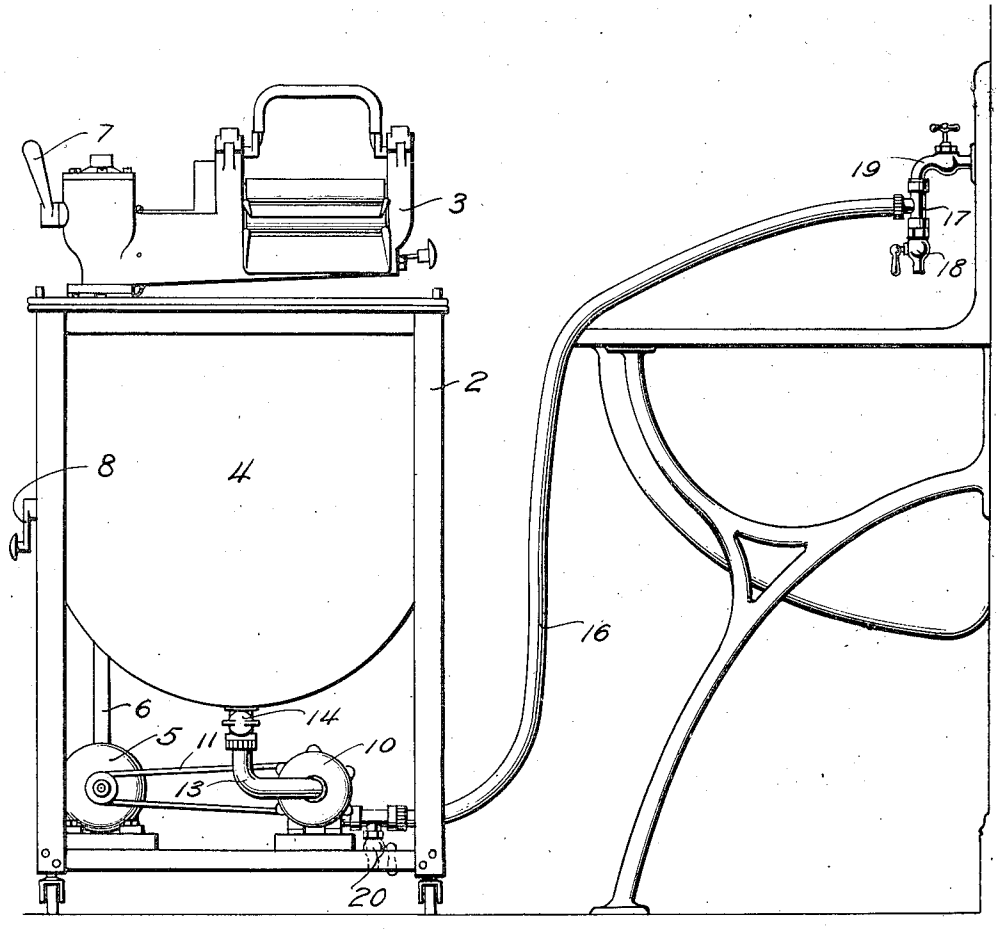
Aug. 19, 1924. 1,505,492

C. E. REDDIG

WASHING MACHINE

Filed Oct. 4, 1920



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Att'y.

Patented Aug. 19, 1924. 1,505,492

UNITED STATES PATENT OFFICE.

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WASHING MACHINE.

Application filed October 4, 1920. Serial No. 414,396.

To all whom it may concern:

Be it known that I, CHARLES E. REDDIG, a citizen of the United States, residing at Kew Garden, Richmond Hill, Long Island, in the county of Queens and State of New York, have invented certain new and useful Improvements in Washing Machines, of which the following is a full, clear, concise, and exact description.

This invention relates to the combination of a clothes-washing, dish-washing or other machine having a tank, and means for conveniently filling and emptying said tank.

One of the laborious operations in connection with the use of washing machines for domestic service has been the filling and emptying of the tank. This has usually been accomplished merely by the use of a pail; although sometimes a hose connected to the source of water supply has been used to fill the tank, and a pump driven by the motor which drives the washing machine has been arranged to empty the tank through another hose leading to a sink or set-tub.

