July 12, 1927. 1,635,402

B. E. GETZ

WASHING MACHINE

Filed May 7, 1925 3 Sheets-Sheet 1

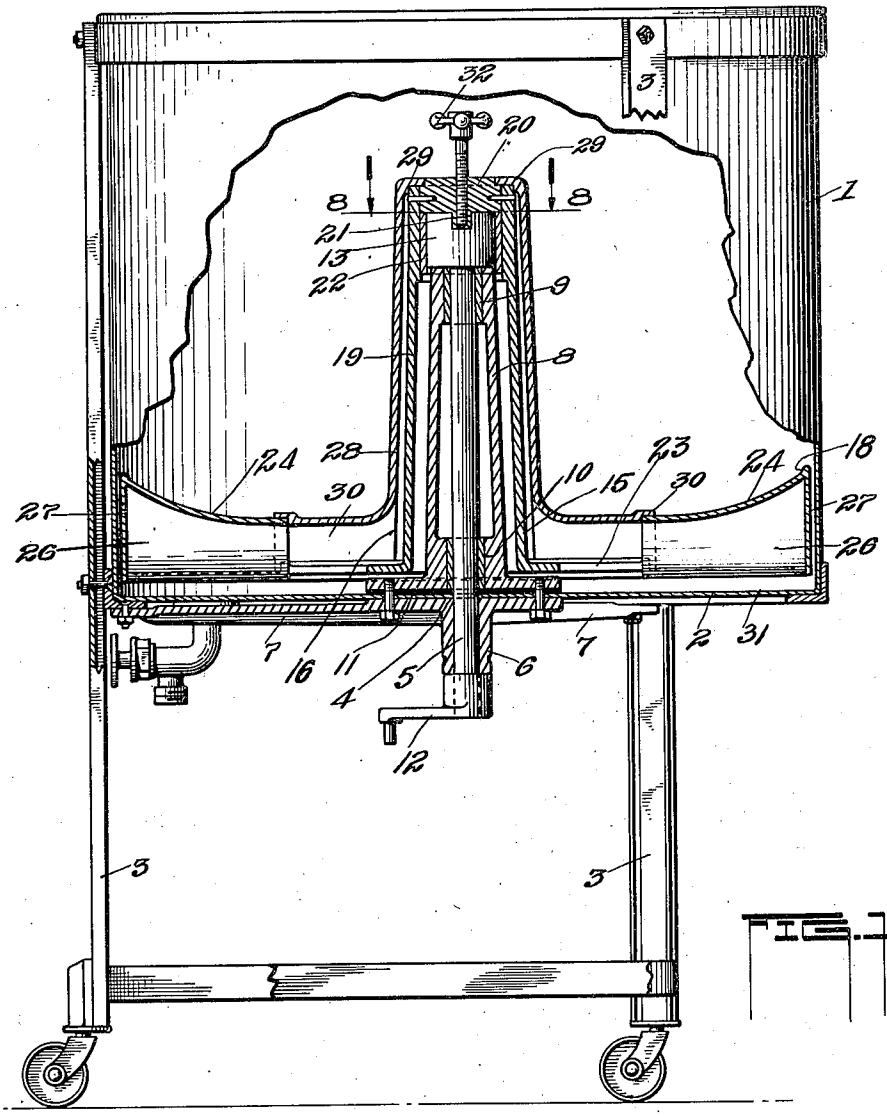


FIG. 1.

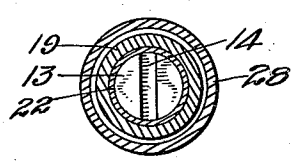


FIG. 2.

INVENTOR.

