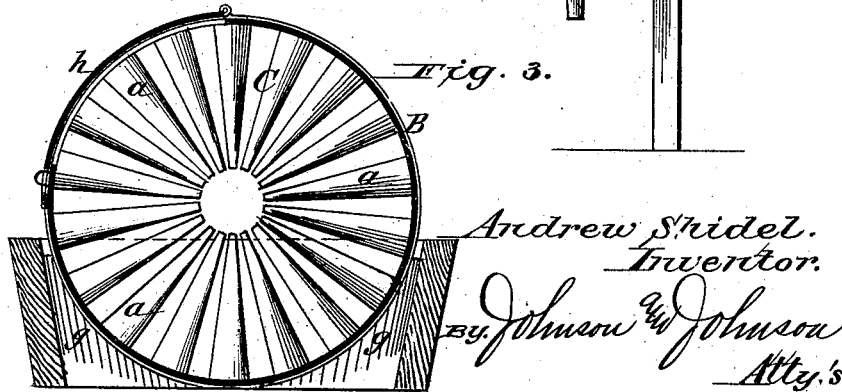
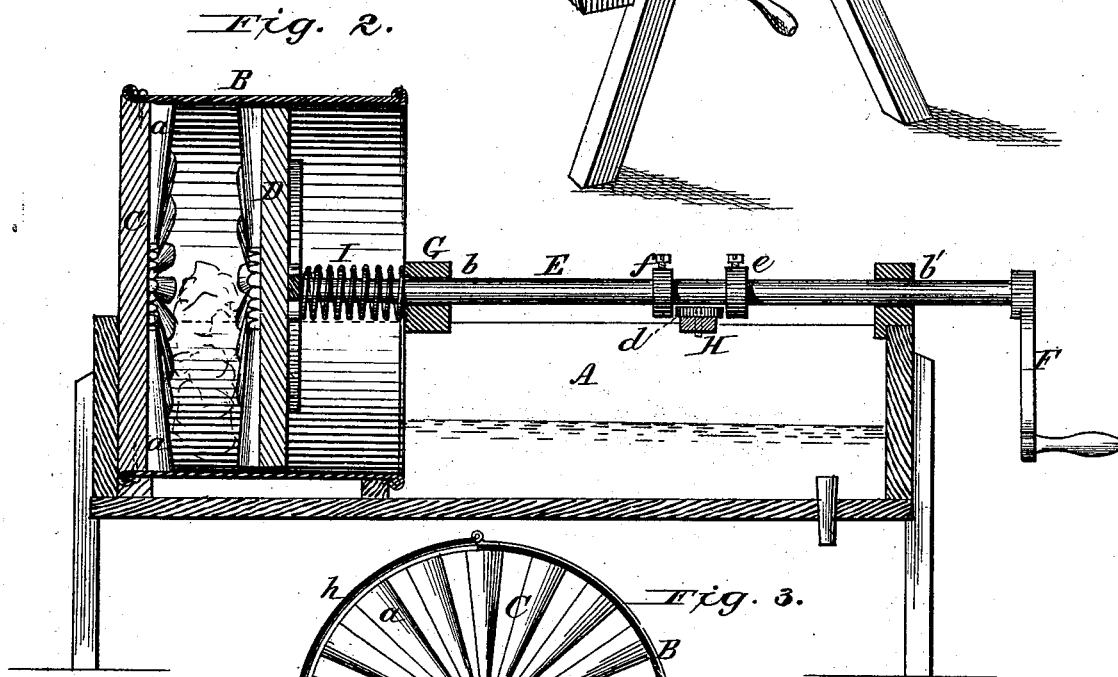
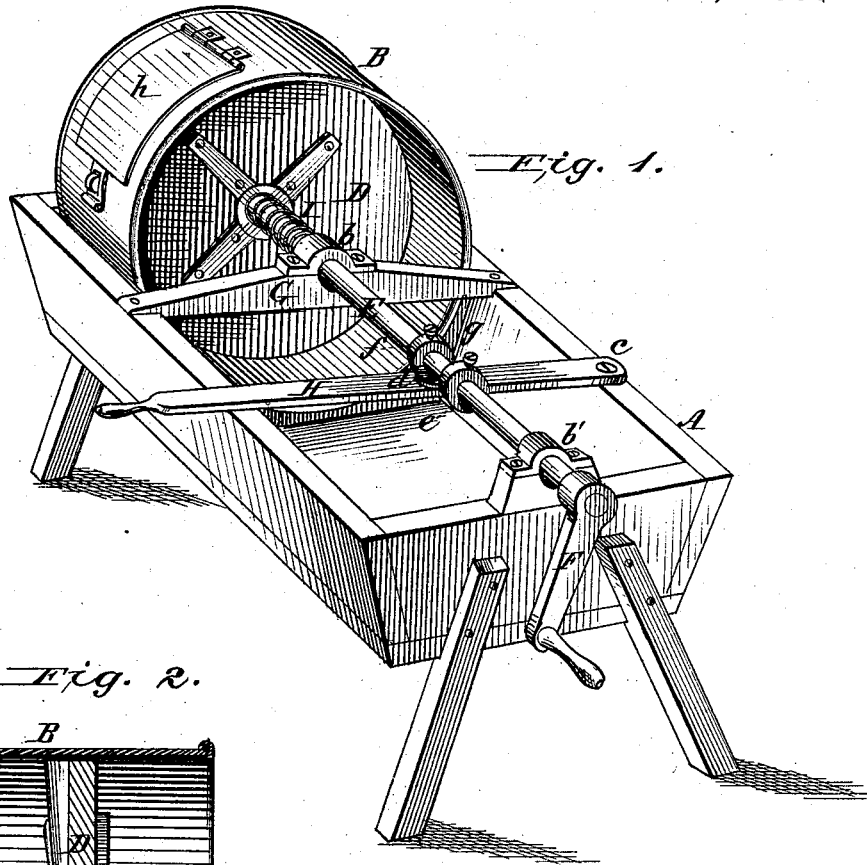


A. SHIDEL.  
Washing-Machine.

No. 211,598.

