

A. A. DAY.  
WASHING MACHINE.  
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914,642.

Patented Mar. 9, 1909.

Fig. 1.

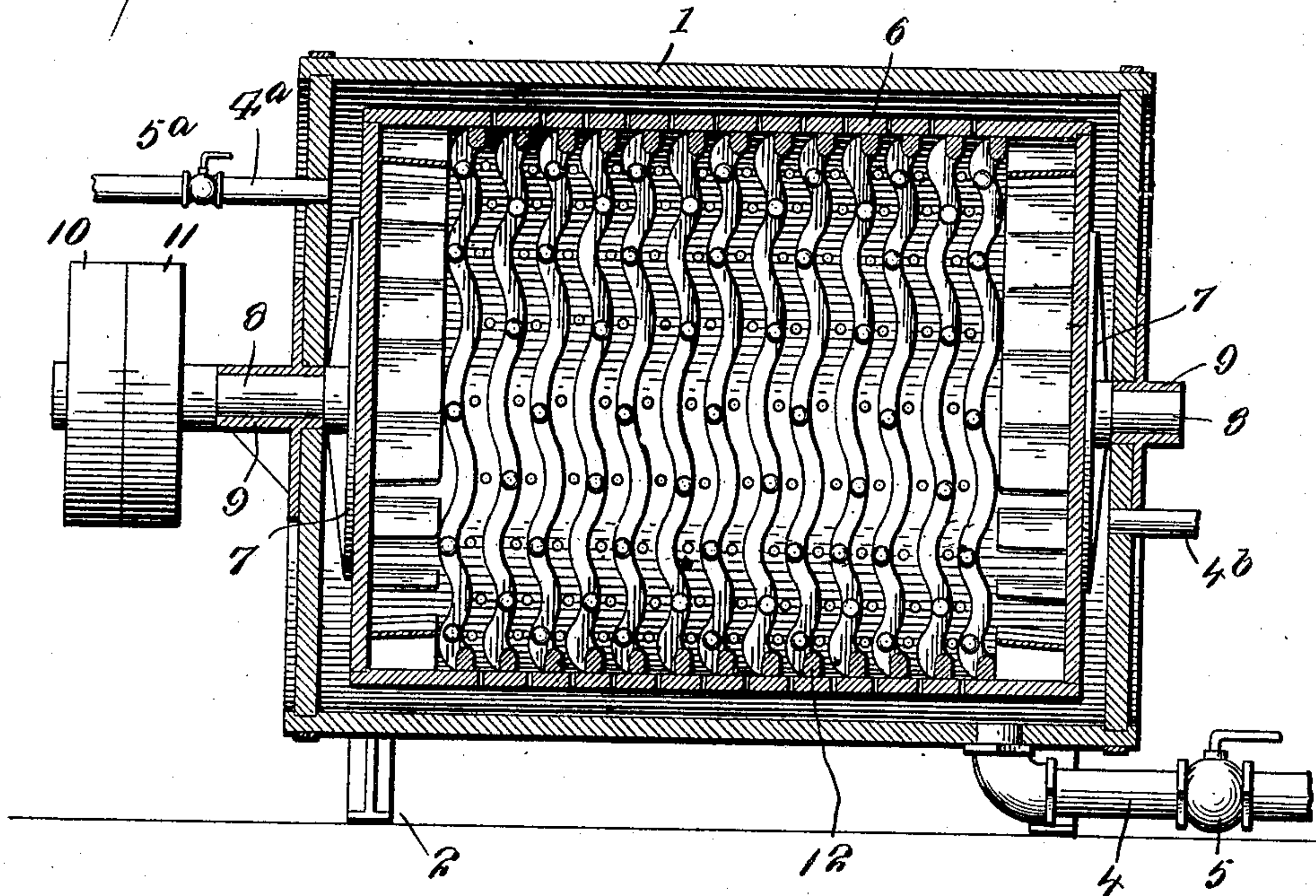
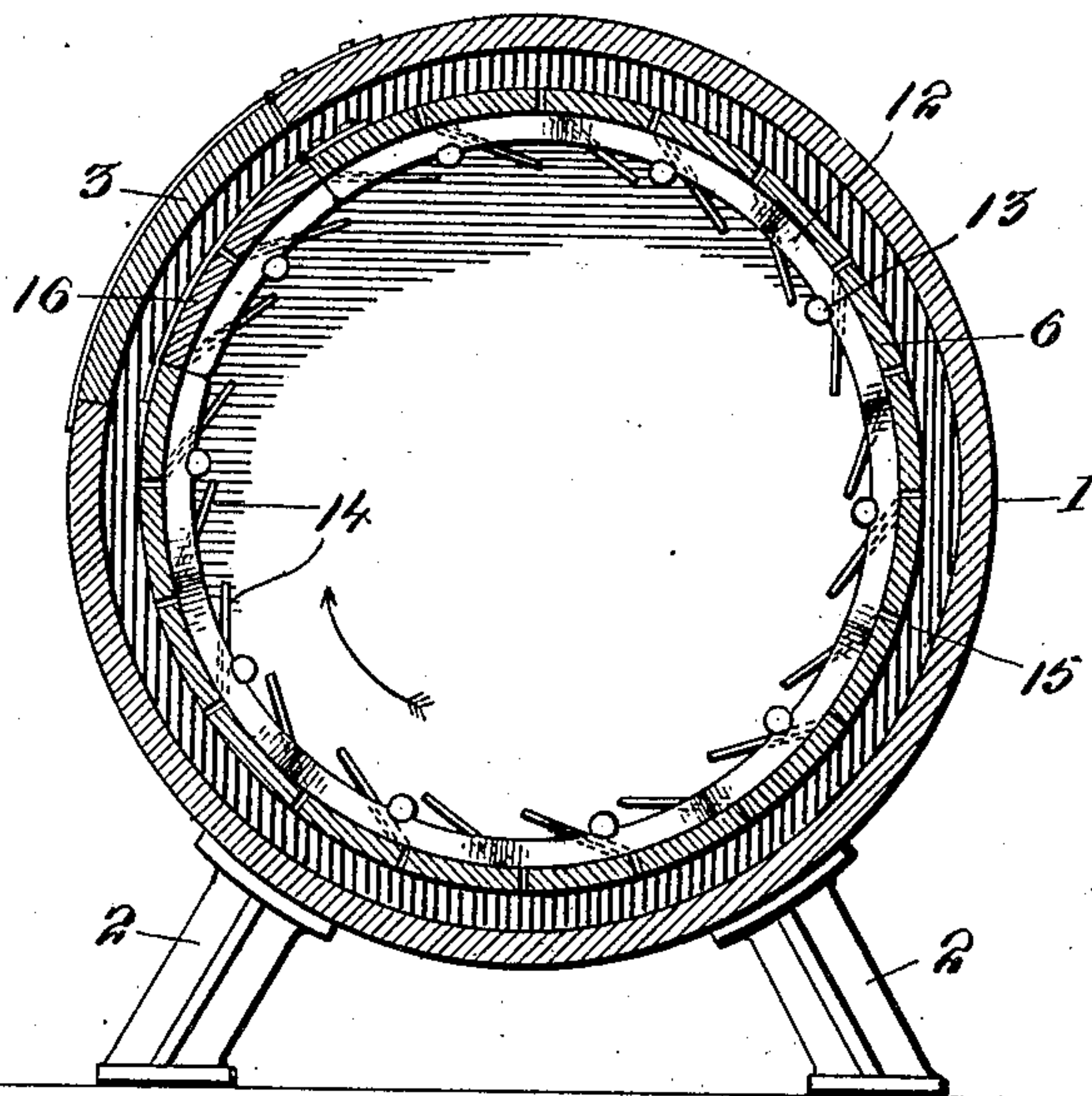


