Dec. 23, 1924. 1,520,110

G. S. BLAKESLEE

DISHWASHING MACHINE

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Fig. 1.

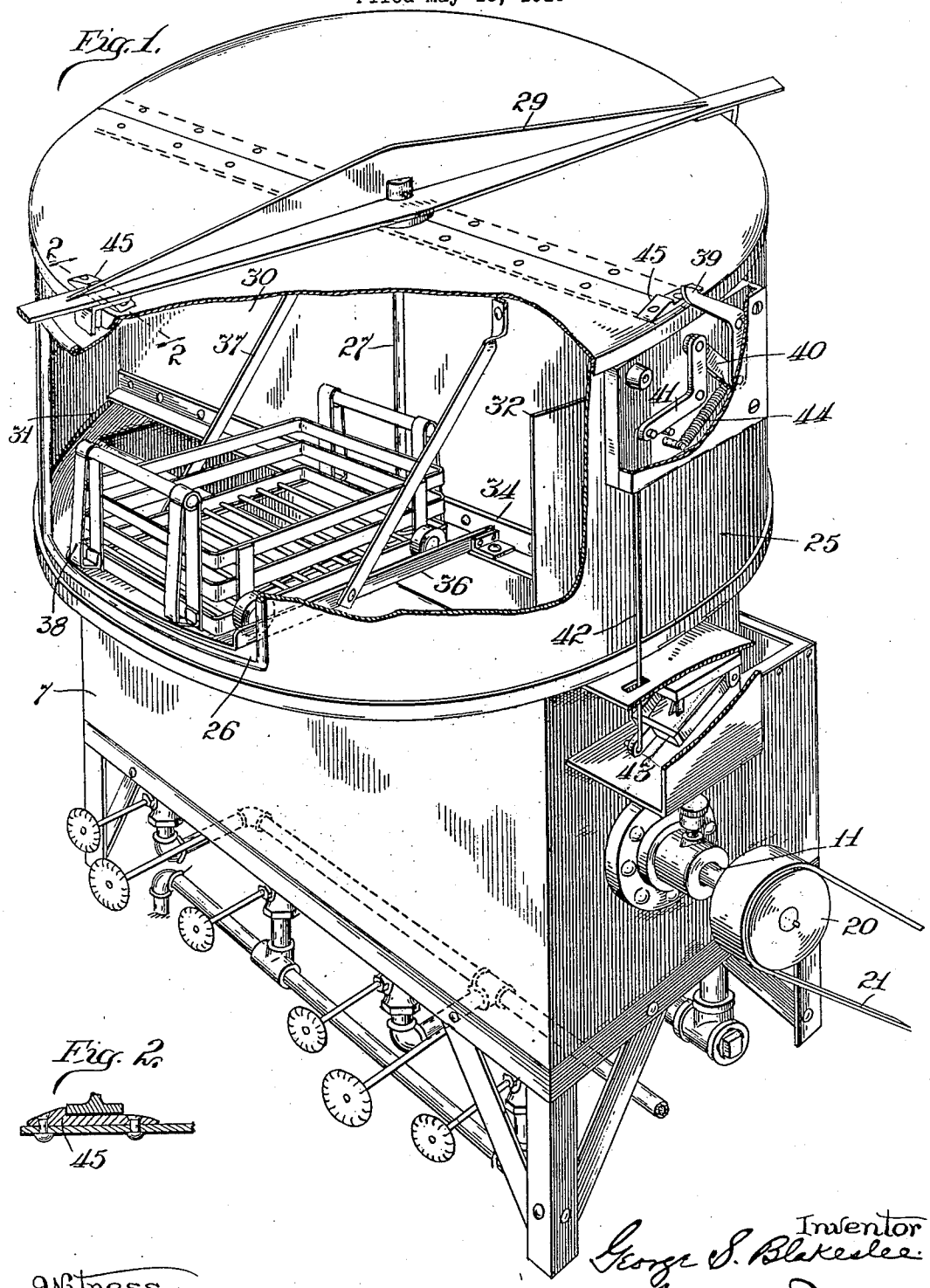


Fig. 2.

