June 19, 1923. 1,459,483

C. C. UNRUH

DOLLY FOR WASHING MACHINES

Filed Jan. 22, 1923

Fig 1

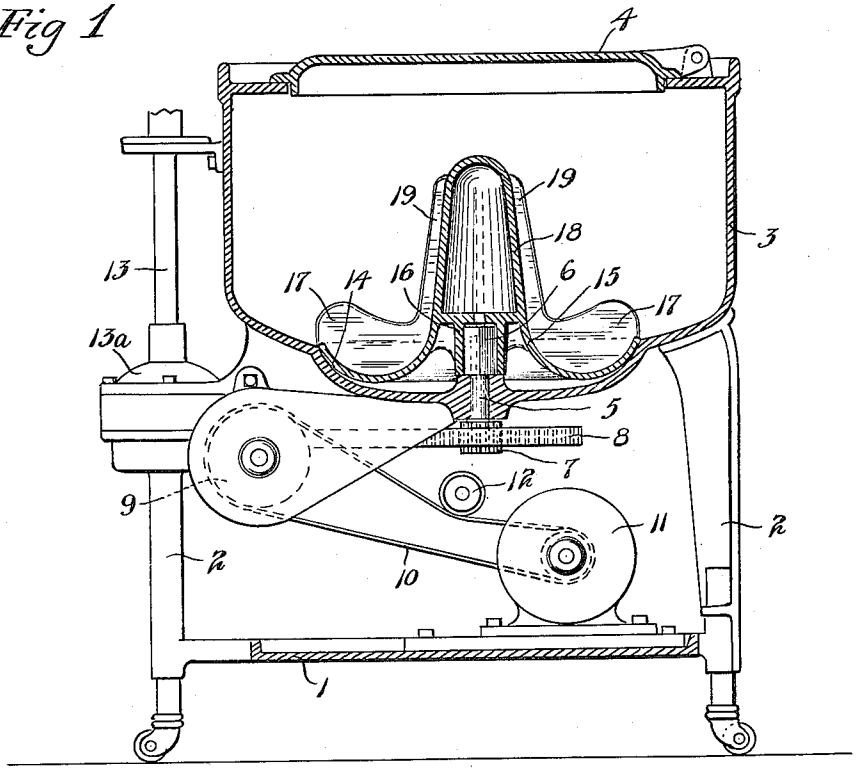


Fig. 2.

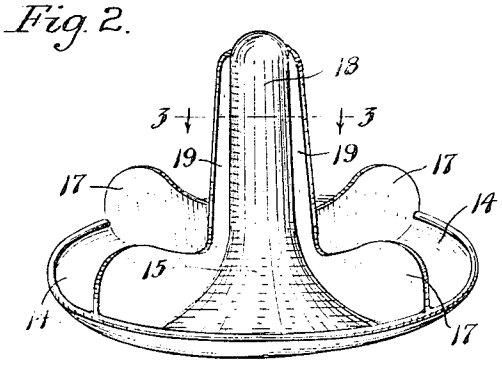
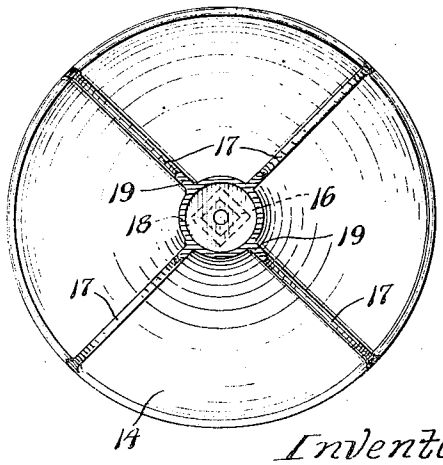


Fig. 3.



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Patented June 19, 1923. 1,459,483

UNITED STATES PATENT OFFICE.

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DOLLY FOR WASHING MACHINES.

REISSUED

Application filed January 22, 1923. Serial No. 614,132.

