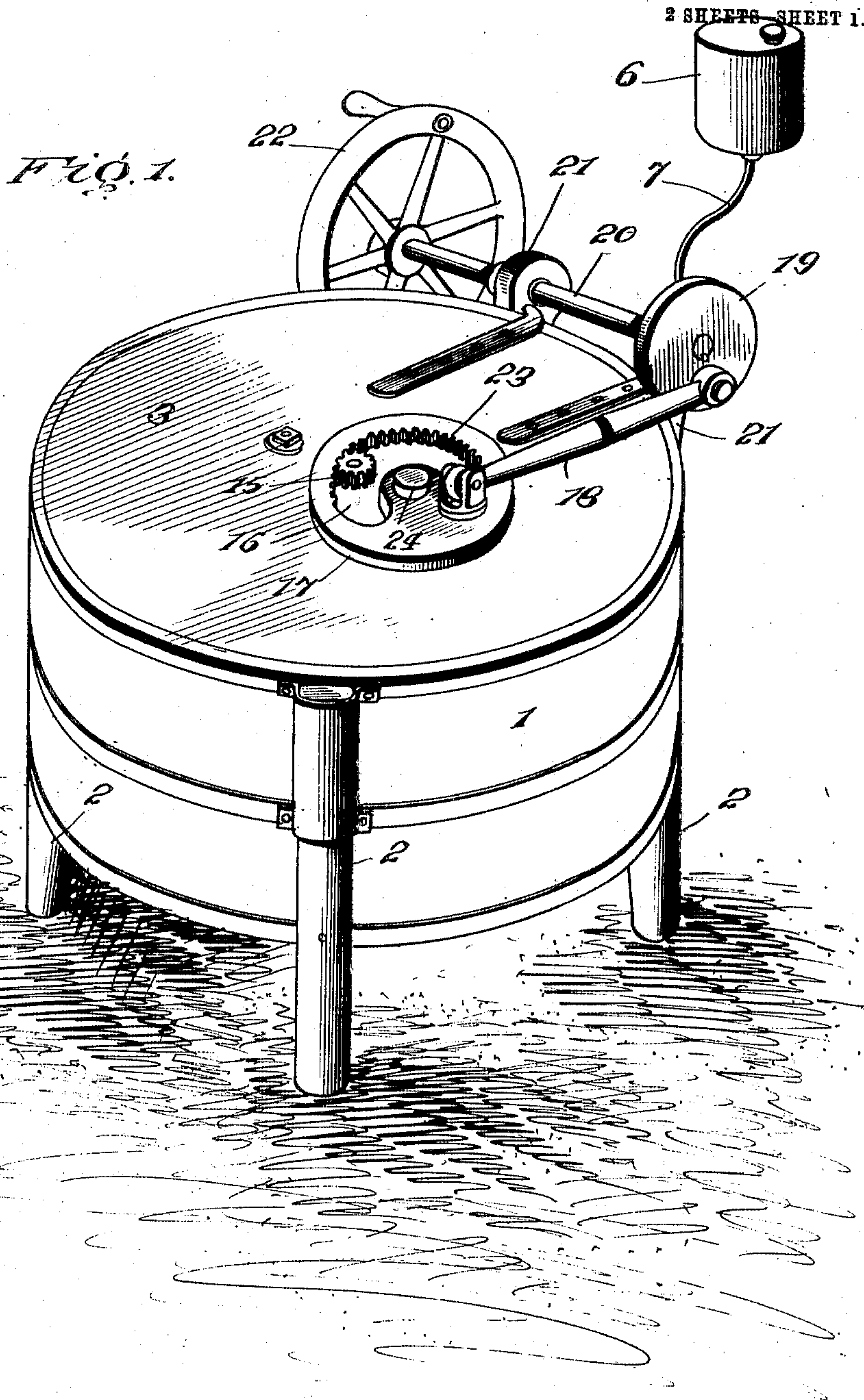


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PATENTED APR. 10, 1906.

C. L. ROCK.
WASHING MACHINE.
APPLICATION FILED MAY 17, 1905.

2 SHEETS SHEET 1.



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CHARLIE L. ROCK, OF FALL RIVER, KANSAS.

WASHING-MACHINE.

No. 817,192.

Specification of Letters Patent.

Patented April 10, 1906.

