

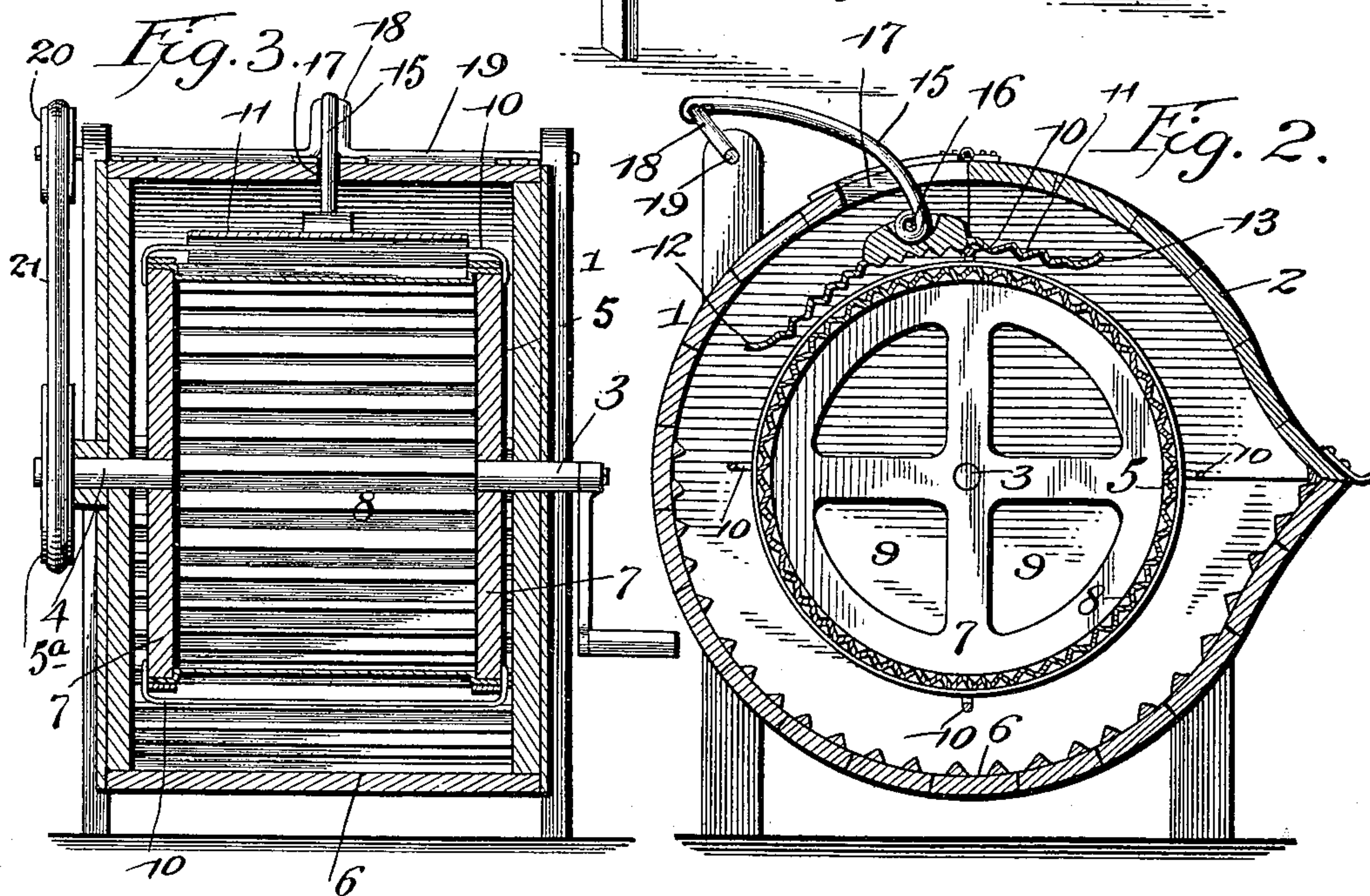
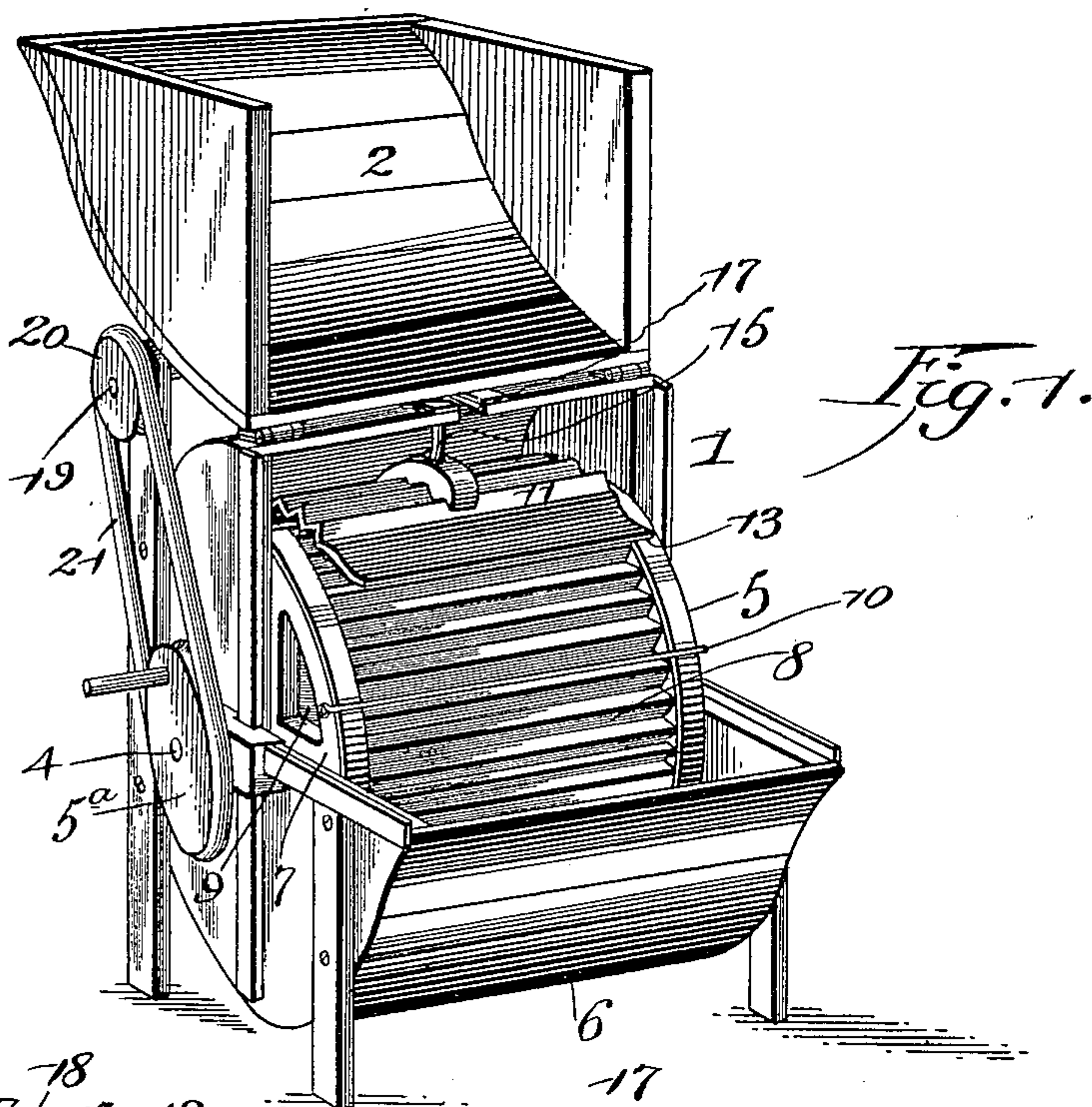
No. 635,293.

