

H. MAGEE.
WASHING MACHINE.

APPLICATION FILED OCT. 13, 1915.

Patented May 30, 1916.

2 SHEETS—SHEET 2.

1,185,517.

Fig. 2

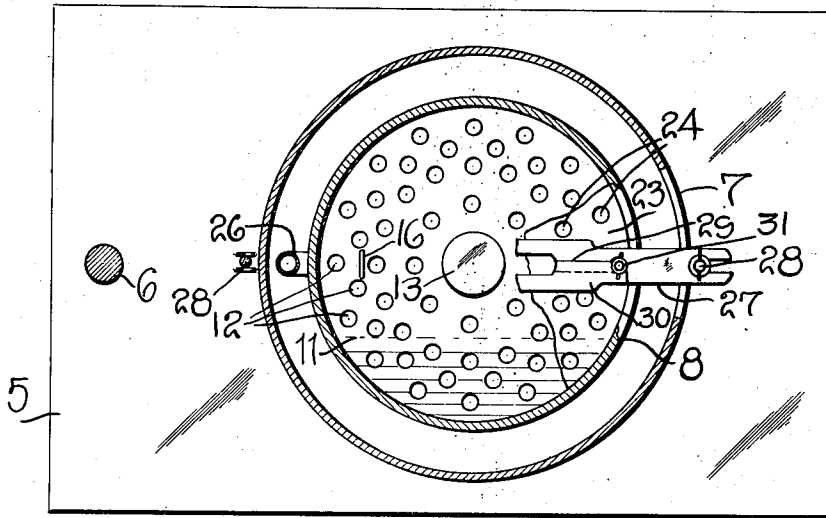
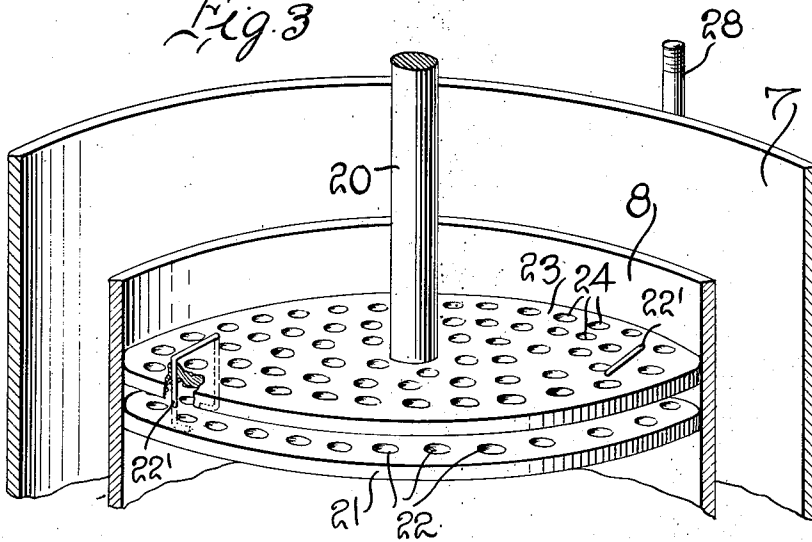


Fig. 3



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WASHING-MACHINE.

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Specification of Letters Patent.

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Application filed October 13, 1915. Serial No. 55,655.

To all whom it may concern:

Be it known that I, HUGH MAGEE, a citizen of the United States, residing at Rayville, in the parish of Richland and State of Louisiana, have invented certain new and useful Improvements in Washing-Machines, of which the following is a specification; reference being had to the accompanying drawings.

This invention relates to an improved washing machine and has for its primary object to provide a machine for quickly and thoroughly cleansing clothes and other articles of fabric, with a minimum of manual labor and without subjecting the articles to excessive wear.

It is another object of the invention to provide improved means for alternately creating pressure and suction within the clothes tub or receptacle so that the water is forced through the fabric articles to withdraw the dirt therefrom.