Application filed May 17, 1905. Serial No. 260,797.

To all whom it may concern:

Be it known that I, CHARLIE L. ROCK, a citizen of the United States, residing at Fall River, in the county of Greenwood and State of Kansas, have invented certain new and useful Improvements in Washing-Machines, of which the following is a specification.

This invention relates to improvements in washing-machines, and embodies a machine of that type employing a plurality of rubbers arranged within the washing-receptacle or tub and utilizing a heater preferably located beneath the tub for heating the suds-water during the washing operation.

The invention resides particularly in the general operating mechanism used for actuating the rubbers and in the arrangement of the various parts, which is conducive to simplicity, as well as being advantageous in securing the thorough cleansing of the clothes operated upon by the machine.

For a full description of the invention and the merits thereof and also to acquire a knowledge of the details of construction of the means for effecting the result reference is to be had to the following description and accompanying drawings, in which—

Figure 1 is a perspective view of a washing-machine embodying the invention. Fig. 2 is a vertical sectional view. Fig. 3 is a horizontal sectional view taken about on the line X X of Fig. 2. Fig. 4 is a bottom plan view of a portion of the cover, having attached thereto the actuating-lever for the outer rubber.

Corresponding and like parts are referred to in the following description and indicated in all the views of the drawings by the same reference characters.

Specifically describing the invention, the machine shown in the drawings comprises the usual tub or washing-receptacle 1, preferably mounted upon legs 2 and provided with the top 3, the latter being preferably hingedly mounted, so as to be readily opened and closed to have access to the interior of the receptacle 1 aforesaid. Arranged beneath the receptacle 1 is a heater by which the suds-water in the receptacle is heated during the washing operation, and this heater is preferably a hydrocarbon-burner 4, suitably incased to confine the heat by means of a fire box or casing 5. The burner 4 may be supplied with a suitable hydrocarbon from a sup-

ply-tank 6, supported by the machine and having a supply-pipe 7 leading therefrom to the burner and connected with the latter in a suitable way. Arranged within the receptacle 1 is an outer rubber or agitator 8, the same consisting, preferably, of a skeleton drum composed of upper and lower rims or circular frames 8^a and 8^b, respectively, said frames being connected by vertical spaced slats or bars 9. The rubber 8 is supported for oscillatory movement by means of vertically-arranged guides 10, the latter embodying bars having the upper and lower portions thereof deflected outwardly, as shown at 11, so as to receive the rims or frames 8^a and 8^b in such a manner as to properly support the rubber 8 as the latter is actuated by operating mechanism to be more fully set forth as the description proceeds. The rubber 8 is of such a structure as to thoroughly agitate the suds-water and the clothes which are received in the receptacle 1 in the cleansing operation, and said rubber 8 coöperates with a second rubber 12, which will be termed the "inner" rubber, as the latter operates within the space surrounded by the drum or rubber 8. The inner rubber comprises a head 12, carrying a plurality of pins 13, projecting downwardly and outwardly therefrom, said rubber being supported or carried by a vertical shaft 14, passing upwardly through the central portion of the top or cover 3 of the receptacle 1. The shaft 14 is of such a length as to permit a certain amount of vertical movement of the head 12 thereon, though said head is so secured to the shaft as to oscillate therewith as the latter is actuated. The upper extremity of the shaft 14, which projects through the cover 3 of the receptacle 1, has a pinion 15 keyed or otherwise secured thereto, said pinion operating in an arcuate slot 16, formed in a gear 17, rotatably mounted upon the cover or top 3. The gear 17 is connected by a pitman 18 with a crank-wheel 19 at one end of a horizontal shaft 20, carried by the receptacle 1 at one side thereof. The shaft 20 is mounted in bearings provided in standards 21, secured to a side of the receptacle 1, and the end of the shaft opposite that carrying the crank-wheel 19 has a hand-wheel 22 mounted thereon and adapted to be operated so as to impart motion to the gear 17, having the arcuate slot 16. The slot 16 of the gear 17 has teeth at its outer

side, as shown at 23, the teeth 23 being in mesh with the teeth of the pinion 15, so that as oscillatory movement is imparted to the gear 17 the shaft 14 will be actuated so as to impart similar movement to the head 12.

