

Jan. 10, 1933.

S. M. KITTS

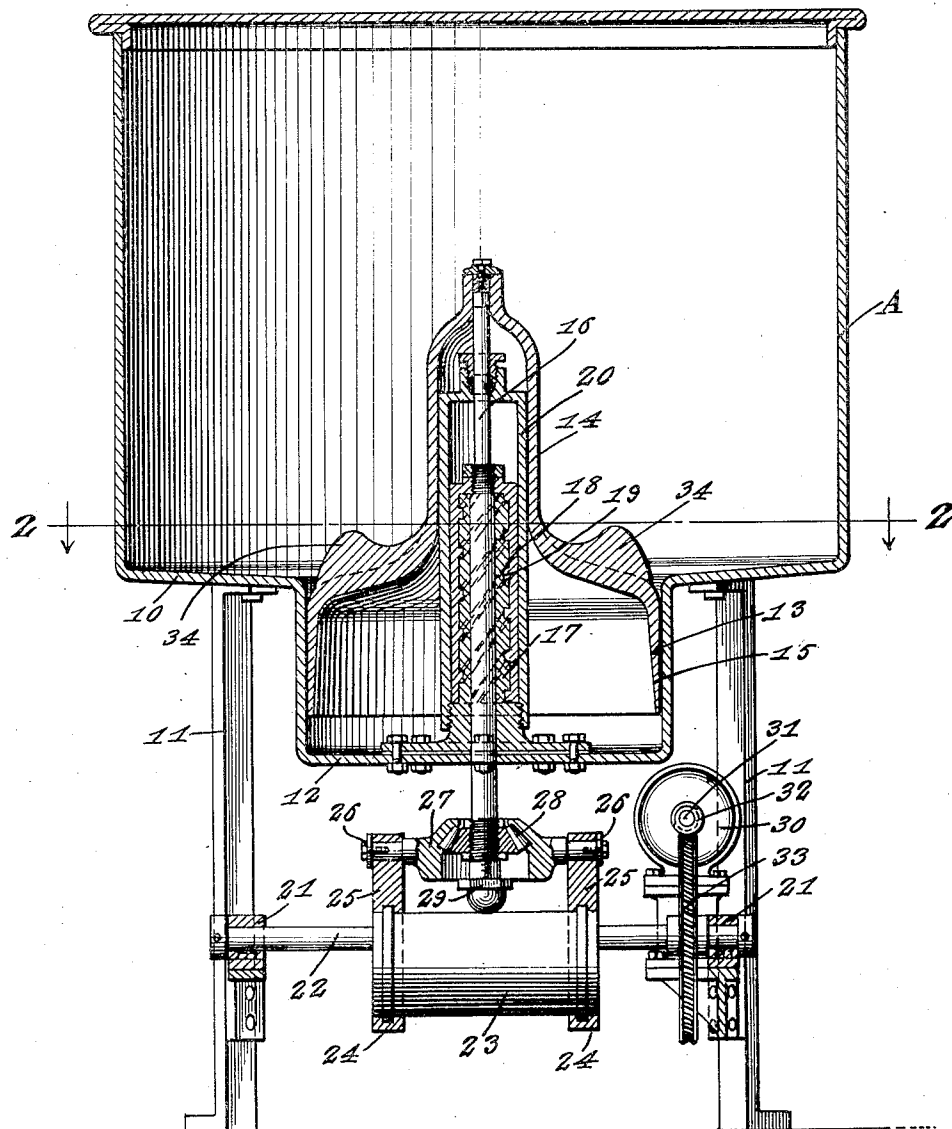
1,894,178

WASHING MACHINE

Filed Sept. 8, 1931

2 Sheets-Sheet 1

Fig. 1.



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2 Sheets-Sheet 2

Fig. 2.

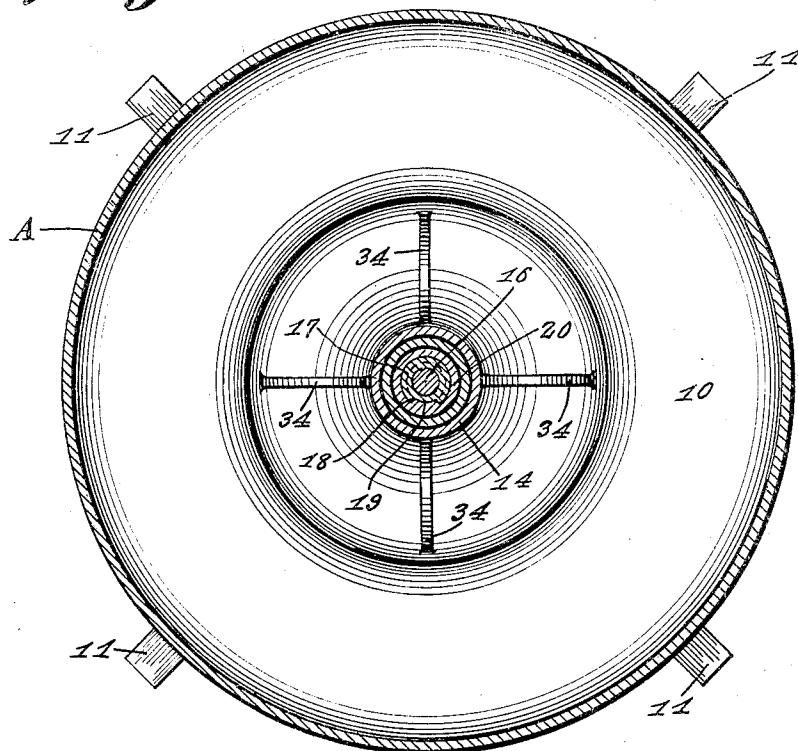
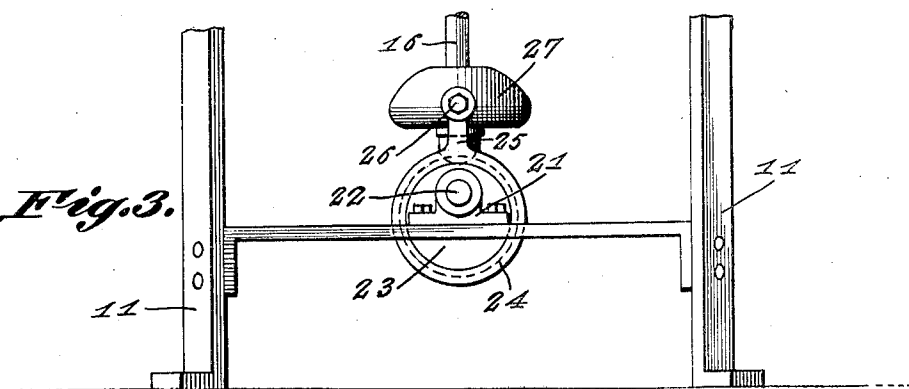


