(No Model.)

W. B. REED.

WASHING MACHINE.

No. 492,430. Patented Feb. 28, 1893.

Fig. 5

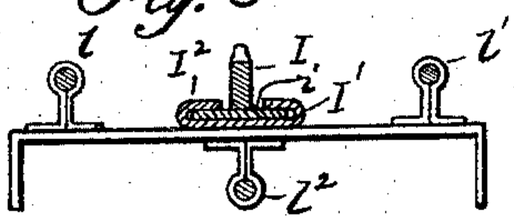


Fig. 1.

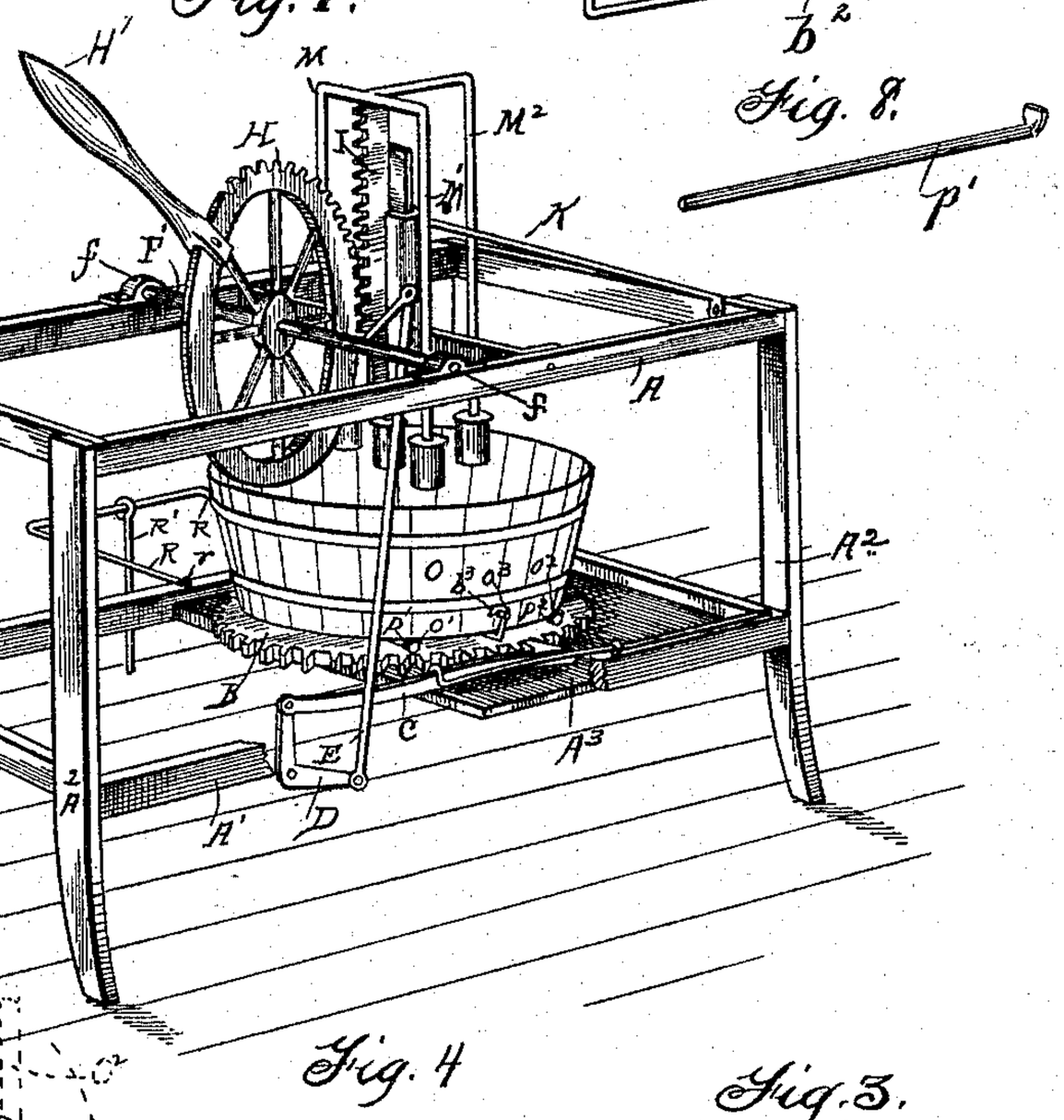


Fig. 7.

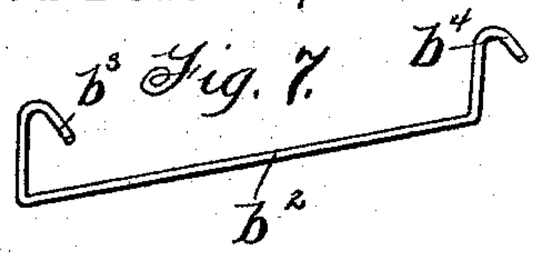


Fig. 8.

i Fig. 6.