It is another and more particular object of the present invention to provide a double walled receptacle, the opposed receptacle walls being spaced apart, and the bottom of the inner receptacle being perforated, a foraminous disk valve mounted upon said perforated bottom wall for limited vertical movement with respect thereto, an air pipe centrally connected to the bottom of the inner receptacle and a valve normally closing the same, and a vertically reciprocating valved plunger arranged within the inner receptacle to operate upon the clothes and acting, in its upward movement, to lift the foraminous valve disk and also open the air valve, whereby the cleansing action of the water upon the clothes is facilitated.

My invention has for its further general object to produce a machine for washing clothes and like articles which is comparatively simple in its construction, may be easily operated and is highly efficient and reliable in practical use.

With the above and other objects in view, my invention consists in the novel features of construction, combination and arrangement of parts to be hereinafter more fully described, claimed and illustrated in the accompanying drawing, in which,

Figure 1 is a vertical section of a washing machine constructed in accordance with the preferred embodiment of my invention; Fig. 2 is a section taken on the line 2-2 of Fig. 1; Fig. 3 is a perspective view of the recip-

rocating plunger; and Fig. 4 is a bottom plan view thereof.

Referring in detail to the drawing, 5 designates a suitable platform or base upon one end of which a standard or upright 6 is securely fixed. Upon the platform 5 an outer receptacle 7 is arranged and, within the same, a second receptacle 8 is disposed in concentric relation to the annular body wall of said outer receptacle. The base of this inner receptacle is further provided with a number of supporting feet 9 which space the bottom wall of the same from the bottom of the outer receptacle 7.

The bottom of the inner receptacle is provided with a multiplicity of equidistantly spaced openings 10 and, upon this perforated bottom wall, the relatively movable valve disk 11 is mounted. This valve disk is also provided with a plurality of spaced openings 12, though it is to be observed that the openings in said disk are out of registering relation with the openings in the bottom wall of the receptacle when the disk is in its normal position of rest. The disk 11 is also provided with a relatively large central opening surrounded by the upwardly projecting short tube 13 which is closed at its upper end. A valve member 14 is movable through this central opening in the disk and within the tube and is provided with a rod or stem 15 projecting through a central opening in the bottom wall of the inner receptacle. In order to limit the upward movement of the valve disk 11 with respect to the bottom wall of the receptacle, I provide a number of U-shaped rods 16, the arms of which extend through said disk and through spaced openings in the bottom wall of the receptacle 8 and have their extremities angularly bent, as at 17. These extremities of the U-shaped rods engaging the bottom face of the base of the receptacle, determine the extent of upward movement of the valve disk 11.

In the upper end of the upright or standard 6, a lever 18 is fulcrumed adjacent one of its ends and one end of a coil spring 19 is attached to this end of the lever and has its other end suitably fixed to the standard 6. A plunger rod 20 is pivotally connected at its upper end to the lever 18 at an intermediate point, and the lower end of this rod is reduced in diameter and suitably connected to a plunger disk 21, said disk being provided with a plurality of spaced open-

ings 22. A valve disk 23 is also mounted upon the upper surface of this plunger disk and is vertically movable upon the reduced lower end of the plunger rod 20. The movement of this valve disk is also limited by means of the U-shaped rods 22 in a similar manner to the valve disk 11 arranged upon the bottom of the inner receptacle. The disk 21 is further provided with a plurality of spaced openings 24 which are normally out of registration with the openings in the plunger disk 21. The bottom face of this plunger disk has a sheet of wire fabric 25 secured thereon over the openings to prevent the clothes being drawn through said openings in the operation of the plunger.

A pipe 26 extends under the bottom of the inner receptacle 8 and has one of its ends connected to said bottom wall around the central opening therein. This pipe extends vertically upward between the walls of the outer and inner receptacles 7 and 8 and has its other end disposed slightly above the upper edges of said receptacles.

