

April 30, 1929.

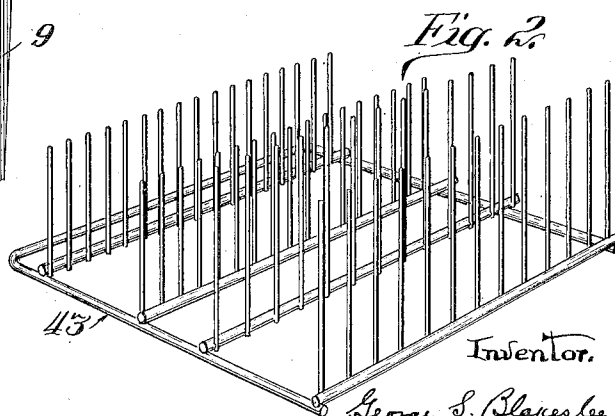
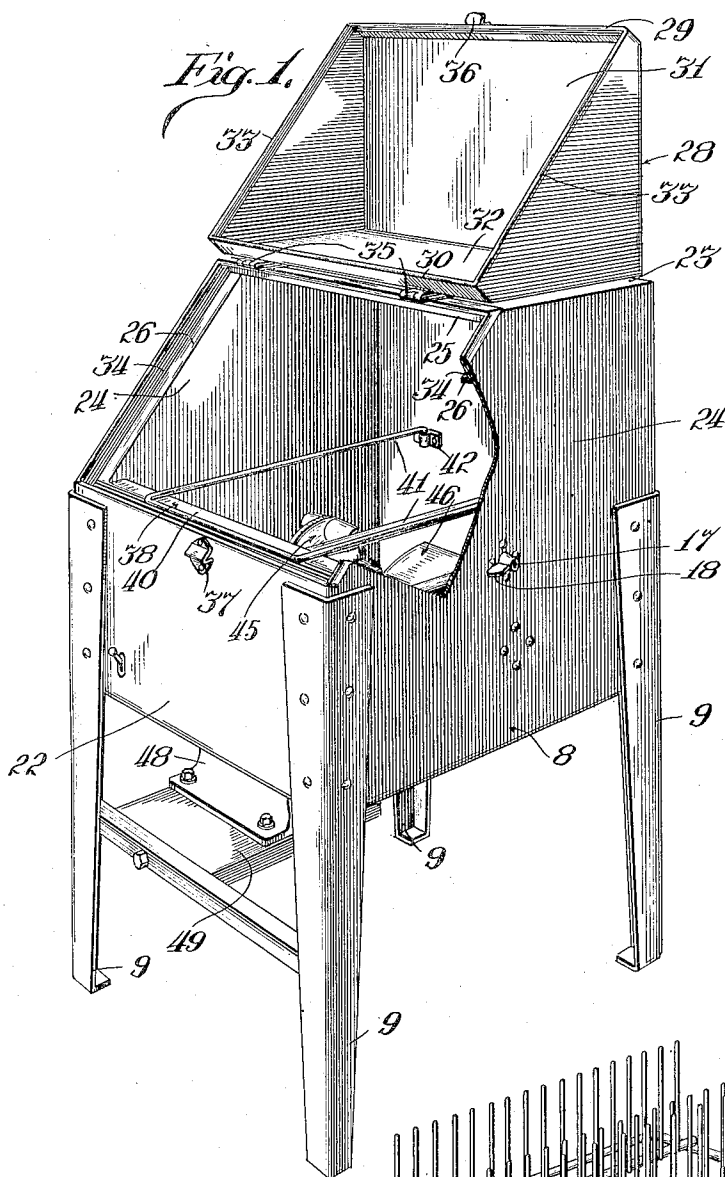
G. S. BLAKESLEE

1,711,221

WASHING MACHINE

Filed April 4, 1921

3 Sheets-Sheet 1



Witness
Hilton Lenoir

五

Inventor,
George S. Blakeslee,
Attorney.
Attorneys.

April 30, 1929.

