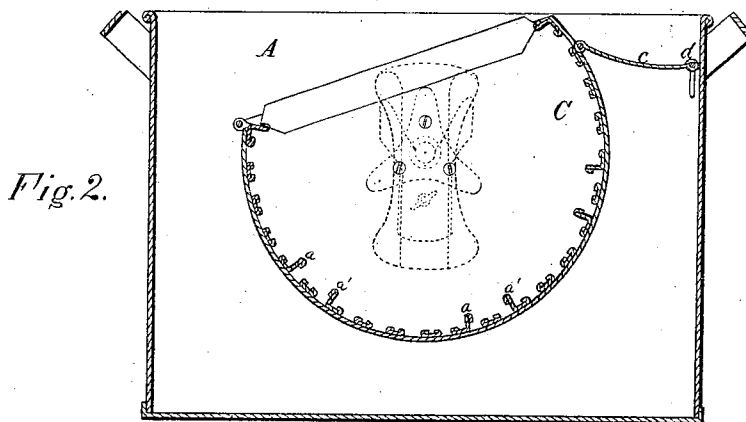
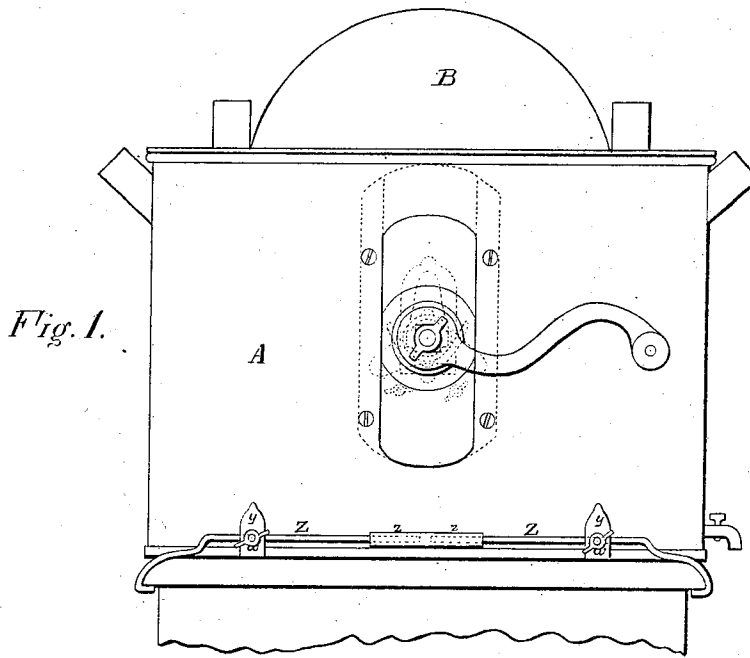


E. S. BARRINGER.
Improvement in Washing Machines.
No. 124,193. Patented March 5, 1872.



Witnesses
Vilhelm Anderson.
F. B. Curtis

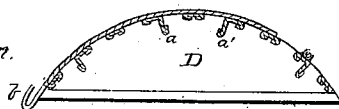


Fig. 8.

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2 Sheets—Sheet 2.

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Fig. 3.

