

CURTIS GATES.

Improvement in Washing Machines.

No. 124,893.

Patented March 26, 1872.

Fig. 1.

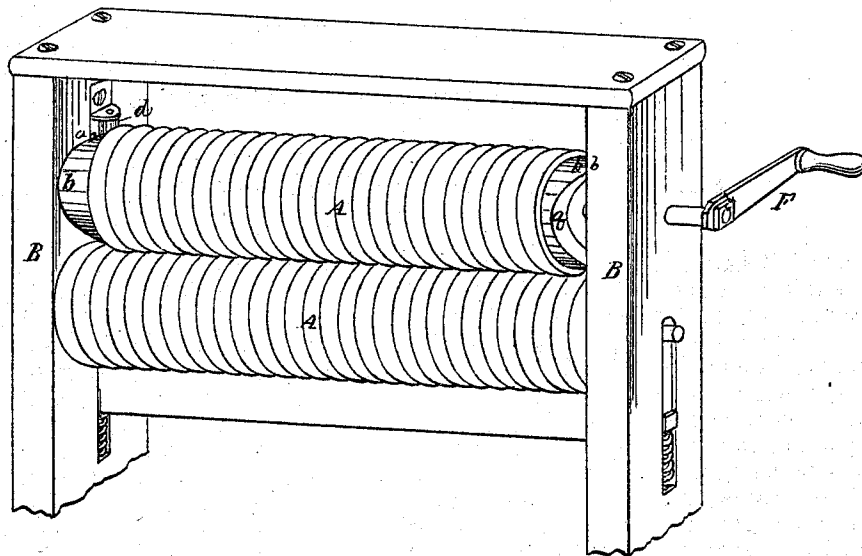
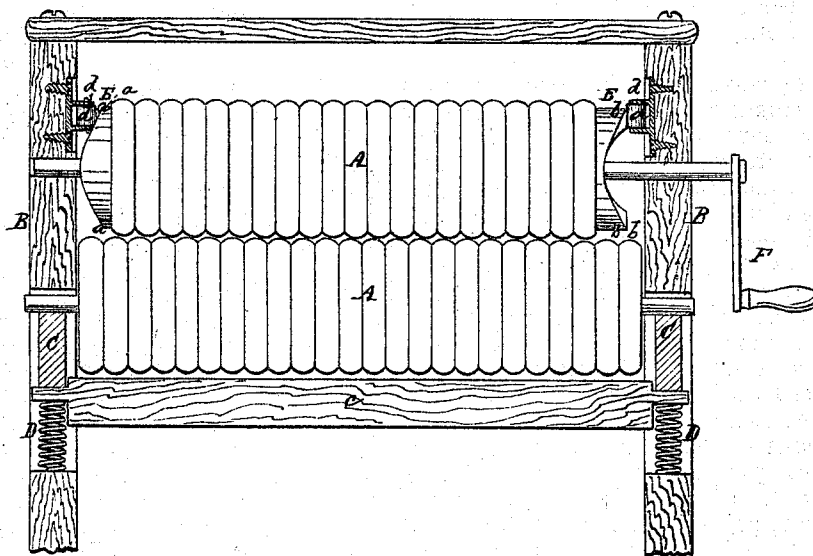


Fig. 2.



Witnesses

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CURTIS GATES, OF LITTLETON, NEW HAMPSHIRE.

IMPROVEMENT IN WASHING-MACHINES.

Specification forming part of Letters Patent No. 124,893, dated March 26, 1872.

To whom it may concern:

Be it known that I, CURTIS GATES, of Littleton, county of Grafton, State of New Hampshire, have invented certain new and useful Improvements in Washing-Machines, of which the following is a specification:

My invention relates to washing-machines employing two rolls placed one over the other and exercising a yielding pressure upon the clothes between them. It consists in certain means for giving the one roll a movement lengthwise upon the other for the purpose of producing a rubbing action upon the clothes, and in other features which will be presently described.

In the accompanying drawing, Figure 1 is a perspective view of so much of a washing-machine as is needed to illustrate my invention. Fig. 2 is a front elevation with the frame in section.

I prefer to make the rolls A with annular ridges or corrugations, as shown, but they may be of the ordinary or suitable form. They are mounted in a frame, B, of the usual construction, the journals of one of the rolls being supported in sliding boxes pressed toward the other roll by means of springs. In order to elevate above the water the cams by which the reciprocating lengthwise movement of one roll upon the other is effected, I arrange these cams upon the upper roll and mount the journals of the lower roll, or that roll which is usually immersed wholly or partly in the water in sliding boxes C, arranged in the sides of the frame and pressed up toward the upper roll by means of spring D in the usual manner. The cams for producing the reciprocating movement of the upper roll are shown at E. They are two in number, the one the counterpart of the other, and one is placed on each end of the roll. They are so arranged that the depressions *a* of the one will be opposite to the projections *b* of the other, and on the interior opposite sides of the frame are placed friction-rollers *d*, on vertical axes, so as to be in contact with the cam-surfaces on the ends of the rolls. When the upper roll is rotated by the handle F, the rollers, by being brought alternately and at opposite ends of the roll A in contact with the projecting parts *b* of the cams will give the roll an endwise reciprocating mo-

tion. The journals of the roll are so arranged as to be capable of sliding to and fro in their bearings. In lieu of putting the cams on the roll and the friction-rollers on the frame the position of these parts may be reversed; in either case, however, it will be seen that the roll will be actuated at opposite ends alternately, and that all the cam mechanism is arranged within the compass of the frame. To prevent the clothes from being caught in and wrapped around the lower roll I place below this roll the vertical partition-board *c*, the upper edge of which is in suitably close proximity to the periphery of the roll. The partition-board is attached to and moves with the sliding journal-boxes of the lower roll, and thus is maintained at all times in its proper position with relation to the roll.

I have described so much of the machine as contains my invention. The remainder is constructed in any ordinary or suitable manner, and the whole machine is of course intended to stand in a tub or suds-box.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. The arrangement, at each end of the roll and between that end of the roll and the frame adjoining, of a cam and friction-roller, substantially as shown and described, whereby the roll when rotated is operated on alternately at each end, in order to obtain a reciprocating movement in the direction of its length.

2. The combination of the upper roll, supported in stationary bearings and acted on at each end by a cam and friction-roller, arranged within the compass of the sides of the frame, with the lower roll supported in sliding bearings pressed upward by means of springs, substantially as shown and described.

3. The combination, with the lower roll and its sliding bearings, of the partition-board, arranged below said roll, and connected and moving up and down with said bearings, as set forth.

In testimony whereof I have signed my name to this specification before two subscribing witnesses.

CURTIS GATES.

Witnesses:

J. F. MARSH,
PHINEAS R. GOOLD.