

No. 786,856.

PATENTED APR. 11, 1905.

J. H. & J. B. TAYLOR.
GEAR FOR WASHING MACHINES.
APPLICATION FILED APR. 4, 1904.

Fig. 1.

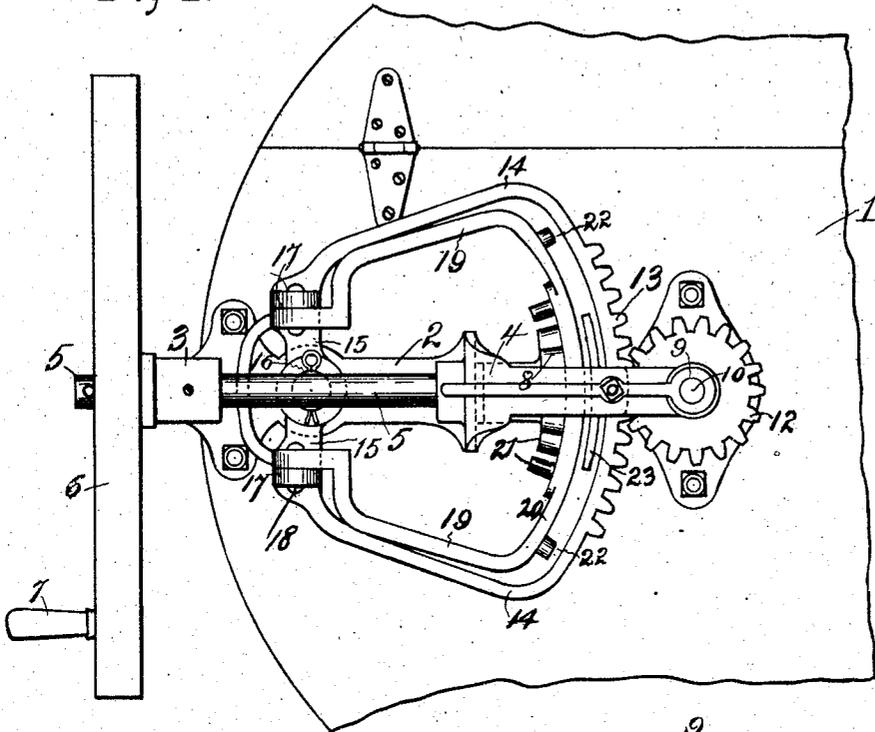


Fig. 2.

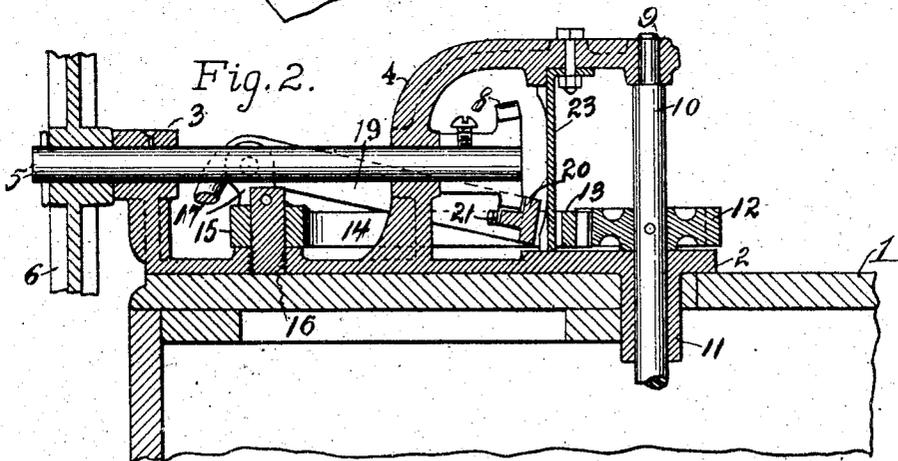
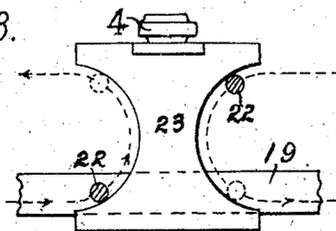


Fig. 3.



WITNESSES:

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UNITED STATES PATENT OFFICE.

JAMES H. TAYLOR AND JULIUS B. TAYLOR, OF TOLEDO, OHIO.

GEAR FOR WASHING-MACHINES.

SPECIFICATION forming part of Letters Patent No. 786,856, dated April 11, 1905.

Application filed April 4, 1904. Serial No. 201,384.

To all whom it may concern:

Be it known that we, JAMES H. TAYLOR and JULIUS B. TAYLOR, citizens of the United States, residing at Toledo, in the county of Lucas and State of Ohio, have invented certain new and useful Improvements in Gears for Washing-Machines; and we do 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, reference being had to the accompanying drawings, and to the figures of reference marked thereon, which form a part of this specification.

