

DE WITT O. MAKEAN.
DRIVING MECHANISM FOR WASHING MACHINES.
APPLICATION FILED SEPT. 28, 1908.

950,725.

Patented Mar. 1, 1910.

2 SHEETS—SHEET 1.

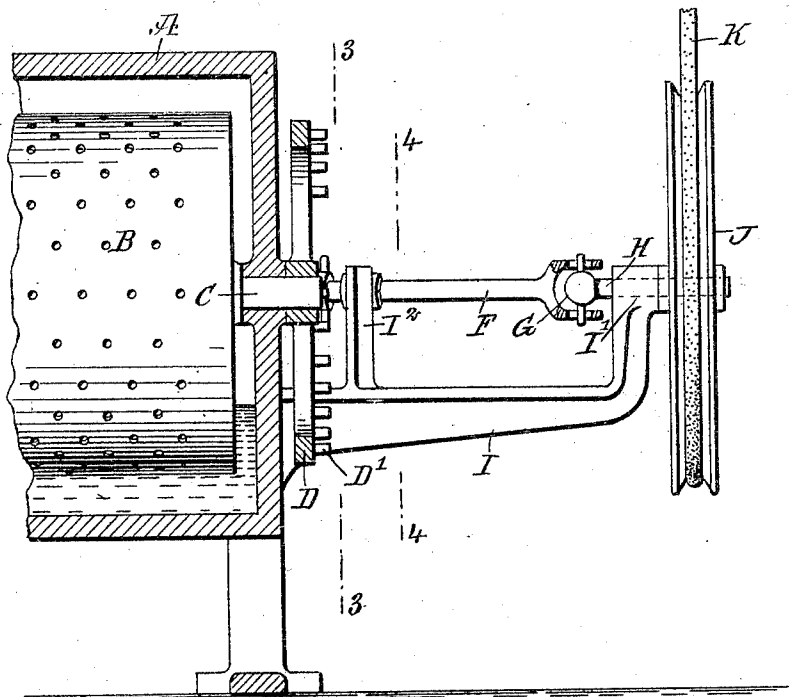


Fig. 1.

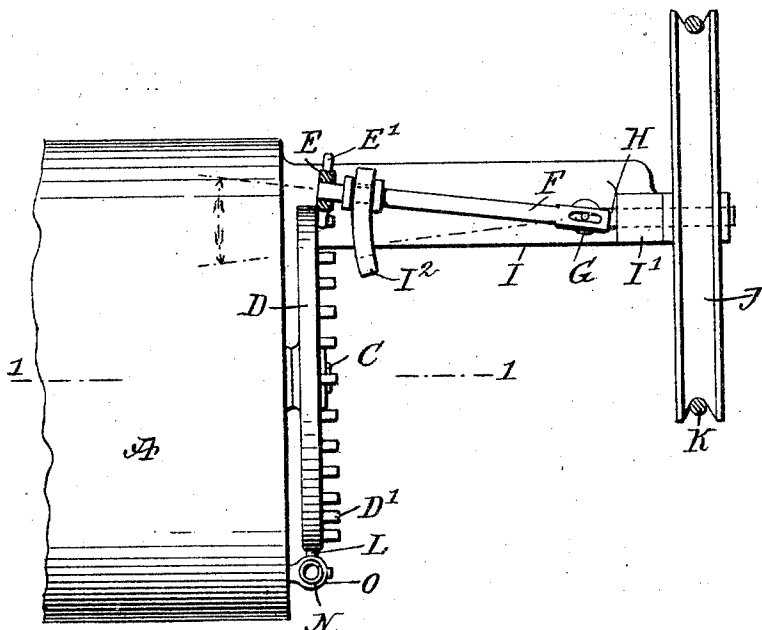


Fig. 2.

WITNESSES

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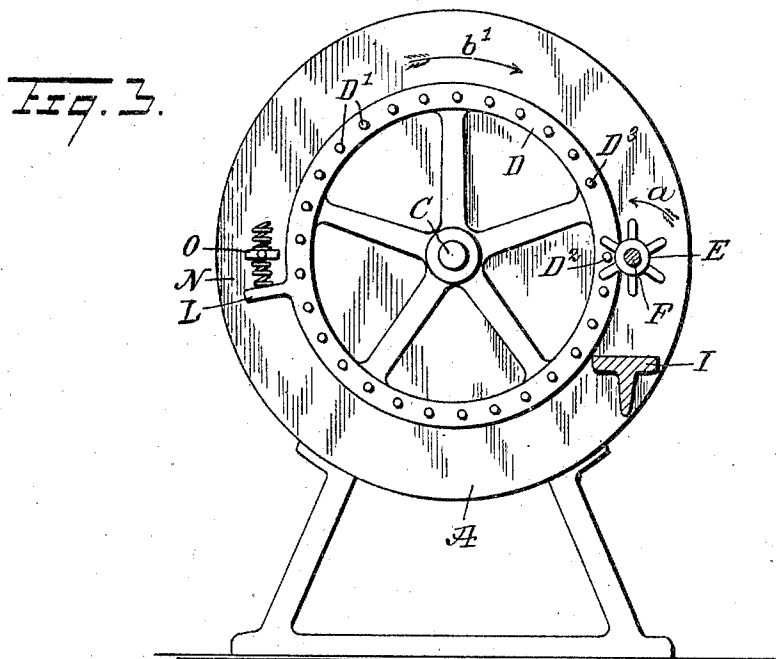
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UNITED STATES PATENT OFFICE.

