Feb. 10, 1925. 1,525,911

W. F. BLAKE

WASHING MACHINE

Filed Feb. 3, 1923

Fig. 2.

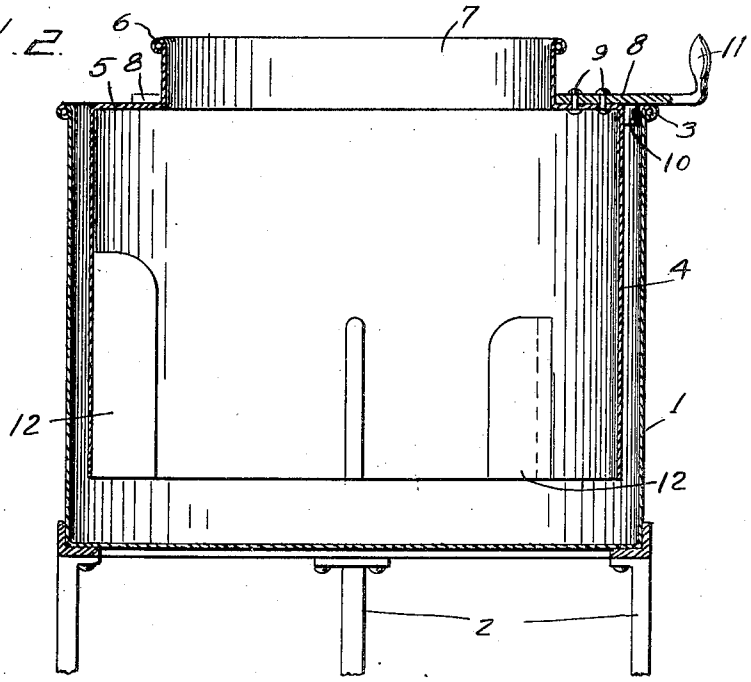
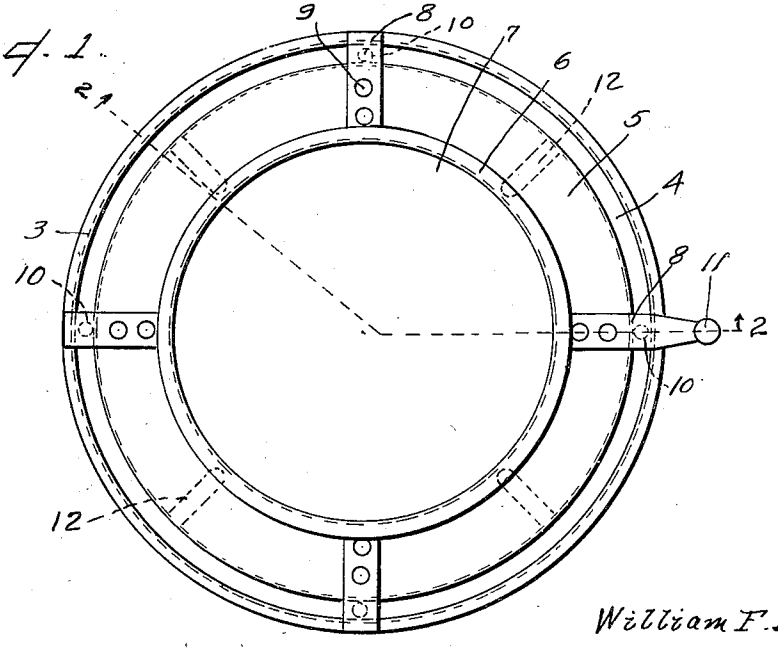


Fig. 1.



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UNITED STATES PATENT OFFICE.

WILLIAM F. BLAKE, OF TOLEDO, OHIO.

WASHING MACHINE.

Application filed February 3, 1923. Serial No. 616,681.

To all whom it may concern:

Be it known that I, WILLIAM F. BLAKE, a citizen of the United States, residing at Toledo, in the county of Lucas and State of Ohio, have invented a new and useful Washing Machine, of which the following is a specification.

This invention relates to clothes washing machines of the type adapted for operation by hand or manually.

The main object of the invention is to provide a simple and comparatively inexpensive machine of this character, of relatively small size, which will be especially suitable for handling small pieces of clothing or articles such as napkins, towels and children's and infants' garments, and by means of which such articles may be quickly and thoroughly washed with a minimum expenditure of effort in operating the machine.

In attaining this object the invention contemplates the employment, in connection with a cylindrical tub for clothes and water, of an agitating drum concentrically spaced within said tub and supported to undergo oscillatory movement therein, said drum being formed at its upper end with a marginal head centrally apertured and having radial arms (one of which forms an actuating handle) slidably engaging the upper edge of the tub to support the drum thereon, the inner wall of said drum being provided with vertically and radially projecting circumferentially spaced ribs exposed through the lower open end of said drum and adapted to engage and agitate the water and clothes within the tub under oscillatory movement imparted to said drum by actuation of the handle in reverse rotative directions.

