No. 768,430. PATENTED AUG. 23, 1904.

C. DIETZ.

WASHING MACHINE.

APPLICATION FILED JAN. 28, 1901.

NO MODEL. 2 SHEETS—SHEET 1.

Fig. 1.

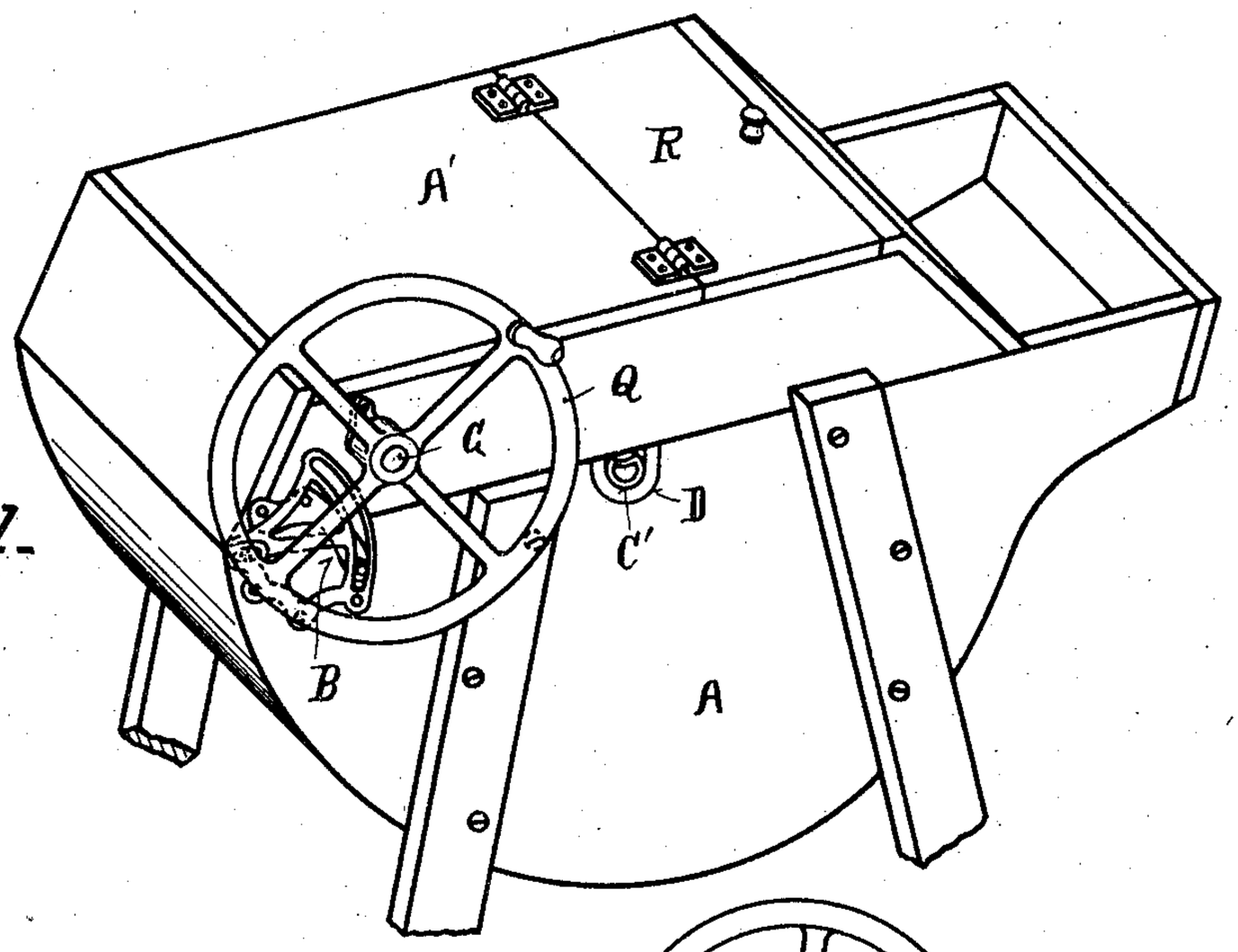
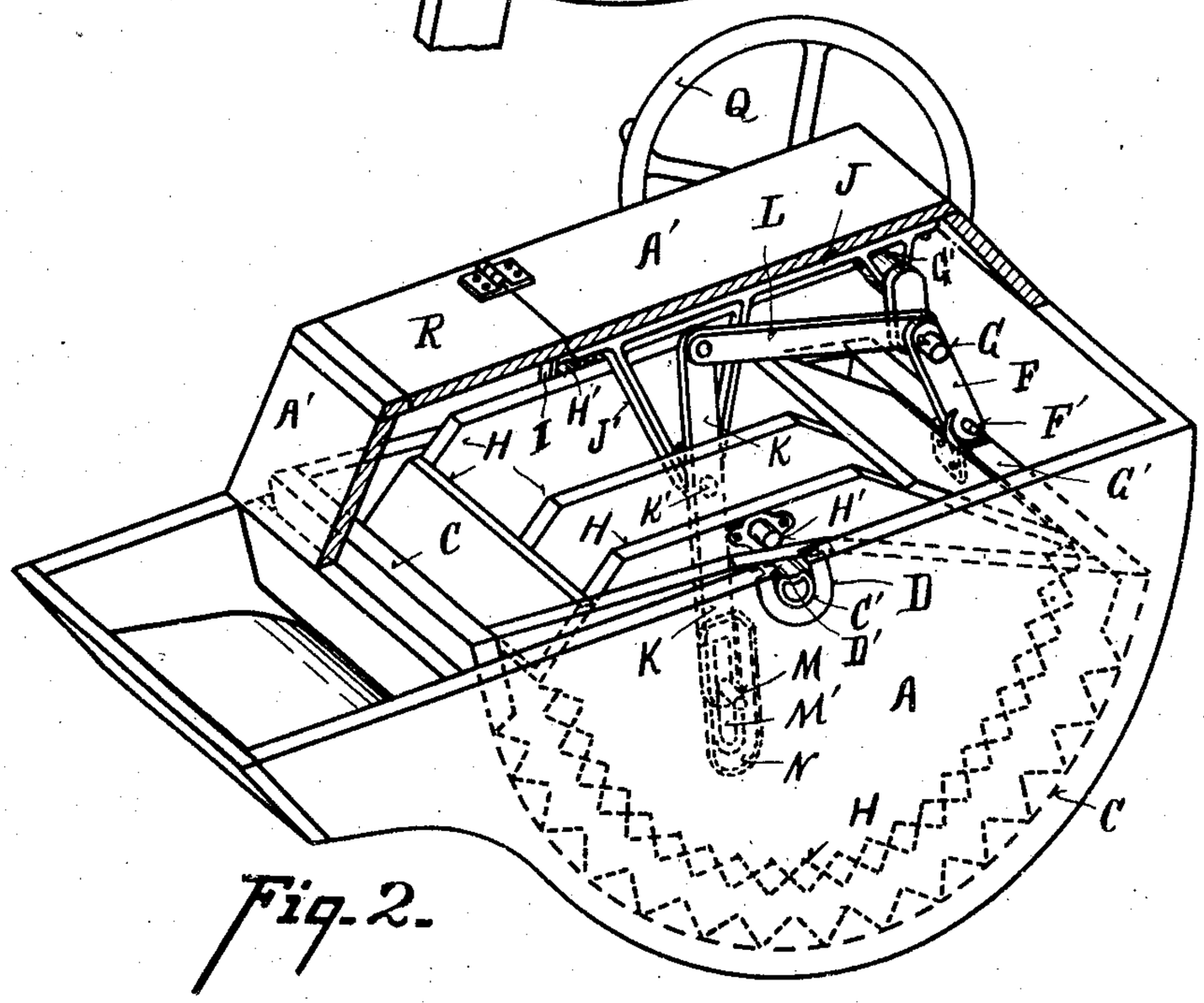


Fig. 2.