DE WITT OTIS MAKEAN, OF BINGHAMTON, NEW YORK, ASSIGNOR OF FIFTY ONE-HUNDREDTHS TO GEORGE WALKER FOWLER, OF BINGHAMTON, NEW YORK.

DRIVING MECHANISM FOR WASHING-MACHINES.

950,725.

Specification of Letters Patent.

Patented Mar. 1, 1910.

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To all whom it may concern:

Be it known that I, DE WITT O. MAKEAN, a citizen of the United States, and a resident of Binghamton, in the county of Broome and State of New York, have invented a new and Improved Driving Mechanism for Washing-Machines and the Like, of which the following is a full, clear, and exact description.

The object of the invention is to provide a new and improved driving gear for washing machines, churns and the like machines, and arranged to turn the cylinder or other part of the machine alternately in a forward and backward direction, and to yielding bring the cylinder to a stop at the end of each turn, thus protecting the working parts against injury and providing easy running of the machine.

The invention consists of novel features and parts and combinations of the same, which will be more fully described hereinafter and then pointed out in the claim.

A practical embodiment of the invention is represented in the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the views.

Figure 1 is a sectional side elevation of the improvement as applied to a washing machine for use in steam laundries and large households, the section being on the line 1—1 of Fig. 2; Fig. 2 is a plan view of the same and showing the pinion in section; Fig. 3 is a cross section of the same on the line 3—3 of Fig. 1; and Fig. 4 is a similar view of the same on the line 4—4 of Fig. 1.

The casing A of the washing machine shown in Figs. 1, 2 and 3, consists essentially of a stationary casing A, containing a drum or cylinder B, having its shaft C journaled in the ends of the casing A. On the outer end of the shaft C is secured a segmental gear wheel D in the form of a lantern wheel and having its teeth D' in mesh with the teeth E' of a pinion E, secured on the free end of a swing shaft F, having a pivotal connection G with the main or driving shaft H, journaled in a suitable bearing I' on a bracket I attached to the casing A. A pulley J secured on the main shaft H is connected by a belt K with other machinery, for imparting a continuous rotary motion to the main shaft H in the direction of the arrow a', thus also rotating the swing shaft F in

the same direction. The swing shaft F is mounted to turn and to swing in a horizontally elongated bearing I², formed on or attached to the bracket I, the bearing being disposed radially relatively to the gear wheel D, to allow the pinion E to mesh with the teeth D' either at the outside or inside thereof, with a view to rotate the gear wheel D alternately in opposite directions, as hereinafter more fully described.

On the periphery of the gear wheel D is arranged an outwardly-extending radial arm L, adapted to alternately move in contact with the ends of a coil spring N held on a support O attached to the casing A. The arm L and the spring N are so arranged relative to the end teeth D² and D³ of the gear wheel D, that when the arm L is swung into engagement with the bottom end of the spring N, then the end tooth D² is in mesh with the pinion E, and as the spring N offers resistance to the further turning of the gear wheel D rotating in the direction of the arrow b', it is evident that the pinion E, rotating continually in the direction of the arrow a', rolls on and around the tooth D² and passes to the inside of the gear wheel D. As the pinion keeps on rotating, the motion of the gear wheel D is reversed, that is, the gear wheel D is caused to rotate in the inverse direction of the arrow b'. The gear wheel D travels in this direction until the arm L moves in engagement with the top of the spring N, and the end tooth D³ is in mesh with the pinion E. When this takes place, the resistance of the spring N to the further turning of the gear wheel D in the inverse direction of the arrow b', causes the pinion to roll on and around the tooth D³ in an outward direction, until the pinion is outside of the tooth, and a further rotation of the pinion N now causes the gear wheel D to rotate in the direction of the arrow b'. Thus by the arrangement described the yielding stop for the gear wheel D and formed by the spring N and stop arm L, serves to take up all undue jar, and at the same time causes a shifting of the pinion E and its shaft F, for reversing the motion of the gear wheel D.

From the foregoing it will be seen that the tub or other part of the machine is alternately rotated in a forward and backward direction, and the part is brought yieldingly to a stop at the end of each turn, thus tak-

ing up all jar, and thereby protecting the working parts against injury.

Having thus described my invention, I claim as new and desire to secure by Letters

5 Patent:

A driving mechanism, comprising a driving shaft, a swing shaft pivotally connected with the said driving shaft, a pinion on the free end of the said swing shaft, a seg-
10 mental gear wheel on the part to be rotated and in mesh with the said pinion, an arm

turning with the said segmental gear wheel, a spring, and a fixed support carrying the said spring, either end of said spring being in the path of the said arm.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

DE WITT OTIS MAKEAN.

Witnesses:

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