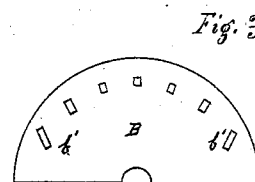
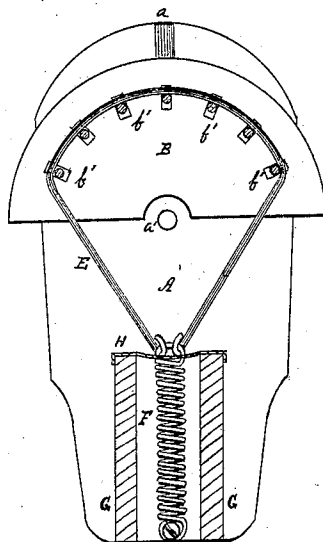
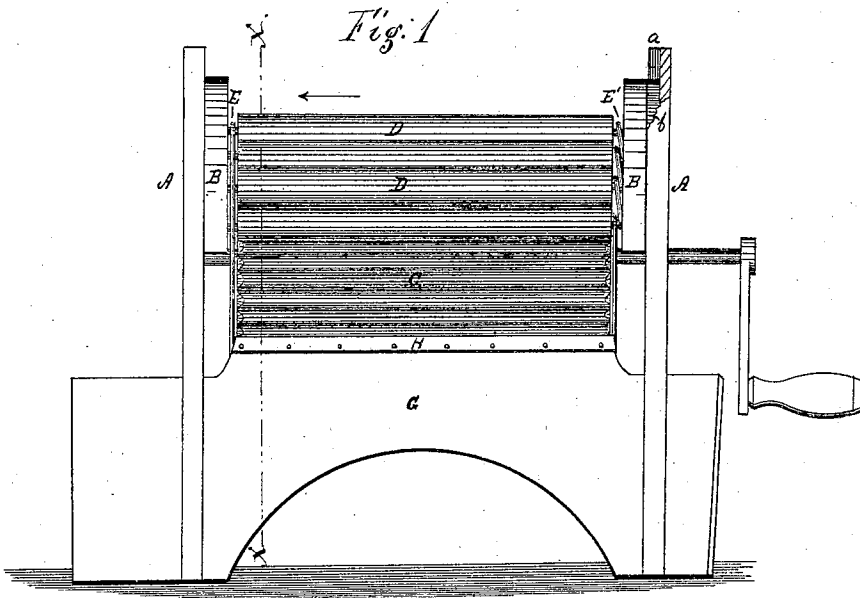


A. H. CALKINS.
Washing-Machines.

No. 138,733.

Patented May 13, 1873.



Witnesses

Wm T Calkins
F. F. Warner

Inventor

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UNITED STATES PATENT OFFICE.

ALMON H. CALKINS, OF CHESTERTON, INDIANA.

IMPROVEMENT IN WASHING-MACHINES.

Specification forming part of Letters Patent No. **138,733**, dated May 13, 1873; application filed October 21, 1872.

To all whom it may concern:

Be it known that I, ALMON H. CALKINS, of Chesterton, in the county of Porter and State of Indiana, have invented certain new and useful Improvements in Washing-Machines, of which the following is a full, clear, and exact description, which will enable others skilled in the art to which my invention appertains to make and use the same, reference being had, in so doing, to the accompanying drawing forming a part of this specification, and in which—

Figure 1 represents a front elevation of my improved machine; Fig. 2, a vertical cross-section taken in the plane of the line *x x* of Fig. 1, and viewed in the direction of the arrow there placed; and Fig. 3, a side elevation of a slotted plate, reduced.

My invention relates to that class of washing-machines in which a large, fixed, corrugated roller is employed in connection with a hinged yielding jacket of small rollers arranged above the large roller. The object of my invention is to dispense with the use of the hinged plates, which have heretofore been employed for the purpose of rendering the jacket of small rollers capable of a spreading movement, and to improve the construction and operation of the machine in other respects; and to this end it consists in supporting the small rollers in radial slots cut in vertically-yielding pieces. It also consists in certain other novel features relating to the construction of the machine, all of which I will hereinafter fully describe and set forth.

In the drawing, like letters of reference indicate like parts.

A represents the ends of the machine. *a* is a vertical groove in the inner face of the ends A, and *a'* is a perforation in the ends. B is a semicircular plate provided with a vertical rib, *b*, which plays freely in the groove *a*. *b'* are radial slots cut in the pieces B, and having their base arranged in the arc of a circle. In practice, I deem it preferable to make the terminal slots the longest, and graduate the length of the intermediate slots until the central slot is reduced to, or nearly to, a perforation; and, instead, of making the slots strictly radial, I deem it preferable to make them approach a vertical line more and more as their length increases, as shown in Fig. 3. C

is a large corrugated roller, having its bearing in the perforations *a'*. D D are small rollers, having bearings in the slots *b'*. E is a spring-wire, arranged over the spindles of the rollers D D, either as shown in Fig. 2, or by being twisted around each spindle, as shown at E' in Fig. 1. F, Fig. 2, is a spiral spring, attached to the lower part of the ends A, and the ends of the wire E are hooked into the spring F. G G are parallel boards, extending across the lower part of the machine, so that it may be set upon cleats arranged to receive it, and to protect the clothes from contact with the springs F. H is an apron, arranged across the space between the boards G G, to prevent the clothes from getting between them. I is a crank, attached to the spindle of the roller C, for the purpose of operating the machine, and the clothes are fed between the large and small rollers.

It will be observed from the foregoing description, that the small rollers have an upward and laterally-spreading movement, and that the whole jacket is vertically yielding, though no hinged plates are employed.

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

1. The spreading-rollers D D having bearings in the radial slots *b'*, cut in the vertically-yielding pieces B B, in combination with the roller C having fixed bearings in the rigid ends A A, substantially as and for the purposes specified.

2. In combination, the rollers D D, the radially-slotted pieces B B, provided with the vertical rib *b*, the rigid and vertically-slotted ends A A, the roller C, the spring F, and the wire E, all arranged together substantially as described.

3. The apron H, arranged upon the parallel boards G G in the manner described, when the latter are attached to the ends A A, and employed in connection with the combination and arrangement of the parts included in the last foregoing claim, substantially as and for the purposes specified.

ALMON H. CALKINS.

Witnesses:

WM. T. CALKINS,
F. F. WARNER.