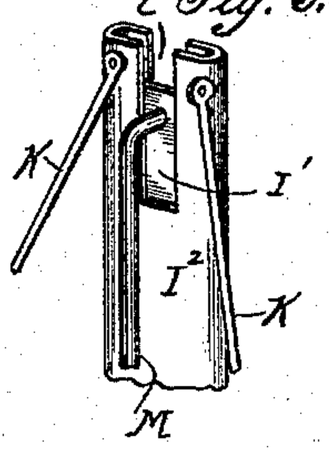


Fig. 2.

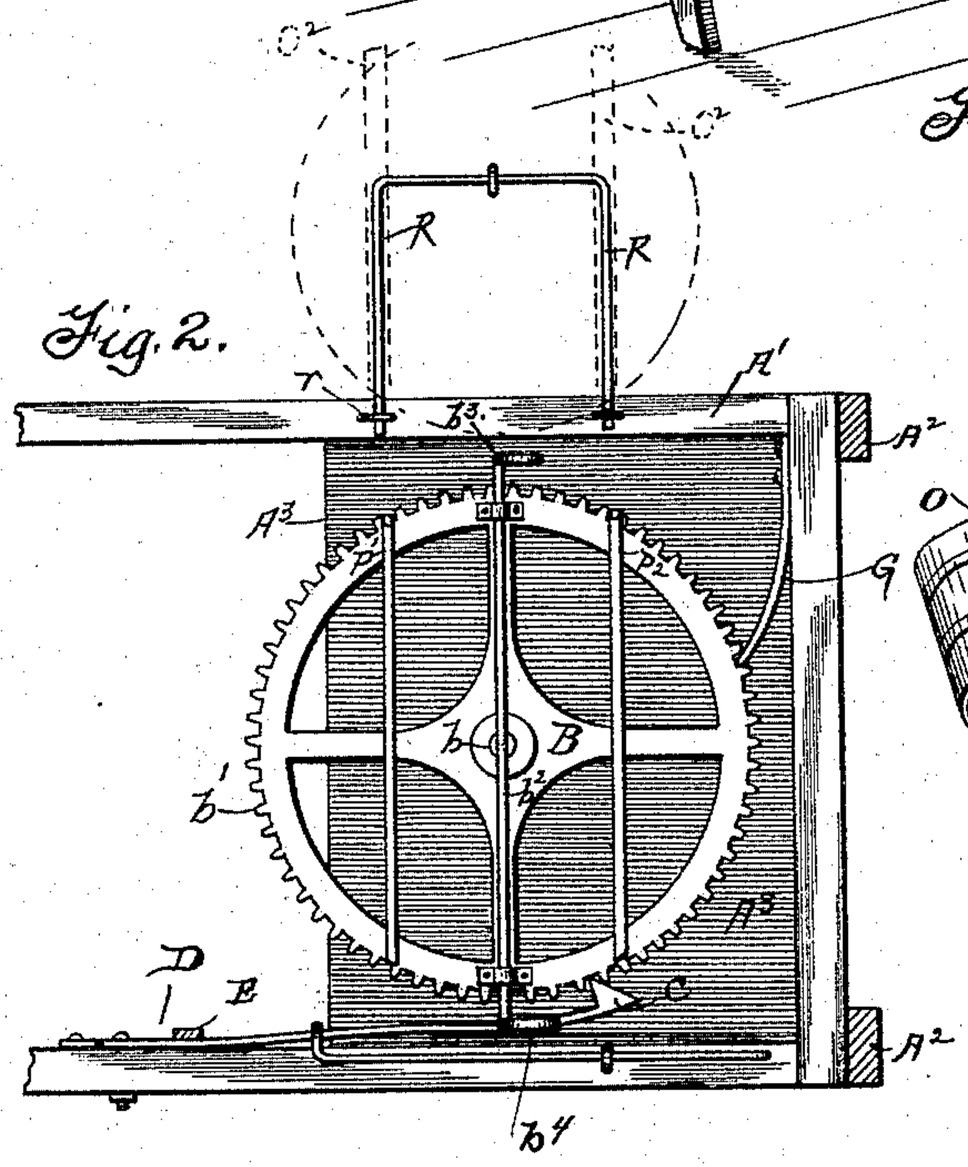


Fig. 4

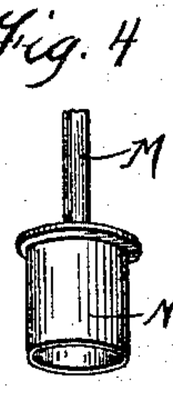


Fig. 9.

