

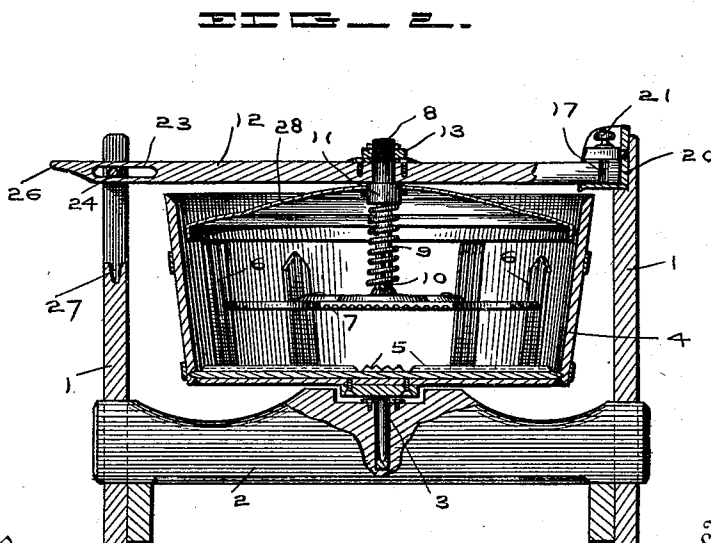
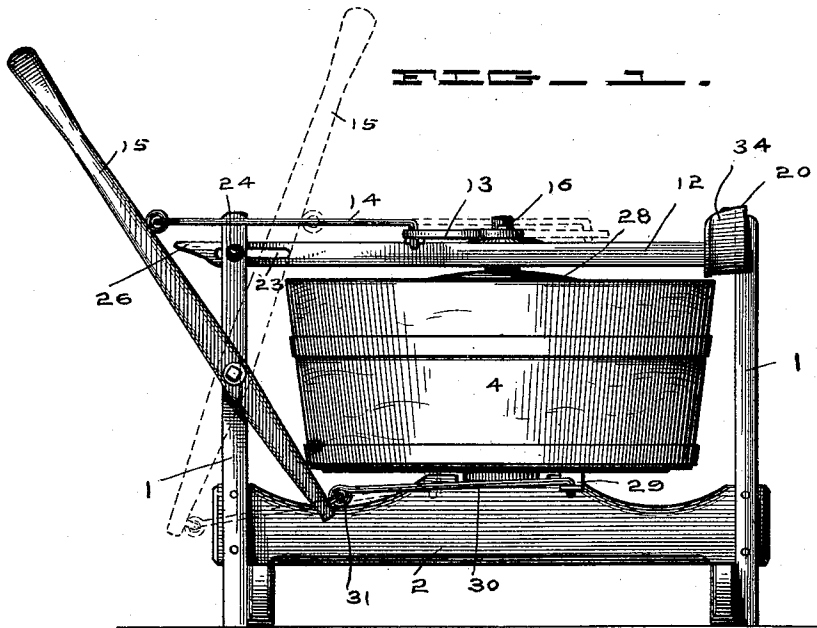
(No Model.)

2 Sheets—Sheet 1.

H. OGBORN.
WASHING MACHINE.

No. 478,707.

Patented July 12, 1892.



Witnesses

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Inventor

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By his Attorney

C. C. Jacobs,

(No Model.)

2 Sheets—Sheet 2.

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FIG. 3.

