July 24, 1923.

1,462,735

G. S. BLAKESLEE

WASHING MACHINE

Filed Nov. 10, 1919

2 Sheets-Sheet 1

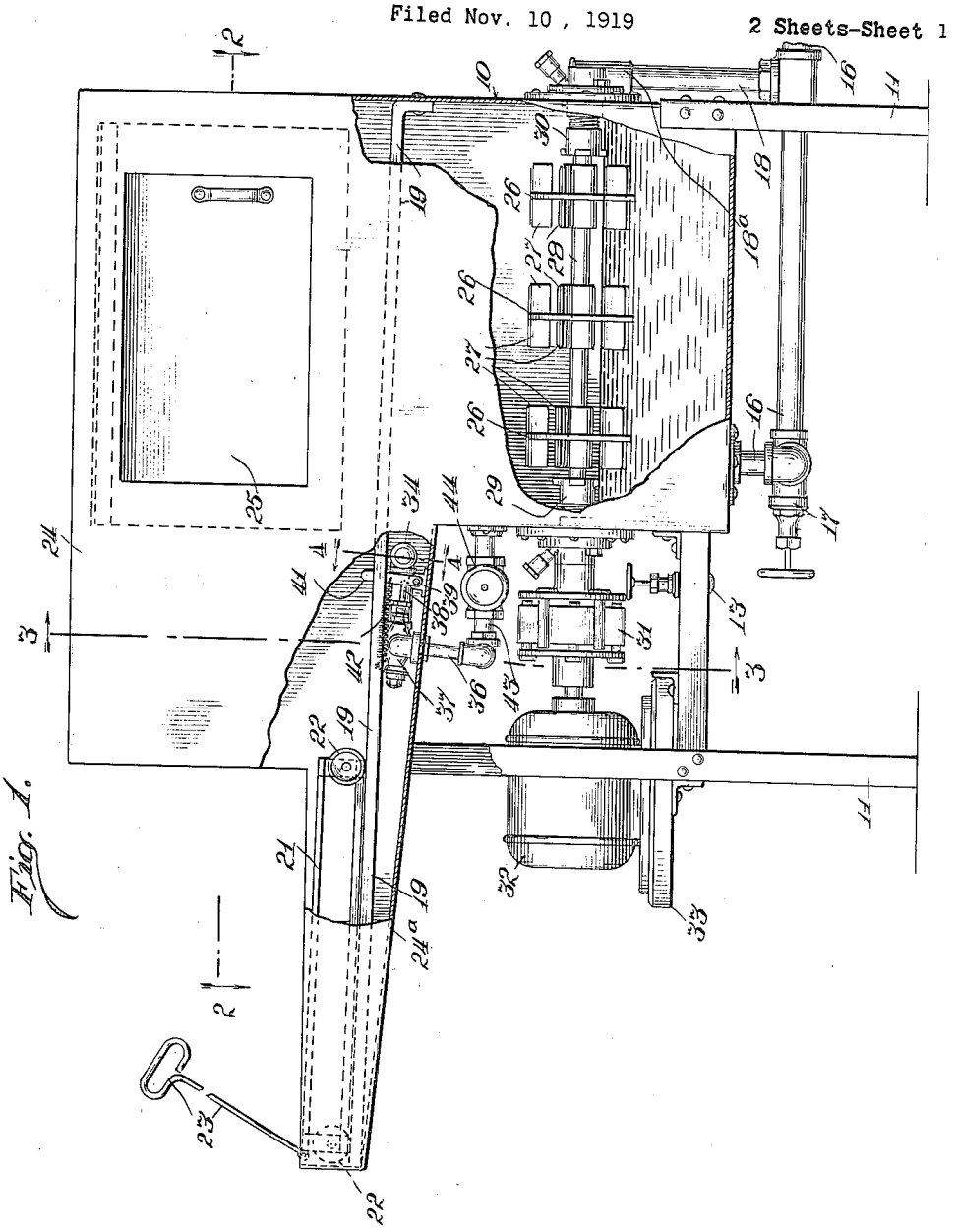


Fig. 1.

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Fig. 2.