According to the present invention, means simpler than the means above mentioned is provided for filling and emptying a washing machine tank. In its simplest form, the invention requires, in combination with a washing machine tank, a pump through which water may pass both in and counter to the pumping direction, said pump being connected on its intake side to the tank of the washing machine and on its outlet side to a hose adapted either to be connected to a source of water supply or to be directed towards a drain, the driving power for the pump being obtained, preferably through a driving connection, from the same motor which drives the washing machine. When the tank is to be filled, the water from the source of water supply passes through the pump counter to the pumping direction; and when the tank is to be emptied the water is pumped out through the same hose through which the tank is filled. In order to avoid the necessity of attaching the hose to and disconnecting it from the source of water supply, the end of the hose is preferably provided with a fitting having a valve-controlled outlet as well as means for making connection with a source of water supply. When this fitting is used, the valve-controlled outlet is closed during the filling operation, thereby permitting water to flow from the source of water supply through the hose and through the pump into the tank; and said valve-controlled outlet is opened during the emptying operation, thereby permitting the pump to draw water from the tank and force it through the hose and the valve-controlled outlet to the drain.

In the drawing, the invention is shown as applied to a clothes washing machine and to the faucet of a wash tub.

In the drawing, the washing machine to which the invention is applied is shown as comprising a frame 2, a wringer 3 mounted thereon, a tank 4 supported in the frame, and a motor 5 which through a shaft 6 and gearing (not shown) drives the wringer 3 and the mechanism within the tank 4. The wringer is controlled by the handle 7 and the washing machine by the handle 8; but the constructions of the wringer and the washing machine need not be further described since they form no part of the present invention.

Mounted in the frame 2 beneath the tank 4 is a pump 10, preferably of the centrifugal type, which is driven by the motor 5, preferably through a driving connection which may consist of a belt 11 passing over pulleys on the rotating members of the motor and pump. The pump 10 is of such a form that water may pass through it both in and counter to the pumping direction. On its intake side, the pump 10 is connected through a pipe 13 and valve 14 with the lowest portion of the tank 4. The outlet side of the pump 10 is connected to a pipe 16 the end of which is adapted to be removably connected to a source of water supply. In the preferred form of the invention shown in the drawing, the end of the pipe 16 is provided with a fitting having a valve-controlled outlet and means for making connection with a source of water supply. As shown, this fitting comprises a pipe T 17 to which is secured a cock 18. The fitting may be connected to a faucet 19 in a manner obvious from the drawing. The pump 10 or the pipe 16 at its lowest point is preferably provided with a cock 20 which permits complete drainage of the small amount of water left in the pipe 16 after the pumping operation is completed.

The invention may be used in the following ways to fill and empty the tank 4. The tank may be filled either while the pump 10 is being driven or while it is at rest, since said pump allows water to pass through it counter to as well as in the pumping direction. Assuming that the cocks 18 and 20 are closed and that the valve 14 is open, when the faucet 19 is turned on water will pass through the pipe 16 the pump 10, pipe 13 and valve 14 into the tank 4, thereby filling the latter to any desired extent. This is of course on the assumption that the water pressure in the main to which the faucet 19 is attached is sufficient to overcome the pumping action of the pump 10, which is practically always the case since the pump 10 needs to be capable of raising water only a few feet. When the water has reached the desired level in tank 4, the faucet 19 may be turned off and the water will be retained in the tank 4 as long as the cock 18 is kept closed, in spite of the pumping tendency of the pump 10. If, however, the valve 14 is closed, the water will be prevented at that point from leaving the tank; and then the cock 18 may be opened and the faucet 19 turned on, thereby letting water flow through the fitting and into the tub. When it is desired to empty the tank 4, the valve 14 is opened, the cock 20 is left closed, the faucet is turned off and the cock 18 is opened; whereupon the pump will draw water from the tank and force it through the pipe 16 and the cock 18 into the tub. When water ceases to flow from the cock 18, a pan may be placed below the cock 20 and the latter may be opened to allow the small amount of water remaining in the pipe 16 to drain into the pan, thereby completely freeing the system of water.

It will be obvious that the present invention not only provides for conveniently filling and emptying the tank for a washing operation, but also for the rinsing of either the tank contents or the tank itself.

What is claimed is:

1. In combination, a washing machine, a pump through which water may pass both in and counter to the pumping direction, a motor for driving said pump, a pipe connecting the intake side of said pump with the tank of said washing machine, and a pipe connected to the outlet side of said pump and adapted to be removably connected to a source of water supply.

2. In combination, a washing machine, a pump through which water may pass both in and counter to the pumping direction, a motor for driving said pump, a pipe connecting the intake side of said pump with the tank of said washing machine, a pipe connected to the outlet side of said pump, and a fitting on the end of said last-named pipe provided with a valve-controlled outlet and means for making connection with a source of water supply.

3. In combination, a washing machine, a pump through which water may pass both in and counter to the pumping direction, a motor, a driving connection between said motor and said pump whereby the pump is actuated whenever the motor is in operation, and single means for conducting water to and from said pump.

In witness whereof, I hereunto subscribe my name this 28th day of September, A. D. 1920.

CHARLES E. REDDIG.