G. A. POST.

WASHING MACHINE.

APPLICATION FILED OCT. 15, 1906.

923,888. **Patented June 8, 1909.**

Fig. 1.

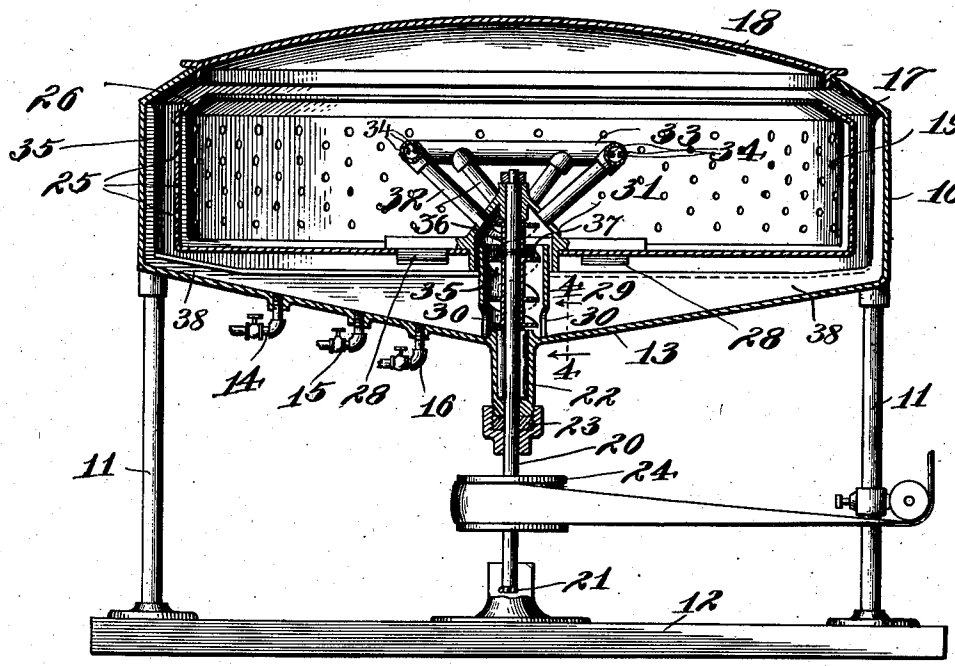


Fig. 2.

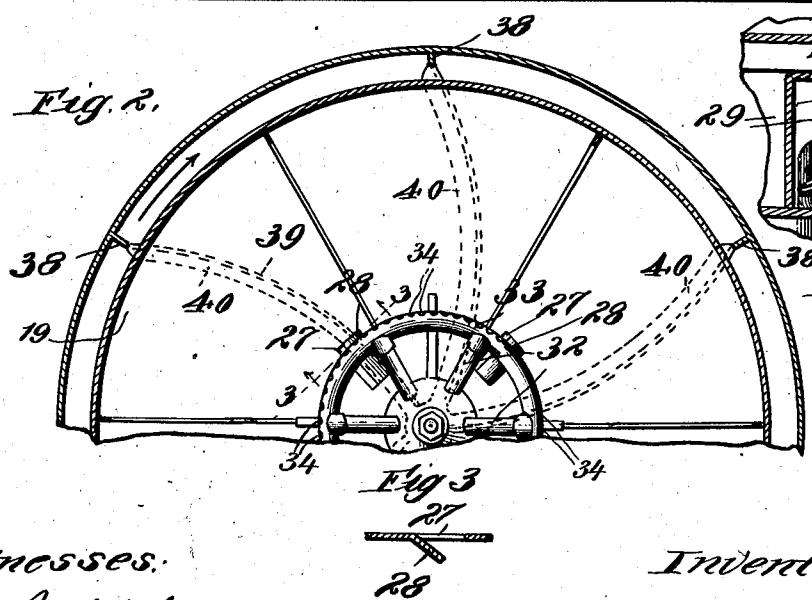


Fig 3

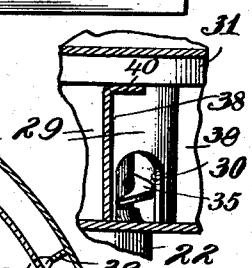


Fig. 4.

Witnesses:

G. A. Paubenschmidt

E. M. Klatcher

Inventor:

George A. Post,

By Louis K. Gillson

Atty

UNITED STATES PATENT OFFICE.

GEORGE A. POST, OF CHICAGO, ILLINOIS.

WASHING-MACHINE.

No. 923,888. Specification of Letters Patent. Patented June 8, 1909.

Application filed October 15, 1906. Serial No. 339,033.

To all whom it may concern:

Be it known that I, GEORGE A. POST, a citizen of the United States, and resident of Chicago, county of Cook, and State of Illinois, have invented certain new and useful Improvements in Washing-Machines, of which the following is a specification and which are illustrated in the accompanying drawings, forming a part thereof.