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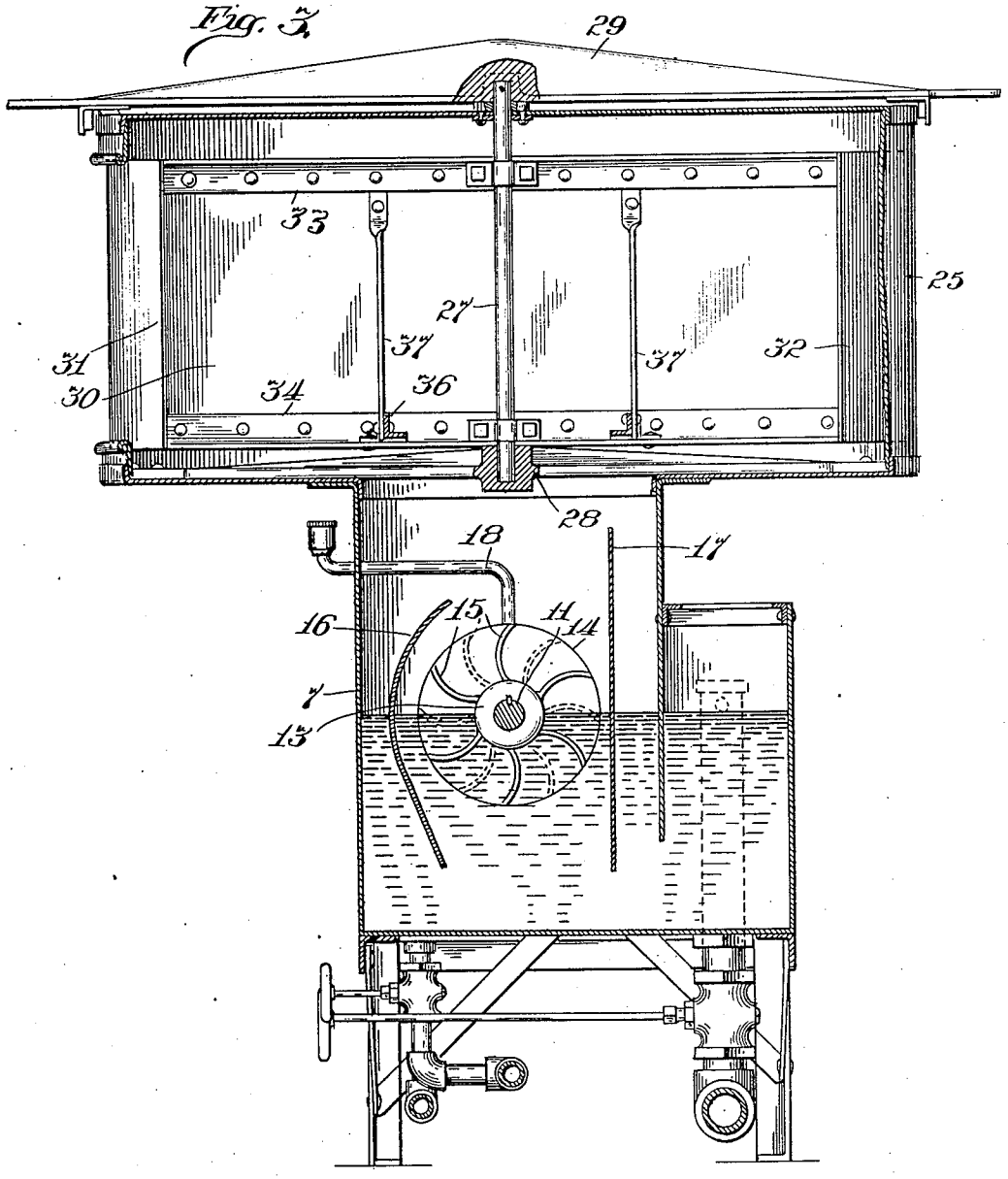
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Fig. 3.