Witnesses
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Inventor
Conrad Dietz
By James L. Ramsey Attorney

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NO MODEL. 2 SHEETS—SHEET 2.

Fig. 3.

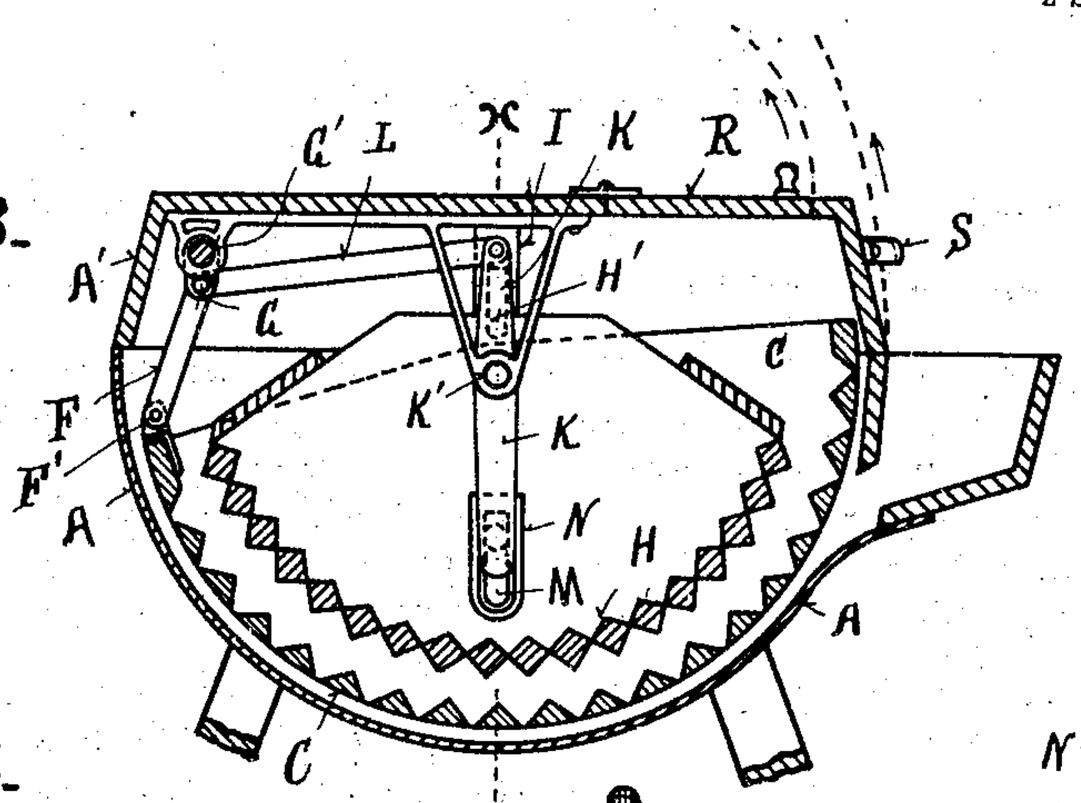


Fig. 6.

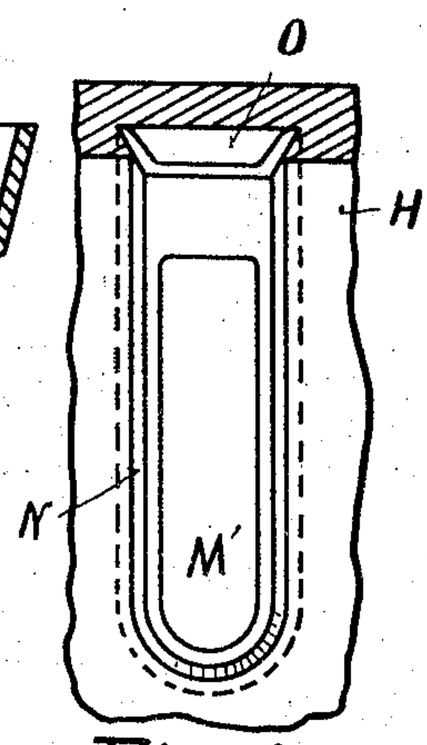


Fig. 4.

