2 Sheets—Sheet 1.

T. E. McDONALD.
Washing-Machine.

No. 198,205. Patented Dec. 18, 1877.

Fig. 1.

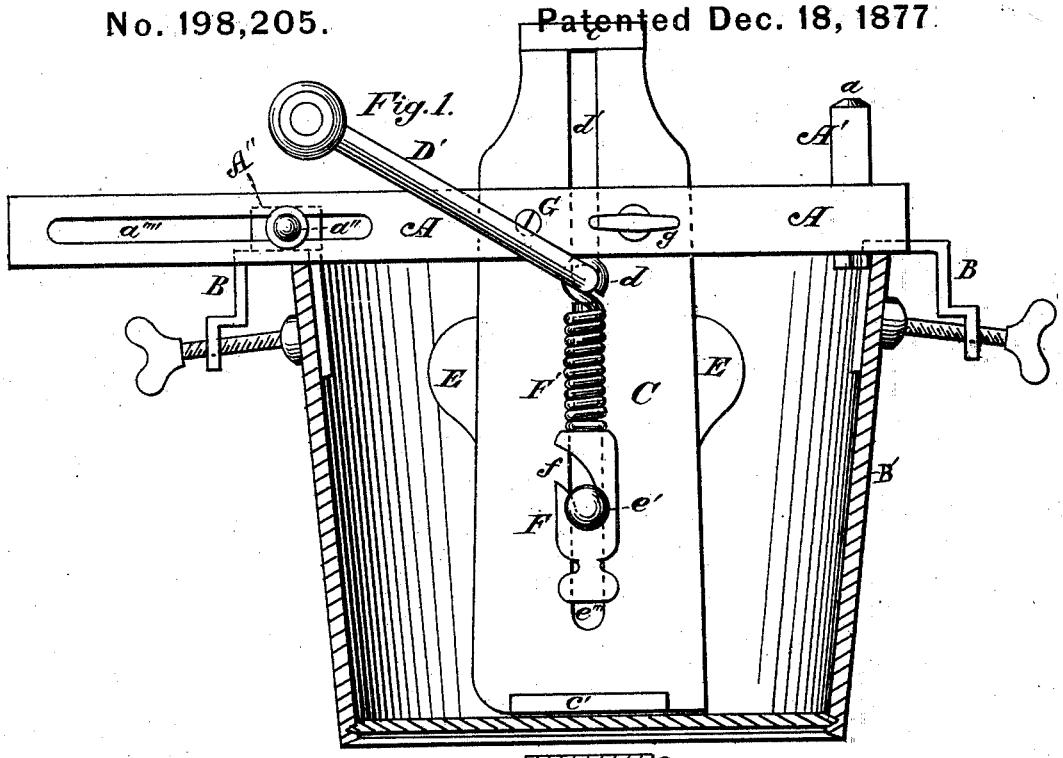
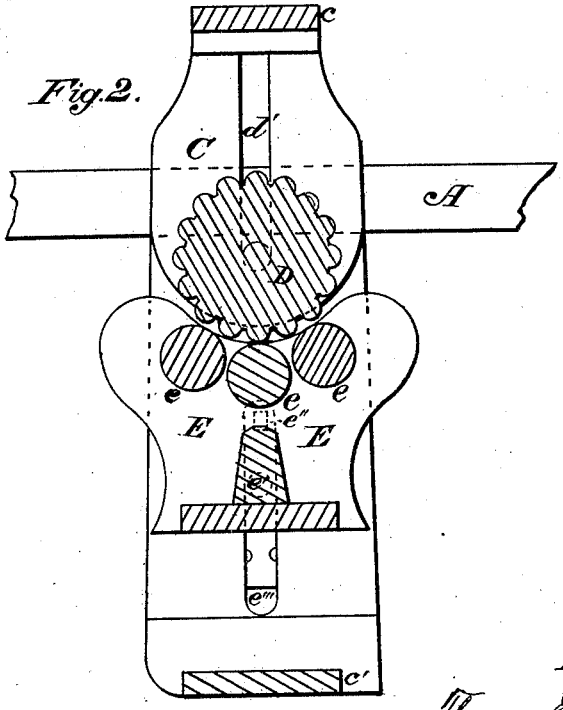


Fig. 2.



Attest:
F. H. Schott
J. Mason Boszler

Inventor:
Thomas E. McDonald
By A. Cranford
atty.

2, Sheets—Sheet 2.

T. E. McDONALD.
Washing-Machine.

No. 198,205. Patented Dec. 18, 1877.

