

D. W. NORRIS & D. M. COLE.

Improvement in Washing Machines.

No. 125,609.

Patented April 9, 1872.

fig. 1.

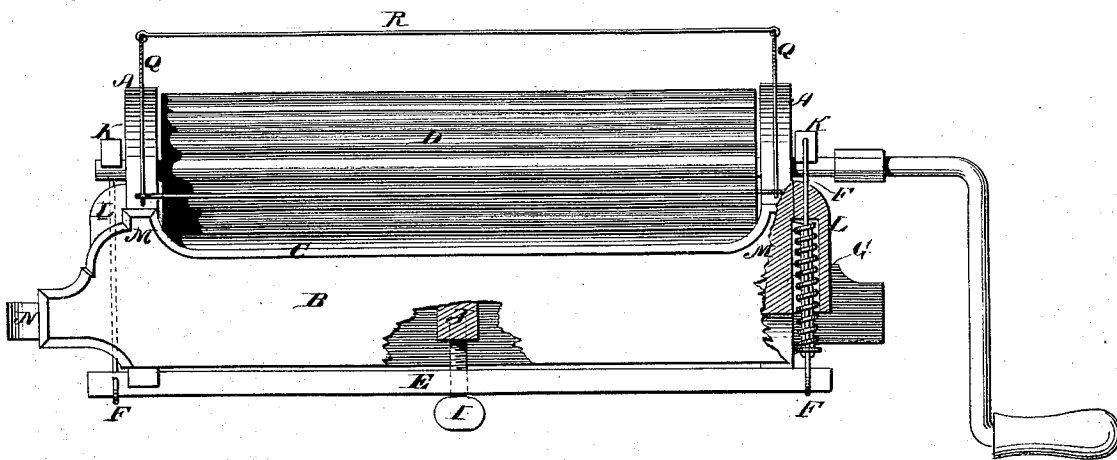


fig. 2.

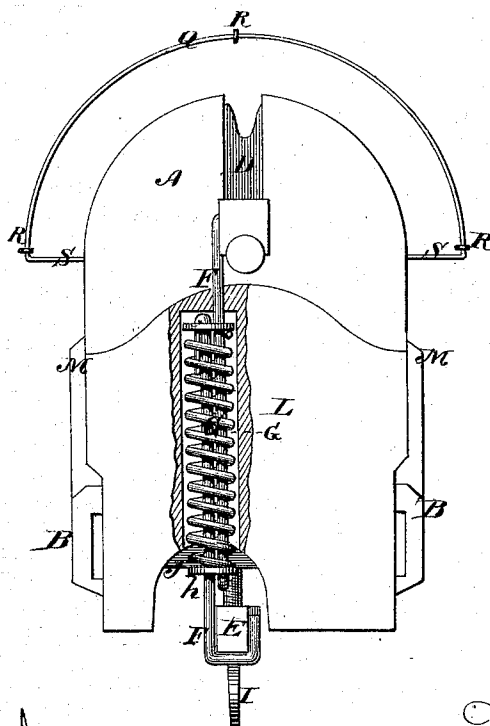
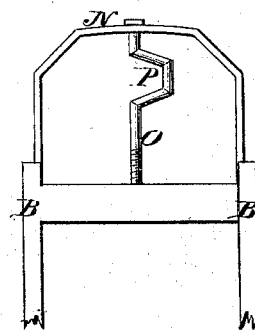


fig. 3.



Witnesses.

C. F. Brown.
 Charles H. Ellsworth

Inventors.

Samuel W. Norris,
 and
 David M. Cole,
 By Hill & Kelleysmith,
 Their Attorneys.

UNITED STATES PATENT OFFICE.

DANIEL W. NORRIS, OF NORMAL, AND DAVID M. COLE, OF ELGIN, ILLINOIS;
SAID NORRIS ASSIGNOR TO THE SAID DAVID M. COLE.

IMPROVEMENT IN WASHING-MACHINES.

Specification forming part of Letters Patent No. 125,609, dated April 9, 1872.

To all whom it may concern:

Be it known that we, DANIEL W. NORRIS, of Normal, in the county of McLean and State of Illinois, and DAVID M. COLE, of Elgin, in the county of Kane and State of Illinois, have invented certain new and useful Improvements in Washing-Machines; and we do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawing forming part of this specification, in which—

Figure 1 is a side elevation of a washing-machine, partly in section, showing the application of our improvements. Fig. 2 is an end view of the same, also partly in section; and Fig. 3 is an inverted plan view, showing the means for adjusting the machine to wash-tubs of different sizes.