A preferred embodiment of the invention is illustrated in the accompanying drawings, in which,

Fig. 1 is a plan view of the machine showing the means for concentrically mounting and rotatively actuating the drum within the tub.

Fig. 2 is a transverse vertical sectional view taken on angular dashed line 2—2 of Fig. 1.

Referring to the parts in these views, the reference character 1 designates a cylindrical tub having suitable supporting legs 2 at the base and formed with a turned peripheral bead 3 at the upper open end thereof. An open ended drum 4 is concentrically mounted within the tub in spaced relation to the side and bottom walls of said tub. Preferably the spacing at the sides of the drum is only sufficient to provide clearance with the tub, while the space at the bottom is such as to accommodate the free movement of pieces of clothing beneath the lower end of said drum.

At the upper end the drum 4 is partially closed by a peripheral marginal head 5 having a central cylindrical extension 6 forming a reduced opening 7 in said drum through which clothing may be passed to and from the interior of the tub. Said drum is loosely supported within the tub by a plurality of radial arms 8 circumferentially spaced upon and secured to the marginal head 5 by rivets 9 and extending at their free ends into bearing engagement slidably upon the flange 3 of the tub. The ends of said arms bridging the space between the walls of the drum and tub are each provided with a depending lug 10 to retain said members in spaced relation, and as indicated at 11 one or more of the arms 8 may be extended and upturned to form a handled lever by which rotation or oscillating movement may be imparted to the drum.

Interiorly the drum 4 is provided with a plurality of circumferentially spaced vertical ribs 12. Said ribs are preferably of varying heights and of a radially projecting width substantially equal to that of the marginal head 5, being flush at their lower ends with the lower end of the drum, and spaced at their upper ends below said head.

In the operation of the described structure the ribs 12 under oscillatory movement of the drum while acting to agitate the clothes engaged by the edge faces of said ribs, also act to laterally engage the water upon the side faces thereof and impel the water upwardly against the marginal head of the drum by which it will be deflected and discharged toward the center of the tub and downwardly upon the clothes therein; thus the clothes will be subjected to successive drenchings with water while being constantly shifted about in a manner tending to present all surfaces of the articles to the cleansing effect of such drenching.

What I claim is:—

1. In a washing machine, a cylindrical tub, an open-bottomed cylindrical drum rotatably mounted concentrically within and

upon said tub and having a plurality of circumferentially spaced ribs vertically and radially extending upon the inner wall thereof, and a manually operable actuating member extending laterally from said drum for rotatably reciprocating the latter.

2. In a washing machine, a cylindrical tub, an open-bottomed cylindrical drum rotatably mounted vertically concentrically within said tub and having a marginal head forming a reduced central opening at the upper end thereof, a plurality of circumferentially spaced ribs laterally extending from the inner wall of said drum below said marginal head, and an actuating member for imparting rotative movement to said drum.

3. In a washing machine, a tub, an open-bottomed cylindrical drum disposed within said tub in spaced relation to the side and bottom walls of the latter, said drum having a marginal head forming a reduced central opening at the upper end thereof, a plurality of radial projections on said head slidably engaging said tub to rotatably support said drum thereon, and a plurality of radially projecting ribs vertically spaced on the inner wall of said drum intermediate said marginal head and the bottom of said tub.

4. In a washing machine, a tub, and an open ended cylindrical drum disposed concentrically within said tub in spaced relation to the side wall thereof and having a plurality of radial projections slidably engaging said tub to rotatively support said drum therein, one of said projections being extended to form a lever for oscillating the drum rotatively.

5. In a washing machine, a tub, an agitator within said tub, radial projections upon said agitator seating upon the upper edge of the tub, means for actuating the agitator rotatively, and spaced members depending from said projections between the tub and agitator.

6. In a washing machine, a tub, an open-bottomed agitator drum disposed within said tub and formed at its top with an internal marginal head forming a reduced opening centrally of said drum, a collar upstanding from said head marginally of said opening, means mounting said drum rotatively upon the tub, and means for rotatively actuating said drum.

7. In a washing machine, a cylindrical tub, a cylindrical open-bottomed drum rotatively mounted in said tub in a substantially co-axial relation therewith, said drum having a marginal interior head at its upper end forming a reduced central opening, means for rotatively actuating said drum, and agitator elements carried by the drum interiorly thereof.

In testimony whereof I sign this specification.

WILLIAM F. BLAKE.