In order to compensate for wear between the teeth of the pinion 15 and the teeth 23 of the gear 17, it is designed that the gear 17 be journaled to a pin or stud 24, projecting upwardly from the cover 3 of the receptacle 1 and arranged eccentric of an adjustable member 25, carried by the cover 3. Suitable means are utilized to prevent displacement of the gear 17 from the pin 24, and the member 25 may be so adjusted as to take up for any wear between the parts 15 and 17 in a manner which will be readily apparent. The shaft 14 is formed with an eccentric 26 just beneath the cover 3, and this eccentric operates in the space between the bifurcate extremities 27 of an actuating-lever 28, which is mounted upon the under side of the cover 3. The lever 28 is pivoted at a point between its ends, as shown at 27^a, and is thus operably connected at one end with the shaft 14, the opposite end of said bar having a notch or recess 30, receiving an extension 31, projecting upwardly from the uppermost rim or frame 8^a of the rubber 8.

It will thus be seen that in the practical operation of the invention when the operator turns the wheel 22 the connection 18, by which the gear 19 is connected with the gear 17, will oscillate said gear 17, and thereby actuate the shaft 14, by means of a pinion 15, which operates in the slot 16. As the shaft 14 is oscillated similar movement is imparted to the head 12, and this head is held firmly down upon the clothes in the receptacle 1, whether the clothes be in greater or less quantity, by means of a spring 32, which is interposed between the upper portion of the head of the rubber 12 and the eccentric 26. The spring 32 is of the coil type and normally tends to force the head 12 downwardly against the clothes in the drum or rubber 8. As the head 12 is operated the eccentric 26 is of course oscillated with the shaft 14, and since this eccentric is arranged in operative position with reference to the bifurcate end of the lever 28 said lever 28 will have an oscillatory movement also imparted thereto. As the lever 28 is oscillated in the manner above described the outer end of the lever, which is in connection with the extension 31 of the rubber 8, will actuate the rubber in an obvious manner, the suds-water being thoroughly agitated and the clothes effectively cleansed.

The portions 11 of the guide-bars 10 form seats for the rims 8^a and 8^b, and rollers 35 are arranged in these seats to reduce the friction between the same and the rubber 8 to a minimum.

Having thus described the invention, what is claimed as new is—

1. In a washing-machine, the combination of a washing-receptacle, an outer rubber arranged in said receptacle, guide means supporting said rubber, a shaft passing through the top of the receptacle, a rubber mounted upon said shaft and arranged in the first-mentioned rubber, a lever pivoted to the top of the receptacle and operably connected at one end with the shaft aforesaid, the opposite end of said lever being connected with the outer rubber, and means for actuating the shaft.

2. In a washing-machine, the combination of a washing-receptacle, an outer rubber arranged in said receptacle and comprising upper and lower frames or rims, guide means supporting said rubber, a shaft passing through the top of the receptacle, a rubber mounted upon said shaft and arranged in the first-mentioned rubber, a lever pivoted at a point between its ends to the top of the receptacle, an eccentric carried by the shaft aforesaid and operably connected at one end with the lever, the opposite end of the lever being connected with the outer rubber, and means for actuating the shaft.

3. In a washing-machine, the combination of a washing-receptacle, an outer rubber arranged in said receptacle and comprising upper and lower frames or rims, guide means supporting said rubber, a shaft passing through the top of the receptacle, a rubber mounted upon said shaft and arranged in the first-mentioned rubber, a lever pivoted at a point between its ends to the under side of the receptacle and having one of its ends bifurcated, an eccentric carried by the shaft aforesaid and operating between the bifurcate portions of the lever, and an extension projected from the outer rubber and connected with the opposite end of the lever for actuation thereby.

4. In a washing-machine, the combination of the receptacle 1, the rubber 8 located therein and comprising the upper and lower frames 8^a and 8^b, the guide-bars 10 arranged in the receptacle 1 and having the portions 11 receiving the frames 8^a and 8^b as specified, the shaft 14, the vertically-movable rubber carried thereby, the eccentric 26, the spring 32 interposed between the eccentric 26 and the vertically-movable rubber, the lever 28 connected at one end with the eccentric 26, the extension 31 connected with the opposite end of the lever, and means for actuating the shaft 14.

In testimony whereof I affix my signature in presence of two witnesses.

CHARLIE L. ROCK. [L. s.]

Witnesses:

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