Patented Oct. 24, 1899.

I. BOYD.
WASHING MACHINE.

(Application filed May 1, 1899.)

(No Model.)



Witnesses
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UNITED STATES PATENT OFFICE.

IRA BOYD, OF SLOCUM, PENNSYLVANIA.

WASHING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 635,293, dated October 24, 1899.

Application filed May 1, 1899. Serial No. 715,125. (No model.)

To all whom it may concern:

Be it known that I, IRA BOYD, a citizen of the United States, residing at Slocum township, in the county of Luzerne and State of Pennsylvania, have invented a new and useful Washing-Machine, of which the following is a specification.

The invention relates to improvements in washing-machines.

10 The object of the present invention is to improve the construction of washing-machines and to provide a simple, inexpensive, and efficient one capable of thoroughly and rapidly washing clothes without injuring the fabrics.

15 The invention consists in the construction and novel combination and arrangement of parts hereinafter fully described, illustrated in the accompanying drawings, and pointed out in the claims hereto appended.

20 In the drawings, Figure 1 is a perspective view of a washing-machine constructed in accordance with this invention, the cover being raised. Fig. 2 is a longitudinal sectional view of the same. Fig. 3 is a transverse sectional view.

25 Like numerals of reference designate corresponding parts in all the figures of the drawings.

30 1 designates a substantially cylindrical washing-machine body provided at its front with a quadrant-shaped lid or cover 2, hinged at the back and adapted to be swung upward and rearward over the extended back portion of the body, as clearly illustrated in Fig. 1 of the accompanying drawings, to afford access to the interior of the washing-machine.