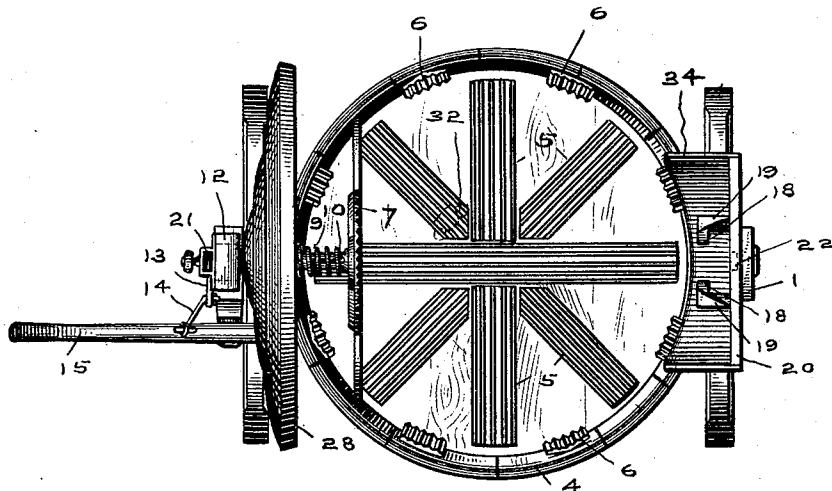


FIG. 4.

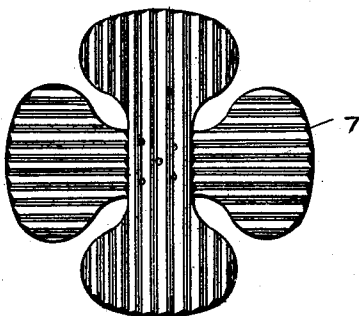
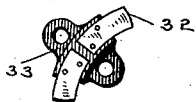


FIG. 5.



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UNITED STATES PATENT OFFICE

HARRISON OGBORN, OF RICHMOND, ASSIGNOR OF ONE-HALF TO WILLIAM J. SHINN, OF INDIANAPOLIS, INDIANA.

WASHING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 478,707, dated July 12, 1892.

Application filed October 12, 1891. Serial No. 408,527. (No model.)

To all whom it may concern:

Be it known that I, HARRISON OGBORN, of Richmond, county of Wayne, and State of Indiana, have invented certain new and useful
5 Improvements in Washing-Machines; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, in which like letters refer to like parts.

10 My invention relates to improvements in the construction of rotary washing-machines, and will be understood from the following description.

In the drawings, Figure 1 is an elevation
15 of my device, the dotted lines showing the movement of the operating-lever and its cranks. Fig. 2 is a vertical section of the same. Fig. 3 is a top view, the cover and rubber being held in a raised position. Fig. 4 is
20 a bottom view of the rotary rubber. Fig. 5 is an enlarged detail view of the elastic stop attached to the bottom of the tub.

In detail 1 are uprights of a frame-work. Lower cross-bar 2 is provided with a socket,
25 in which the gudgeon 3 of the tub is seated.

4 is the tub, having rubbing-bars 5 at the bottom and 6 on the sides, preferably arranged in the manner shown in Figs. 2 and 3.

7 is a rubber having a corrugated under
30 face made in the shape of a quaterfoil, as shown in Fig. 4, the top of the rubber being rigidly connected to the standard 8, on which is mounted the coiled spring 9, holes being formed in the standard to receive a pin 10 for
35 adjusting the tension of the spring. This standard passes through a collar 11, which provides a suitable bearing therefor, and also through an upper locking-bar 12 and through a crank 13, whose opposite end is connected
40 to the link 14, which is in turn fastened to an eye on the operating-lever 15. A pin 16 passes through an opening near the top of the standard, as shown in Fig. 1, and prevents the latter from dropping down. The lock-bar 12 has
45 notches 17 on each side at one end, which receives the lugs 18, formed on projections 19, secured to a cross-piece 20, fastened to the standard at that side, the engagement of the lugs 18 with the notches 17 preventing any
50 lateral movement of the bar. At the same time the bar is provided with a spring-latch

21 on that end which engages with a notch 22, formed in the cross-piece 20, which prevents the upward movement of the bar. The opposite end of this bar is slotted at 23, and
55 a pin 24, passing through the upright 1 of the frame and through this slot, secures the bar in position, allowing it a free movement the length of the slot, and beyond the slot is a beveled end 26, which when the bar with its cover
60 28 is raised to a vertical position enters a notch 27, formed in the upright 1, for holding the cover and bar in a vertical position, as shown in Fig. 3.

