

J. CARROLL.  
Washing-Machine.

No. 220,803.

Patented Oct. 21, 1879.

Fig. 2.

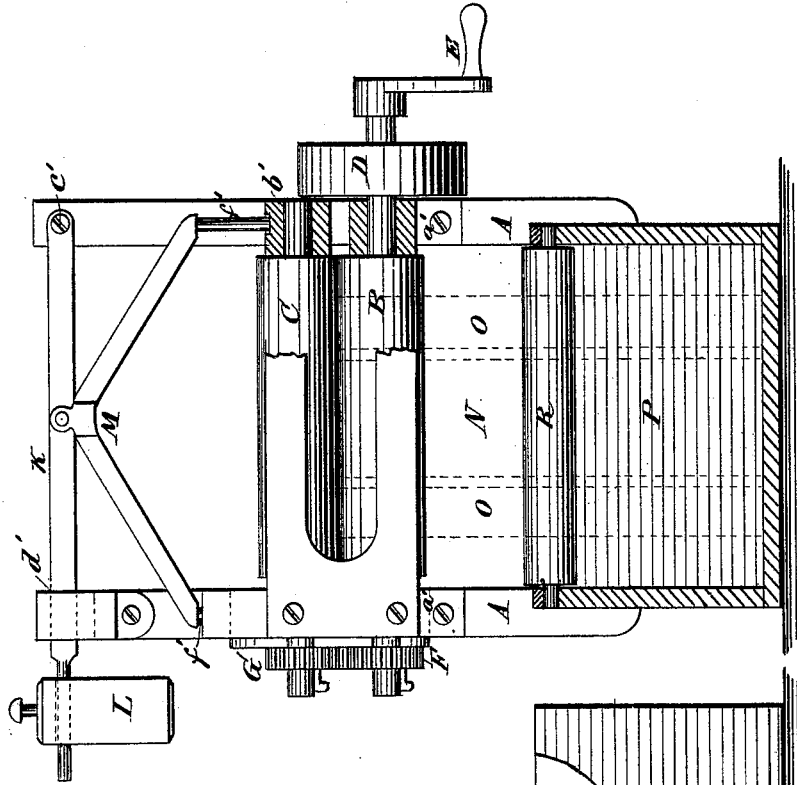


Fig. 1.

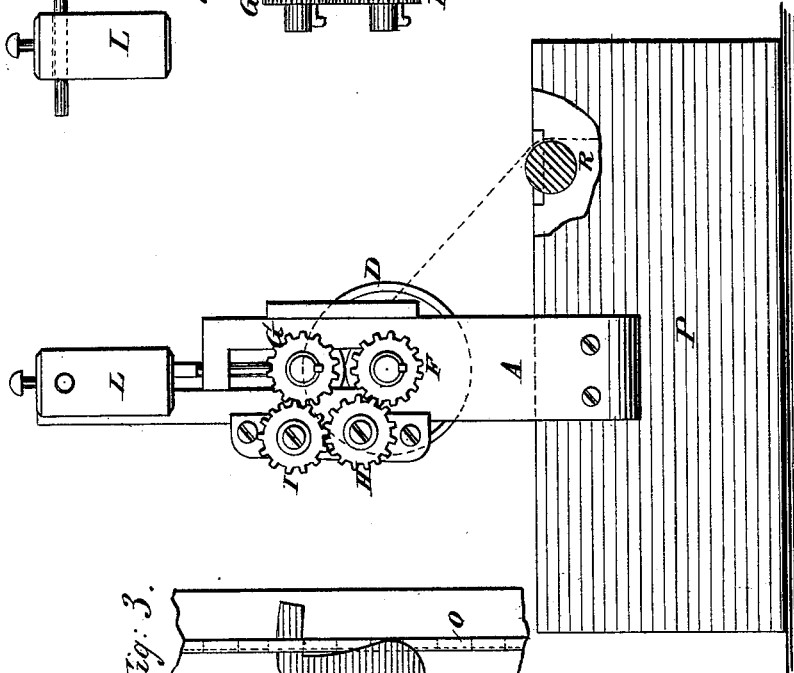
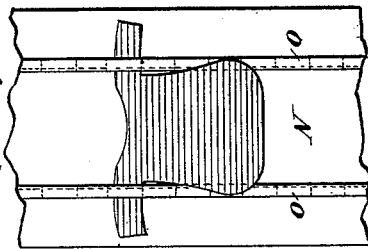


Fig. 3.