35 The sides of the washing-machine body are provided with suitable bearings to receive the journals 3 and 4 of a rotary cylinder 5, and one of the journals is provided with a crank-handle or with a pulley adapted to be connected with suitable driving mechanism. The other journal, 4, carries a pulley 5^a, for a purpose hereinafter described.

40 The washing-machine body is provided at the inner face of its curved bottom 6 with corrugations or any other suitable form of rubbing-surface, and it is extended beyond the cylinder 5, as clearly shown in Fig. 1, the extended portion being adapted to serve as a washboard to enable any spots not removed

by the machine to be operated on by hand, so that the soiled garments and other fabrics may be thoroughly cleaned.

The cylinder 5 comprises heads 7 and a sheet-metal periphery or body portion 8, having corrugations forming inner and outer rubbing-surfaces adapted to operate on the clothes, as hereinafter described. The heads 7 are provided with openings 9 to enable slightly-soiled clothes to be placed in and removed from the cylinder, which when rotated carries the clothes through the water, lifting them upward and causing them to fall back into the said water, whereby they are quickly cleaned. The cylinder is provided at its outer face with transversely-disposed clothes-supports 10, consisting of wire loops secured to the heads 7. The clothes-holding loops or supports connect the clothes to the cylinder, which when rotated carries them with it, and the rotation of the cylinder causes the exteriorly-arranged clothes to pass over the rubbing-surfaces of the curved bottom of the washing-machine body. The body portion of each of the loops 10 extends parallel with the rubbing-surface and the ends are bent inward and secured to the cylinder-heads. By reason of this parallel relation the clothes may be evenly distributed across the entire width of the cylinder, thus avoiding the bunching of the clothes at the center of the cylinder which would occur if the loop were composed of rope or other flexible material. The clothes hung on the exterior of the washing-cylinder are also operated on by a reciprocating rubber 11, located at the top of the cylinder and adapted to operate upon the clothes between it and the cylinder, whereby water is expelled from the clothes.

90 The curved rubber 11, which may be constructed of any suitable material, is reciprocated to produce a rubbing action on the clothes, whereby the latter are rapidly and thoroughly cleaned. The ends 12 and 13 of the rubber are bent outward to prevent clothes from catching on them, and at a point between its ends the rubber is connected to the inner or forward end of a link rod 15 and is provided with a socket to receive an eye of the same, a pivot 16 being passed transversely through the socket and through the adjacent

eye of the link rod. The rod 15, which is curved, extends through a slot 17 of the top of the washing-machine body, and its outer end is connected with a crank 18 of a transverse shaft 19 and is provided with an outer eye, which receives the crank.

The transverse shaft 19 is journaled in suitable bearings of the washing-machine body, the rear legs thereof being preferably extended vertically above the body to afford supports for the said shaft. One end of the transverse shaft carries a pulley 20, which is connected by a belt 21 with the pulley 5^a; but any other form of gearing may be employed for connecting the transverse shaft with the adjacent journal of the washing-cylinder. When the cylinder is rotated, motion is communicated by the said gearing to the transverse shaft and the rubber is operated through the connecting rod or pitman 15.

The washing-machine, which is simple and comparatively inexpensive in construction, is easily operated, and it is capable of rapidly removing the dirt and stains from clothes without injuring them, owing to the uniform pressure of the rubber thereon. The clothes, which are arranged on the exterior of the washing-cylinder, are carried through the water and are subjected to the action of the corrugated rubber, which expels the water from the clothes as the latter arrive at the top of the cylinder, so that the water will run off quickly and carry the dirt with it.

Changes in the form, proportion, size, and the minor details of construction within the scope of the appended claims may be resorted to without departing from the spirit or sacrificing any of the advantages of this invention, such as varying the form of the rubbing-sur-

faces of the washing-machine body, the cylinder, and the rubber.

What is claimed is—

1. A washing-machine comprising a body, a rotary cylinder journaled therein, a reciprocating rubber within the body above the cylinder, and actuating means connected centrally and pivotally to the rubber, which is otherwise unsupported and free to turn on its pivotal connection for equalizing the pressure thereof, substantially as described.

2. A washing-machine comprising a body, a rotary cylinder journaled therein, clothes-retaining wire loops projecting from the rubbing-surface of the cylinder, a reciprocating rubber within the body above the cylinder, and having outwardly-deflected ends, and actuating means connected centrally and pivotally to the rubber, which is otherwise unsupported and free to turn on its pivotal connection for equalizing the pressure thereof, substantially as described.

3. A washing-machine comprising a body, a rotary cylinder therein, a reciprocating rubber arranged over the top of the cylinder and within the body, a crank-shaft parallel with the cylinder-shaft, and a connecting-rod or pitman extending from the crank-shaft through an opening in the body and having the rubber centrally pivoted to its extremity, the rubber being otherwise unsupported, substantially as described.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

IRA BOYD.

Witnesses:

M. H. McANIFF,
D. O. COUGHLIN.