Connected to the bottom of the tub is an
65 angular lug or projection 29, which has a hole to receive the hook of the rod 30, which connects with the eye 31 near the foot of the operating-lever 15, the connection below being
70 laterally opposite to the point of connection to the crank 13 at the top of the tub. The result is that when the lever 15 is operated the tub will be rotated in one direction, while the rubber 7 will be rotated in an opposite
75 direction. The cover 28 is made of tin or other suitable material and has a central opening, through which the collar 11 passes loosely, a pin being secured through the collar and through the spindle 9, its projecting ends
80 supporting the cover, whose outer edge contacts with the ends of the longest vertical rubbing-bars 6 when the cover is down, as shown in Fig. 2, preventing it from wobbling when in operation.

The device operates as follows: The clothes
85 being placed in the tub, the cover is let down in the position shown in Fig. 1. The lever 15 is reciprocated through its connection with the rubber 7, the link 14, crank 13, and spindle 8, and the rubber is rapidly rotated from
90 its center, turning half-way around and then backward, while at the same time the tub, through the connecting-link 30, is turned in an opposite direction, and in a little time the clothes will be thoroughly rubbed and cleaned,
95 the dirt, when rubbed free from the clothes, being taken up and held in solution by the suds. When it is desired to take out the clothes, the spring-latch 21 is loosened, the bar is thrown upward and backward, its end
100 26 resting directly over and in line with the slot 27, into which it is then allowed to drop,

and the cover will then be held in the position shown in Fig. 3 and the clothes may be removed.

To prevent the tub from rotating so far in either direction as to disarrange the link connections, I provide a stop 32, which is fastened at the bottom of the tub, as shown in dotted lines in Fig. 3 and in detail in Fig. 5, this stop being preferably formed of an elastic material set in a metal bracket 33 and operates as a yielding buffer, and at each half-rotation this buffer will strike against the side of the lower cross-bar 2, thus resisting the further rotary movement and causing a rebound, which assists the operator in making the next stroke.

The cross-piece 20, in addition to providing a support for the pieces 19, also provides a convenient place for attaching the wringer. Below the projections 19 is a bottom and side piece 34, curved and forming a sort of spout or trough for carrying the water that drops from the wringer directly back again into the tub.

I am aware that rotary washers and tubs having rubbing-bars on the inside have been heretofore known; but I am not aware that any rotary washing-machine comprising the features set forth in the invention herein described has ever before been known or used.

What I claim as my invention, and desire to secure by Letters Patent, is the following:

1. In a washing-machine, a tub centrally journaled upon a framework and adapted to be rotated thereon and provided with corrugated rubbing-bars on its sides and bottom, a corrugated rubber suspended within such tub by a spindle connected to a cross-bar de-

tachably locked to the framework, such spindle having an adjustable spring for regulating the tension of the rubber upon the clothes, a crank connected to the top of such spindle and the upper end of the operating-lever for rotating the rubber, and a link connected from the lower end of such lever to a projection at one side of the center of the bottom of the tub, whereby the tub may be simultaneously rotated in an opposite direction, in combination with a cover and means for supporting the cover in a vertical position, all combined substantially as shown and described.

2. In a washing-machine, a tub centrally journaled upon a framework and adapted to be rotated thereon, provided with corrugated rubbing-bars on its sides and bottom, a corrugated rubber suspended within such tub by a spindle connected to a cross-bar detachably locked to the framework, a crank connected to the top of such spindle and the upper end of the operating-lever for rotating the rubbers, and a link connected from the lower end of such lever to a projection at one side of the center of the bottom of the tub, whereby the tub may be simultaneously rotated in an opposite direction, in combination with a stop of elastic material attached to the under side of the tub and adapted to come in contact with the framework at each half-rotation of the tub, all combined substantially as shown and described.

In witness whereof I have hereunto set my hand this 26th day of September, 1891.

HARRISON OGBORN.

Witnesses:

E. B. GRIFFITH,
C. P. JACOBS.