Benjamin E. Getz

Chas. LaPorte

ATTY

July 12, 1927. 1,635,402

B. E. GETZ

WASHING MACHINE

Filed May 7, 1925 3 Sheets-Sheet 2

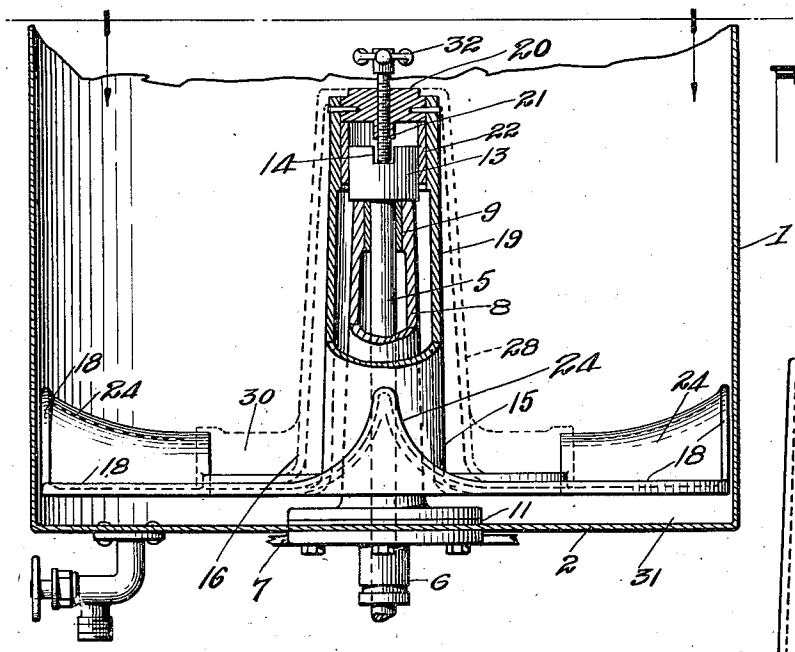


FIG. 2.

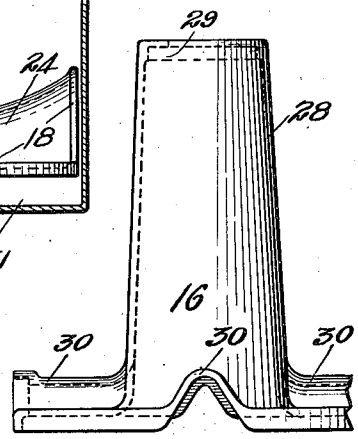
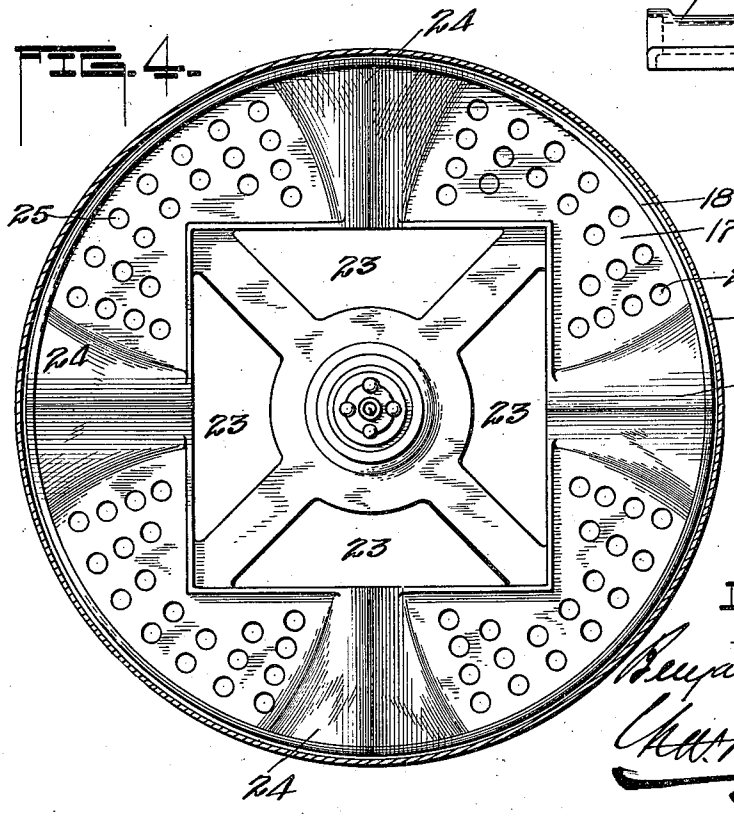


FIG. 3.

FIG. 4.