The invention relates to machines for washing clothing, and particularly to those of that type in which a receptacle adapted to be rapidly revolved is provided for the articles to be washed, and a cleansing fluid is caused to permeate the contents of the receptacle by centrifugal force.

The invention contemplates a basin for containing the cleansing fluid, a clothes receptacle mounted for rotation within the basin and having a foraminous peripheral wall, and means for raising the cleansing fluid from the floor of the basin to the interior of the receptacle.

A feature of the invention provides for removing the fluid contents of the basin in order that the device may also be employed in the usual way as a centrifugal drying machine.

The object of the invention is to provide means whereby clothing may be washed, rinsed, blued and dried in a single machine without being handled between such operations.

In the accompanying drawings, Figure 1 is a central vertical section showing a machine constructed according to the invention; Fig. 2 is a plan view, partly broken away, of the same machine; Fig. 3 is a sectional detail taken on the line 3—3 of Fig. 2; Fig. 4 is a sectional view on the line 4—4 of Fig. 1.

A cylindrical shell 10 is provided for the operative parts of the machine, and is preferably carried by standards, as 11, 11, rising from a base or floor plate 12. As shown, the shell 10 takes the form of a basin having a floor 13 which is downwardly inclined toward its center and is provided with valved pipes, as 14, 15, for the introduction of the various fluids employed in treating the articles to be cleansed, and with a valved drain-opening 16. The side walls of the shell or basin are flanged inwardly at the top, as indicated at 17, and a removable cover 18 is applied thereto.

A clothes receptacle 19 is rotatably mounted within the basin, being preferably secured to a shaft 20 which is stepped in the base plate at 21 and extends upwardly through the floor of the basin. As shown, a roller bearing 22 is provided for the shaft in the floor of the basin, and a packing gland 23 is applied to one end of the bearing to prevent leakage. The side walls of the receptacle 19 are freely perforated, as indicated at 25, to permit the escape of water by centrifugal force, and the upper margins of its walls are flanged inwardly, as indicated at 26, to prevent the contents of the receptacle from being thrown over its sides. For driving the receptacle a belt pulley 24 is preferably mounted on the shaft 20 below the basin.

Provision is made for the admission of water from the basin 10 to the receptacle 19 adjacent its axis of rotation. For this purpose there is shown a plurality of openings 27 formed in its floor, and for each opening there is preferably a lip 28 which projects downwardly at an angle from one of the side edges of the opening to form a chute for directing water from the basin through the opening to the interior of the receptacle. Preferably, also, a stand-pipe 29 rises from the floor of the basin at its center for delivering water to the interior of the clothes receptacle 19. As shown, it is provided at its foot with a plurality of intake openings 30, and the floor of the receptacle 19 is socketed, as indicated at 31, to fit over the head of the pipe and to provide a nozzle for the discharge of water from the pipe to the interior of the receptacle. This nozzle preferably comprises a plurality of pipes 32 which extend radially outward and upward from the walls of the socket 31 and have their outer ends united by a ring 33, which has a plurality of circumferentially arranged eduction ports 34.

An Archimedean screw 35 is mounted within the stand pipe 29 for raising water from the floor of the basin to the discharge openings 34 of the nozzle. As shown it is formed upon a sleeve 36 which incloses a portion of the shaft 20, and is firmly secured thereto by means of a cotter pin 37.

To arrest the circumferential movement of the water delivered from the side walls of the rotating receptacle 19, and to direct it toward the center of the basin 10, a plurality of baffles 38 are formed on the side walls of the basin. As shown these baffles are continued along the floor of the basin to the stand pipe 29, and each joins the walls of the stand pipe at the side of one of the

openings 30 at its foot. Preferably that part of each of the baffles which extends along the floor of the basin is formed in a curve inclined to a radius of the basin, as indicated at 39, Fig. 2, and is provided with an overhanging flanged edge 40, most clearly shown in Fig. 4, this overhang being opposed to the direction of movement of the receptacle 19, indicated by the arrow in Fig. 2.

In using the device for washing and drying clothing, the articles to be treated will preferably be placed within the receptacle 19, while still dry, and the machine given a few revolutions at a high speed before any of the cleansing water is introduced in order that the clothing may become compacted against the side walls of the receptacle 19 without tangling or tearing. Water for cleansing, rinsing and bluing the articles will then be introduced in succession through the valved pipes 14, 15, a sufficient quantity being preferably employed in each case to fill the basin 10 to a depth adapted to cover the floor of the receptacle 19 when the machine is at rest. By means of the screw 35 within the stand pipe 29 and the inclined lips 28, water will be delivered to the interior of the receptacle 19 when it is rapidly revolved, through the openings 34 and 27, respectively, and will be thrown by centrifugal force upon the clothing compacted against the peripheral wall of the receptacle. On passing through the clothing, it will be delivered to the side walls of the basin through the openings 25 in the walls of the receptacle 19, and it will then be directed by the baffles 38 to the center of the basin. From this point it will be again drawn into the receptacle by the Archimedean screw 35, and a continuous circulation of the fluid contents of the basin is thus maintained. After one or more of the washing operations have been completed in the manner described, the clothing contained within the receptacle 19 may be thoroughly dried by opening the valve of the drain-pipe 16 while the machine is still in motion. The excess water held by the clothing will then be thrown by centrifugal force against the side walls of the basin from which it may escape through the drain-pipe.