To all whom it may concern:

Be it known that I, CORNELIUS C. UNRUH, a citizen of the United States, residing at Freeman, in the county of Hutchinson and State of South Dakota, have invented certain new and useful Improvements in Dollies for Washing Machines; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to a washing machine and particularly to that type of machine in which the articles to be washed are contained in a receptacle having a moving member or dolly therein for agitating the articles and water. The invention is especially directed to a novel form of such moving member or dolly. In the type of machine disclosed, it has heretofore been the practice to use a dolly which was oscillated or gyrated on a central spindle, which dolly comprised a dish-shaped member having a central upstanding hub portion therein, thus forming an annular trough which was traversed by vertical blades. Such a type of dolly was and is being used in the well known Maytag washing machine which is now upon the market. It has been found by experience that with such a dolly the clothes tend to accumulate in a knot or tangle above the dolly and by means of the present invention this objectionable action has been overcome.

It is an object of this invention, therefore, to provide a washing machine dolly or agitating member of the movable type which will efficiently agitate the water and clothes and yet will not cause any objectionable action thereof.

It is a further object of the invention to provide such a dolly comprising a central upstanding stem having radial ribs projecting therefrom and extending along the sides thereof.

It is more specifically an object of the invention to provide such a stem preferably of cylindrical form, the surface of which merges into the surface of the dish-shaped dolly and the ribs on which are integral and continuous with the ribs extending across the dish-shaped portion of the dolly.

These and other objects and advantages of the invention will more fully appear from the following description made in connection with the accompanying drawings in which like reference characters refer to the same parts throughout the different views, and in which,

Fig. 1 is a view partly in elevation and partly in central vertical section of one type of washing machine showing the invention applied thereto;

Fig. 2 is a perspective view of the dolly detached from the machine; and

Fig. 3 is a horizontal section of the dolly taken substantially on the line 3—3 of Fig. 2.

Referring to the drawings, in Fig. 1 a washing machine is shown comprising a frame having a base plate 1 with legs 2 projecting upwardly therefrom, being provided with casters at their lower ends. A receptacle 3 adapted to contain water and the articles to be washed is mounted upon the legs 2 and, as shown, is provided with a hinge cover 4 at the top thereof. The lower portion of the receptacle 3 is provided with a dish-shaped recess having a central hub in which is journaled a driving shaft 5 having an angularly-shaped portion 6 extending upwardly into the receptacle and having a pinion 7 secured to its lower end. The pinion 7 is arranged to mesh with a rack member 8 which is reciprocated by being attached at one end to a crank disk driven from a pulley 9 indicated in dotted lines in Fig. 1, which pulley is, in turn, driven by a belt 10 from a suitable motor 11 secured to the base 1. A tightening pulley 12 for said belt is also illustrated. A driving shaft 13 extends upwardly from certain gearing enclosed in a casing 13ª for the purpose of driving a wringer which will be attached to the machine. The driving mechanism forms no part of the present invention and is merely illustrated to show how the dolly member is driven.

The dolly member, as illustrated, comprises a cup-shaped or dish-shaped member 14 of a size and form to be disposed substantially in the recess in the bottom of the receptacle 3. The member 14 has an upstanding central portion 15 at the center thereof, the vertical elements of which are concave so that the surface thereof merges into the surface of the member 14 and forms, in effect, an annular trough. The underside of the portion 15 is provided with a sleeve or hub 16 having an angular recess therein so that said sleeve is adapted to fit over the angular portion 6 of the shaft 5, and be sup-

ported on the central hub at the bottom of the receptacle 3. A plurality of radial ribs 17 of lobe shape formation extend across the surface of the members 14 and 15 having their wider and curved ends disposed outwardly and rising above the outer edge of the member 14. A stem 18 is shown projecting upwardly from the portion 15 and centrally thereof, which stem is illustrated as circular in cross section although the same may be made of any other shape in cross section, if desired. The surface of the stem member is continuous with the surface of the member 15 and, as illustrated, said stem is substantially cylindrical having a slight upward taper. Said stem is provided with radially projecting rib or wing members 19 of small thickness, which ribs extend along the sides of said stem and increase in radial thickness slightly toward the lower end thereof, said lower ends merging into the inner ends of the ribs 17 so that the two form, in effect, one continuous rib. As clearly shown in Figs. 1 and 3, the stem portion 18 is preferably formed hollow and the dolly may be made of any suitable material, preferably metal.