G. S. BLAKESLEE

1,711,221

WASHING MACHINE

Filed April 4, 1921

3 Sheets-Sheet 3

Fig. 5.

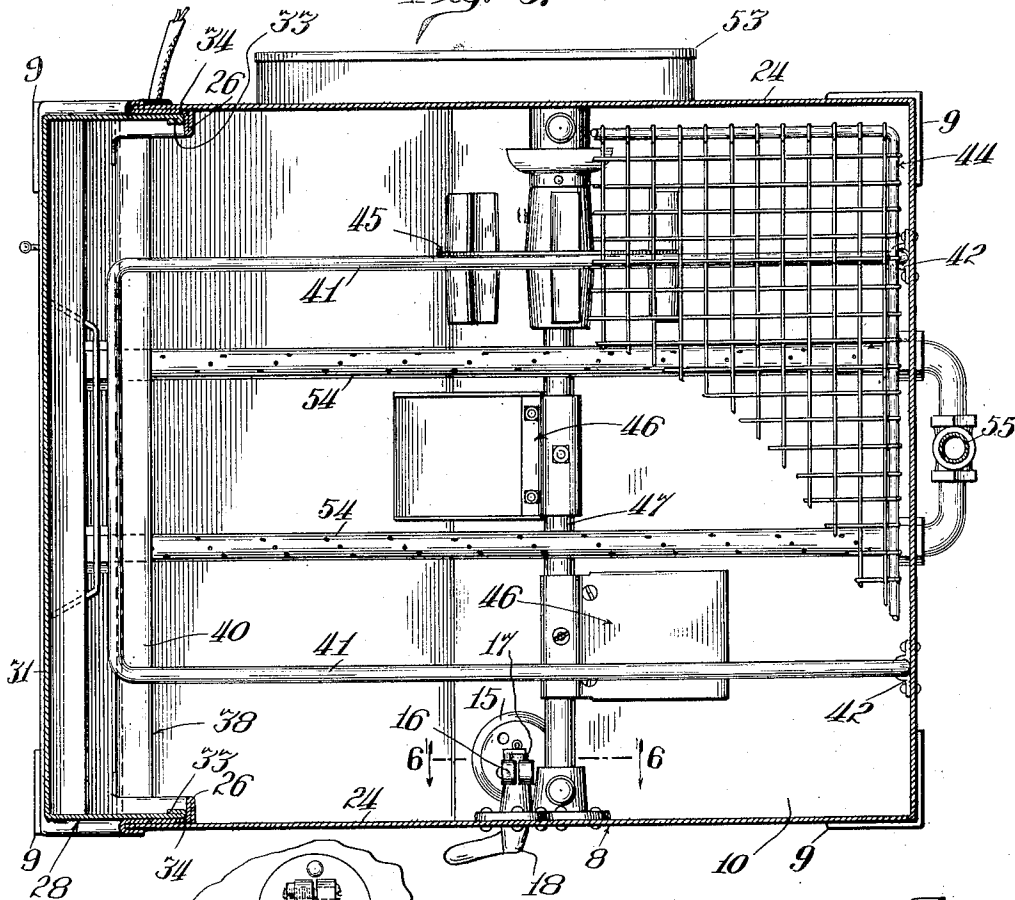
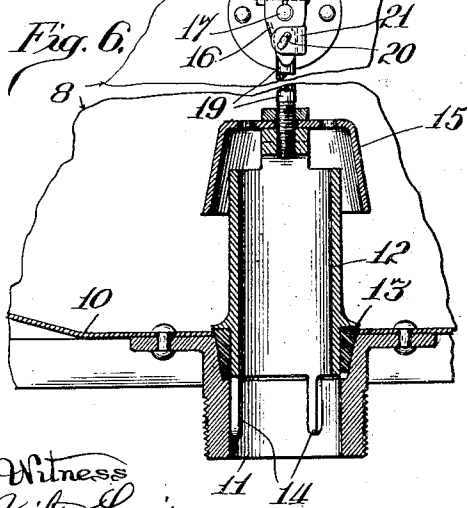
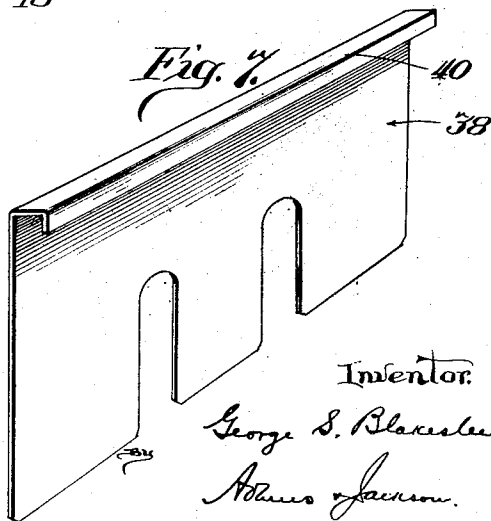