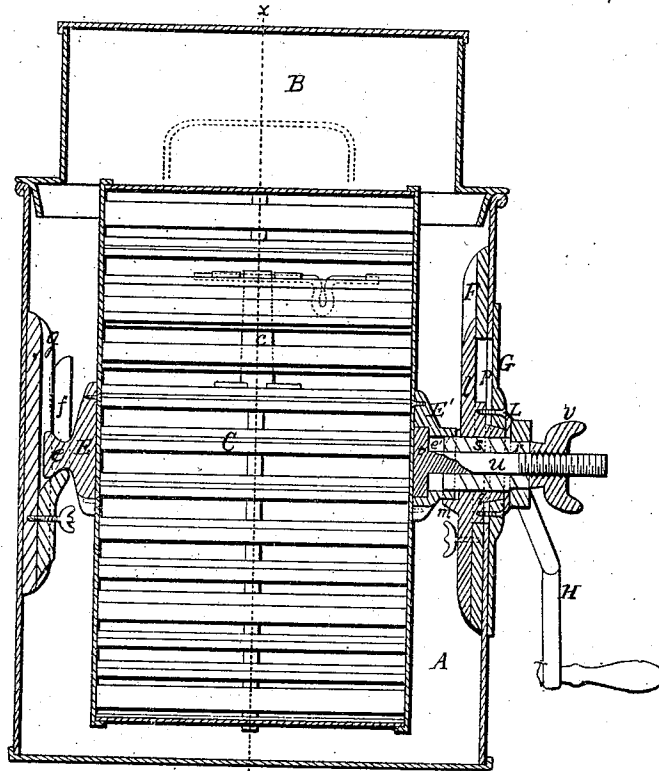


Fig. 4.

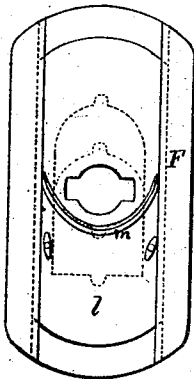


Fig. 5.

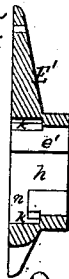


Fig. 7.

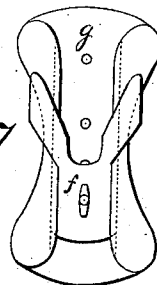
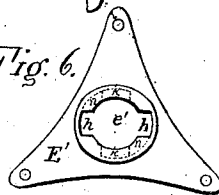


Fig. 6.



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 Villette Anderson
 J. B. Curtis.

Inventor.
 E. S. Barringer,
 Chapman & Hosmer & Co.,
 Attys.

UNITED STATES PATENT OFFICE.

EBENEZER S. BARRINGER, OF TROY, NEW YORK.

IMPROVEMENT IN WASHING-MACHINES.

Specification forming part of Letters Patent No. 124,193, dated March 5, 1872; antedated February 16, 1872.

To all whom it may concern:

Be it known that I, EBENEZER S. BARRINGER, of Troy, in the county of Rensselaer and State of New York, have invented a new and valuable Improvement in Washing-Machines; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawing making a part of this specification, and to the letters and figures of reference marked thereon.

Figure 1 of the drawing is a representation of a side view of my invention. Fig. 2 is a central vertical longitudinal section. Fig. 3 is a vertical transverse section. Figs. 4, 5, 6, 7, 8, are details.

This invention has relation to a washing-machine; and consists in the construction and novel arrangement of its parts, whereby it is designed to be operated while in position upon the top of a stove or heater.

The objects which I have designed to accomplish are: first, a connection between the inner cylinder and the outer case, which will admit of the readjustment of the journals of the cylinder after the bottom of the case has been removed; second, an arrangement of internal ribs or buckets in the cylinder, which will not carry the water above the center thereof, and which will operate in either direction; third, a means for securing the outer case or boiler to the stove, so that it may be kept steady during the operation of rotating the cylinder; and, fourth, a means for keeping the cylinder steady, when desired.

In the drawing, the letter A designates the boiler or outer can, which may be of tin or other metal, and in any of the usual forms. B represents the top thereof, which is provided with a cylindrical rise or elevation in its center to admit of the elevation of the rotating cylinder when necessary. When these tin or copper-bottomed boilers have been in use for a time, the action of the fire is such that the lower surface or bottom of such boilers becomes oxidized, and requires to be renewed. This renewal is accomplished by cutting off the old bottom above the edge joint and fitting to the sides, which do not wear, to any extent, a new bottom plate. The effect of this operation is