Our invention relates to that class of washing-machines in which the rubbing or agitating member is revolved horizontally first in one direction and then in the other direction within a tub.

Our invention relates more particularly to the mechanism for imparting to the rubbing or agitating member of the machine these reverse motions by means of a driving-shaft having a continuous motion in one direction.

Our invention also relates to certain details of construction hereinafter described, and illustrated in the accompanying drawings, in which—

Figure 1 is a top plan view of our driving mechanism; Fig. 2, a central longitudinal vertical sectional elevation of the same, and Fig. 3 a front elevation of the guide-plate hereinafter referred to.

Like numerals of reference indicate like parts throughout the drawings.

In the drawings, 1 is the hinged top of the vessel or tub of our washing-machine. To this top is rigidly secured a plate 2, from which projects upwardly a bracket 3 and a bracket 4, in which two brackets are journaled a driving-shaft 5, carrying at its outer end a balance-wheel 6, having a hand-crank 7. To the opposite end of the shaft 5 is secured a pinion 8. The bracket 4 is extended upwardly and inwardly horizontally to form a bearing, as at 9, for the upper end of a vertical shaft 10 which also has a bearing in a gudgeon 11, formed on the bottom plate and projecting downwardly through the center of the top 1.

The shaft 10 carries at its lower end the rub-

bing and agitating devices of the machine, but which form no part of this invention and which are not, therefore, illustrated in the drawings.

We will now proceed to describe that part of our mechanism intermediate the shafts 5 and 10 which imparts to the latter shaft a constantly-reversing rotation.

On the shaft 10 is secured a spur-gear pinion 12.

13 is a segment of a gear-wheel, the teeth of which are in engagement with pinion 12. The ends of the segment are connected by extensions 14, which meet in a short cross-bar 15, through which is a vertical hole which receives an upwardly-projecting stub-shaft 16. This shaft forms a pivot for the segmental gear 13 and is secured to or forms part of the plate 2. Formed integral with and projecting upwardly from the member 13 14 15 is a pair of lugs 17, disposed at opposite ends of the bar 15 and on opposite sides of the shaft 5. Upon the lugs 17 are pivotally secured, as at 18, the adjacent ends of a stirrup-shaped frame 19, the broad end of which forms an internally-toothed segmental gear 20. The teeth of this gear consist of inwardly-projecting pins 21, which are in engagement with the teeth of pinion 8 on driving-shaft 5.

22 22 are lugs or stops formed upon the segmental rocking gear-frame 19.

An upright plate 23 is secured to the under side of the bracket 4 and has its vertical edges disposed in the path of the lugs or stops 22. The vertical edges of the plate 23 are cut away in the arc of a circle, as illustrated in Fig. 3.

The operation of our device is as follows: The driving-shaft being set in motion, the pinion 8 causes the rack 20 21 to move horizontally until the end of the rack is reached. At this point one of the lugs 22 strikes the curved edge of the plate 23, thus causing the last in the series of teeth 21 to remain in engagement with the pinion 8 and to be carried over with the pinion, so that the pinion now takes the opposite side of the rack, causing it to move horizontally in the opposite direction. At the end of this reverse horizontal swing the other stop, 22, comes in contact with the other curved edge of the plate 23, and the tooth 21 at the opposite end of the series is now held in en-

gagement with the pinion during a half-revolution thereof and until the movement of the curved rack is again reversed. This vertical swing of the curved rack 19 20 first above 5 and then below the pinion 8 is permitted by its pivotal connection with lugs 17 on the segmental rack-bar frame 13 14. The horizontal swing to and fro of the part 19 20 carries with it the frame 13 14, which swings upon 10 its pivot 16. The swing of the segmental rack 13 first in one direction and then in the other correspondingly rotates the pinion 12 and its shaft 10, together with the rubbing mechanism secured thereto.

15 Having described our invention, what we claim, and desire to secure by Letters Patent, is—

In a washing-machine, a base-plate having two upwardly-projecting brackets, a driving- 20 shaft journaled in said brackets, a pinion on the driving-shaft, a driven shaft journaled in one of said brackets, a pinion on said

driven shaft, a stub-shaft secured to said base-plate between said two brackets, a segmental gear journaled on said stub-shaft and in en- 25 gagement with said driven-shaft pinion, a pair of lugs on said segmental gear disposed on opposite sides of the driving-shaft, a second segmental gear, engaged with the driving-shaft pinion and having internal pin-teeth and be- 30 ing pivoted at one side on said pair of lugs, a pair of stops on said second segmental gear, and a guide-plate secured to said base-plate, said guide-plate having opposite margins formed as arcs which arcs are disposed in the 35 path of said stops.

In testimony whereof we affix our signatures in presence of two witnesses.

JAMES H. TAYLOR.
JULIUS B. TAYLOR.

Witnesses:

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