Fig. 6.



Witness
Milton Lenoir

Fig. 7.



Inventor:
George S. Blakeslee,
Attorney.

Patented Apr. 30, 1929.

1,711,221

UNITED STATES PATENT OFFICE.

GEORGE S. BLAKESLEE, OF OAK PARK, ILLINOIS; GEORGE R. BLAKESLEE EXECUTOR
OF SAID GEORGE S. BLAKESLEE, DECEASED.

WASHING MACHINE.

Application filed April 4, 1921. Serial No. 458,199.

My invention relates to machines for washing dishes and similar articles, and has for its object to provide such a machine which will be compact and easily handled so that it will be well adapted for household use. I accomplish this object as illustrated in the drawings, and as hereinafter described. What I regard as new is set forth in the claim.

In the accompanying drawings:

Fig. 1 is a perspective view of my improved washing machine showing the cover or hood in its open position, a part of one side of the tank being broken away to better show the interior thereof;

Fig. 2 is a perspective view of a dish holding frame or rack used in connection with the machine;

Fig. 3 is a vertical sectional view;

Fig. 4 is also a sectional view taken on line 4—4 of Fig. 3;

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

Fig. 6 is a detail illustrating the waste opening in the bottom of the tank, and the closure therefor, being an enlarged vertical section on line 6—6 of Fig. 5; and

Fig. 7 is a perspective view illustrating a deflector used in the front part of the machine below the opening through which the articles to be washed are introduced or removed.

My improved washing machine comprises a box-like rectangular tank 8, preferably made of sheet metal, which is supported at a suitable height by legs 9. As best shown at 10 in Fig. 3, the bottom of the tank is V-shaped, and in the valley thereof, preferably near one end, a waste outlet 11 is provided which is adapted to be closed by a plug 12. This plug is preferably tubular, and is provided near its lower end with a tapered rubber gasket 13 which fits snugly in a tapered seat in the upper end of the outlet 11. Projecting from the lower end of said plug are guide fingers 14 which keep the plug centered when it is lifted to permit the discharge of water from the tank. The upper end of the plug is open to permit water to escape from the tank by over-flow, and it is provided with a bell-shaped hood 15 to prevent water from splashing out through the over-flow. The plug 12 is raised or lowered by means of a crank 16 which is mounted upon the inner end of a rock-shaft

17 journaled in one of the side walls of the tank, as shown in Fig. 4, and provided at its outer end with a lever 18 by which it may conveniently be rocked. The other end of the crank 16 is connected with the plug 12 by a connecting rod 19 and pivot 20. At its upper end adjacent to the pivot 20 the rod 19 is provided with a clip 21 which extends over one side margin of the crank 16, as shown in Fig. 6, and serves as a stop to limit the movement of the crank in one direction. These parts are so arranged that the crank may be swung far enough to carry the pivot 20 across the center line so as to lock the plug in operative position, and by swinging said crank in the opposite direction the plug may be raised high enough to unseat it and permit the water in the tank to escape.