Fig. 2.



WITNESSES:

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# UNITED STATES PATENT OFFICE.

ALBERT A. DAY, OF NEW YORK, N. Y.

## WASHING-MACHINE.

No. 914,642.

Specification of Letters Patent.

Patented March 9, 1909.

Application filed December 4, 1908. Serial No. 465,996.

*To all whom it may concern:*

Be it known that I, ALBERT A. DAY, citizen of the United States, residing in the borough of Brooklyn, in the county of Kings, city and State of New York, 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 appertains to make and use the same.

My invention consists in the novel features hereinafter described reference being had to the accompanying drawing which illustrates the best form in which I have contemplated embodying my invention and said invention is fully disclosed in the following description and claims.

Referring to the drawing, Figure 1 represents a longitudinal vertical sectional view of a washing machine having my invention embodied therein. Fig. 2 is a transverse vertical sectional view of the same.

In the drawings 1 represents the exterior casing of the machine, which is preferably cylindrical although it may be of polygonal form in cross section. The casing 1 is supported on suitable legs 2 and is provided with a door 3, for giving access to the interior. The casing 1 is also provided with an inlet pipe 4<sup>a</sup> and discharge pipe 4, having therein suitable cut-off cocks 5<sup>a</sup> and 5 for admitting liquid to the interior of the casing and drawing it off as desired. I also prefer to provide the casing 1 with an overflow pipe 4<sup>b</sup> as shown.

