O. S. THAYER.

Washing-Machine.

No. 166,731. Patented Aug. 17, 1875.

Fig. 1.

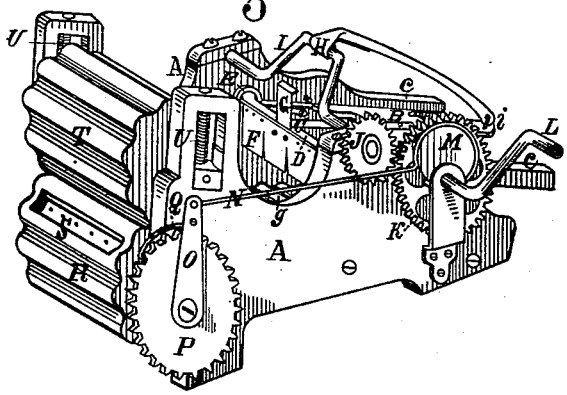
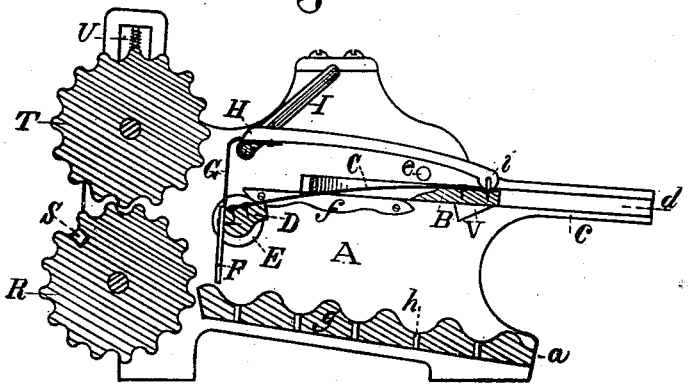


Fig. 2.



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UNITED STATES PATENT OFFICE.

OLNEY S. THAYER, OF WOONSOCKET, RHODE ISLAND, ASSIGNOR OF ONE-HALF HIS RIGHT TO CHARLES W. THAYER, OF SAME PLACE.

IMPROVEMENT IN WASHING-MACHINES.

Specification forming part of Letters Patent No. **166,731**, dated August 17, 1875; application filed June 30, 1875.

To all whom it may concern:

Be it known that I, OLNEY S. THAYER, of Woonsocket, in the county of Providence, State of Rhode Island, have invented a certain new and useful Improvement in Washing-Machines, of which the following is a description sufficiently full, clear, and exact to enable any person skilled in the art or science to which my invention appertains to make and use the same, reference being had to the accompanying drawing, forming a part of this specification, in which—

Figure 1 is an isometrical perspective view, and Fig. 2 a vertical longitudinal section.

Like letters of reference indicate corresponding parts in the different figures of the drawing.

My invention relates to that class of washing-machines which are provided with corrugated rubbing-surfaces; and consists in a novel construction and arrangement of the parts, as hereinafter more fully set forth and claimed, by which a very simple, cheap, and effective device of this character is produced.

The nature and operation of my improvement will be readily obvious to all conversant with such matters from the following description.

In the drawing, A represents the frame or side pieces of the machine, which are elongated, as shown at *c c*, and provided with the sliding stock B, which is fitted to work in the grooves or rundlets *d*. Jointed to this stock at *i* there is a pitman, H, also connected with the crank-shaft I, journaled in proper boxes in standards rising from the side pieces A. A long flat steel spring is attached by one end to the stock B, the opposite end carrying the cross-bar D, to which is attached the vertically-projecting flange F, preferably composed of rubber. Projecting upwardly from the bar D there is a flat spring, G, bent slightly at its upper end toward the pitman H, and journaled to the ends of the bar D there are small wheels E. A crank-shaft, L, properly mounted near one end of the machine, as shown in Fig. 1, carries a gear, K, and also an eccentric or cam, M. The gear K intersects with the smaller gear J on the end of the shaft I, and the cam M is provided with a rod, one end of which is bent to encircle the cam, the other connecting with the upper end of the lever O. Mounted in standards at the end of the machine opposite the crank L, there are two fluted rollers, T R, the superposed roller being provided with presser-springs U. The axle of the roller R extends through the side of the machine, and carries the gear-wheel P, the lower end of the lever O being pivoted upon the same axle and provided with the pawl Q. Disposed in the bottom of the machine there is a corrugated rubbing-board, *g*, provided with holes or perforations *h*, the end of the board next the roller R being on a higher plane than the opposite end *a*. Attached to the under side of the stock B, there is a scoop or cup, V, and in the roller R an elongated socket or cup, S, the object of these cups being to dip up the water when the machine is in operation, and throw it upon the clothing being washed.

In the use of my improved machine it is placed in a suitable tank or tub, which is partially filled with water or suds. The crank L is then turned, the clothing being passed to the rollers T R, by which it will be caught and fed along intermittently by the ratchet O Q acting as the wheel P. As the clothing advances through the rollers, the stock B, carrying the bar D, will traverse the rundlets *d* in the direction of that end of the machine in which the rollers are mounted. Attached to the inner faces of the sides, just below the grooves *d*, and centrally under the shaft I, there are two guides or rails, *f*, straight upon their upper sides, but corrugated upon their lower surfaces or edges. The ends of these rails nearest the roller T are chamfered or curved upwardly on their under sides, and vice versa. As the stock B advances the wheel E rides along the top of the rails and falls off the ends next the roller T. The shaft I, revolving, strikes the bent top of the spring G, forcing the flange F down upon the rubber *g*, and carrying the axes of the wheels E below the ends of the rails *f*. The shaft continuing to revolve, the motion of the stock B is reversed, and the flange or vertical rubber F brought down upon the clothes, forcing them against the corrugated board *g*, and

passing over them with a squeezing or rubbing movement, which is found to be very effective. The rails *f* are corrugated to correspond with the corrugations in the board *g*, so that as the wheels E pass along the under sides of the rails the flange F will be depressed when opposite a depression in the board *g*, and elevated when opposite an elevation in the same, thus equalizing the pressure. As the stock B recedes when it arrives at the end of the rails nearest the elongations *c c*, the motion of the crank I brings the end of the pitman H against the under side of the bent portion of the spring G, elevating the bar D, and causing the wheels E to pass over the rails *f* as the bar recedes. The size of the wheel P and form and arrangement of the cam M are such that the stock will traverse the rundlets *d* two or three times to each feed-movement of the rollers T R, thus enabling the clothing to be more thoroughly washed than would otherwise be the case.

Having thus explained my improvement, what I claim is—

1. In a washing-machine, substantially such as described, the corrugated rollers R T, ratchet O P Q, rod N and cam M, combined to operate substantially as set forth.

2. In a washing-machine, substantially such as described, the rollers R T, rubber *g*, rails *f*, and reciprocating stock B, provided with the spring C, and flange F, combined to operate substantially as set forth and specified.

3. In a washing-machine, substantially such as described, the bar D, provided with the spring G, in combination with the pitman H, crank I, stock B, rails *f*, and spring C, substantially as set forth.

4. In a washing-machine, substantially such as described, the cup V, in combination with the stock B, substantially as set forth and specified.

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