INVENTOR

Benjamin E. Getz

Albert LaPorte

ATTY

July 12, 1927. 1,635,402

B. E. GETZ

WASHING MACHINE

Filed May 7, 1925 3 Sheets-Sheet 3

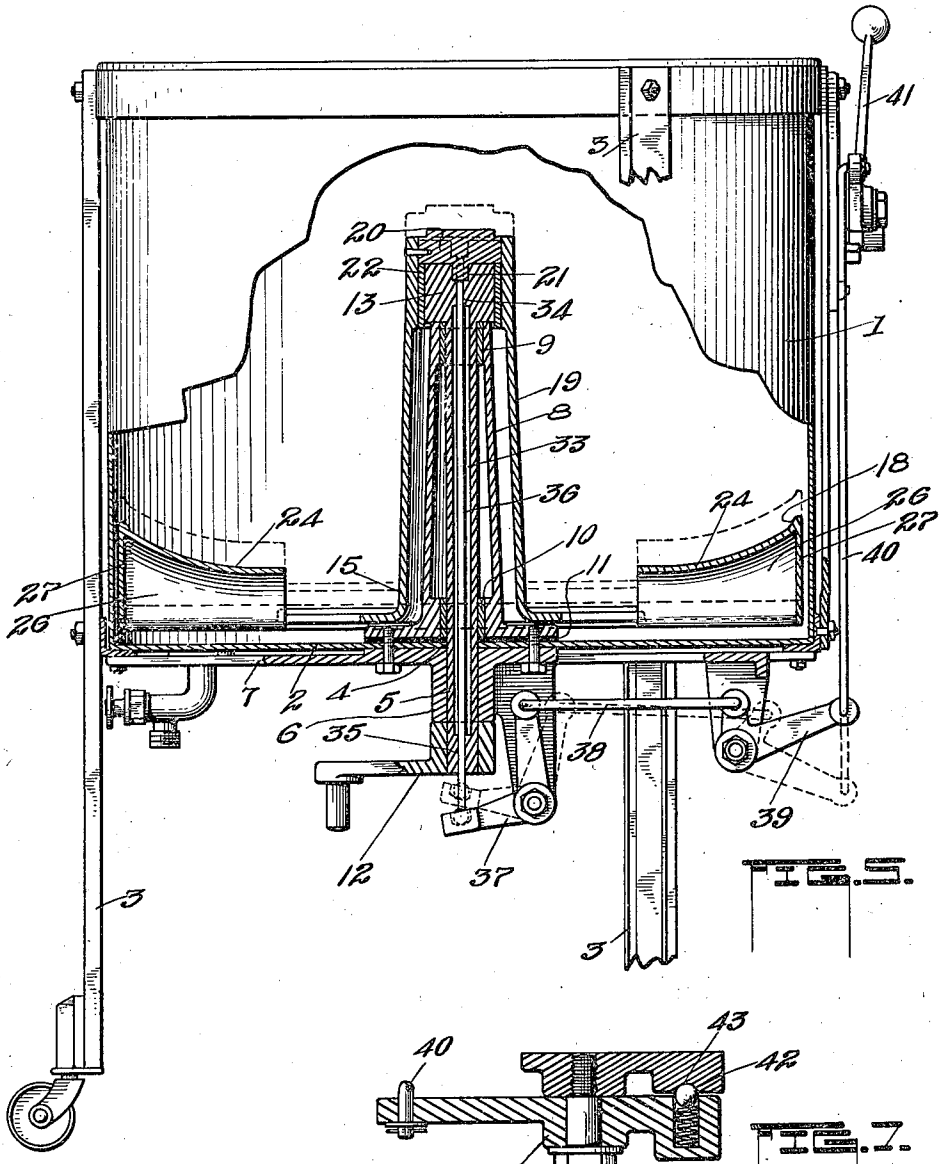


FIG. 5.

FIG. 7.

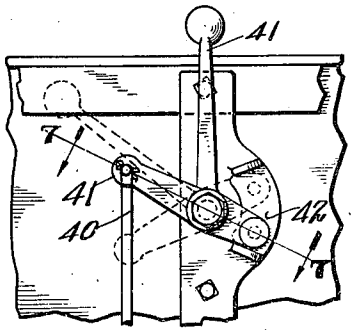


FIG. 6.

INVENTOR.

Benjamin E. Getz

Atty

Patented July 12, 1927. 1,635,402

UNITED STATES PATENT OFFICE.

BENJAMIN E. GETZ, OF MORTON, ILLINOIS.

WASHING MACHINE.

Application filed May 7, 1925. Serial No. 28,550.

This invention has reference to washing machines and it has for its principal object to improve, what is termed, the "dolly" structure thereof.

The invention has for a further object to provide a "dolly" for the tub, which includes a plurality of radially arranged baffle members operative above and next adjacent the bottom of the tub, and so shaped, as to act upon the clothes or other material and direct the same toward the center of the tub, and thereby prevent the same from getting beneath the "dolly" or becoming jammed between the edge of the "dolly" and the wall of the tub.