WITNESSES:

A. Schehl.  
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# UNITED STATES PATENT OFFICE.

JAMES CARROLL, OF SAN FRANCISCO, CALIFORNIA.

## IMPROVEMENT IN WASHING-MACHINES.

Specification forming part of Letters Patent No. **220,803**, dated October 21, 1879; application filed June 26, 1879.

### *To all whom it may concern:*

Be it known that I, JAMES CARROLL, of San Francisco, in the county of San Francisco and State of California, have invented a new and Improved Washing-Machine, of which the following is a specification.

Figure 1 is a side elevation of the machine, partly in section. Fig. 2 is a front elevation of the same, partly in section. Fig. 3 shows a section of the apron of the machine.

Similar letters of reference indicate corresponding parts.

The object of this invention is to provide a machine for washing clothes of all descriptions, but especially adapted for woolen clothes, because it will wash them without shrinking them.

In the drawings, A represents the upright frame; B, the lower roller, or roller covered with rubber or other elastic material, and set in stationary boxes *a'* on the face of the frame; and C, the upper roller, of like material, set in vertically-adjustable boxes *b'*. On one end of the shaft of the fixed roller is a pulley, D; or there may be a fast and loose pulley, by which power may be applied to operate the machine, and a crank, E, to operate it by hand. Either of these devices may be used.

On the opposite ends of each roller-shaft is a cog-wheel, F and G, respectively. These are not, however, in gear with each other; but the motion of the lower roller is communicated to the upper one through the cog-wheels H and I, that are journaled in boxes on a side of the frame.

By this arrangement, it will be seen, the upper roller remains in gear, as it adjusts itself up and down to accommodate itself to the varying thicknesses of the articles of clothing passing between the rollers.

A lever, K, is pivoted at *c'* to the top of one side of the frame, and extends through a slot, *d'*, in the other upright, and on its projecting end is a weight, L. Suspended from the center of this lever, between the two sides of the frame, is a yoke, M, each end of which terminates in a perpendicular pin, *n'*, that rests on

the journal-boxes of the upper roller. This weight can be adjusted on the lever so as to apply any desired pressure upon the upper roller.

Placed between the rollers is the endless apron N, of sail-duck or other suitable material, and riveted or otherwise secured upon this, and extending its whole length, are the two strips O, of the same material. These strips are so fastened that the articles of clothing to be washed can be inserted and held in the spaces or loops between the rivets or stitches, as shown in Fig. 3.

The device thus described is fixed on a box or tub, P, containing the water in which the clothes are to be washed, and the apron carrying the clothes placed thereon around the roller R, that holds it open. The rollers are then set in motion, and the apron drawn between again and again until the object of the work is accomplished.

The apron is of such a length that each article of clothing upon it remains sufficiently long in the tub after each submersion to become thoroughly saturated.

Instead of the broad apron herein shown, two narrower strips may be used, to which may be secured the strips O.

It is found that woolen goods do not shrink in this method of washing, and that other articles escape the wear and tear they are subjected to in other washing-machines; and it is found, too, that by this device all articles of clothing can be quickly and thoroughly cleansed.

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

In a washing-machine, the tub P and rollers B C R, in combination with a flexible apron, N, to which are attached continuous strips O, tacked at intervals to the apron, as and for the purpose specified.

JAMES CARROLL.

Witnesses:

SAMUEL F. BUFFORD,  
HENRY H. WOOD,  
J. ROBERT READ.