Within the casing 1 is a revoluble perforated cylinder 6, here shown as provided at each of the ends with a plate 7 having a trunnion 8 projecting therefrom and mounted in a bearing 9 in the adjacent end of the outer casing 1. One of the trunnions 8 is extended beyond the bearing 9 and provided with fast and loose pulleys 10, 11, as shown, or other suitable means for imparting rotary motion to the inner cylinder 6. The inner cylinder or casing 6 is provided on the interior of its cylindrical portion with a plurality of ribs 12, extending entirely around the interior, each rib being in the form of a continuous compound curve extending first on one side and then on the other side of a median line. The ribs 12 are preferably parallel to each other throughout, as shown and are of such height and spaced at such a uniform distance apart as to engage the

clothes being treated and give them a side-wise back and forth movement, through the liquid when the cylinder 6 is rotated. In order to prevent the clothes from balling or forming into a roll, I may provide the ribs 12 at intervals with slight projections here shown in the form of rounded knobs or studs 13. These knobs or studs may in some instances be dispensed with. I also prefer to provide the cylinder 6 with buckets or other suitable devices to carry up portions of the liquid above the liquid level and discharge it with some force upon the clothing. In this instance I have shown the interior of the cylinder 6 provided adjacent to each end with a series of buckets formed by blades 14 engaging the adjacent end wall, and the cylindrical wall, said buckets being so constructed that they will carry up portions of the liquid and discharge it upon the clothes as above set forth.

The cylinders or casings 1 and 6 may be made of either wood or metal as preferred, and the inner casing or cylinder 6 is provided with a plurality of perforations 15, preferably located in the channels between the waving ribs 12 and said inner cylinder is also provided with a door 16 which can be brought into substantial registration with the door 3 in the outer casing. The inner cylinder or casing 6 is operated continuously in one direction, to wit, that indicated by the arrow in Fig. 2.

In the operation of the device, the clothes to be treated are inserted in the inner cylinder 6 through doors 3 and 16, which are provided with suitable fastening devices, to secure them in closed position and the cleansing liquid is run into the outer casing through pipe 4<sup>a</sup> and finds its way through the apertures 15 into the inner casing. The supply of liquid is then cut off and power is applied to the inner casing to revolve it continuously in one direction. As it revolves the clothes will be moved longitudinally of the cylinder 6 in both directions through the liquid, by the waving ribs 12, which act similarly to a cam groove upon them. Where the knobs or projections 13 are used, this action takes place between the said knobs or projections, and the latter serve to turn the clothing and bring fresh portions thereof into contact with the waving ribs, and the grooves formed between them. As the cylinder 6 rotates the buckets formed by the inclined blades 14 will carry up quantities of the liquid at one side



of the cylinder and pour or discharge it upon the clothes, thus securing a circulation of the liquid and bringing all portions thereof into contact with the clothing. The force of the liquid striking the clothes also assists in removing the dirt therefrom.

What I claim and desire to secure by Letters Patent is:—

1. A washing machine provided with a rotatable cylinder, having the interior of its cylindrical wall provided with annularly arranged ribs and grooves alternating with each other, said ribs and grooves being each in the form of a continuous compound curve, extending first on one side and then on the other side of a median line.

2. A washing machine provided with a rotatable cylinder, having the interior of its cylindrical wall provided with annularly arranged ribs and grooves alternating with each other, said ribs and grooves being each in the form of a continuous compound curve, extending first on one side and then on the other side of a median line, each of said ribs being provided with a plurality of projections, located at intervals.

3. A washing machine provided with a rotatable cylinder, having the interior of its

cylindrical wall provided with annularly arranged ribs and grooves alternating with each other, said ribs and grooves being each in the form of a continuous compound curve, extending first on one side and then on the other side of a median line, said cylinder being also provided with buckets for elevating portions of the liquid contents and discharging it upon the clothing lying upon said ribbed and grooved portions.

4. In a washing machine, the combination with an outer casing, of an inner cylinder rotatably mounted in said casing and having its walls perforated, and provided on the interior of its cylindrical walls with annular waving ribs alternating with similarly waving grooves, said ribs being provided at intervals with inwardly projecting knobs, a series of buckets on the interior of said inner cylinder and means for rotating said inner cylinder continuously in one direction.

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

ALBERT A. DAY.

Witnesses:

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EDWARD C. AVILA.