A further object of the invention is to provide a "dolly", comprising a substantially annular member operative above and next adjacent the bottom of the tub, including means for clutching and declutching the same at the point of application of power thereto for oscillating the same, preferably alternately in opposite directions, and provided with spaced radially arranged baffle members and interposed flat perforated surfaces.

A still further object of the invention is to provide a "dolly" structure of the character referred to for washing machine tubs, including a major member having a plurality of radially arranged baffles, and an auxiliary member removable from said major member and having a plurality of baffle portions to partially overlie and coact with the baffle members of said major member; both said members arranged to be clutched to and declutched from the source of power at the point of the application of power thereto.

A still further object of the invention is to provide a "dolly" of the character referred to, comprising a substantially annular member formed or provided with radially disposed baffles having converging side walls sloping upwardly and inwardly providing water compartments therebeneath, the upper surfaces of said baffles sloping upwardly toward the outer ends of said baffles, and the plate portions between said baffles being perforated. The action of the baffles, when the "dolly" is oscillated being, to agitate the water both above and below the "dolly" and to scoop the water toward the center of the "dolly" and thereby prevent clothes and materials from getting under the edge thereof.

That the invention may be more fully understood, reference is had to the accompanying drawings, forming a part of the description, illustrating a preferred embodiment of the invention, in which:—

Figure 1 is a side elevation, partly in section, showing a washing machine tub, with my improved "dolly" mechanism mounted therein;

Figure 2 is a view somewhat similar to Figure 1, except that the auxiliary "dolly" member has been removed, although shown in dotted lines;

Figure 3 is a view, in elevation, of the auxiliary "dolly" member;

Figure 4 is a plan view of Figure 2;

Figure 5 is a view somewhat similar to Figure 1, except that it shows a modified means for declutching the "dolly" from the power means;

Figure 6 is a detail, in elevation, showing the lever means for operating the clutch means of the "dolly";

Figure 7 is a detail, in section, taken on the line 7—7 Figure 6; and

Figure 8 is a sectional view, in plan, as the same would appear, if taken on the line 8—8 Figure 1.

Like characters of reference denote corresponding parts throughout the figures.

In the drawings 1 designates a tub, preferably of cylindrical shape, having the substantially flat bottom 2 and supported by legs or standards 3. The bottom has a centrally located opening 4 through which projects, the preferably oscillatory shaft 5 which extends some distance up into the tub, as shown. A bearing 6 is provided for the lower end of said shaft, beneath the tub, which forms a part of or is connected to a stiffening member or bracing 7 connected, respectively, to the legs or standards 3. A bearing 8 for the shaft 5 within the tub, comprises an upstanding gland or post, being tubular for a greater part of its length and having upper and lower journal portions 9 and 10. The lower end of said gland or post is flanged and secured to the bottom of the tub by the same securing means for attaching the stiffener 7 thereto and between the lower end of the gland or post and bottom of the tub and surrounding the shaft 5 is a packing 11. Any suitable operating means may be employed to impart, preferably, alternate oscillatory movement to the shaft 5 and for convenience I have shown a

crank 12 connected to the extreme lower end of said shaft which may be coupled in any suitable manner, to mechanism not shown arranged for operation from a suitable motor or source of power not shown. To the upper end of the shaft 5, projecting above the gland or post 8, there is connected a clutch member 13 having a diametrically arranged slot 14 in its upper face. This member is preferably of a diameter equal to the upper end of the gland or post 8.

The "dolly" includes, preferably, two separable elements, the major "dolly" member 15 and the auxiliary member 16. The member 15 includes a substantially annular plate 17 having a beaded edge 18. The central portion of said member is formed into or provided with an upstanding tubular sleeve 19 to embrace the gland or post 8 and extend above the upper end thereof and also preferably the clutch member 13 connected to the shaft 5. Secured within the projecting upper end of said sleeve 19 is a clutch member 20 having a depending rib 21 arranged for coacting relation in the slot 14 of the clutch member 13, and 22 is a bushing arranged to snugly embrace the clutch member 13 when the member 15 is in operative position. The central portion of the plate 17, immediately surrounding the sleeve 19 is of skeleton formation to provide enlarged openings 23, and said plate at diametrically opposite points is provided with a plurality of radially arranged baffle portions 24. This arrangement is such that the baffles extend inwardly from the edge of the plate 17 and terminate short of the center of said plate and sleeve 19 and the plate between said baffles is imperforate or provided with perforations 25. The side walls of each baffle 24, as shown, converge upwardly and are curved inwardly or concave, and the upper surfaces thereof slope downwardly and inwardly from the edge of the plate 17 to the inner ends of said baffles. This formation of the baffles, being raised above the imperforate surface therebetween and having the peculiar surfaces described, act to scoop the water toward the center and top of the tub and forces the clothes and other material toward the center of the tub and away from the edge of the "dolly" and thereby prevents the clothes and other material from getting under the edge of the "dolly" or becoming jammed between the edge of the "dolly" and the wall of the tub. Furthermore, the shape of the baffles will act to lift and agitate the clothes of other materials and thereby cause complete circulation of the water.

