

E. H. Lawton.
Washing Machine.

No 96,123

Fig. 1.

Patented Oct 26. 1869.

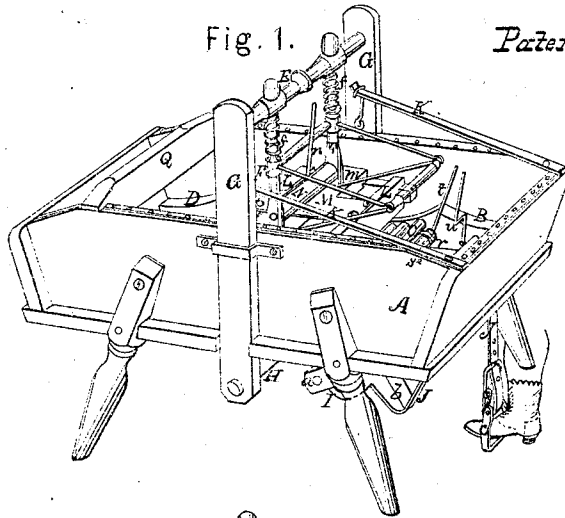


Fig. 2.

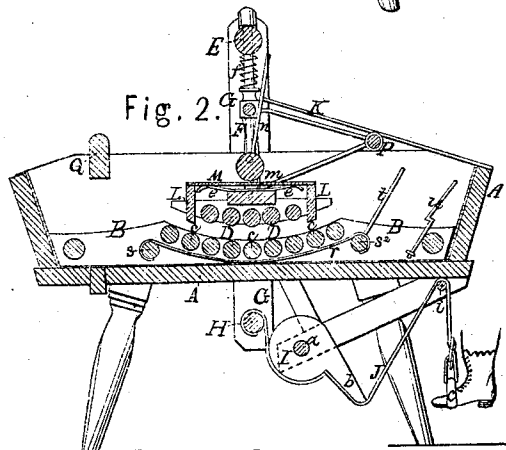
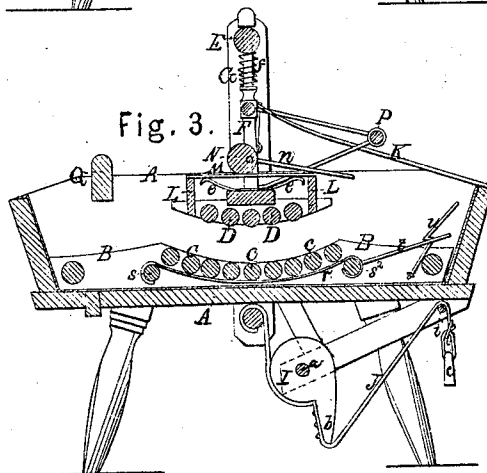


Fig. 3.



Witnesses

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FABIUS H. LAWTON, OF FLUVANNA, NEW YORK, ASSIGNOR TO HIMSELF,
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Letters Patent No. 96,123, dated October 26, 1869.

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, FABIUS H. LAWTON, of Fluvanna, in the county of Chautauqua, and State of New York, have invented certain new and useful Improvements in Washing-Machines; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, which make part of this specification, and in which—

Figure 1 represents a view, in perspective, of a machine, embracing my improvements.

Figure 2 is a vertical longitudinal section of the oscillating rubber, being only partially depressed.

Figure 3 represents a similar section, the rubber being elevated.

In the accompanying drawings—

A represents the tub or box, of an oblong form, supported upon legs, and lined with zinc, so as to render it water-tight.

Within this tub, and upon the bottom, is placed a horizontal frame, B, consisting of two side bars, united at their ends, between which is secured the ordinary concave bed of rollers C, arranged in a circle, concentric to the axis of the presser. This concave bed of rollers can be converted into a series of fixed rubbers, in a manner and for a purpose to be presently described.

Immediately above the concave bed of rollers C, the rubber and presser are arranged, which also consist of a series of rollers, D, secured in a suitable frame, and suspended from a rock-shaft, E, by two vertical parallel arms F, so that the rollers of the presser may move over and in contact with the concave bed of rollers.

The suspending arms F of the presser are provided with spiral springs *f*, so as to allow the presser to rise and fall independent of the motion of the frame, within which the rock-shaft E is pivoted.

The rock-shaft of the oscillating presser is mounted in bearings, in a frame consisting of vertical side bars G, one on each side of the machine, and arranged so as to move vertically within guides on the outer sides of the tub, as shown in fig. 1, the lower ends of which are secured together by a cross-bar, H.

The device for bringing the presser down, and holding the clothes with the requisite degree of pressure, consists of an armed pulley, I, and a strap, J, connected thereto, one end of which is attached to the cross-bar H, of the vertically-moving frame of the presser, while the other end passes over a small roller, *i*, secured beneath the front end of the tub, and has a stirrup attached thereto, so as to hang in a position to receive the foot of the operator, as shown in figs. 1 and 2.

The armed pulley I is fixed upon a horizontal rod, *a*, secured beneath the wash-tub, in such a position that that portion of the said armed pulley which is

concentric with its axis, will be in a vertical line with the horizontal bar, to which the strap is attached, in such manner as to allow the band to wind and unwind upon the pulley, directly in a line with the movement of the rubber frame, while the arm *b* of the pulley projects downward, and to this part the strap J is attached, so that, it will be seen, the arm *b* acts as a lever to the pulley, as well as an attachment for the strap, and that the descent of the stirrup *c*, by the pressure of the foot, will bring the arm upward, and cause the strap to act directly upon the arm of the pulley, so as to wind the strap upon its concentric surface, as represented in fig. 2, while the release of the stirrup from the pressure of the foot will allow the presser to rise and unwind the strap, by means of springs K, attached to the tub, and to the vertical slides G of the oscillating rubber, the force of the springs being constantly exerted upward for that purpose.