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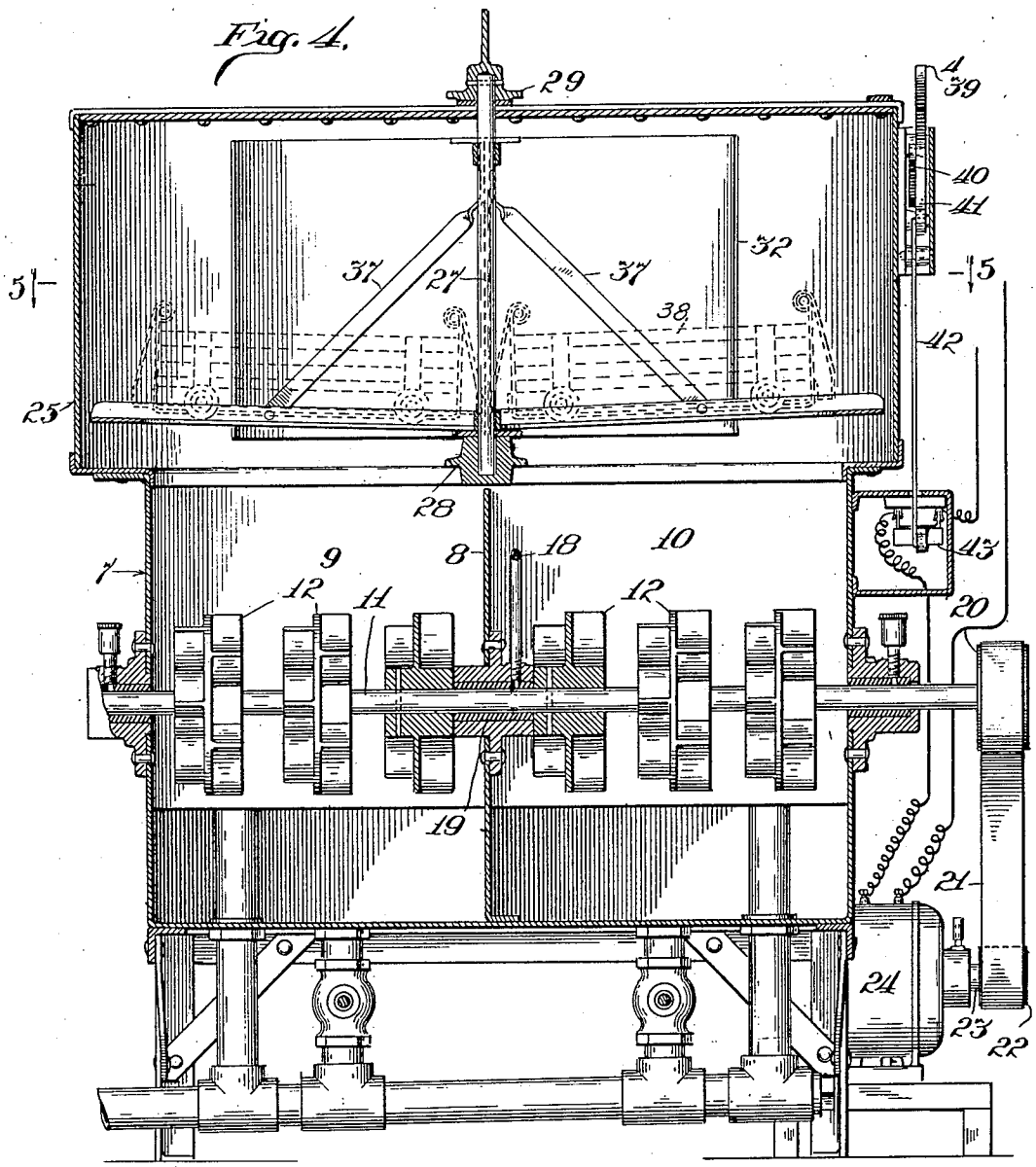
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Fig. 4.



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DISHWASHING MACHINE

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Fig. 5.