Similar letters of reference in the accompanying drawing denote the same parts.

Our invention has for its object to improve the construction of the washing-machine for which Letters Patent were granted to Michael Neill January 23, 1872. To this end the invention consists, first, in the provision of means for regulating and equalizing the pressure of the upper roller upon the clothes which are being washed. It consists, further, in the means for operating the adjustable frame of the machine in order to fit it to tubs of different sizes and hold it securely against the possibility of casual displacement. It consists, lastly, in providing the machine with a removable shield, or frame to receive a shield, for the purpose of preventing the large roller from spattering or throwing water out of the tub during the washing process.

In the accompanying drawing, A are the ends of the machine, secured to each other by the side pieces B, and affording bearings for the lower rollers C, which are arranged in the arc of a circle, the outer ones extending to or a little over the side pieces. D is the large corrugated pressing-roller, having its bearings in the slotted ends of the frame, and provided with a suitable operating crank or handle. E is the equalizing-bar extending along the bottom of the frame, and connected at each end to the journals of the pressing-roller by hooked rods F and spiral or coiled springs G. The lower rod, at each end of the machine,

hooks over or is otherwise connected to the bar, and the upper rod catches over the journal of the roller, while the main parts of both rods extend beside or overlap each other, and are surrounded by the spring G. *h h* are disks or plates, applied to the ends of the rods at each end of the spring to sustain the pressure of the latter and also to guide the movements of the rods. By this construction both the equalizing-bar and the pressure-roller are adapted to operate the springs, the former to regulate and equalize their tension, and the latter to move them in accordance with such tension during the process of washing. I is a thumb-screw or other equivalent device passing through the center of the equalizing-bar to bear upon a cross-bar, J, affixed to the side pieces of the frame. By operating this screw the bar is moved at both ends to regulate and equalize the tension of the springs, and thereby cause the roller to bear uniformly upon the clothes throughout its entire length. K K are blocks of wood secured to the upper hooks of each spring, and cut out somewhat upon their under surfaces to fit upon the journals of the pressure-roller for the purpose of preventing the contact of the metal composing the journals and hooks, and thereby avoiding the wear of such parts. L are strengthening pieces secured to the outer side of the ends A of the frame, and extending upward to or near the lower end of the slots which receive the journals of the pressure-roller. They are each formed with a recess to inclose and protect the springs and hook-rods, and at the same time act as guides to hold these parts in their proper positions. They are also adapted for removal in order to apply or remove any part of the spring connections when this becomes necessary. By employing these additional pieces we avoid cutting away and weakening the ends of the frame in order to inclose the springs and rods. If desired, the recesses may be formed partly in the ends and partly in the strengthening pieces without materially weakening the former. The side pieces B of the frame are curved or inclined upward at the inner sides of the end pieces A to form guards M for the purpose of preventing the clothes, during their passage through the machine, from being caught between the ends of the

pressure-roller and the ends of the frame. Instead of forming the guards upon the side pieces, they may be made separate therefrom and screwed or otherwise fastened to the ends A. N is a metallic loop fitting between the side piece B at one end of the frame, and O is a screw-rod swiveled at its outer end in the bend of the loop, and screwing at its inner end into the end of the frame or into a nut attached thereto. A crank, P, is formed in this rod between the bend of the loop and end of the frame, by the operation of which the loop is moved outward or inward to adjust the frame to wash-tubs of different sizes, and to hold it securely in place when so adjusted. A frame of wire composed of two bow-shaped end pieces, Q, connected by rods R, is attached to the frame of the machine over the pressure-roller by fitting the ends S of the pieces Q into suitable holes formed in the ends A of the frame, as shown in the drawing. When the machine is in use a piece of cloth is thrown over the wire frame, thereby forming a shield to prevent the

pressure roller from spattering or throwing the water out of the tub. The wire frame is adapted for removal, and may be used or not, as preferred.

Having thus described our invention, what we claim is—

1. In combination with the journals of the pressure-roller, we claim the spring connections and the equalizing-bar E, when the latter is arranged beneath the washing-rollers of the machine and adapted for adjustment upon the cross-bar J, substantially as described, for the purpose specified.

2. In combination with the sliding loop N, we claim the screw-crank O P or its equivalent, substantially as described, for the purpose specified.

DANIEL W. NORRIS.
DAVID M. COLE.

Witnesses:

E. C. LOVELL,
R. V. BOTSFORD.