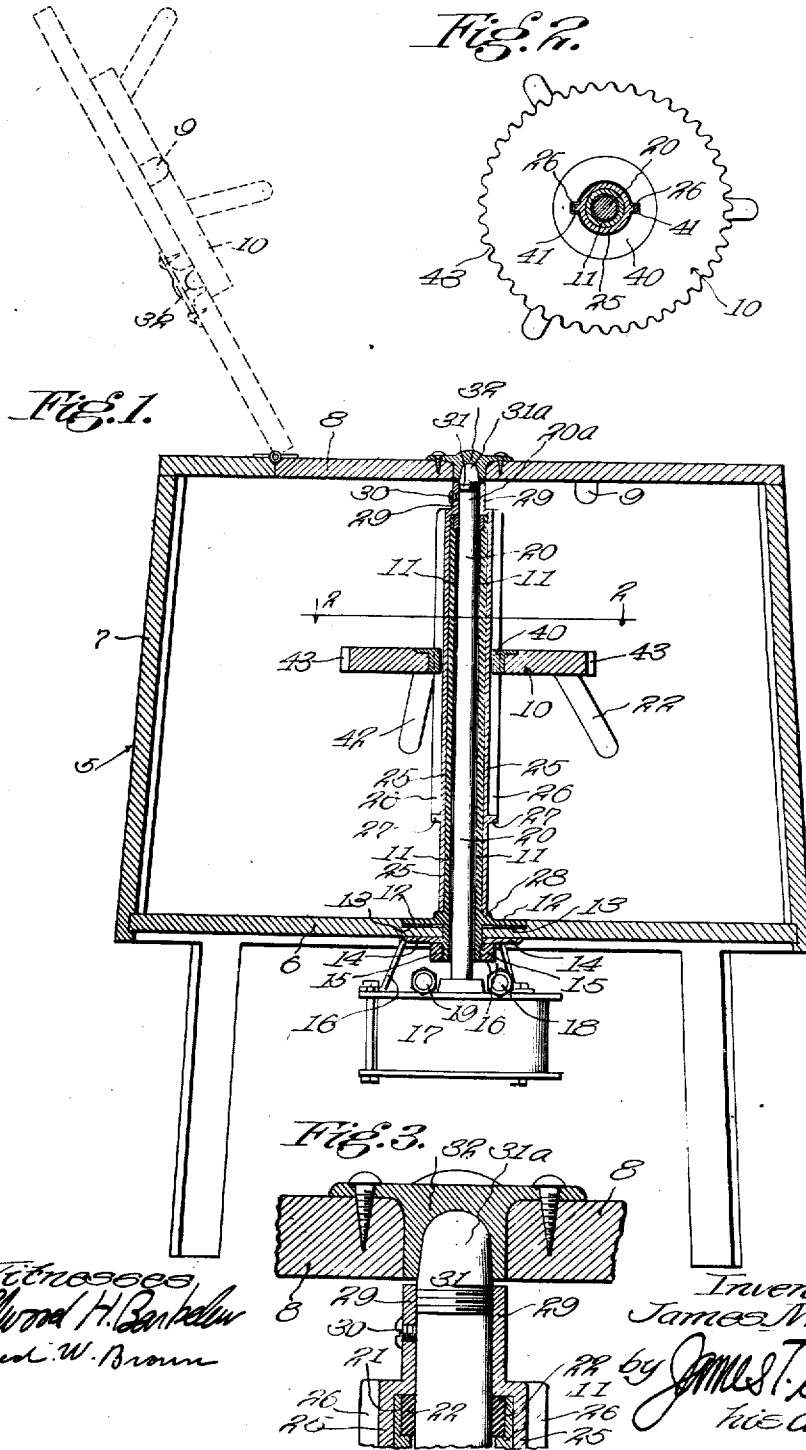


J. M. MERRITT.
WASHING MACHINE.
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1,012,407.

Patented Dec. 19, 1911.



Witnesses
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UNITED STATES PATENT OFFICE.

JAMES M. MERRITT, OF LOS ANGELES, CALIFORNIA, ASSIGNOR OF ONE-HALF TO
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WASHING-MACHINE.

1,012,407.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, JAMES M. MERRITT, a citizen of the United States, residing at Los Angeles, in the county of Los Angeles and State of California, have invented new and useful Improvements in Washing-Machines, of which the following is a specification.

This invention relates to that class of mechanisms where the motor is placed beneath the tub of the washer instead of above it and on the cover as is most usually the case.

My invention consists in certain improvements and in certain combinations and details whereby a washing machine of the general nature described is made strong and durable, easy of operation and manipulation, and with the fewest number of working parts. The combinations of my invention include certain bearings which hold the vertical shaft, on the lower end of which the motor is mounted, in a true position; and the novelty in this regard consists particularly in a bearing for the upper end of this shaft, which bearing is mounted on the cover of the tub so as to engage the upper end of the shaft when the cover is in position to close the tub. This novelty, in connection with the other details and combinations, will be explained in the following specification.

