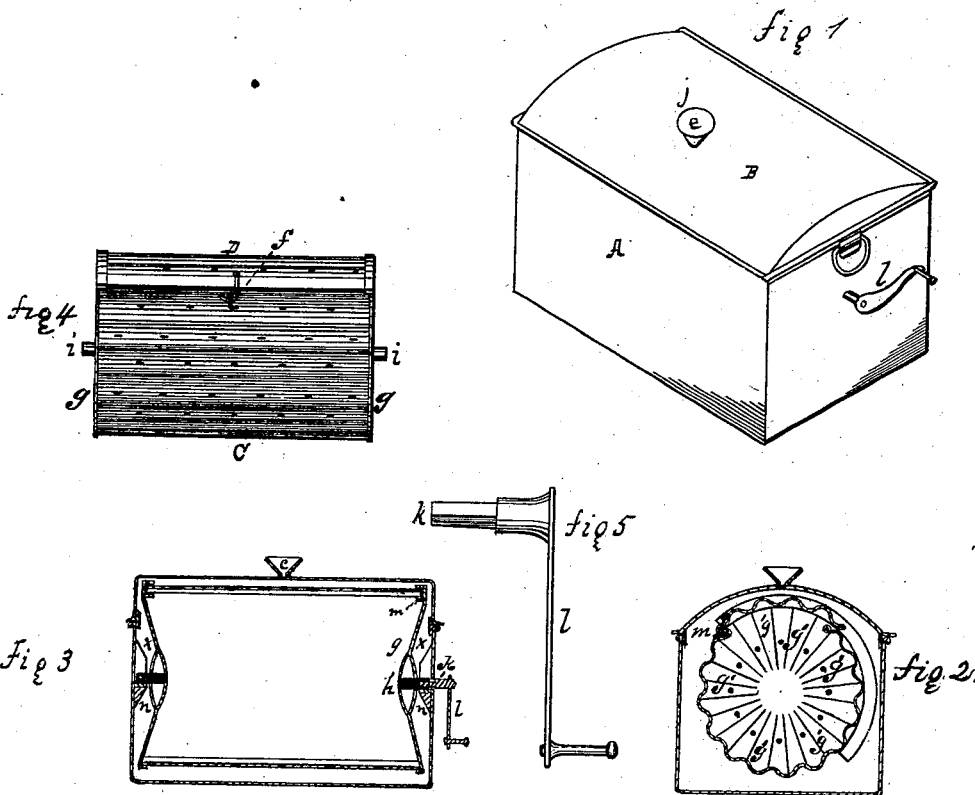


D. MILLER.  
WASHING-MACHINE.

No. 189,319.

Patented April 10, 1877.



Witnesses

James I. Johnston  
Wesley Johnston

Inventor

David Miller  
By A. C. Johnston  
his Attorney

# UNITED STATES PATENT OFFICE.

DAVID MILLER, OF BELLVUE, PENNSYLVANIA.

## IMPROVEMENT IN WASHING-MACHINES.

Specification forming part of Letters Patent No. 189,319, dated April 10, 1877; application filed February 23, 1877.

*To all whom it may concern:*

Be it known that I, DAVID MILLER, of Bellvue, in the county of Allegheny and State of Pennsylvania, have invented a new and useful Improvement in Washing-Machines; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

My invention relates to an improvement in washing-machines of that class in which a corrugated cylinder is arranged to rotate within a boiler; and it consists in the novel construction and combination with the corrugated cylinder of corrugated and convex ends, the same being adjusted to rotate within the boiler, as hereinafter more fully set forth.

In the accompanying drawings, which form part of my specification, Figure 1 is a perspective view of the washing-machine. Fig. 2 is a vertical transverse section of the same. Fig. 3 is a vertical and longitudinal section of the same. Fig. 4 is a side view of the cylinder. Fig. 5 is a side view of the crank for rotating the cylinder.

In the drawings, A represents the body of the boiler, B the lid, and C the cylinder, all of which are constructed of tin or other suitable material. The body A of the boiler is provided with suitable bearings *n* for the trunnions *i* of the cylinder C. The cylinder is constructed of a sheet or sheets of corrugated metal, the corrugations running lengthwise of the cylinder, and furnished with a large number of perforations. The ends *g g* of this cylinder C are made convex, with the convexity inward in the cylinder, and with a series of corrugations, *g' g'*, which radiate from the center to the circumference thereof. The cylinder is provided with grooves *m*, in which slides the door D, which door is held closed by means of the hook *f*. One of the trunnions is provided with a square cavity for the reception of the axis *k* of the crank *l*, which is used for the purpose of rotating the cylinder C. The lid B is provided with a funnel, for the purpose of supplying the boiler with water, without the necessity of removing the lid.

It will be observed that the trunnions *i* are secured to the ends *g* of the cylinder by convexing outward a portion of the ends *g*, and using a convex disk, *h*, which is secured over the concavity made in the ends *g*, so that the space between the disk *h* and the wall of the end *g*, in which the trunnions *i* are secured, will be lozenge-shape when viewed in cross-section.

From the foregoing description, and by reference to the accompanying drawings, the skillful mechanic will readily understand the construction of my improved washing-machine, and the relation that the several parts bear to each other. I will, therefore, proceed to describe its operation.

The clothes to be washed are properly soaked and placed within the cylinder, filling it about two-thirds full. Water is then poured into the body A of the boiler, filling it up to within a short distance of the bearings *n*. When the water comes to the boiling-point the operator rotates the cylinder by means of the crank *l*, which rotation of the cylinder will cause an easy rubbing action upon the clothes through the medium of the corrugated surface of the cylinder, which corrugations, in connection with the corrugated and convexed ends *g*, will constantly turn and change the clothes, causing fresh portions of them to be brought in contact with the corrugated rubbing surface of the cylinder C.

The peculiar form of the outer walls of the ends *g* of the cylinder, and the tendency of the liquid to travel over the surface of the ends *g*, and the ingoing current of air at the opening for the crank caused by the revolving of the cylinder, and the space *x*, will prevent leaking at the opening for the crank *l*.

Having thus described my improvement, what I claim as of my invention is—

In combination with the boiler A, the here-described washing apparatus, the corrugated cylinder C, having its convex ends *g g* formed with a series of radial corrugations, and adjusted to rotate within the boiler, substantially as shown and set forth.

DAVID MILLER.

Witnesses:

A. C. JOHNSTON,  
WESLEY JOHNSTON.