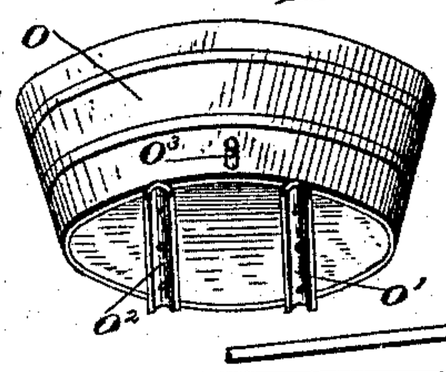
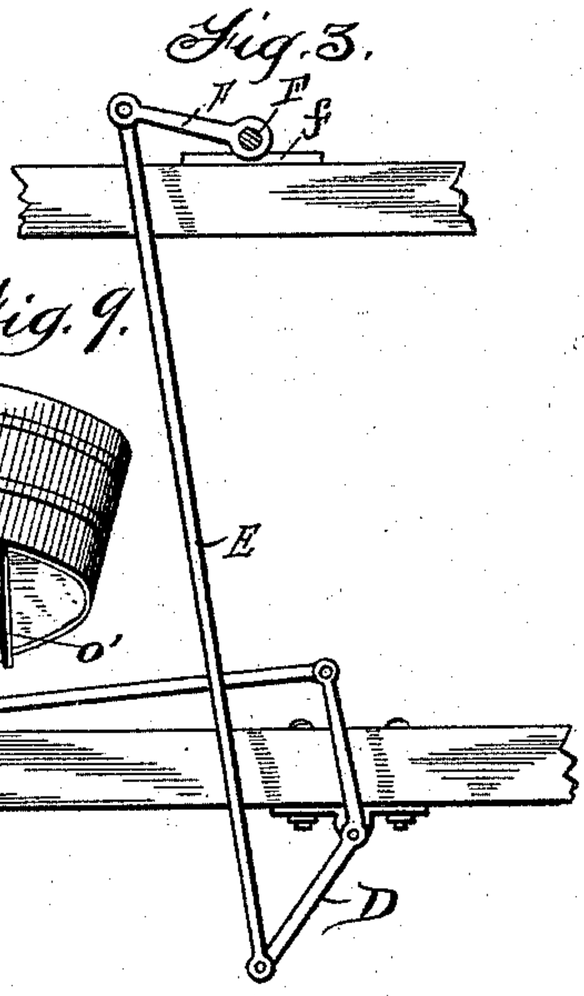


Fig. 3.



Witnesses:-
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Atty's.

UNITED STATES PATENT OFFICE.

WILLIAM B. REED, OF EAST LYNNE, MISSOURI.

WASHING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 492,430, dated February 28, 1893.

Application filed September 17, 1892. Serial No. 446,139. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM B. REED, of East Lynne, Cass county, Missouri, have invented certain new and useful Improvements in Washing-Machines, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming a part hereof.

My invention relates to washing machines wherein vertically reciprocating pounders are employed in combination with an intermittently rotating tub; and the object of my invention is to provide a machine to which an ordinary wash tub may be easily attached and removed to admit of handling the clothes, and for convenience in putting them into and taking them out of the tub, and to provide simple, effective, and lightly operating mechanism for intermittently rotating the tub and for vertically reciprocating the pounders.

In the accompanying drawings:—Figure 1. is a perspective of my improved washing machine with one of the side pieces of the frame broken away to show the operating pawl and levers. Fig. 2. is a horizontal section above the lower frame, showing the forward end of the machine, and also showing the intermittently revolving wheel for supporting the tub the tub being removed. Fig. 3. is a diagrammatic detail of the levers and pawl for operating the said wheel and tub. Fig. 4. is a perspective of one of the pounder heads, detached. Fig. 5, is a sectional plan view of the guide for supporting the reciprocating pounders. Fig. 6, is a detached perspective view of the guide for supporting the reciprocating pounders. Fig. 7, is a detail perspective view of the rod secured upon the top of the intermittently rotating wheel or table, for holding the tub upon said wheel or table. Fig. 8, is a detail perspective view of one of the rods upon the top of the intermittently rotating wheel or table, for guiding the tub upon said wheel or table. Fig. 9, is a detail perspective view of the tub, and showing thereunder, the parallel channel bars.