Fig. 3.

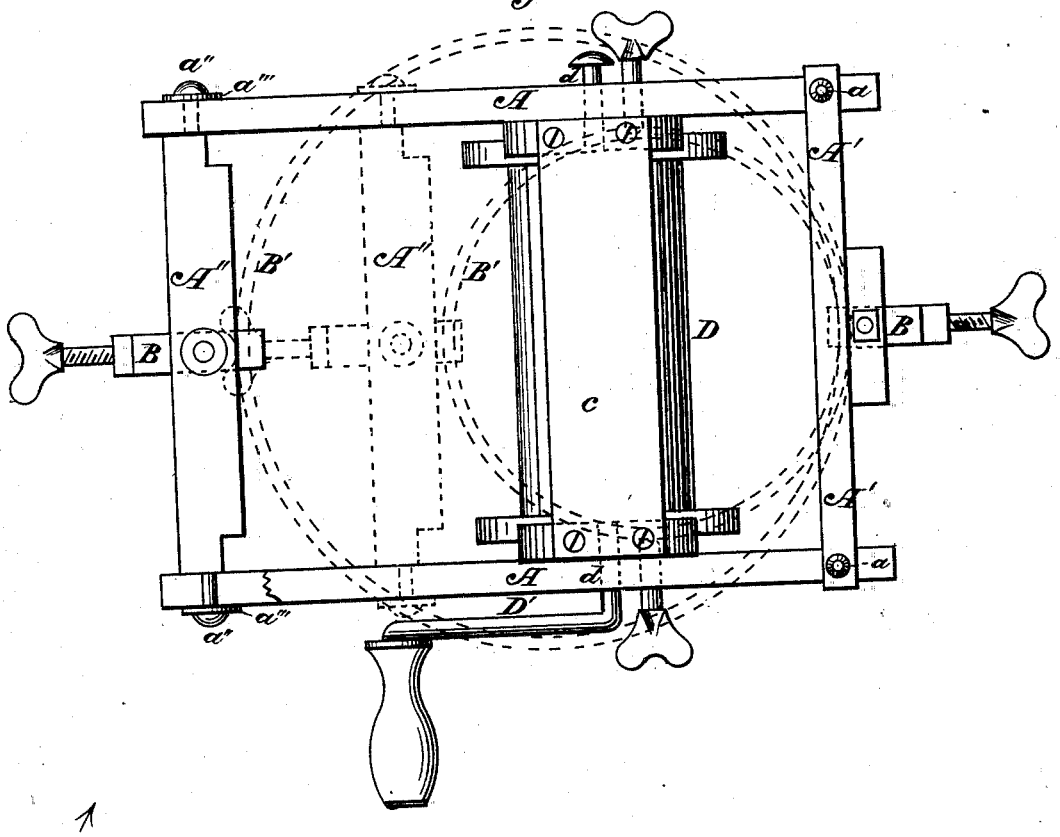
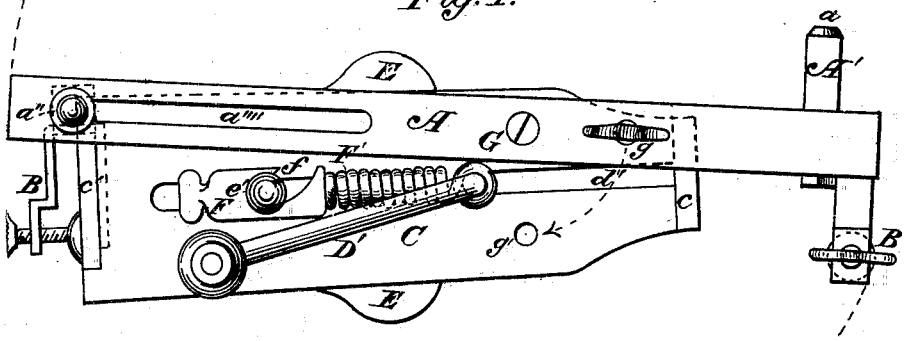


Fig. 4.



Attest:
F. H. Schott
J. Mason Goszler

Inventor:
Thomas E. McDonald
By A. Cranford
atty.

UNITED STATES PATENT OFFICE.

THOMAS E. McDONALD, OF NEW BRUNSWICK, NEW JERSEY.

IMPROVEMENT IN WASHING-MACHINES.

Specification forming part of Letters Patent No. **198,205**, dated December 18, 1877; application filed May 25, 1877.