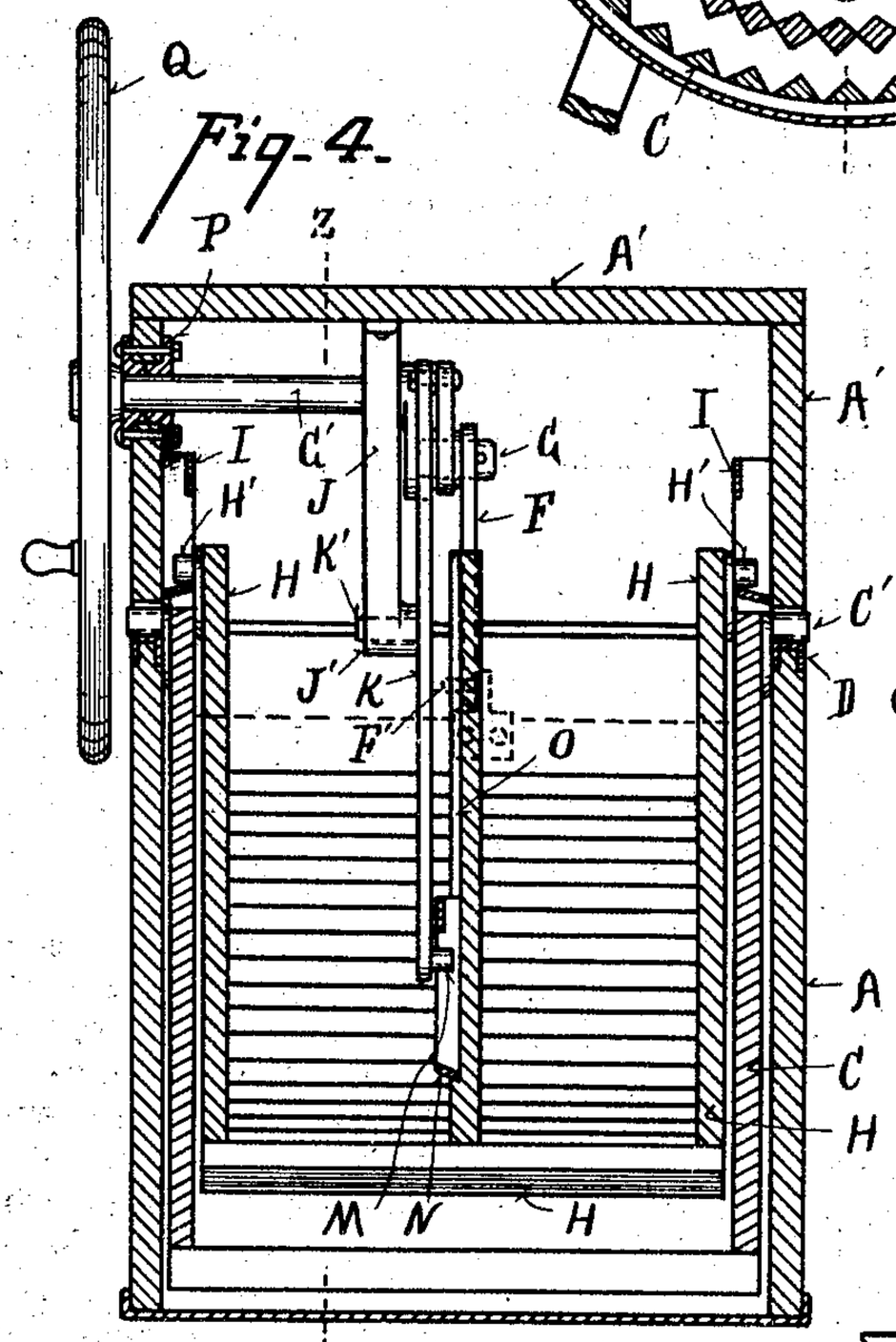


Fig. 5.

