R. E. McCAULEY.
Washing-Machine.

No. 205,198. Patented June 25, 1878.

Fig 2

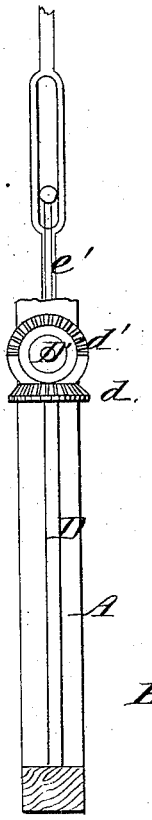
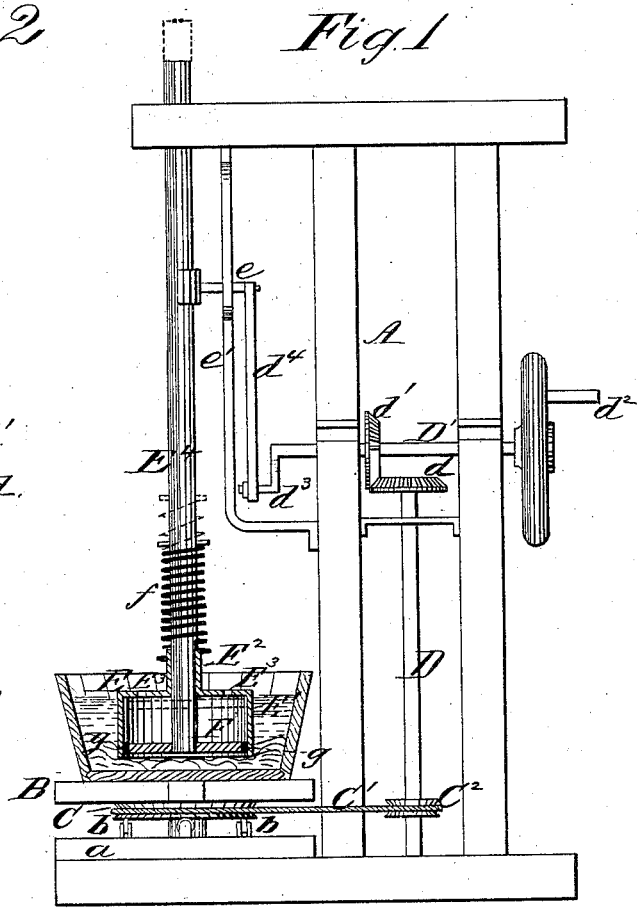


Fig 1



Witnesses
M. Connolly.
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UNITED STATES PATENT OFFICE.

ROBERT E. McCAULEY, OF APOLLO, PENNSYLVANIA, ASSIGNOR OF ONE-HALF HIS RIGHT TO DAVID D. LLOYD, OF SAME PLACE.

IMPROVEMENT IN WASHING-MACHINES.

Specification forming part of Letters Patent No. **205,198**, dated June 25, 1878; application filed July 17, 1877.

To all whom it may concern:

Be it known that I, ROBERT E. McCAULEY, of Apollo, in the county of Armstrong and State of Pennsylvania, have invented certain new and useful Improvements in Washing-Machines; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it pertains to make and use it, reference being had to the accompanying drawings, which form part of this specification, in which—

Figure 1 is a side elevation, partly in section, of my invention; and Fig. 2 is a vertical transverse section of part of the machine.

This invention has relation to an improved washing-machine; and consists in the novel construction, combination, and arrangement of parts, having reference specially to the employment of means for rotating the tub, while alternately forcing or projecting and sucking the water or suds through the clothes, whereby the latter are thoroughly and rapidly cleansed without injury to the finest or most delicate goods, as hereinafter described.

Referring to the accompanying drawings, A designates an upright frame, having attached to its base a platform, *a*, supporting several anti-friction rollers, *b b*. B is a table, centrally pivoted upon said platform, and resting on the anti-friction rollers *b b*, as shown. C is a band-pulley, attached to or forming part of said table; and C^1 is a band, connecting said pulley to a smaller one, C^2, secured to a vertical shaft, D, journaled in the base of the frame A. The table B is designed to support the wash-tub, of any ordinary make, and to communicate to the same an intermittent rotary motion beneath the piston E.

Upon the upper end of the shaft D is a beveled gear-wheel, *d*, with which engages a segmental gear-wheel, d^1, fixed on a horizontal shaft, D′, which has its bearings in the uprights of the frame A.

Upon one end of shaft D′ is a fly-wheel, provided with a handle, d^2, and upon or attached to the other end is a crank, d^3, which is connected to the piston-rod E^4 by means of a pitman, d^4. A stud, *e*, coupling the pitman to the piston-rod, plays through a slot in a bracket, *e′*, supported by the frame A, for the purpose of guiding the movement of the piston-rod in a direct line.

The piston E consists of two parts—a cup-shaped inverted cylinder, E^1, having a tubular neck, E^2, and vent-holes E^3, and a piston head or disk, F. The cylinder is attached to the piston-rod by a spiral spring, *f*, while the disk or head is secured directly to the end of the rod, and is contained within the cylinder normally near the top of the latter. The upper end of the piston-rod plays through a slot or recess in the top bar of the frame A. The piston-head is fitted close to the inside of the cup by a rubber packing-ring, *g*.

The operation is as follows: The tub, full of clothes, is placed on the rotating platform and the machine set in operation. The action of the toothed segment or mutilated wheel causes the tub to turn a short distance and then stop. The piston, being raised, now descends. The cup-cylinder strikes the clothes first and then stops. The piston-rod continues to descend, and drives the water within and below the cup through the clothes. On the upstroke the piston proper rises first and sucks the water back again, the cup-cylinder following. The air and water between the piston-head and top of cup-cylinder are forced through the vents E^3, when the piston rises.

The lifting of the piston before the cup is effected by the spring *f*.

In Fig. 1 of the drawings the dotted lines indicate the positions of the piston, piston-head, and spring when the cup-cylinder E^1 is brought in contact with the clothes and the piston-head is about to descend within said cylinder.

I am aware that a reciprocating air-piston such as I have described is not broadly new. I am also aware that rotary tub-holders have been applied to washing-machines provided with pounders. I therefore do not broadly claim either of these features, nor an unlimited combination of the two; but I limit myself to the specific construction, combination, and arrangement of parts which I have described and shown, and by which an inter-

mittent rotation is given to the tub between the strokes of the piston.

Having described my invention, I claim—

The combination of the reciprocating shaft E^4 and the rotary tub-holder with the shafts D′ D, pitman d^4, crank d^3, and beveled and mutilated gearing and connecting mechanism, substantially as described, whereby the tub-holder is intermittingly rotated between the strokes of the piston, as and for the purpose described.

In testimony that I claim the foregoing I have hereunto set my hand this 6th day of June, 1877.

ROBERT E. McCAULEY.

Witnesses:

ALBERT LEARN,

THOS. ABER.