Fig. 3.



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UNITED STATES PATENT OFFICE

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WASHING MACHINE

Application filed September 8, 1931. Serial No. 561,744.

The invention relates to a washing machine and more especially to driving mechanism for the agitator of washing machines.

The primary object of the invention is the provision of a machine of this character wherein an agitator is disposed therein and operated so as to lift clothes and agitate the same during the lifting thereof for the thorough washing of said clothes, the mechanism for operating the agitator being of novel form and assembled in a unique manner.

Another object of the invention is the provision of a machine of this character wherein the clothes will be thoroughly agitated for the cleaning thereof during the washing period, the agitator being operated continuously as the same will be reciprocated vertically and also rotated on its axis.

A further object of the invention is the provision of a machine of this character which is extremely simple in construction, thoroughly reliable and efficient in its operation, strong, durable and inexpensive to manufacture.

With these and other objects in view, the invention consists in the features of construction, combination and arrangement of parts as will be hereinafter more fully described in detail, illustrated in the accompanying drawings, which disclose the preferred embodiment of the invention, and pointed out in the claim hereunto appended.

In the accompanying drawings:—

Figure 1 is a vertical longitudinal sectional view through the machine constructed in accordance with the invention.

Figure 2 is a sectional view on the line 2—2 of Figure 1 looking in the direction of the arrows.

Figure 3 is a fragmentary end elevation of the eccentric operating the agitator of the machine.

Similar reference characters indicate corresponding parts throughout the several views in the drawings.

Referring to the drawings in detail, A designates generally the cylindrical body of the washing machine resting at its bottom 10 upon uprights 11 constituting legs and these uprights being suitably secured to the body

and form a stand, the bottom being formed with a countersunk centrally thereof to provide a pocket 12 for an agitator 13, the latter being of substantially bell shape with a central hollow column 14 merging into a lower skirt portion 15 and said agitator 13 is carried upon a reciprocating staff or shaft 16 vertically movable in the body A through the lower end of the pocket 12 in the bottom thereof.

Secured to the lower end of the pocket 12 and surrounding the staff or shaft 16 is an inner feed spiral in the form of a stationary post 17 having the external female spiral 18 therein with which meshes the male spiral 19 of the outer tubular feed member 20, the same being engaged upon the staff or shaft 16 and telescoped over the post 17 so that on the vertical shifting of said post or staff 16 the meshing spiral members 17 and 20 will impart rotation to the agitator 13 and the latter being carried by the said staff or shaft 16 will move up and down during rotation within the body A and in the down movement it comes within the pocket 12 and on upward movement rises out of the same.

Suitably journaled on the stand in bearings 21 is a horizontally disposed driven shaft 22 carrying a cam 23 about which is engaged a pair of spaced eccentrics 24, these being formed with extensions 25 detachably coupled at 26 to the outer ends of a crosshead 27. The crosshead 27 carries a center bearing 28 in which is rotatably connected at 29 the lower end of the staff or shaft 16 so that when the cam 23 is rotated the said staff or shaft 16 will be reciprocated through the post 17 and the spiral feed connection of the latter through the member 20 rotates the agitator 13, while the shaft or staff 16 reciprocates the same during its rotation.

Stationarily mounted in the stand upon one upright 11 thereof is an electric driving motor 30, the power shaft 31 of which carries a worm screw 32 meshing with a worm gear 33 fixed to the shaft 22 and this motor 30 in its operation transmits motion to the shaft 22 for the rotation thereof.

The agitator 13 at the crown portion 33 thereof is formed with diametrically op-

posed upstanding fins 34 externally thereof and these serve to grip the clothes during the washing period. The raising and lowering of the agitator 13 will raise and lower the clothes within the body A as will be apparent so that in this manner the clothes will be thoroughly agitated both in a rotary path and also in a vertical direction.

What is claimed is:—

- 10 In a washing machine, an agitator having a central vertical hollow column, a post stationarily mounted and aligned with said column and having an external female spiral, a shaft journaled in said post and connected
15 with the column of said agitator, a male spiral connected with the shaft and telescopically fitted with the female spiral, eccentrically operated means having connection with the shaft to impart movement thereto, means forming a swiveled union between
20 the last named means and said shaft, and an enclosure for said spirals secured to the post and fitted in the vertical column of the agitator.
- 25 In testimony whereof I affix my signature.
SARA M. KITTS.

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