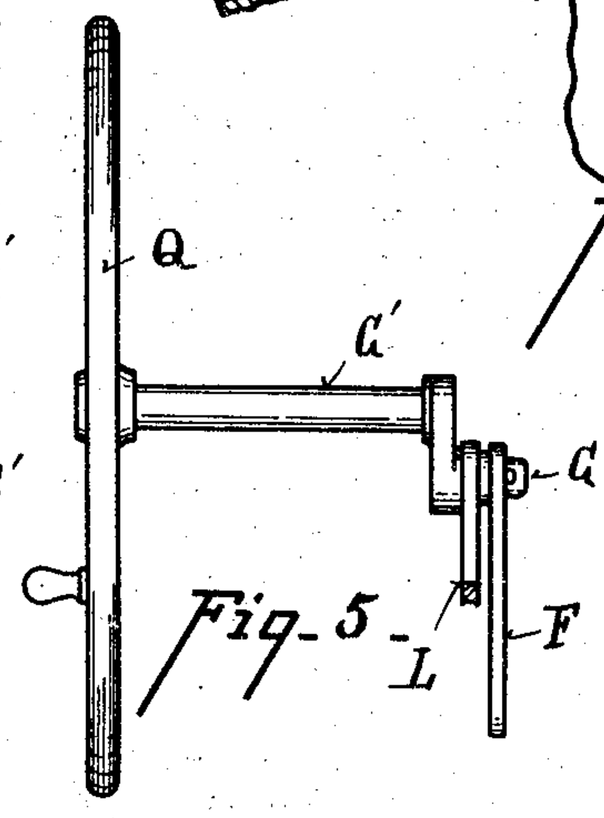


Fig. 7.

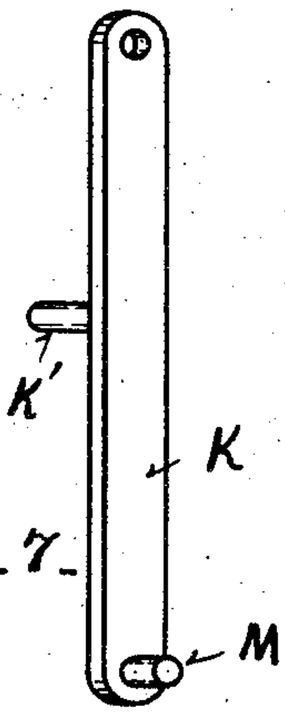


Fig. 9.

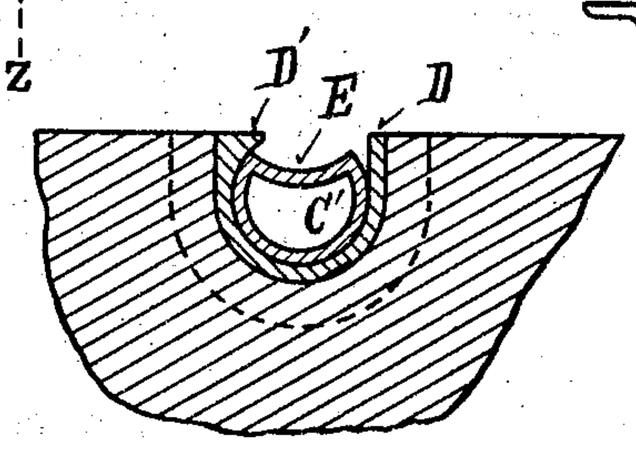
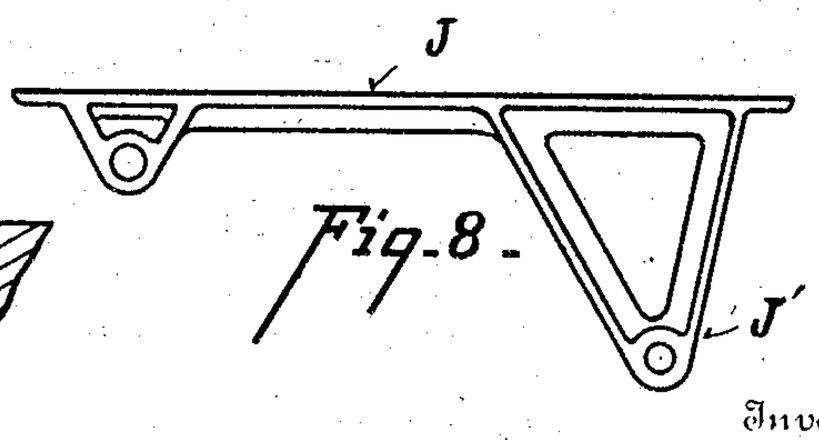


