Feb. 10, 1925. 1,525,784

P. E. TWIGGS

WASHING MACHINE

Filed May 23, 1923 2 Sheets-Sheet 1

Fig. 1.

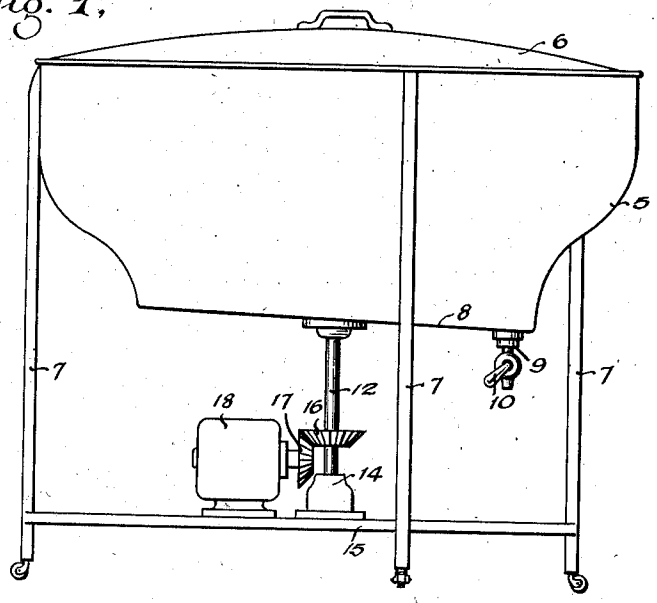
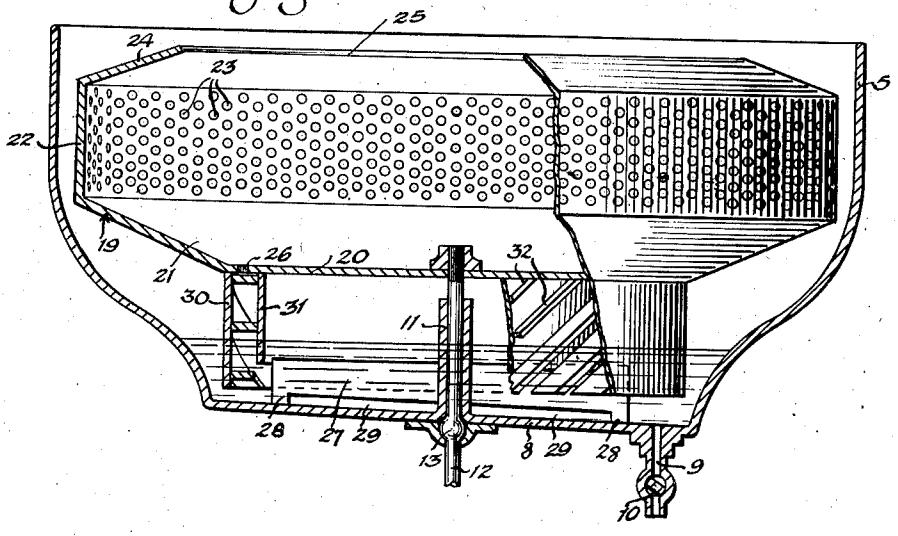


Fig. 2.