In cross-section, the baffles 24 form pockets or compartments 26 therebeneath, which are closed by walls 27 at their outer ends. Such a construction, taken in connection with the imperforate portions of the plate 17 will insure, when the "dolly" is oscillated to agitate the water above and below the plate and keep it in constant circulation through the perforations in said plate.

The auxiliary member 16 of the "dolly" includes an upstanding tubular sleeve-like portion 28 having an inturned flanged portion 29, at its upper end, to overlie the upper end of the sleeve 19 and a part of the clutch member 20. The lower end of said sleeve is formed or provided with a plurality of diametrically disposed and radially arranged baffles 30, which, when the auxiliary member is in operative position extend to and overlie the inner ends of the baffles 24, whereby the combined baffles 24 and 30 form a continuation from the edge of the "dolly" to the central post portion 28. Furthermore, the baffles 30 being similar in shape and contour to the baffles 24 the pockets or compartments 26 extend substantially the full length of such combined baffles, with the baffles 30 partially overlying the openings 23 in the plate 17.

It will be apparent from the description of the auxiliary member 16 of the "dolly" that it is removable from the major portion of said "dolly" by the mere lifting of said auxiliary member therefrom, and that when said auxiliary member is deposited in position, provided of course, the clutch members 13 and 20 are in clutch relation, and said shaft 5 is oscillated, corresponding oscillatory movement will be imparted to the "dolly." By removing the auxiliary member 16 from the major member 15, the tub may be flushed by pouring water therein, which will pass beneath the major member 15 through the openings 23 and 25 therein. A drain 31 is provided, connected with the bottom of the tub.

I have disclosed two ways in which the attendant or operator may connect and disconnect the clutch connection between the "dolly" and the source of power, in this instance, the shaft 5. In Figure 1 a hand-screw 32 is shown threaded through the clutch member 20 and the rib 21 thereof and bearing at its lower end in the slot 14 of the clutch member 13. With this arrangement, the member 20 acts as a nut, and the attendant or operator, may, by turning the hand screw 32 lift the clutch member 20 from out of engagement with the clutch member 13 and with it the entire "dolly" structure. The clutched and declutched positions being shown, respectively, in Figures 1 and 2. It is my object to apply the operating means for connecting and disconnecting the clutch means, between the "dolly" and the shaft, at the point of the application of the source of power to said "dolly." The means in Figure 1 accomplishes this purpose, and also the means shown in Figure 5. The latter figure, however, disclosing a means for actuat-

ing the clutch parts, located, preferably without the tub, whereas the former discloses the means located within the tub.

In Figure 5 the shaft 5 has an axial opening 33 therethrough, which coincides with an opening 34 in the clutch member 13 and also with an opening 35 in the crank 12, and through these openings is reciprocally arranged a rod 36, the upper end of which normally bears against the rib 21 and when said rod is lifted will, in turn, cause a disengagement of the clutch parts and the lifting of the "dolly" from operative position. Reversing the movement of either the hand screw 32 or the rod 36 will permit a reengagement of the clutch parts and the "dolly" moved to operative position.

The lower end of said rod 36 is in operative engagement with a bell-crank lever 37 to which is connected a link 38, and said link, in turn, connected to a crank-arm 39. To the crank-arm 39 is connected a rod 40 disposed, preferably, in a vertical position on the outside of and alongside the tub and the upper end of said rod is connected with an operator's lever 41 pivoted to the side of the tub and including means, such as the yielding ball 42 and sockets 43, of well known construction for locking the lever 41 and the rod 35 in different positions. The lever 41 is preferably located on the tub, in a position, so that an attendant standing alongside the tub may reciprocate the rod 36, by a pull on the lever 41 rather than a push on said lever, although the lever may be actuated by a pull or push, as will be understood.

