specification:

Figure 1 is a vertical longitudinal section of my improved washing-machine. Fig. 2 is an end view of the same, partly in section, through the line *x x*, Fig. 1. Fig. 3 is a detail cross-section of one of the rollers.

Similar letters of reference indicate corresponding parts.

The object of this invention is to furnish an improved washing-machine which shall be so constructed as to wash the clothes quickly and thoroughly, which will enable any parts of the clothes which are soiled more than others to be especially rubbed, which will allow the dirty water to readily flow away from the clothes, which will adjust itself to any unevenness in the thickness of the clothes being operated upon, and which may be adjusted to operate upon any desired thickness of clothes.

The invention consists in the combination of the cross-bar, the hangers, and the suspension-rods with the pins attached to the standards and the bars attached to the side bars of the two rubbers; in the combination of the sliding bars, the cross-bar, the guide-pin, the movable cylinder, the two spirally-edged tubes, and the lever with the cross-bar, the hangers, and the rod that supports the upper rubber; and in the combination of the clamping-plate, provided with the rib, and the locking-bar with the slotted covering-plates of the upper rubber and with the suspension-rod, as hereinafter fully described.

A represents the suds-box, which is made with its bottom and ends in the arc of a circle, and with vertical sides. The suds-box A is attached to and supported by cross-bars B, the ends of which are attached to the feet C. The feet C are set in inclined positions, and are extended so that their upper ends may meet at an angle above the center of the suds-box A, to serve as standards D, to support the operating mechanism. The upper ends or angles of the standards D enter recesses in the lower sides of the ends of a cross-bar, E, which rests upon them, and to the lower side of which, at a little distance from the inner sides of the standards D, are attached the upper ends of hangers F. To the inner sides of the standards D, at a little distance from their upper ends, are attached pins G, which enter slots in the lower parts of the hangers F, and the upper sides of the ends of which are recessed to receive the ends of the rod H, which moves up and down in the longitudinal grooves or slots in the inner sides of the said hangers F. To the pins G, at the outer sides of the hangers F, are pivoted the upper ends of two pairs of bars, I. The lower ends of the bars of each pair I are spread apart, and are attached to the side bars of the lower rubber, J. To the rod H, at the inner sides of the hangers F, are pivoted the upper end of two pairs of bars, K. The lower ends of the bars K of each pair are spread apart, and are attached to the side bars of the upper rubber, L, so that each rubber may move independently of the other.

The rubbers J L are both formed by attaching rollers M to the side bars of the rubber-frames. The rollers M are formed by attaching bars m^1 to the edges of the disks m^2, to the centers of which are attached gudgeons m^3, to work in bearings in the said side bars. The edges of the bars m^1 are beveled inwardly from the outer side, so as to have a dovetail form in cross-section. This construction of the rollers allows the water to pass freely away from the clothes when being operated on.

To the end parts of the suspension-rod H are attached the lower ends of two bars, N, which pass up along the inner sides of the hangers F through holes in the cross-bar E, and their upper ends are attached to the ends of a cross-bar, O.

To the center of the cross-bar O is rigidly attached the end of a pin, P, which passes down through a guide-hole in the center of the cross-bar E. Upon the upper part of the pin P is placed a hollow cylinder, Q, to the upper part of which is attached a tube, R, fitting snugly upon it, and having its lower edge made in the form of a spiral. To the cross-bar E, concentric with the pin P, is attached the lower edge of a tube, S, the upper edge of which is

made in the form of a spiral. The tubes R S are made of such a size that their adjacent spiral edges may bear upon each other.

By this construction, by turning the cylinder Q and the upper tube, R, the cross-bar O, the bars N, and the rod H will be raised or lowered, so that the upper rubber, L, may be adjusted at any desired distance from the lower rubber, J, according to the thickness of the clothes to be operated upon.

The cylinder, Q, and upper tube, R, are turned by a lever, T, attached to them. The holes in the lower ends of the bars N, through which the rod H passes, are slightly elongated, so that the upper rubber, L, may adjust itself to any unevenness in the thickness of the clothes being operated upon.

The rubber L is covered with plates U, of zinc or other suitable material, the side edges of which are attached to the side bars of the said rubber L. The inner edges of the plates U do not quite meet, and are turned inward to prevent the clothes from passing between the said plates U and the upper sides of the rollers M. One of the rollers of the upper rubber, L, directly beneath the space between the inner edges of the plates U, is omitted, or the central rollers are set at a little greater distance apart than the others, so that clothes passed in through the space between the said plates U may pass between the two rubbers.

The space between the inner edges of the plates U is covered by a plate, V, which is hinged at the ends of one of its side edges to bars or plates attached to the side bars of the said rubber L, so that the said plate V may be raised to allow clothes to be inserted beneath it, and may then be lowered to clamp the said clothes in place, and hold them while being operated upon. The plate V has a rib, v', attached to its lower side, to cause it to hold the clothes more securely.

The plate V is held down, clamping the clothes in place, by a bar, W, the upper end of which is pivoted to the rod H, and which is made of such a length that its lower end may rest upon the upper side of the said plate V, holding it securely. This construction allows the dirtier parts of the clothes to be passed through the slot or opening in the upper rubber, and the clothes are then clamped in place, so that only the said dirtier parts will be operated upon. The end bars of the rubber-frames J L are so formed as to serve as handles for operating the said rubbers.

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

1. The combination of the cross-bar E, the hangers F, and the suspension-rod H with the pins G, attached to the standards D, and the bars I K, attached to the side bars of the two rubbers J L, substantially as herein shown and described.

2. The combination of the sliding bars N, the cross-bar O, the guide-pin P, the movable cylinder Q, the two spirally-edged tubes R S, and the lever T with the cross-bar E, the hangers F, and the rod H, that supports the upper rubber, L, substantially as herein shown and described.

3. The combination of the clamping-plate V, provided with the rib v', and the locking-bar W with the slotted covering-plates U of the upper rubber, L, and with the suspension-rod H, substantially as herein shown and described.

SAMUEL B. SHULTZ.

Witnesses:
GEORGE W. STIPP,
DANIEL J. TRIKLER.