WITNESSES

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Fig. 3,

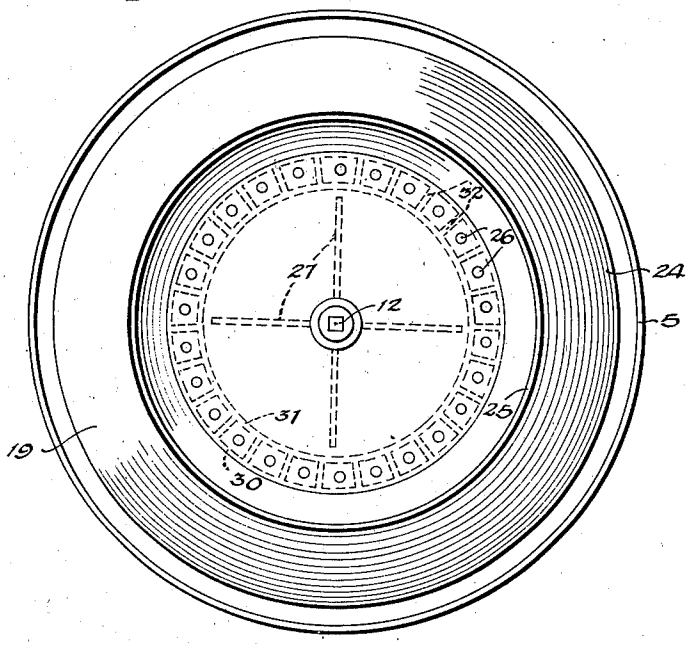
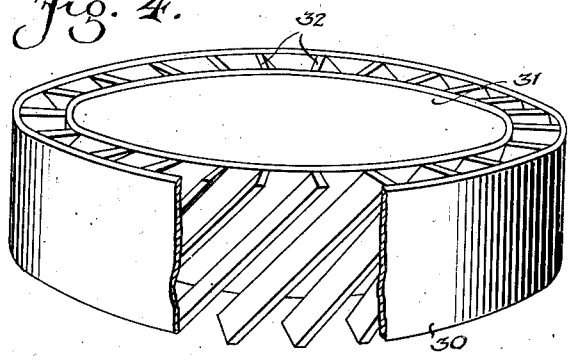


Fig. 4.



WITNESSES

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UNITED STATES PATENT OFFICE.

PAUL EVE TWIGGS, OF HIGHWOOD, NEW JERSEY.

WASHING MACHINE.

Application filed May 23, 1923. Serial No. 640,928.

To all whom it may concern:

Be it known that I, PAUL E. TWIGGS, a citizen of the United States, and a resident of Highwood, in the county of Bergen and State of New Jersey, have invented a new and Improved Washing Machine, of which the following is a full, clear, and exact description.

This invention relates to improvements in washing machines, and has particular reference to a machine for washing clothes.

An object of the invention is to provide an improved machine in which a washing fluid is effectively circulated through the clothes containing receptacle so that the clothes therein will be thoroughly cleansed.

Another object is the provision of a washing machine of simple and practical construction.

The above and other objects will appear more clearly from the following detail description, when taken in connection with the accompanying drawings, which illustrate a preferred embodiment of the inventive idea.

In the drawings—

Figure 1 is a side elevation of the machine constructed in accordance with the invention;

Figure 2 is a fragmentary vertical sectional view with parts broken away to show the interior construction;

Figure 3 is a top plan view of the cover of the machine removed; and

Figure 4 is a perspective view, partly broken away and shown in section, of a portion of the impelling mechanism employed in connection with the invention.

The form of the invention shown in the accompanying drawings comprises an outer casing 5 having a removable cover 6 and supported in an elevated position by means of legs 7. The bottom 8 of the casing is inclined and provided therein with an outlet 9 controlled by a suitable valve 10, which may be opened to permit of draining the water or other cleansing fluid from the casing. Centrally of the bottom 8 the same is provided with an inwardly and upwardly extending bushing 11 for receiving the vertically arranged driven shaft 12 having an intermediate bearing 13 and a lower bearing, conventionally shown at 14, the latter bearing being carried by a supporting shelf 15 secured to the legs 7. The shaft 12 is further provided with a bevel gear 16 meshing with a similar gear 17 carried by the shaft of an electric motor or other suitable driving means 18 supported upon the shelf 15 and operable to rotate the shaft 12 in either direction.