In order to securely clamp the receptacles 7 and 8 in position upon the platform or base 5, I provide a bar 27 which is to be arranged diametrically across the upper ends of the outer receptacle and rest upon the edges thereof. The extremities of this bar are slotted to receive the upper ends of rods 28 which are suitably pivoted at their lower ends upon the base 5. The upper ends of these rods are provided with suitable clamping nuts which are adapted to be adjusted into engagement with the ends of the bar 27 whereby said bar is tightly clamped upon the upper edges of the outer receptacle wall. One of the longitudinal edges of the bar 27 is recessed, as at 29, and a bar 30 is pivoted at one of its ends to the bar 27 and similarly recessed in one of its longitudinal edges. This bar 30, when arranged in parallel relation to the bar 27, is connected at its other end to the latter bar by means of a suitable clamping bolt 31, the opposed recesses in said bars accommodating the plunger rod 20 and permitting of its free vertical movement.

In the operation of the machine, the inner receptacle 8 is filled with saponified water and the clothes to be washed are placed therein. The lever 18 is now operated and when the plunger and valve disk are raised, it will be understood that the disk 23 will be in intimate contact with the upper surface of the plunger disk and close the openings in the latter. In this upward movement of the plunger, the valve disk 11 in the bottom thereof is lifted and the valve member 14 is also drawn by suction to its open position so that air may enter from the pipe 26 into the bottom of the inner receptacle and pass upwardly through the openings in the disk 11, thus accelerating the movement

of the water through the articles of fabric and causing a swirling motion of the same so that the clothes will be agitated and the dirt thus more effectively loosened and removed. When the plunger and its valve disk are forced downwardly, a reverse action occurs, namely, the lower valve disk 11 is forced to its closed position while the upper valve disk 23 will be lifted from the plunger disk 21 by the upward pressure of the water as it passes through the openings in the plunger disk. In the downward movement of the plunger, the water which is displaced thereby will overflow from the inner receptacle into the outer receptacle. Thus, splashing of the water out of the inner receptacle and upon the base or platform on which the operator stands, is obviated. In this manner, it will be understood that a large number of articles may be easily, quickly and thoroughly washed and without injury thereto, as frequently occurs when the articles are rubbed or otherwise frictionally acted upon by a roughened surface.

The several parts of the machine are of exceedingly simple construction and may be easily and quickly assembled or disassembled when desired. It will, of course, be understood that the machine may be equipped with tubs or receptacles of any desired diameter, the diameter of the plunger and valve disks also varying accordingly.

While I have shown and described what I believe to be the present preferred embodiment of my invention, it is, nevertheless, also to be understood that the same is susceptible of considerable modification therein and I, therefore, reserve the privilege of adopting all such legitimate changes as may be fairly embodied within the spirit and scope of the invention as claimed.

Having thus fully described my invention, what I desire to claim and secure by Letters Patent is:—

1. In a washing machine, inner and outer spaced receptacles, said inner receptacle having a perforated bottom wall, a perforated valve disk arranged upon the bottom of said inner receptacle and normally closing the perforations therein, means for limiting upward vertical movement of the valve disk, an air supply pipe centrally connected to the bottom wall of the inner receptacle to admit air to said receptacle when the valve disk is lifted and spaced from the bottom wall of said receptacle, and a reciprocating plunger arranged within the inner receptacle.

2. In a washing machine, inner and outer spaced receptacles, said inner receptacle having a perforated bottom wall, a perforated valve plate arranged upon the bottom of the inner receptacle and normally clos-

ing the perforations therein, means extending through the valve disk and the bottom wall of the receptacle and normally limiting the upward vertical movement of the valve disk with respect to said wall, an air supply pipe centrally connected to the bottom wall of said receptacle, an upwardly opening valve normally closing said pipe, a tubular casing carried by the valve disk to receive said valve, and a manually operable plunger mounted to reciprocate in the inner receptacle including a perforated disk, a

perforated valve disk arranged upon the plunger disk and normally closing the openings therein, and means connecting said disks and limiting the upward vertical movement of the valve disk with relation to the plunger disk. 15

In testimony whereof I hereunto affix my signature in the presence of two witnesses. 20
HUGH MAGEE.

Witnesses:

F. A. MILES,
F. H. HOBSON.