Fig. 8.



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No. 768,430. Patented August 23, 1904.

UNITED STATES PATENT OFFICE.

CONRAD DIETZ, OF CINCINNATI, OHIO.

WASHING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 768,430, dated August 23, 1904.

Application filed January 28, 1901. Serial No. 44,983. (No model.)

To all whom it may concern:

Be it known that I, CONRAD DIETZ, a citizen of the United States, residing at Cincinnati, in the county of Hamilton and State of Ohio, have invented certain new and useful Improvements in Washing-Machines, of which the following is a specification.

My invention relates to improvements in washing-machines.

One of its objects is to locate the driving-shaft and all the operative parts within the machine and beneath the cover, obviating any danger of throwing water through the opening in the cover or of the operator or others becoming caught and injured by the exposed operative parts above the cover, and to facilitate shipment of the machines.

Another object is to provide mechanism suitable for operating the rubbers in the confined space beneath the cover and to provide a top pitman, connecting-rod, or link which does not move up and down with the upper rubber, but which has a regular and uniform stroke whether the machine is filled with clothing or has only a single garment.

My invention consists in certain details of form, combination, and arrangement, all of which will be more fully set forth in the description and defined in the claims.

In the accompanying drawings, which serve to illustrate my invention, Figure 1 is a perspective view of my improved washer. Fig. 2 is a perspective view of the same with part of the cover broken away to show the operative parts. Fig. 3 is a vertical longitudinal section through the same on line *z z* of Fig. 4. Fig. 4 is an enlarged section through the same on line *x x* of Fig. 3. Fig. 5 is a detail view of the driving-shaft and its connecting-rods. Fig. 6 is a detail perspective view of the journal or socket plate attached to the upper rubber. Fig. 7 is a perspective view of the oscillating arm for operating the upper rubber. Fig. 8 is a plan view of the hanger or bracket in which the operative parts are supported. Fig. 9 is a detail sectional view through the journal and pivot for the lower rubber.

A represents the body of the machine, and A′ the cover, which is preferably hinged to the body by the hinge-plates B.

C represents the lower rubber, which is provided with pivot-pins C′, which enter journal-boxes D in the side walls of the body A. These pivot-pins are recessed at E on their top sides and are normally held in the journal-boxes by means of the overhanging lugs D′, but may be withdrawn or inserted into the journal-boxes by turning the rubber so as to bring the recess opposite the lug as the pivot-pins are being withdrawn or inserted. The lower rubber is oscillated backward and forward on its journals by means of a link or connection-rod F, which journals on a pin F′, secured to the edge of the rubber and journaled at the other end to a crank-pin G on the inner end of the driving-shaft G′.

H represents the upper rubber, which journals upon the pivot-pins H′, which engage slotted openings in the journal-plates I, which are secured to the inside of the cover, thereby permitting a vertical movement of the upper rubber in its journals. The upper rubber is oscillated in the following manner: J represents a bracket or hanger secured to the under side of the cover and in one end of which the inner end of the driving-shaft journals. In the other end, J′, is journaled an oscillating arm K by means of a stud K′. L represents a pitman-rod, which is pivoted at one end to the oscillating arm K and at the other end to the crank-pin G of the driving-shaft. The opposite end of the oscillating arm K is provided with a stud M, which enters a slot M′ in bracket N, which is preferably secured to the upper rubber by means of a dovetailed slot O in one of the frame-pieces of the upper rubber, into which the bracket N is inserted, as shown in Fig. 6. The slotted opening in the bracket N permits a vertical movement of the upper rubber without disengaging the stud from the bracket. The outer end of the driving-shaft journals in a two-part journal-box P, clamped to the side wall of the cover.