I claim as my invention—

1. In a device of the kind described, in combination, a rotatable clothes receptacle having a foraminous peripheral wall, a water conduit entering the receptacle, and a nozzle for the conduit comprising a ring-shaped pipe lying in the plane of rotation of the clothes receptacle and having a plurality of circumferential discharge openings.

2. In a device of the kind described, in combination, a non-rotatable stand pipe, a clothes receptacle having a foraminous peripheral wall and being rotatable about the pipe, a nozzle for the pipe located within the receptacle and having its delivery opening directed at an angle to the axis of rotation of the clothes receptacle and means actuated by the receptacle for elevating water in the standpipe.

3. In a device of the kind described, in combination, a stand pipe, and a clothes receptacle having a foraminous peripheral wall and a socket in its floor for rotatably receiving the end of the pipe, the walls of the socket entering the chamber of the receptacle and having a discharge opening directed at an angle to the axis of the pipe.

4. In a device of the kind described, in combination, a stand pipe, a clothes receptacle having a foraminous peripheral wall and a socket in its floor for rotatably receiving the end of the pipe, the walls of the socket having an opening communicating with the chamber of the receptacle and with the interior of the pipe.

5. In a device of the kind described, in combination, a stand pipe, a clothes receptacle having a foraminous peripheral wall rotatably mounted on the pipe, and a nozzle for the pipe comprising a ring-shaped pipe having a plurality of circumferential discharge openings, the ring being located within the receptacle and lying in the plane of its rotation.

6. In a device of the kind described, in combination, a basin, a non-rotatable standpipe rising from the floor of the basin and having an opening at its foot, a clothes receptacle having a foraminous peripheral wall and being rotatable about the standpipe, a nozzle leading from the standpipe and discharging into the receptacle, and means actuated by the rotation of the receptacle for raising the water through the pipe.

7. In a device of the kind described, in combination, a basin, a non-rotatable standpipe rising from the floor of the basin and having an opening at its foot, a clothes receptacle having a foraminous peripheral wall and being rotatable about the standpipe, a nozzle leading from the standpipe and discharging into the receptacle, an Archimedean screw within the pipe, and connection between the screw and a wall of the receptacle.

8. In a device of the kind described, in combination, a basin, a stand-pipe rising from the floor of the basin and having an opening at its foot, a shaft entering the basin and extending within the pipe, a rotatable clothes receptacle having a foraminous peripheral wall carried by the shaft within the basin and having a socket fitting over the end of the pipe, the walls of the socket entering the chamber of the receptacle and having a discharge opening directed at an angle to the shaft, and an Archimedean screw mounted on the shaft within the stand-pipe.

9. In a device of the kind described, in combination, a rotatable clothes receptacle having a foraminous peripheral wall, a non-

rotatable stand-pipe on the axis of the receptacle and having an induction port below the receptacle, an Archimedean screw within the stand-pipe, a lateral nozzle for the stand-pipe, delivering into the receptacle, and operative connection between the receptacle and the screw.

10. In a washing machine, in combination, a basin, a rotatable clothes receptacle in the basin and having a central conduit leading upwardly through its bottom, such conduit being laterally inclined at its upper end and discharging radially into the receptacle.

11. In a device of the kind described, in combination, a basin, a clothes receptacle mounted for rotation within the basin and having a closed bottom, a conduit leading upwardly through the bottom of the receptacle adjacent its axis of rotation and discharging into the receptacle at a point more remote from the axis of rotation, and a rib rising from the bottom of the basin and leading toward the center thereof and having an overhang opposed to the direction of movement of the receptacle.

12. In a device of the kind described, in combination, a basin having walls downwardly inclined toward its center, a stand pipe rising from the floor of the basin at its center and having an opening at its foot, a rib leading to the wall of the stand pipe adjacent the opening and being inclined to a radius of the basin, a clothes receptacle having a foraminous peripheral wall rotatably mounted on the stand pipe, a nozzle for the pipe delivering to the interior of the receptacle and means operated by the rotation of the receptacle for raising water through the pipe.

13. In a device of the kind described, in combination, a basin, a clothes receptacle mounted for rotation within the basin and having a closed bottom, a conduit leading upwardly through the bottom of the receptacle adjacent its center of rotation and discharging into the receptacle at a point more remote from the center of rotation than the port at its lower end, and a rib rising from the bottom of the basin and leading toward the center thereof in a direction inclined to its radius.

14. In a device of the kind described, in combination, a basin, a clothes receptacle rotatably mounted in the basin and having a perforated peripheral wall and an annular series of ports in its bottom, and a lip projecting downwardly and forwardly from the rear side of each port.

GEORGE A. POST.

Witnesses:
S. K. DENNIS,
E. H. CROOK.