Supported by the upper end of the shaft 12 and within the casing 5 is a clothes receiving receptacle, generally indicated by the numeral 19, and including the bottom 20 having an outwardly and upwardly inclined portion 21, from the outer edge of which extends the vertical side 22 having a plurality of perforations 23 through which water may be discharged from the receptacle during the operation of cleaning and drying the clothes. The top 24 of the receptacle 19 is provided therein with an opening 25 through which clothes may be inserted into and removed from the receptacle. The bottom 20 of the receptacle is provided with an annular row of openings 26 through which the cleansing fluid from the casing 5 is injected into the receptacle by the impelling mechanism presently to be described.

The impelling mechanism preferably comprises a plurality of baffle blades or plates 27 having their inner ends secured to the bushing 11 and extending radially therefrom, the outer extremities of said blades having the projections 28 which rest upon the bottom of the casing, thus forming openings 29 beneath the blades through which the water may circulate when being agitated by the rotating portion of the impelling mechanism carried by the receptacle 19 and hence driven by the rotary shaft 12. The rotating portion of the impelling mechanism includes the outer and inner walls 30 and 31, respectively, depending from the bottom 20 of the receptacle 19 and arranged on opposite sides of the row openings 26 so that said openings will be disposed between said walls. The inner wall 31 is arranged beyond the outer ends of the blades 27 and is of less depth than the outer wall 30 so that the lower edge of said inner wall will be approximately in a plane with the upper edges of the blades 27, thus permitting of a free circulation of the water in the casing as the impelling mechanism is rotated. Between the walls 30 and 31 a plurality of impelling blades 32 are mounted in inclined position relative to the walls and in substantially parallel relation with respect to each other. By thus

arranging the blades diagonally with respect to the axis of rotation of the impelling mechanism, it will be obvious that, with said mechanism is rotated in a clockwise direction, the water in the casing 5 is thoroughly agitated by the cooperation of said blades with the baffle blades 27 and quantities of said water are conveyed upwardly by the blades 32 and through the openings 26 in the bottom of the receptacle 19. After entering said receptacle the water is thoroughly circulated through the clothes therein by the centrifugal action, due to the rotation of said receptacle, and finally passes through the openings 23 from whence it falls back into the casing.

After the receptacle and impelling mechanism have been rotated sufficiently to cleanse the clothes in the receptacle the shaft 12 may be rotated in the opposite direction by reversing the motor 18. By thus reversing the direction of rotation of the receptacle the blades 32 will no longer operate to convey the water upwardly and through the openings 26 owing to the pitch of said blades and hence the rotation of said receptacle will merely operate to discharge, by centrifugal force, the water from the clothes until the same are dry or substantially so.

What is claimed is:

1. In a washing machine, a casing, a rotatable clothes containing receptacle therein having a plurality of openings in the bottom thereof, an impelling mechanism associated with said receptacle and including baffle members supported by said casing and extending centrally therefrom to points short of the wall of said casing, spaced concentric walls depending from the bottom of said receptacle and arranged on opposite sides of the openings therein, the inner one of said walls being arranged outwardly beyond the adjacent ends of said baffle members, and means disposed between said walls and cooperating with said baffle members to agitate a fluid in said casing and convey said fluid from the casing into said receptacle through the openings in the bottom of the latter.

2. In a washing machine, a casing, a rotatable clothes retaining receptacle therein having a plurality of openings in the bottom thereof, an impelling mechanism associated with the receptacle and including baffle members supported by said casing and extending centrally therefrom to points short of the wall of said casing, the outer ends of said baffle members having projections engageable with the bottom of said casing to provide openings beneath said members for permitting a washing fluid to circulate therethrough, spaced concentric walls depending from the bottom of said receptacle and arranged on opposite sides of the openings therein, the inner one of said walls being arranged outwardly beyond the adjacent ends of said baffle members, and means disposed between said walls and cooperating with said baffle members to agitate said fluid in said casing and convey the fluid from the casing into said receptacle through the openings in the bottom of the latter.

PAUL EVE TWIGGS.