To all whom it may concern:

Be it known that I, THOMAS E. McDONALD, of New Brunswick, in the county of Middlesex, in the State of New Jersey, have made certain Improvements in Washing-Machines, and manner of attaching the machine to different-sized wash-tubs, of which the following is a specification:

The invention consists in the construction of certain parts of the machine, and the means whereby it is adapted to be attached to different-sized tubs upon which the machine is placed, as will be fully hereinafter described.

In the drawing, Figure 1 represents a section of a wash-tub with the machine attached thereto. Fig. 2 is an upright sectional view of the machine. Fig. 3 is a top or plan view of the machine, showing different-sized tubs in dotted lines; and Fig. 4 is a side view of the machine when detached from the tub and folded up.

A represents the sides of the frame that supports the machine. A′ is a fixed end cross-tie of the frame, and securely attached to the sides A by screw-bolts *a* or other safe and secure device. A″ is a sliding cross-tie, at the opposite ends of the sides A from the fixed tie A′, and has a headed screw-pin or bolt, *a″*, in each end. This cross-tie is of the length to freely slide between the sides A, while the screw-pins go through a slot, *a″″*, in each side piece A, and slide therein, while the washer *a‴*, which is between the side A and the head of the bolt *a″*, keeps the sides A parallel to and separate from each other.

B B are common screw-clamps, one of which is attached to the under side of the ties A′ and A″, and by which the machine is attached or clamped to the tub B′, as seen in Fig. 1, and in section in Fig. 3, in dotted lines, showing tubs differing in diameter, and to which the machine is attached. C C are the uprights of the frame that contain the washing device, and are secured together by the upper tie *c* and lower tie *c′*. D is a fluted wash-roller, situated between the uprights C, and has journals *d* at either end that pass through the uprights in slots *d′*, in which the journals *d* turn. D′ is a crank attached to one of the journals *d*, and by which the fluted roller D is put in vibratory or revolving motion. E is a vibrating frame containing the smooth-faced small washing-rollers *e e e*, Fig. 2. This frame, with its rollers, has a limited vibration between the uprights C, by reason of projecting arms *e′ e′* and pins *e″ e″*, that project outward from the frame and pass through slots *e‴* in uprights C. These projecting arms and pins are less in diameter than the width of the slot, which admits of the limited vibration of the frame containing the rollers *e* when the roller D is rotated in either direction.

F F are spring hangers or suspenders, one on the outside of each upright C, and have bearings *f* in them to receive and support the projecting arms *e′ e′*, and spiral springs F′ are securely attached to their upper ends to go around the journals *d* of the roller D, by which construction the frame E and rollers *e e e* are allowed to yield or be forced away from roller D when the clothes or things to be washed are between the rollers *e* and roller D. These spring hangers or suspenders also allow of a free vibration or side movement of the frame containing the rollers *e*, and at the same time keep the rollers *e* firmly against the clothing, between them and roller D, whether it be of greater or less thickness.

By my construction the machine can be folded, so that when not in use it occupies much less space, and this is accomplished by attaching the sides of frame A, by pivot-screws G, to uprights C, allowing the sides A to freely turn thereon, when the holding thumb-screws *g*, that hold the machine in position in the tub B′, as seen in Fig. 1, are turned back out of holes *g′* in uprights C, so that the frame can turn and be in the position seen in Fig. 4, when the thumb-screws *g* can be used as clamp-screws against the uprights C, while the clamp B on sliding tie A″ is in position to grasp and be clamped to the bottom piece *c′* of the uprights C.

This construction of frame can also be attached to, and used with, a clothes-wringer, to fasten the wringer to tubs differing in diameter, and will be a great convenience for such purpose.

Having thus described my invention, what I claim is—

1. The sides A, provided with slots *a″″*,

rigid cross-tie A′, and sliding cross-tie A″, each tie having holding-clamp B, whereby the machine may be clamped to tubs varying in diameter, substantially as described.

2. The limited vibrating frame E, having rollers *e*, projecting arms *e′*, and pins *e″*, in combination with uprights C, provided with slots *e‴*, substantially as and for the purpose described.

3. The limited vibrating frame E, having rollers *e* and spring-hangers F, in combination with the fluted roller D, substantially as and for the purposes described.

4. The sides A, pivoted at G to uprights C, in combination with the clamp B on sliding cross-tie A″ and cross-tie *c′*, whereby the machine may be folded, and clamped when so folded, substantially as described.

THOMAS E. McDONALD.

Witnesses:

JOHN WOODBRIDGE,

GEORGE McDONALD.