In a machine of this character it is very desirable to avoid the necessity of introducing or removing the articles to be washed through the top of the tank, as that necessitates lifting them rather high, which is apt to be burdensome, but heretofore, so far as I am aware, no one has succeeded in producing a washing machine of this type so constructed that the dishes could be introduced or removed at the side, because of the difficulty of preventing the escape of water through such a side opening. This will be appreciated when it is remembered that in such machines, when in operation, the interior of the tank is filled with flying particles or masses of water thrown by the water distributing devices, and consequently, the presence of an opening below the top of the tank which might permit leakage has been carefully avoided. I have, however, discovered that by constructing the opening and the hood or cover therefor in such manner as to prevent the water from forcibly striking the meeting edges of the tank and hood, a side opening tank can be made in which leakage will be prevented, while at the same time a large opening may be provided which will afford ready access to all parts of the interior of the tank. The manner in which this is accomplished will now be described.

As best shown in Fig. 1, one of the walls of the tank, preferably the front wall 22, is made considerably lower than the opposite wall, it being preferably about half as high, and at the same side of the tank the top 23

is also cut away to about the same extent. The side walls 24 have their upper corners cut away on a line connecting the inner margin of the top with the upper margin of the front wall, thus forming an inclined opening at the upper front portion of the tank which extends across the same and lies in a plane extending from the top toward one side, as clearly shown in said figure. Projecting inwardly from the top of the tank parallel with its inner margin and a short distance therefrom, is a rib or flange 25, as shown in Figs. 1 and 3. Similar flanges 26 are provided parallel with and adjacent to the inclined edges of the side walls 24, as shown in Fig. 1, and a flange 27 is provided adjacent to the upper margin of the front wall 22, as best shown in Fig. 3. These flanges or ribs all serve as deflectors which, in cooperation with the edges of the hood hereinafter described, serve to prevent the water thrown by the distributing devices from escaping around the margins of the hood.

28 indicates the hood or cover, the shape of which is best shown in Figs. 1 and 3, from which it will be seen that it is like a hollow prism in shape, and when in its closed position, completes the box-like or square contour of the tank. The hood is provided along its longitudinal margins with lips 29, 30 arranged at an angle with the front and top portions 31, 32 respectively thereof, as best shown in Fig. 3. The lip 29, when the hood is in operative position, occupies an inclined position overlying the upper margin of the front wall 22 and flange 27, and the lip 30 in like manner projects angularly over the inner margin of the flange 25. The inclined margins 33 of the end pieces of the hood fit within the margins 34 of the sides of the tank, and overlie the flanges 26, as shown in Figs. 3 and 4. All these meeting edges, therefore, are protected so that water cannot be thrown directly against them, but is intercepted by the several flanges or lips, and therefore, is retained in the tank. The hood is connected with the top 23 by hinges 35 secured to the top and to the top portion 32 of the hood, as best shown in Fig. 3, and consequently, the hood may be either turned up to the position shown in Fig. 1 where it appears as resting on the fixed portion of the top of the tank, or it may be swung down into operative position in the manner shown in Fig. 3. When in the latter position, it may be secured by a catch 36 which engages a stop 37 secured to the front wall of the tank, as shown in Fig. 3.

To provide further protection against the escape of water at the front of the tank, I provide a removable shield or deflector 38 in the form of a plate which is fitted in guides 39 secured to the opposite end walls of the tank near the front wall, so that it

lies between the water throwing means hereinafter described and the opening into the tank, as shown in Fig. 3, said plate being arranged to slide vertically in said guides so that it may readily be removed or put in place. By placing said deflector in the position described it prevents the water thrown by the paddle wheel from impinging directly against the lower marginal portion of the cover, and, therefore, adequately protects against leakage at that point. By making this shield or deflector 38 removable access may readily be had to the interior of the front portion of the tank for cleansing purposes. As shown in Fig. 7, this deflector is provided with a flange 40 at its upper margin which is substantially level with the lower front edge of the opening into the tank, and serves as a support for the front or loop portion of a bail 41 shown in Figs. 3 and 5. The ends of the bail 41 are secured in sockets 42 fastened to the rear wall of the tank, as shown in Fig. 4. Thus the bail may readily be removed when necessary. This bail serves as a support for a rack or frame 43, best shown in Fig. 2, which is adapted to contain dishes, such as plates and saucers, and hold them in an upright position. Preferably this rack is fitted inside of a basket 44 of reticulated construction, so that cups and other similar articles not adapted to be mounted in the rack 43 may be suitably supported while being washed.