to shorten the boiler somewhat. C designates the rotating cylinder, within which the clothes are placed to be washed. This cylinder is provided with circular side plates and with a succession of transverse ribs, extending around its cylindrical surface. These ribs are secured to the flanches of the side plates, and are centrally secured by a band running around the can on the outside thereof. On the inside of the cylinder some of the ribs are provided with flanches extending radially inward, and transversely across the cylinder. These flanch ribs *a a'* are arranged in pairs, placed with their flanches toward each other. By this arrangement the angular buckets formed will respectively operate to carry up the water, according as the cylinder is rotated to the right or to the left; and the radial position of the flanch of each bucket prevents the water from being carried much above the center of the cylinder. The top D of the cylinder is hinged to the main portion thereof by means of the open hooked plates or arms *b*, so that the top, which is necessarily of large size, may be easily removed. The top is locked close by means of the curved arm *c*, which is hinged to the cylinder and extends over the top, where it is secured by means of a bolt. When the cylinder is open it is kept steady in the boiler by securing the arm *c* to the slide-bolt *d*, secured to the end wall of the boiler. E E' designates the journal plates, which are securely fastened to the sides of the cylinder. One of these plates, E, is formed with a stud, *e*, which rotates within a forked seat, *f*, which is adjustable at different heights within the dovetailed channel of the plate *g*, which is secured to the wall of the boiler. The plate E' is provided with a central recess, *e'*. This recess is provided with four offsets at ninety degrees distance from each other, two of the said offsets, *h h*, extending for the full depth of the recess, and the other two, *k k*, being blind or concealed by the edge of said recess. Each pair *h k* of these offsets is connected by a channel, *n*, at the base of the wall of the recess. F represents the metal plate, which is secured to the inside of the boiler case on this side. This plate is provided with a dovetail channel to receive the sliding plate *l*, having a circular or curved flanch or ledge, *m*, which serves as the

journal-seat on this side. The wall of the boiler on this side is slotted at *p*; and *q* represents a cylindrical projection formed on the plate *L* and extending through this slot. The projection *q* is perforated to correspond with the recess *e'* of the journal plate of the cylinder, and is provided with two side channels corresponding with the offsets *h h*. *G* represents the exterior sliding plate, which is provided with an opening, designed to fit neatly the projection *q*. This plate *G* is secured by means of thumb-screws to the inner plate *l*. The height of the plates *G l* is regulated by means of thumb-screws working into the bed-plate *F*. *H* represents the operating crank, and *r* the square seat thereof. This seat is formed at the exterior end of the tubular block *s*, whose inner end is forked to permit the projection of the ends of a cross-key, *t*, formed on the inner end of a screw-bolt, *u*. *L* represents a washer on the block *s*. This block *s* carrying the screw-bolt and key, is inserted through the journal-seat plates into the recess of the journal plate of the cylinder, then turned one-quarter round and secured by drawing the cross-key up into the ends of the blind offsets of the recess *e'*. This is effected by means of the thumb-nut *v*. The washer is provided with studs on its inner sides, which project into the offsets of the opening through the plate *G*, and serve to keep it steady. The boiler is secured to the flanch of the stove by the following means: *Z Z* represent horizontally-sliding hooks, which are attached to the lower edge of boiler by means of the sleeves *z z* and the blocks *y y*. Set-screws *w* are employed in the blocks *y* to secure the sliding hook in any desired position. In consequence of the arrangement of these slides they are readily adapted to a stove of any ordinary width, and when the boiler is re-

moved from the stove they may be turned in out of the way.

The method of construction of my boiler above described with that of the rotating cylinder, is designed to enable the material to be used with the smallest quantity of water which will take up the impurities from the clothes. With this object in view the cylinder is journaled, so that it will hang near the bottom of the boiler, and it is now apparent that whenever the bottom of the boiler is cut off the cylinder must be raised.

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

1. The washing-machine, consisting of the slotted case *A*, the adjustable clothes-cylinder *C*, the sliding journal-seat plates *f l*, and the convex top *B*, all substantially as specified.

2. In the washing-machine, as described, the cylinder *C*, provided with the pairs of buckets *a a'*, the buckets of each pair being placed back to back, and having their flanches extending radially inward, as specified.

3. In combination with the holding devices and the case *A*, the adjustable fastening-hooks *Z* for securing the washing-machine to the flanch of the stove, substantially as specified.

4. In the washing-machine, as described, the combination with the hollow journal *E'* having the offsets *h h*, channels *n n*, and blind offsets *k k*, of the screw *u* having cross-head *t*, the sleeve *s* with its notched end, and the thumb-nut *v*, substantially as specified.

In testimony that I claim the above I have hereunto subscribed my name in the presence of two witnesses.

E. S. BARRINGER.

Witnesses:

F. B. CURTIS,

VILLETTE ANDERSON.