In the accompanying drawings I have shown a preferred form of my invention, in which drawings: Figure 1 is a vertical cross section of a machine embodying my invention. Fig. 2 is a horizontal section taken on line 2-2 of Fig. 1. Fig. 3 is an enlarged detail section showing the upper bearing construction for the shaft.

In the drawings 5 designates a tub of any suitable construction, having bottom 6, side walls 7 and hinged cover 8. The hinged cover is provided with a pin 9 on its inner face, on which pin the dolly 10 is hung when the machine is opened and the dolly removed. A stationary vertical sleeve 11 extends upwardly from the bottom of the tub to a point adjacent the top, the sleeve extending through the bottom of the tub and having a flange 12 gasketed with a rubber washer 13. A flange 14 is placed against the under side of bottom 6 and a nut 15 holds sleeve 11 and flanges 12 and 14 tightly in place, compressing gasket 13. Flange

14 is provided with downwardly extending lugs or ears 16 to which water motor 17 is secured. Water motor 17 is of any preferred type, there being many on the market which will give an oscillatory movement suitable for machines of this character. The water motor 17 is provided with inlet and outlet connections 18 and 19, these connections extending forwardly to a point near the outer edge of the tub where they are easily reached for connection to a hose or other means for supplying and exhausting water. Water motor 17 operates directly on shaft 20 which extends upwardly through sleeve 11 and projects above the upper end of the sleeve as is shown in Figs. 1 and 3. The upper end of sleeve 11 is counterbored as at 21 and a lining 22, preferably of brass, forms a bearing for the upper end of shaft 20 in the upper end of sleeve 11. Loosely fitted over stationary sleeve 11 is an outer rotating sleeve 25 carrying wing 26 and having a collar 2, near its lower end to limit the downward movement of dolly 10. The lower end of sleeve 25 bears upon step bearing 28 and the upper end of the sleeve is provided with a contracted collar 29 which closes in over the upper end of sleeve 11 and over ferrule 22 and fits more or less tightly around the upper end 20^a of shaft 20. A set screw 30 serves to hold sleeve 25 locked upon shaft 20 and forces the sleeve to rotate with the shaft. End 20^a of shaft 20 does not quite reach to the top of collar 29. In the collar above shaft 20 a plug 31 is placed in screw threaded engagement with the sleeve, the plug having a semi-spherical upper end 31^a engaging in a similarly shaped socket 32 mounted upon cover 8, and projecting therethrough. In this ball and socket joint, the shaft 20 and all the rotating mechanism is provided with a bearing upon the solid cover and it is also provided that there can be no possible leakage of water around shaft 20 and inside of collar 29, the plug 31 being in water tight engagement with the collar. This is made in this manner, not so much to prevent water from accidentally splashing down around the shaft while the machine is in use, but more to prevent the water which drips from the clothes dragged over the upper end of the shaft from leaking down between the shaft and collar 29 and then to the space between

the shaft and sleeve 11 and out of the machine at the bottom. Dolly 10 is loosely and slidably mounted on sleeve 25, having a hub member 40 with feather ways 41 which engage with wings 26 and force the dolly to be rotated. The dolly is made in the ordinary manner with downwardly and outwardly projecting pegs 42, but it is also provided with corrugations 43 on its edge for assisting in working the garments.

10 Having described my invention, I claim:
 1. A mechanism of the character described, comprising a receptacle, a hinged cover for the receptacle, a shaft projecting
 15 up through the bottom of the receptacle and terminating near the under side of the cover, a sleeve surrounding the shaft and stationarily mounted on the bottom of the
 20 receptacle, the sleeve terminating below the upper end of the shaft, a bearing for the shaft in the upper end of the sleeve, an outer rotating sleeve surrounding the station-
 25 ary sleeve and rotatively connected with the shaft at its upper end, the said rotating sleeve projecting above the upper end of the shaft, a plug for the upper end of the sleeve, a bearing for the plug mounted on the cover, a mechanism for rotating the shaft and mounted under the receptacle

body, and garment engaging means slidably mounted on the rotating sleeve. 36

2. A mechanism of the character described, comprising a receptacle, a removable cover for the receptacle, a shaft projecting up through the bottom of the receptacle and terminating near the under
 35 side of the cover, a sleeve surrounding the shaft and stationarily mounted on the bottom of the receptacle, the sleeve terminating below the upper end of the shaft, an
 40 outer rotating sleeve surrounding the stationarily sleeve and rotatively connected with the shaft at its upper end, the said rotating sleeve projecting above the upper
 45 end of the shaft and having a portion covering the upper end of the shaft, a bearing for the upper end of the rotating sleeve mounted on the cover, a mechanism for rotating the shaft and mounted under the receptacle body, and garment engaging means
 50 slidably mounted on the rotating sleeve.

In witness that I claim the foregoing I have hereunto subscribed my name this 28th day of November 1910.

JAMES M. MERRITT.

Witnesses:

JAMES T. BARKELEW,
 ELWOOD H. BARKELEW.