A rectangular upper frame, A, and a corresponding lower frame, A′, are connected together and supported upon upright legs, A^2, to support the frame at a suitable and convenient height for operating the machine. A bench, A^3, at the forward end of the machine (shown clearly in Fig. 2.) is centrally bored, and receives the vertical spindle, *b*, of a spur wheel, or rotary table, B, having teeth, *b*′, upon its periphery which are engaged by a reciprocating pawl, C, pivotally connected to a bell crank lever, D, supported upon the lower frame, and oscillated by a rod, E, and a rock shaft arm, F, supported in bearings, *f*, upon the upper frame. A detent, G, upon the end of the lower frame engages with the teeth of the rotary table, B, and holds the latter while the pawl, C, advances to engage with another tooth. The rock shaft, F′, carrying the arm F, has also secured to it a segment gear, H, oscillated by a hand lever, H′, secured thereto, the teeth of said segment gear engaging with a rack bar, I, secured to the face of a flat bearing plate, I′, supported to reciprocate in the flanged guide plate, I^2, the upper end of which is shown clearly in Fig. 6. The guide plate, I^2, has a slot, *i*, at its upper end, as hereinafter described, and is supported uprightly by brace rods, K K, secured at their lower ends to the upper frame, A, and is secured solidly at its lower end to a cross bar, L, bolted at its ends to the side pieces of the upper frame. The cross bar, L, also has secured to it guide loops, or bearings, *l*, *l*′, l^2, which support the lower ends of vertical pounding rods, M, M′, M^2, the upper ends of which are bowed over and secured solidly to the upper end of the rack bar, I, and its bearing plate, I′. These rods are arranged triangularly, and each carries at its lower end a cylindrical, cup-shaped pounder, N, which kneads and presses the clothes in the tub, as the latter is intermittently rotated.

The bearing plate, I′, is slotted at its upper end to allow the upper end of the intermediate, or offset, pounder rod to pass through it to the lower end of its stroke, as shown in Fig. 6.

The tub, O, has parallel channel bars, *o*′, o^2, upon its bottom, which fit upon rods, P′ P^2, secured to the top of the rotary table, B, and an oscillating bar, b^2, having hooks, b^3 b^4, upon its ends, is supported in eyes, or bearings, in the top of said rotary table, and when turned up the said hooks will engage with pins, o^3, projecting from the sides of the tub, and hold

it securely upon the rods p' p^2, and upon the top of the rotary table, B.

Two parallel bars, R R, preferably a U-shaped bar, supported at the ends in staples, r r, upon the frame, and supported at the outer end or ends by a vertical rod, R', are adapted to receive the channel bars o' o^2 upon the bottom of the tub, so that the latter can be slid from the table to the rods, R, and supported thereon when it is desired to handle, examine, or remove the clothes from the tub, or deliver the tub from the said support to the guide rods upon the rotary table.

The operation of the machine will be readily understood. At each intermission of the action of the pawl upon the rotary table the pounders will descend upon the clothes in the tub and thoroughly knead them, the cup-shaped heads of the pounders permitting the air confined within the immersed clothes to force the latter up into the hollow cup of the pounders, to compress the air, and thus force the air and water confined within the folds and convolutions of the clothes through the fabric, in a well known manner.

As the cluster of pounders is arranged upon one side of the tub, the clothes will be thoroughly pounded as the tub revolves.

Having described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a washing machine, comprising a double rectangular frame-work, supported upon legs, and an intermittently rotating table or wheel supported upon the lower frame, a rock-shaft, journaled transversely of the upper frame, and having a segmental rack-bar or mutilated gear wheel mounted thereon, and a vertically erected guide plate, having inwardly extending flanges parallel with the body-portion of the plate and extending vertically for the entire length of said plate, and a vertically arranged rack-bar having transverse flanges at its rear side, engaging the guide passage of the guide plate, and a series of rods bowed and secured at their upper ends to the rack-bar and flange at the rear side thereof, and a vertically arranged cylindrical pounding cup secured at the lower end of each rod, substantially as described.

2. In a washing machine, comprising a rotary table, the combination of the rocking-bar secured in bearings diametrically of and upon the rotary table, and having its opposite ends bent to form hooks, and rods arranged parallel with and upon opposite sides of the rocking-bar, with a tub, provided with parallel channel bars on its under side adapted to engage the rods upon the rotary table, and projections on its opposite sides adapted to be engaged by the hooked ends of the rocking-bar, substantially as set forth.

3. A washing machine, comprising the rotary table pivotally supported upon the frame, two parallel guide rods secured to the top of the table, and two corresponding channel bars secured to the bottom of the tub to rest and slide upon said guide rods, substantially as described.

4. A washing machine, comprising the frame, the rotary table having parallel guide rods upon its upper side, a tub having corresponding channel bars upon its bottom and a track formed of two parallel bars supported to project from the frame in line with the guide rods to receive and support the tub thereon substantially as described.

In testimony whereof I affix my signature in the presence of two witnesses.

WILLIAM B. REED.

Witnesses:
D. U. SHUEY,
W. E. WILY.