The wash water in the tank, which stands at a level determined by the height of the over-flow through the plug 12, is thrown against and around the articles to be washed by means of a paddle wheel 45 and paddles 46 carried by a rotary shaft 47 which extends across the lower portion of the tank above the level of the water therein, as shown in Figs. 3 and 4. The paddle wheel 45 is arranged near one end of the shaft, and the paddles 46, any desired number of which may be used, are secured on said shaft at intervals and so as to take up the water at different points during the rotation of the shaft. The advantage of this construction is that the distribution of the water throughout the upper portion of the tank may be better regulated, and a greater volume of water be thrown against the dishes which require it most, thereby effecting economy of operation. Obviously, the washing operation has to be continued long enough to cleanse all the dishes, although some might be completely cleansed long before others, and with an equal distribution of water throughout all portions of the tank there is considerable waste either of power or of time. By my improved arrangement, however, by properly distributing the dishes with relation to the paddle wheel and the paddles so that a greater volume of water

is thrown against the dishes hardest to wash, and a less volume against those more easily washed, the time or the power required for washing a batch of dishes may be considerably reduced.

The shaft 47 is driven by an electric motor 48 mounted on a support 49 at the underside of the tank, and connected with said shaft by pulleys 50, 51 and a belt 52, all enclosed within a housing 53, as best shown in Fig. 4.

For rinsing the dishes I provide spray pipes 54 which extend across the tank above the shaft 47, and are arranged transversely with reference thereto, said pipes being perforated at their upper sides so that they throw water in an upward direction against the dishes contained in the basket 44. The pipes 54 are connected with a supply pipe 55 arranged outside of the tank, as shown in Fig. 3, and provided with a quick-acting valve 56 controlled by a lever 57, as shown in Fig. 4. This valve is normally closed, and may be quickly opened by pressing the lever 57.

When the washing operation begins, as the shaft 47 rotates at high speed, considerable air pressure is generated within the tank, and to relieve such pressure, it is desirable that a vent be provided. For this purpose an opening 58 is provided at the top of the tank, as shown in Fig. 3, and to prevent the escape through said vent of the water thrown by the distributing devices, a deflector 59 is provided in the form of a plate which is secured to the top of the tank and extends parallel therewith over the vent at a short distance therefrom. By this arrangement although the pressure in the tank is relieved through the vent, the water therein can not escape through it as it is intercepted by the deflector 59.

From the foregoing description it will be seen that when the hood is open, as illus-

trated in Fig. 1, a basket containing dishes may be introduced or removed from the front without the necessity of lifting it to an inconvenient height, thereby lessening the labor of operating the machine. Besides, when the dishes are removed, the interior of the tank is more conveniently accessible for cleansing purposes or for making repairs. The fact that the bail 41 and the deflector 38 are both easily removable is also an advantage, as free access may be had to the lower portion of the tank for any necessary purpose. When open the hood or cover rests on the top of the tank and provides a shelf on which dishes to be placed in the tank can be temporarily deposited as the top of the hood then assumes a horizontal position. By this arrangement also there is no danger that the hood will fall on the head of the operator as it is securely supported without the use of links or other movable supporting devices.

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

A washing machine comprising a tank having an inclined opening extending across the same and lying in a plane extending from the top toward one side for the introduction of the articles to be washed, a cover hinged to the top of said tank and movable over said opening to close the same and prevent the escape of water therethrough, a deflecting plate removably fitted in the tank adjacent to and substantially parallel with the front wall thereof, means in said tank for throwing water upon the articles to be washed, and a bail-shaped frame having its ends removably fitted in sockets on the back wall of the tank, the loop portion of said frame extending over and being supported by said deflecting plate.

GEORGE S. BLAKESLEE.