In the operation of the machine, the motor 11 is operated and power transmitted through the described gearing to reciprocate the rack 8. This rack being held in engagement with the pinion 7 the dolly member is given an oscillating movement, thus agitating the water and articles in the receptacle 3. By providing the upwardly projecting stem 18 with its ribs 19, the clothes are kept distributed in the trough formed about the dolly and do not become tangled in a central wad or knot as in the dollies heretofore used which were not provided with said stem.

It is seen, therefore, that the applicant has provided a simple and efficient form of dolly and one constituting a great improvement on those previously used. The change in the dolly does not add appreciably to the cost thereof or the difficulty of making and the improved dolly can readily be substituted for the old form.

The invention has been demonstrated in actual practice and found to be very successful and efficient for the purpose intended.

It will, of course, be understood that various changes may be made in the form, details and proportions of the parts without departing from the scope of applicant's invention, which, generally stated, consists in the matter shown and described and set forth in the appended claims.

What is claimed is:

1. A dolly for a washing machine adapted to be disposed in a liquid containing receptacle with its top portion well below the top of said receptacle comprising a dish-shaped member and a substantially cylindrical stem rising from and merging into the central portion thereof and terminating in an upper rounded end, said stem having spaced ribs extending vertically along its sides upwardly tapered throughout the length of said stem and extending outwardly across the dish-shaped member.

2. A dolly for a washing machine adapted to be disposed in a liquid containing receptacle with its top portion well below the top of said receptacle comprising a dish-shaped member and a substantially cylindrical stem rising from and merging into the central portion thereof and terminating in an upper rounded end, and spaced ribs extending from the top of said stem vertically downward and outwardly and upwardly across said dish-shaped member and having substantially semi-circular outer edges.

3. A dolly for a washing machine comprising a cup-shaped disk with a frusto-conical portion rising from its center having a substantially cylindrical stem projecting centrally thereabove and terminating in a rounded top, said stem having radial ribs projecting therefrom and extending along the sides thereof, said ribs being tapered throughout their length of said stem and extending in lobe-shaped form across the surface of said disk.

4. The structure set forth in claim 2, the lower portion of said semi-circular edges being substantially continuous with the surface of said dish-shaped member.

5. An agitating member for a washing machine comprising a cup-shaped disk having a frusto-conical portion rising from the center thereof, the vertical elements of which are concave so that the surface of said portion merges into the surface of said disk, and a round upwardly tapering portion projecting above said frusto-conical portion and terminating in a rounded surface, and narrow radial wings projecting from said latter portion and extending along the sides thereof and across the surface of said disk and having rounded outer edges merging into the concave surface of said disk.

6. A dolly for a washing machine comprising an annular trough a stem rising centrally from said trough and having a plurality of circumferentially spaced radial wings projecting therefrom and extending along its sides and across the surface of said trough the top surface of said wings above said trough curving downwardly and inwardly.

7. A dolly for a washing machine comprising a dish-shaped member and a rounded stem rising from and merging into the central portion thereof and terminating in an upper rounded end, spaced ribs extending vertically along said stem and merging

into the upper rounded end thereof and extending across the dish-shaped member at the lower ends in lobe-shaped form whereby the upper surfaces thereof above said member are concave.

8. A dolly for a washing machine adapted to be disposed in a liquid containing receptacle with its top portion well below the top of said receptacle comprising a circular disk-like member having a stem rising from and merging into its central portion, and ribs extending vertically from the upper end of said stem downwardly therealong and across the surface of said disk-like member.

9. A rotatable dolly for a washing machine adapted to be disposed in a liquid containing receptacle comprising a dish-shaped member having a central upstanding tapered stem with a rounded upper end, ribs extending across said dish and upwardly along the side of said stem and having rounded upper edges merging into the rounded surface of said stem.

In testimony whereof I affix my signature.

CORNELIUS C. UNRUH.