This arrangement of the flexible stirrup *c*, with its armed pulley I, it will be seen, is a very easy method of bringing the rubber into action with the requisite degree of pressure, because it allows the foot to rest directly upon the ground, upon which the machine rests, and is, therefore, a great relief to the limb of the operator, in avoiding the constant strain, which is necessary with the treadle heretofore in use in this class of washing-machines.

The concave bed of rollers C has heretofore been used with a convex presser of rollers, but it has been found that the action of such a presser, of rollers only, will pass over the clothes back and forth, without materially disturbing their condition, as they lie generally in the same state, because the rollers move over them both above and below by their rolling motion, without biting into them or ruffling them up, and it is often necessary, therefore, to turn the clothes over by hand.

To avoid this necessity, I have arranged, in connection with the series of rollers of the presser, biting or turning-bars L, arranged in such manner as to be adjusted vertically in grooves in the bars in which the rollers D are journaled, so that their acting-edges can be adjusted below the surface of the rollers, and thus constitute a fixed biting-rib at each end of the presser, and on each side of the series of rollers D, as shown in fig. 2, so that while moving the presser back and forth, these bars L will catch in the clothes and turn them over, so as to present other parts of the clothing to the rubbing action of the rollers D, while they constitute, in connection with the rollers, fixed rubbers.

In performing this function, they are generally used at the commencement of washing the clothes, while the concave bed of rollers C are free to turn upon their axes.

The vertically adjustable rubbing-bars L, of the

presser, are connected together by a horizontal top plate, M, which is constantly pressed upward by a spring, *e*, secured to a cross-bar, *m*, attached to the end pieces of the presser, immediately above the rollers D, and beneath the said connecting-plate M, so as to constantly tend to press upward upon each end of the plate, the normal position of the lower edges of the adjustable bars L being on a line with the lower surfaces of the presser-rollers D.

In order to extend the ends of the rubbing-bars L below the acting-surfaces of the rollers D, I secure an eccentric roller, N, between the vertical arms F of the presser, in such manner that when turned by means of a lever or arm, *n*, so as to bring that portion of the roller farthest from its axis downward, it will bear upon the horizontal connecting-plate *m*, and thus simultaneously depress the rubbing-bars L, as shown in figs. 1 and 2, and hold them in that position by the upward pressure of the spring *e*, against the said eccentric roller M, and to withdraw the said projecting, unyielding rubbers L, it is only necessary to depress the arm *n* of the said eccentric roller, which turns the eccentric portion of the roller to one side as shown in fig. 3, the spring-plate *m*, remaining in contact with the surface of the eccentric roller, whether the unyielding rubbers be up or down. The combination, therefore, of unyielding rubbing-bars with the rolling-surfaces of rubbing-rollers, is a very great advantage in effecting the thorough cleansing of the clothes.

I have also found it of very great advantage, in the use of a concave bed of rollers, to lock the rollers on their axes, and thus constitute them a bed of fixed rubbers, instead of a continuous rolling-surface. This, however, has the best effect, when the rubbing-bars of the presser are raised, so that, instead of having an upper and a lower series of acting moving surfaces, I may lock the one, and leave the other free to roll, so as to produce an action upon the clothes similar to that of the common hand wash-board.

The device for accomplishing this consists of one or more flexible bands, *r*, of brass or other suitable material, passed beneath the series of rollers C, and connected at each end to transverse bars *s s'*, one of which, *s'*, is secured in bearings in the frame of the said concave bed of rollers C, so as to turn therein.

To one side of this turning-bar I secure an arm, *t*,

which, when turned down, as shown in fig. 3, is made to interlock with a spring-catch, *u*, and hold it in that position. The turning of the cross-bar *s'*, it will be seen, thus tends to straighten the bands *r* into a horizontal line, and consequently against the lower surfaces of the rollers C, thus constituting a brake, and rendering them fixed, so that they cannot turn while the presser is moving over them, while the releasing of the arm *t* from its spring-catch *u*, will also release the gripe of the bands *r*, upon the rollers C, and thus unlock them, as shown in fig. 2.

The machine can, therefore, be used as occasion may require, either with a fixed or moving bed of rubbers, and fixed and moving rubbing-surfaces of the presser, according to the condition and quality of the clothes being washed.

In operating the presser, the attendant grasps the handle P, attached thereto, while at the same moment with the foot inserted within the stirrup *c*, brings it into action on the clothes, and the strap J is of such length as will enable the operator to regulate the degree of pressure, while the foot is supported on the ground.

The machine may be provided with a wringer, attached to the bar Q, in any suitable manner, if desired.

Having thus described my invention,

I claim—

1. The combination, in an oscillating presser, of unyielding adjustable rubbing-bars L, with a series of intermediate rollers D, operating as described.
2. The combination of the vertically adjustable, unyielding rubbing-bars L, with the eccentric roller N, and springs *e*, operating to either project the bars below the surface of the rollers, or to retract them, as described.
3. In combination with the above, the concave bed of rollers C, with the braking-bands or straps *r*, operating as described.
4. The arrangement of the armed pulley I, in combination with the stirrup *c*, strap J, and the vertically adjustable rubber frame G, as described.

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Witnesses:

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