Patented Jan. 21, 1879.



Attest:  
H. D. Perrine,  
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Andrew Shidel,  
Inventor.

By Johnson & Johnson  
Atty's

# UNITED STATES PATENT OFFICE.

ANDREW SHIDEL, OF SCRUBGRASS, PENNSYLVANIA.

## IMPROVEMENT IN WASHING-MACHINES.

Specification forming part of Letters Patent No. **211,598**, dated January 21, 1879; application filed June 1, 1878.

*To all whom it may concern:*

Be it known that I, ANDREW SHIDEL, of Scrubgrass, in the county of Venango and State of Pennsylvania, 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 thereof, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification.

This invention relates to that class of washing-machines technically known as "rotary rubbers"—that is to say, its washing parts are rubbing-disks provided with or formed with radial cleats or corrugations.

My improvements consist in a novel combination of devices for properly and effectively operating the rotary rubbers or disks, in connection with an open shallow box for receiving the suds and clothes, and an open-end rubbing-drum, seated at one end and in the bottom thereof, and opening into the suds-chamber; and in which the horizontal rubber-shaft is pressed upon the clothes in the washing-drum by a cross-lever directly united with said shaft by anti-friction roll and collars.

Referring to the drawings, Figure 1 is a view, in perspective, of my improved washing-machine; Fig. 2, a vertical longitudinal section, and Fig. 3 a view of one of the rubbers.

A rectangular wooden trough, A, supported upon legs or horses, forms the tub, in which are arranged the rubbing or clothes-washing devices. These consist of a cylinder or drum, B, about one-half or one-third as long as the trough, and arranged at one end thereof. The end of the cylinder which faces the main body of the trough is open, while its base end is fitted with a stationary disk-rubber, C, provided with radial flaring cleats *a*, such as are used in the old-time rotary rubbers. A corresponding pressing and rotating rubber, D, is carried and operated by a long horizontal shaft, E, provided with a turning-crank, F, and having its bearings *b* in a cross-piece, G, crossing the open end of the cylinder, and in the end of the trough at *b'*, as shown.

At the outer end of the trough, or the end

opposite the cylinder, I provide a means for moving the shaft back and forth in the line of its axis by which to force the pressing and rotating rubber D upon and away from the clothes. This means consists of a pressure-lever, H, fulcrumed in one side edge of the trough at *c*, and operated by the left hand of the operator, who stands on the side of the trough and turns the crank F with the right hand. Upon this lever, at its point of contact with the long operating-shaft, is an anti-friction roll, *d*, turning with the revolutions of the shaft to reduce the wear of the parts arranged between two collars, *e f*, fastened to the shaft by set-screws, to move the shaft which carries the pressing-rubber forward and backward as the lever is moved.

Embracing the shaft between the cross-piece G and the rubber is a spiral spring, I, for the purpose of assisting the operator in pressing the rubber home upon the clothes between the rubbers, and to cushion the rubbers. A suitable branching metallic foot-piece screwed upon the pressing-rubber forms its point of connection with the horizontal operating-shaft.

The cylinder rests upon bed-pieces *g g* in the bottom of the trough A, and is also held firmly in place by the cross-piece G, before referred to, which also has the bearing *b* for the operating-shaft. Said cylinder is provided with a door, *h*, upon its periphery, to permit of the introduction of the clothes.

The clothes are first placed in the main trough and well saturated with suds. They are then placed in between the rubbers by introducing them through the cylinder-door a few pieces at a time, where they are rubbed.

The pressing-rubber is of a diameter a little less than the cylinder, to permit the suds to pass into the clothes.

The suds and clothes are lifted and whirled round and round between the rubbers.

The state of the art shows that a rotary rubbing-disk has been pressed upon and against a fixed rubber in an open box by means of a spring on the shaft of said rotary rubber, and that a pressure-lever has been used to press a longitudinally-movable cylindrical case against a rubber revolving therein, and over which the said case is moved to press and rub the clothes between them; and such devices

so operating are not claimed, broadly, as my invention, but only the improvement which I have specifically pointed out in the claims, and which is intended to cover such construction and combination of the devices as marks the difference between what is new and that which is old.

I claim—

1. A washing-machine consisting of the shallow open box A, for holding the suds and clothes, the washing-drum B, having the hinged door *h*, seated on the bottom of said box, and opening into the suds-chamber, the rubbing pressure-disk D, the crank-shaft E, the cross bearing-piece G, and the cross pressure-lever H, all constructed and arranged for operation as shown and described.

2. The combination, with the open shallow box A, the open-end rubbing-drum D, seated into one end thereof, and the revolving rubbing-disk D, of the operating crank-shaft E, the cross pressure-lever H, applied directly to said shaft, and the spring I thereon, for operation as described.

In testimony that I claim the foregoing I have affixed my signature in the presence of two witnesses.

ANDREW SHIDEL.

Witnesses:

A. E. H. JOHNSON,

J. W. HAMILTON JOHNSON.