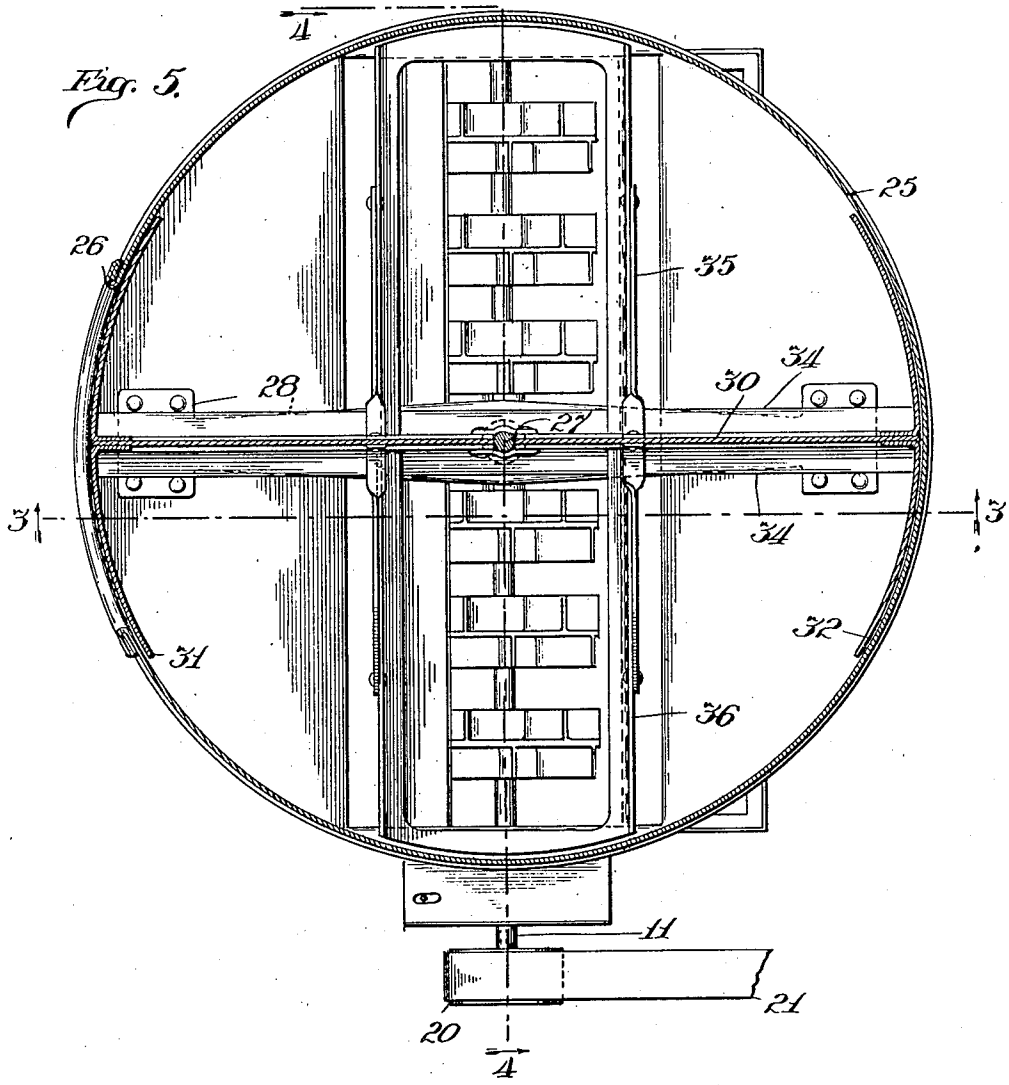
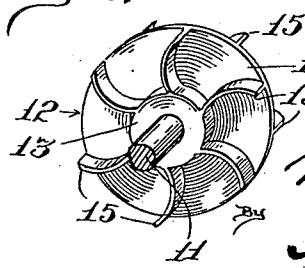


Fig. 6.



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Patented Dec. 23, 1924. 1,520,110

UNITED STATES PATENT OFFICE.

GEORGE S. BLAKESLEE, OF CHICAGO, ILLINOIS.

DISHWASHING MACHINE.

Application filed May 13, 1918. Serial No. 234,094.

To all whom it may concern:

Be it known that I, GEORGE S. BLAKESLEE, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Dishwashing Machines, of which the following is a specification, reference being had to the accompanying drawings.

My invention relates to dish-washing machines, and has for its object to provide a comparatively small, compact machine for washing and rinsing dishes and other articles; which may be conveniently operated by a single person. I accomplish this object as illustrated in the drawings and as hereinafter described. What I regard as new is set forth in the claims.

In the accompanying drawings:—

Fig. 1 is a perspective view of my improved machine, part of the casing being broken away to show the interior thereof with a basket in its initial position;

Fig. 2 is a detail, being a partial vertical section substantially on line 2—2 of Fig. 1;

Fig. 3 is a vertical section on line 3—3 of Fig. 5;

Fig. 4 is a vertical section on line 4—4 of Fig. 5;

Fig. 5 is a horizontal section on line 5—5 of Fig. 4; and

Fig. 6 is a perspective view of one of the paddle wheels.