Q represents a weighted hand-wheel for operating the rubbers, which may, however, be driven by power and a belt-pulley or gear, if desired.

R represents a door or lid in the top of the cover. It will be noted that the cover may be lifted by the handle S, turning on its hinges and carrying with it the upper rubber and operative parts and thrown back to a vertical position, and is held in this position by means of its hinges while machine is open, giving more complete access to the body of the machine than can be obtained through the door R. The cover is entirely closed, thus keeping the water hot longer and giving better results. It is shielded against breakage, also against the danger of the operator getting hurt by operating the machine.

The oscillating arm which operates the upper rubber has a permanent center, and its lower end is engaged in an elongated slot in the center of the upper rubber, which permits the upper rubber to adjust itself vertically to suit the thickness of clothing. This construction makes the upper rubber oscillate centrally at any point and also causes the clothes to be rubbed and distributed equally.

The top pitman, which operates the upper rubber, is housed within the cover and does not move up or down therein with the upper rubber. This causes the movement of the pitman to be regular and uniform all the time, no matter whether the machine is filled with clothing or only partially filled.

In shipping the machine there is no danger of breaking castings, and no castings have to be taken off and replaced on that account, as all the castings are under the cover except the wheel, which can be taken off and put inside also.

I claim—

1. In a washing-machine, a body portion, a cover, a rubber pivoted in slotted openings in said cover, a bracket secured within the cover, an oscillating arm pivoted between its ends to said bracket; a slotted bearing on the rubber engaging the lower end of the oscillating arm, and a pitman and crank-shaft for imparting motion to the opposite end of the oscillating arm, substantially as specified.

2. In a washing-machine, a body portion, a cover, a lower rubber pivoted to the body portion, an upper rubber pivoted to the cover, a crank-shaft journaled within the cover, a link pivotally connected to the crank-shaft and lower rubber within the cover, a pitman entirely within the machine pivoted to the crank-shaft and to an oscillating arm entirely within the machine, and said oscillating arm pivotally connected to the upper rubber.

3. In a washing-machine, a body portion, a cover, a lower rubber, pivoted to the body, an upper rubber pivoted to the cover, and capable of vertical movement relative thereto, a crank-shaft journaled within the cover, and with one end projecting externally, a link or connecting-rod connecting the crank-shaft with the lower rubber, an oscillating arm journaled to a bracket depending from the inside of the cover, a stud at the lower end of the oscillating arm engaging a slotted bearing on the upper rubber, and a pitman connecting the opposite end of the oscillating arm with the crank-shaft.

4. In a washing-machine, a body portion, a cover, a vertically-movable rubber pivoted therein, a bracket beneath the cover, an oscillating arm pivoted between its ends to said bracket, a bearing on the rubber adapted to form sliding engagement with the lower end of the oscillating arm, and a pitman and crank-shaft for imparting motion to the opposite end of the oscillating arm.

5. In a washing-machine, a body portion, a cover, a lower rubber pivoted to the body portion, an upper rubber pivoted to the cover, a crank-shaft journaled within the cover, a link pivotally connected to the crank-shaft and lower rubber, a pitman arranged horizontally beneath the cover and pivotally connected to the crank-shaft and to the upper end of a vertically-disposed oscillating arm, and said oscillating arm pivoted between its ends at a fixed point and pivotally connected to the upper rubber.

6. In a washing-machine, the combination with a body and a cover therefor, of upper and lower rubbers mounted to reciprocate in opposite directions, a crank-shaft, a pitman connecting said crank-shaft with the lower rubber, a lever pivoted between its ends and provided with a pintle or lug at its lower end that engages a slot in the upper rubber, and a pitman connecting the upper end of the lever with the crank-shaft.

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