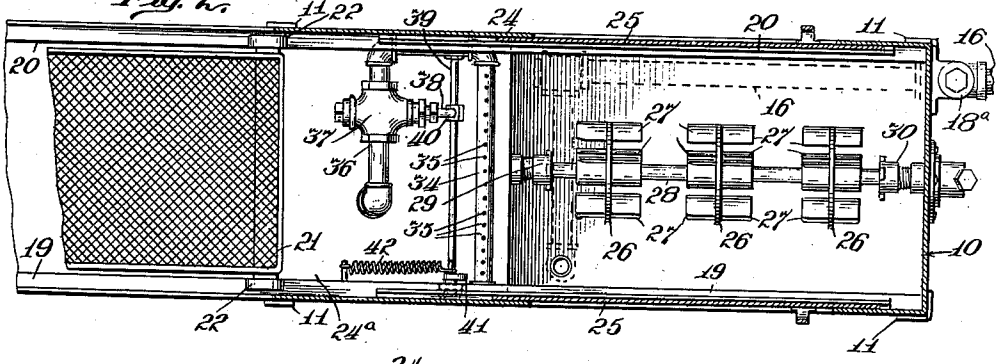


Fig. 3.

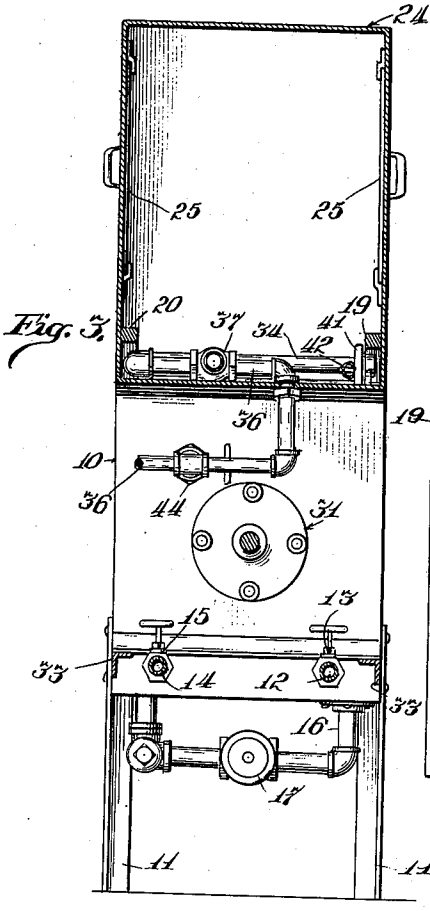
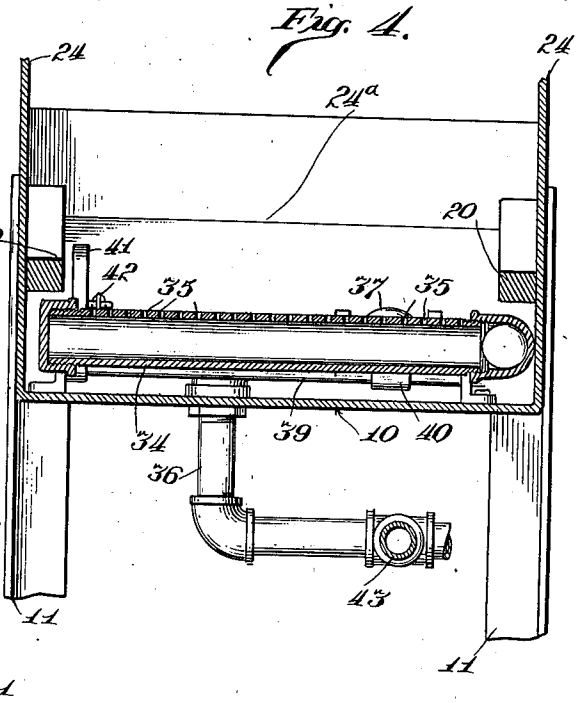


Fig. 4.



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UNITED STATES PATENT OFFICE.

GEORGE S. BLAKESLEE, OF OAK PARK, ILLINOIS.

WASHING MACHINE.

Application filed November 10, 1919. Serial No. 337,001.

To all whom it may concern:

Be it known that I, GEORGE S. BLAKESLEE, a citizen of the United States, and a resident of Oak Park, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Washing Machines, of which the following is a specification, reference being had to the accompanying drawing.