Referring now to the drawings for a detailed description of the embodiment of my invention illustrated therein:—7 indicates a tank which, as shown in Fig. 4, is divided transversely by a partition 8 into a washing compartment 9 and a rinsing compartment 10, both of which are open at the top. 11 indicates a shaft which extends longitudinally through the tank and carries a series of paddle wheels 12. These paddle wheels, as shown in Fig. 6, comprise a central hub 13, having a radial disc 14, at the opposite sides of which are curved or concavo-convex vanes 15, arranged to throw the water in the compartments upward when said paddle wheels are rotated. It will be observed that these vanes or blades are exposed laterally to the water in the tank and that the blades at one side of the disc are in staggered relation to those at the other side thereof. By this construction the paddle wheel throws a large volume of water and distributes it well over the dishes or other articles, and the torque strain is more nearly equalized. 16—17 indicate deflectors arranged in the compartments 9—10 at opposite sides of the paddle wheels for directing the water upward. 18 indicates an oil duct for conducting lubricant to an intermediate bearing 19 for the shaft 11, as shown in Fig. 4. 20 indicates a pulley, on the shaft 11 which is driven by a belt 21 from a pulley 22, mounted on the armature shaft of an electric motor 24. Obviously when the motor is in operation the paddle wheels 12 will be rotated, thereby throwing the washing and rinsing water in the compartments 9—10 upward.

25 indicates a circular housing disposed above the tank 7, forming a chamber in which the articles to be washed are placed while being operated on. Said housing is provided with an opening or doorway 26 at one side in a position opposite one side of the tank 7, as shown in Fig. 1. 27 indicates a vertical shaft axially disposed with reference to the housing 25, as shown in Figs. 3 and 5, the lower end of said shaft being mounted in a suitable bearing in a transverse beam 28, as shown in Fig. 3. Said beam is secured to the bottom of the housing 25, and extends transversely with reference to the tank 7, as shown in Fig. 3. The upper end of said shaft is mounted in a suitable bearing carried by the top of the housing 25, and is non-rotatably connected with a horizontal operating arm 29, which is somewhat longer than the diameter of the housing, as shown in Fig. 1, so that its ends form handles by which said arm may be conveniently operated. 30 indicates a vertical partition carried by the shaft 27, said partition extending from near the bottom to near the top of said circular chamber, and being substantially equal in length to the diameter of said chamber, as shown in Fig. 5. 31—32 indicate curved shields carried at the ends of the partition 30 adjacent to the inner surface of the housing 25, as shown in Fig. 5. Said shields are somewhat wider than the width of the opening 26 so that they are adapted to close said opening, as shown at the left in Fig. 5. 33—34 indicate strengthening bars at the upper and lower margins of the partition 30, as shown in Fig. 3.

35—36 indicate open-work tables or frames provided at opposite sides of the partition 30 and at right angles to said parti-

tion, as shown in Figs. 4–5. Said frames are firmly secured to the partition with their outer ends slightly higher than their inner ends, as shown in Fig. 4, their outer end portions being supported by diagonal braces 37. These frames are adapted to receive and support dish-holding baskets 38 in the manner shown in Fig. 1, and they are inclined in the manner described so that the baskets will be held in position by gravity. It will be noted that as shown in Figs. 1 and 4, the baskets are provided with wheels which run upon the side portions of the frames so that they may be easily introduced and removed.

From the foregoing description it will be understood that the frames 35—36 and the parts by which they are supported together constitute a turn-table by which the baskets are supported and moved around in the chamber, and that when both basket supporting frames carry baskets, when one of the baskets occupies a position over the washing compartment, the other basket will be over the rinsing compartment, the two baskets being, however, separated by the partition 30. At the same time, the partition 30 will overlie and register with the partition 8, so that the washing and rinsing waters are kept from intermingling. The turntable is rotated by means of the operating arm 29, which, in the construction illustrated, is turned in a clockwise direction, so that a newly introduced basket is first moved over the washing compartment and afterwards is moved over the rinsing compartment.

In order to automatically start rotation of the paddle wheels when a basket has been moved into position over the washing or the rinsing compartment, the operating arm 29 is arranged at that time to operate a lever 39, which, as shown in Fig. 1, is connected by a link 40 with a bell-crank lever 41, which is, in turn, connected by a rod 42 with a switch 43 which controls the operation of the motor 34. A spring 44 normally holds the switch 43 open and the lever 39 in position to be engaged by the operating arm 29 when said arm is moved to the proper point. The parts are so arranged that when the basket supporting frames lie over the washing and rinsing compartments, the operating arm 29 will operate the lever 39 to close the switch 43 and start the motor, which will continue to operate as long as this position is maintained. At this time, one of the shields 31 or 32 will overlie the doorway 26 and prevent water from splashing out through it. As soon as the washing and rinsing operation is completed, the operating arm 29 is rotated to bring the basket containing rinsed dishes into position opposite said doorway so that it may be removed and another basket introduced, and as soon as said arm is moved away from the lever 39, the spring 44 will open the switch 43 and stop the motor. It is desirable that means be provided for holding the turn-table in its different positions, and this may be accomplished by providing one or more stops 45 on top of the housing in position to engage the arm 29 when it assumes the proper position.