The drawings illustrate the "dolly", including the separable baffles thereof, as normally operating immediately above and next adjacent to the bottom of the tub, with free access to the clothing or other materials therein and with the parts so constructed that the finest of materials may be washed without damage thereto. Furthermore, while I have shown the "dolly" as covering substantially the entire area of the bottom of the tub, it could be of less diameter due to the shape or contour of the baffles which tend to force the clothes and other materials towards the center and upward in the tub, thus preventing the same from getting under the "dolly."

What I claim is:—

1. In a washing machine, a "dolly" provided with a plurality of radially arranged raised baffle members and substantially flat perforated portions therebetween, said baffle members having upwardly converging and concave side walls and with an upper surface curved upwardly to the outer ends of said baffles.

2. In a washing machine, a "dolly" provided with a plurality of radially arranged raised baffle members having water pockets therebeneath and substantially flat perforated portions therebetween, said baffle members having upwardly converging and concave side walls and with an upper surface curved upwardly to the outer ends of said baffles.

3. In a washing machine, a "dolly" comprising a substantially flat annular plate provided with a plurality of radially disposed raised baffle members having upwardly and inwardly curved converging side walls and with an upper surface curved upwardly to the outer ends of said baffles.

4. In a washing machine, a "dolly" comprising a substantially flat annular plate provided with a plurality of radially disposed raised baffle members having upwardly and inwardly curved converging side walls and with an upper surface curved upwardly to the outer ends of said baffles, and the plate portions between said baffles being perforated.

5. In a washing machine, a "dolly" comprising a substantially flat annular plate provided with a plurality of radially disposed raised baffle members having upwardly and inwardly curved converging side walls forming water pockets therebeneath and with an upper surface curved upwardly to the outer ends of said baffles.

6. In a washing machine, a tub, a "dolly" having radially disposed raised baffle members operable above and next adjacent the bottom of the tub, a shaft arranged to impart oscillatory movement to said dolly, means to connect and disconnect said "dolly" with said shaft, and means for controlling said connecting means.

7. In a washing machine, a tub, a "dolly" having radially disposed raised baffle members operable above and next adjacent the bottom of the tub, a shaft arranged to impart oscillatory movement to said dolly, clutch members, one on said shaft and one connected to said "dolly," and means operable in connection with one of said clutch members to control the clutch connection thereof with the other.

8. In a washing machine, a tub, a "dolly" supported for oscillatory movement therein, comprising a plate having an open work portion surrounding its axis and provided with radially disposed raised baffle members extending from the edge of said plate inwardly to said open work portion, and an auxiliary "dolly" section overlying a portion of said plate and provided with matching baffle portions forming extensions of said first mentioned baffles and overlying the inner ends thereof.

9. In a washing machine, a tub, a "dolly" supported for oscillatory movement therein, comprising a plate having an open work portion surrounding its axis and provided with radially disposed raised baffle members extending from the edge of said plate in-

wardly to said open work portion, and an auxiliary "dolly" section separable from and overlying a portion of said plate and provided with matching baffle portions forming extensions of said first mentioned baffles and overlying the inner ends thereof.

10. In a washing machine, a tub, a shaft extending up through the bottom thereof, a "dolly," means to clutch the dolly to said shaft, said dolly including separable sections, one of said sections provided with radially disposed raised baffle members, and the other section overlying said first section and provided with baffle members forming extensions of the baffles thereon and overlying the inner ends thereof.

11. In a washing machine, a tub, a shaft extending up through the bottom thereof, a "dolly" comprising separable sections, means to clutch said "dolly" with said shaft and to lift the "dolly" on the declutching thereof from said shaft, each of said sections provided with corresponding and overlapping radially disposed raised baffle members having curved surfaces such as will scoop the water and cause movement of materials toward the center of the dolly and upwardly in the tub.

12. In a washing machine, a tub, a shaft extending upwardly through the bottom of the tub, a bearing for said shaft, a clutch member on the upper end of said shaft, a "dolly" including an upstanding portion having a clutch member arranged for clutch connection with the clutch on said shaft, and provided with radially disposed raised baffle members operable above and next adjacent the bottom of the tub, and an auxiliary "dolly" section separable from said "dolly" and provided with radially disposed baffle members arranged to coact with said first mentioned baffle members and overlying portions thereof.

In witness whereof, I have hereunto affixed my hand this 5th day of May, 1925.

BENJAMIN E. GETZ.