My invention, generally speaking, relates to dish washing machines although the embodiment thereof illustrated is particularly designed for washing glasses. It has for its object to provide a simple and compact machine of the type shown and described in my pending application, Serial No. 283,722, filed March 20, 1919, by the use of which glasses or other small articles may be quickly, conveniently and thoroughly washed and rinsed without much care or attention on the part of the operator, and with a minimum expenditure of power, so that the work may be done cheaply, and safely by unintelligent help. I accomplish this object as illustrated in the drawings and as hereinafter described. What I believe to be new and desire to cover by Letters Patent is set forth in the claims.

In the drawings,—

Fig. 1 is a side view of a washing machine embodying my improved construction, parts of the housing being broken away for clearness of illustration;

Fig. 2 is a horizontal section taken at line 2—2 of Fig. 1;

Fig. 3 is a vertical cross-section taken at line 3—3 of Fig. 1; and

Fig. 4 is an enlarged detail, being a substantially vertical cross-section taken at line 4—4 of Fig. 1.

Referring to the drawings,—10 indicates a tank supported by legs 11. 12 indicates a pipe for supplying water to said tank, which pipe is equipped with a valve 13, as shown in Fig. 3. The water in the tank 10 is adapted to be heated by means of steam supplied through a pipe 14 having a valve 15. A drain pipe 16 equipped with a valve 17 is connected to the bottom of the tank, and an overflow drain pipe 18 connected with the pipe 16 opens into the tank at the level at which it is desired to have the water stand therein. Preferably the overflow pipe 18 is provided with an adjustable sleeve 18^a at its upper end such as that shown and described in my pending application, Serial No. 182,251, filed July 23, 1917, so that the height of the overflow may be adjusted.

While being cleansed the glasses or other articles are supported above the water in the tank by means of inclined rails 19 and 20 secured along the sides of the tank and adapted to receive a reticulated carriage 21 designed to receive and support articles such as glasses in an inverted position, the carriage being mounted upon rollers or wheels 22 which run upon said rails. The rails 19, 20 extend a considerable distance out beyond the tank, as shown in Fig. 1, forming a table or apron for convenience in loading and unloading the carriage. The carriage is provided at its outer end with a pivoted handle 23 in the form of a rod by which it may readily be moved into or out of the machine. The handle also serves as a latch to hold the carriage in loading position, as hereinafter described. 24 indicates a housing which extends over the tank 10 and also forms a hood over the open end of the machine, as shown in Fig. 1. This housing, which may be made integral with the tank, is preferably provided with sliding doors 25 at its sides so that access may be conveniently be had to the interior thereof. It also extends under and partly around the outer end portions of the track formed by the rails 19, 20, to form an inclined drip pan 24^a which discharges into the tank 10.

The washing of the glasses or other articles is done by means of a plurality of paddle wheels mounted upon a common shaft which extends longitudinally of the rails 19 and 20 in such position that the lower portions of said paddle wheels dip into the water in the tank. In the construction shown, each of the paddle wheels comprises a disk or plate 26 provided with laterally disposed paddles or blades 27 at its opposite sides near the periphery thereof, said blades being preferably formed integral with the disks upon which they are mounted. Each of the disks 26 is fixedly mounted upon a shaft 28 journaled in suitable bearings at the opposite ends of the tank 10, as shown in Fig. 1. Stuffing boxes 29 and 30 are preferably provided at the bearings of the shaft to prevent leakage. The shaft 28 is connected directly by means of a flexible connection 31 of any approved type to the armature shaft of an electric motor 32 supported upon a base 33 attached to the machine in such position that the motor shaft is substantially

in alinement with the shaft 28. By this arrangement the drip pan 24ª overlies and protects the motor and the coupling 31. By the construction described, when the loaded basket is in operative position over the tank it overlies the paddle wheels, and consequently the rotation of said wheels throws great quantities of water upward with considerable force through the reticulated bottom of the carriage, into and over the glasses or other articles in the carriage so that they are effectually cleansed.