Instead of the lever mechanism shown and described for starting and stopping the motor, any other suitable means may be employed for the purpose, and in other respects also my invention is not limited specifically to the construction shown and described except in so far as such construction is particularly claimed, but includes generically the subject-matter of the broader claims.

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

1. A washing machine comprising a tank open at the top, a turn-table adapted to rotate in a substantially horizontal plane above said tank and having means at one side of the axis thereof for supporting the articles to be washed, whereby by rotating said turntable such articles may be moved into or out of position to be washed, means for throwing water from said tank upward against said articles, a housing enclosing said turntable and having an opening for the passage of the articles to be washed, and a shield carried by said turntable for closing said opening.

2. A washing machine comprising a tank, a turntable adapted to rotate in a substantially horizontal plane over said tank, a housing enclosing said turntable and having an opening for the passage of the articles to be washed, and means carried by said turntable for closing said opening.

3. A washing machine comprising washing and rinsing compartments, a turn-table adapted to rotate in a substantially horizontal plane above said compartments, said turn-table having a transverse vertical partition and means at opposite sides of said partition for supporting the articles to be washed, a housing enclosing said turn-table and having an opening for the passage of the articles to be washed, and means operated by the rotation of said turn-table for closing said opening.

4. A washing machine comprising washing and rinsing compartments, a turn-table adapted to rotate in a substantially horizontal plane above said compartments, said turn-table having a transverse vertical partition and means at opposite sides of said partition for supporting the articles to be washed, a housing enclosing said turn-table and having an opening for the passage of the articles to be washed, and shields carried by said partition for closing said opening.

5. A washing machine comprising a tank a turn-table adapted to rotate in a substan

tially horizontal plane above said tank and having means at one side of the axis thereof for supporting the articles to be washed, power operated means in said tank for throwing water against such articles, and means operated by the rotation of said turn-table for starting and stopping said power operated means.

6. In a washing machine the combination of a tank, means above the water in said tank for supporting articles to be washed, and a paddle wheel in said tank for throwing water therefrom against such articles, said paddle wheel comprising a radial disc, and blades projecting therefrom at opposite sides thereof, and exposed laterally to the water in said tank, the blades at one side of said disc being in staggered relation to those at the other side thereof.

7. A washing machine comprising washing and rinsing compartments, a turn-table adapted to rotate in a substantially horizontal plane above said compartments, said turn-table having a transverse vertical partition and means at opposite sides of said partition for supporting the articles to be washed, a housing enclosing said turn-table and having an opening for the passage of the articles to be washed, and an operating arm extending over said housing and connected with said turn-table.

8. A washing machine comprising washing and rinsing compartments, a turn-table adapted to rotate in a substantially horizontal plane above said compartments, said turn-table having a transverse vertical partition and means at opposite sides of said partition for supporting the articles to be washed, a housing enclosing said turn-table and having an opening for the passage of the articles to be washed, an operating arm extending over said housing and connecte with said turn-table, power operated mea in said compartments for throwing wat against the articles to be washed, and mea actuated by said operating arm for startin and stopping said power operated means.

9. A washing machine comprising wasl ing and rinsing compartments, a turn-tab adapted to rotate in a substantially hor zontal plane above said compartments, sai turn-table having a transverse vertical pa tition and means at opposite sides of sai partition for supporting the articles to b washed, a housing enclosing said turn-tabl and having an opening for the passage o the articles to be washed, an operating ar extending over said housing and connecte with said turn-table, and shields carried b said partition for closing said opening.

10. A washing machine comprising wash ing and rinsing compartments, a turn-tabl adapted to rotate in a substantially horizonta plane above said compartments, and a hous ing enclosing said turn-table and having a opening for the passage of the articles to b washed, means carried by said turn-tabl for closing said opening, an operating arn extending over said housing and connecte with said turn-table for rotating the same

11. A washing machine comprising tank, a turn-table adapted to rotate in a sub stantially horizontal plane above said tank a housing enclosing said turn-table and hav ing an opening for the passage of the arti cles to be washed, means for closing saic opening, and means connected to and rotat ing with said turn-table and extending out side of the housing for rotating said turn table.

GEORGE S. BLAKESLEE.