For rinsing the articles after the washing operation I provide a transversely disposed pipe 34 having perforations 35 along its upper face, together with means for delivering hot water under pressure to said pipe, so that the rinsing water is thrown upwardly into and over such articles, and provision is made for automatically turning on the supply of water to the pipe 34 by the act of withdrawing the carriage from its washing position, and for automatically shutting off the supply of rinsing water when the carriage has passed out of rinsing position. To this end, the pipe 34 is located below and across the path of the carriage, between the position in which the carriage stands for the washing operation and that which it occupies upon the outer end portions of the track when being loaded or unloaded. Hot water from any suitable source is supplied to the pipe 34 by a pipe 36, shown in Fig. 3, which is provided with a self-closing valve 37 having a stem 38 by inward movement of which the valve is opened, and this stem is so moved when the carriage is drawn out from its washing position but not when it is moved into the housing. For this purpose I provide a rock-shaft which is disposed transversely under the path of the carriage adjacent to the valve stem 38, which shaft carries an upwardly projecting arm 40 adapted to engage the outer end of said stem, as shown in Fig. 2, so that by rocking said shaft in a counter-clockwise direction as viewed in Fig. 1, said stem will be moved inwardly, and the valve opened. Rocking of said shaft in the opposite direction, however, does not operate the valve. The rock-shaft 39 is also provided near one end with an arm 41 which extends upward into the path of the carriage and is normally held in an upright position by a spring 42, as shown in Fig. 2. Consequently when the carriage is moved inwardly, or towards the tank 10, it will engage the arm 41 and rock the shaft 39 in a clockwise direction, which will carry the arm 40 away from the stem 38, leaving the valve closed. When the carriage passes beyond the arm 41 the spring 42 will restore it to its upright position, and therefore when the carriage is drawn out it will again engage said arm and rock the shaft 39 in the opposite direction, thereby opening the valve. Thereupon hot water will be supplied to the pipe 34 and will be discharged upwardly through its perforations into and around the contents of the carriage. This will continue until the carriage passes out far enough to clear the arm 41 and permit the valve to close. The rinsing water is conducted to the tank 10 by the drip pan 24ª, but the water in said tank is maintained at the proper level by the overflow outlet 18ª. Preferably a pipe 43 having a valve 44 is provided connecting between the pipe 36 with the tank 10, as is best shown in Fig. 1, for delivering hot water directly to the tank 10 when desired.

When the carriage is in its loading or unloading position at the upper or left hand end of the track as viewed in Fig. 1, it is desirable that it be secured in such position to prevent it from starting down the inclined track before it is ready. The handle 23 provides means for locking the carriage in that position, since by swinging said handle down over the outer end of the housing so that it hangs pendent it acts as a stop or latch for the carriage.

By the construction described I provide a machine which is peculiarly adapted for cleansing glasses and similar articles arranged in an inverted position, as both the washing and rinsing waters are thrown upward into and over the articles with sufficient force to thoroughly cleanse them. The machine occupies very little space and not much power is required to operate it, and all the operator has to do is to load and unload the carriage and move it into and out of the machine, so that it may be operated by the least expensive help.

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

1. A washing machine comprising a housing open at one end and closed at the other, a track extending into said housing toward the closed end thereof, a tank under the inner end portion of said track, means located beneath said track and rotating about an axis disposed longitudinally thereof for throwing water from said tank upward, and a carriage for the articles to be washed movable back and forth on said track.

2. A washing machine comprising a housing open at one end and closed at the other, a track extending into said housing toward the closed end thereof, a tank under the inner end portion of said track, a carriage for the articles to be washed movable back and forth on said track, means for throwing water from said tank upon the articles on said carriage, and means extending transversely under the path of said carriage between said water throwing means and the open end of said housing for rinsing the articles carried on said carriage.

3. A washing machine comprising a hous-

ing open at one end and closed at the other, a track extending into said housing toward the closed end thereof, a tank under the inner end portion of said track, a carriage for the articles to be washed movable back and forth on said track, means for throwing water from said tank upon the articles on said carriage, means extending transversely under the path of said carriage between said water throwing means and the open end of said housing for rinsing the articles carried on said carriage, and means operated by the withdrawal of the carriage from the housing for actuating said rinsing means.

4. A washing machine comprising an inclined track, a wheeled carriage movable back and forth upon said track and adapted to contain the articles to be washed, means for washing the articles, and a pivoted member connected with the carriage and movable into position to serve as a stop to hold the carriage stationary on said track.

5. A washing machine comprising a tank, an inclined track associated with said tank for supporting the articles to be washed as they are moved into or out of position to be washed, a wheeled carriage movable back and forth on said track, and a latch carried by the carriage for holding the carriage out of its washing position on said track.

6. A washing machine comprising a tank, an inclined track associated with said tank for supporting the articles to be washed as they are moved into or out of position to be washed, a wheeled carriage movable back and forth on said track, and a hinged handle connected with the outer end portion of said carriage and movable into position to hold said carriage stationary on said track.

GEORGE S. BLAKESLEE.