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C. GARVER & M. LAUER.

WASHING MACHINE.

APPLICATION FILED JUNE 3, 1904.

Fig. 1.

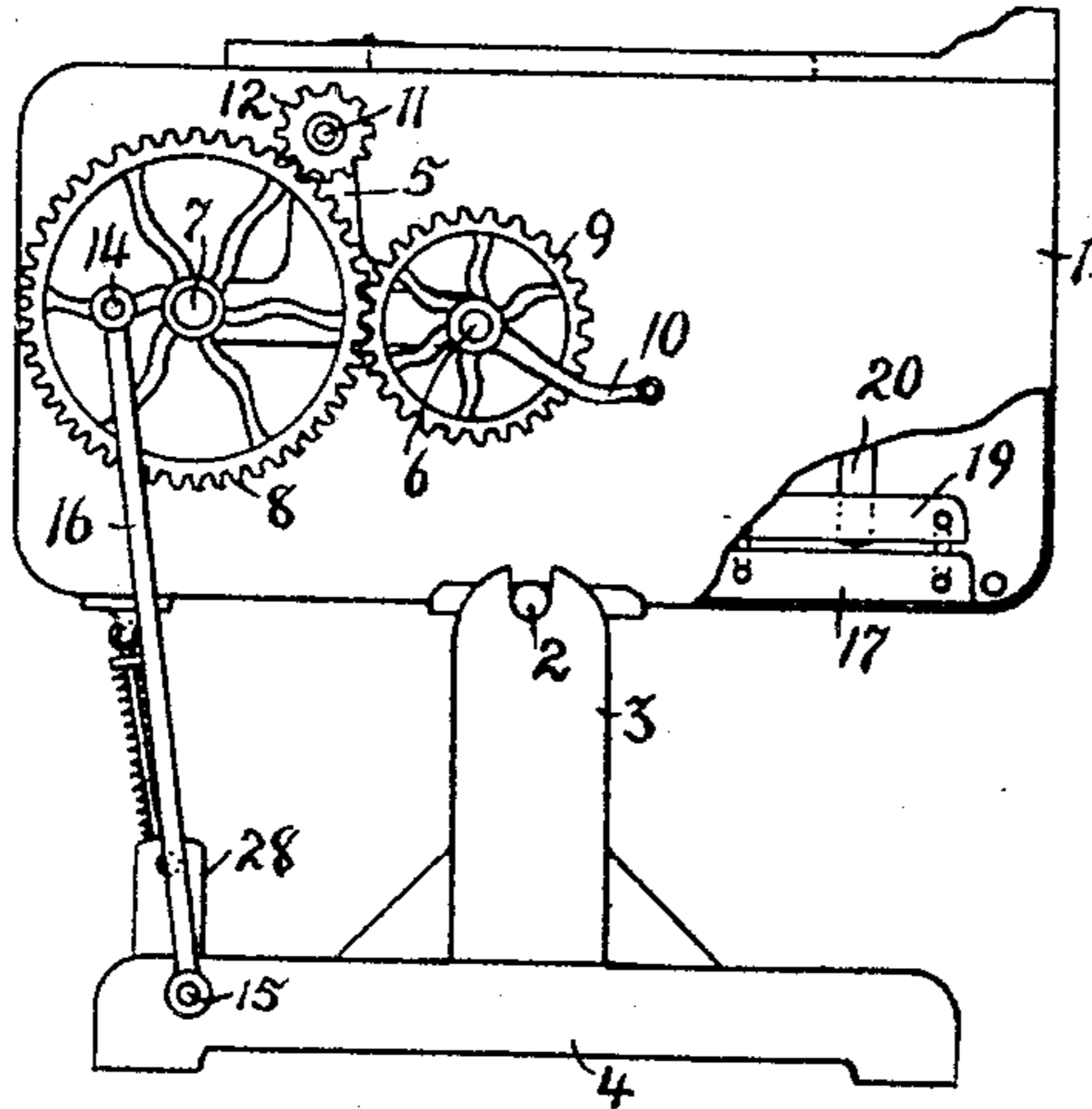


Fig. 2.

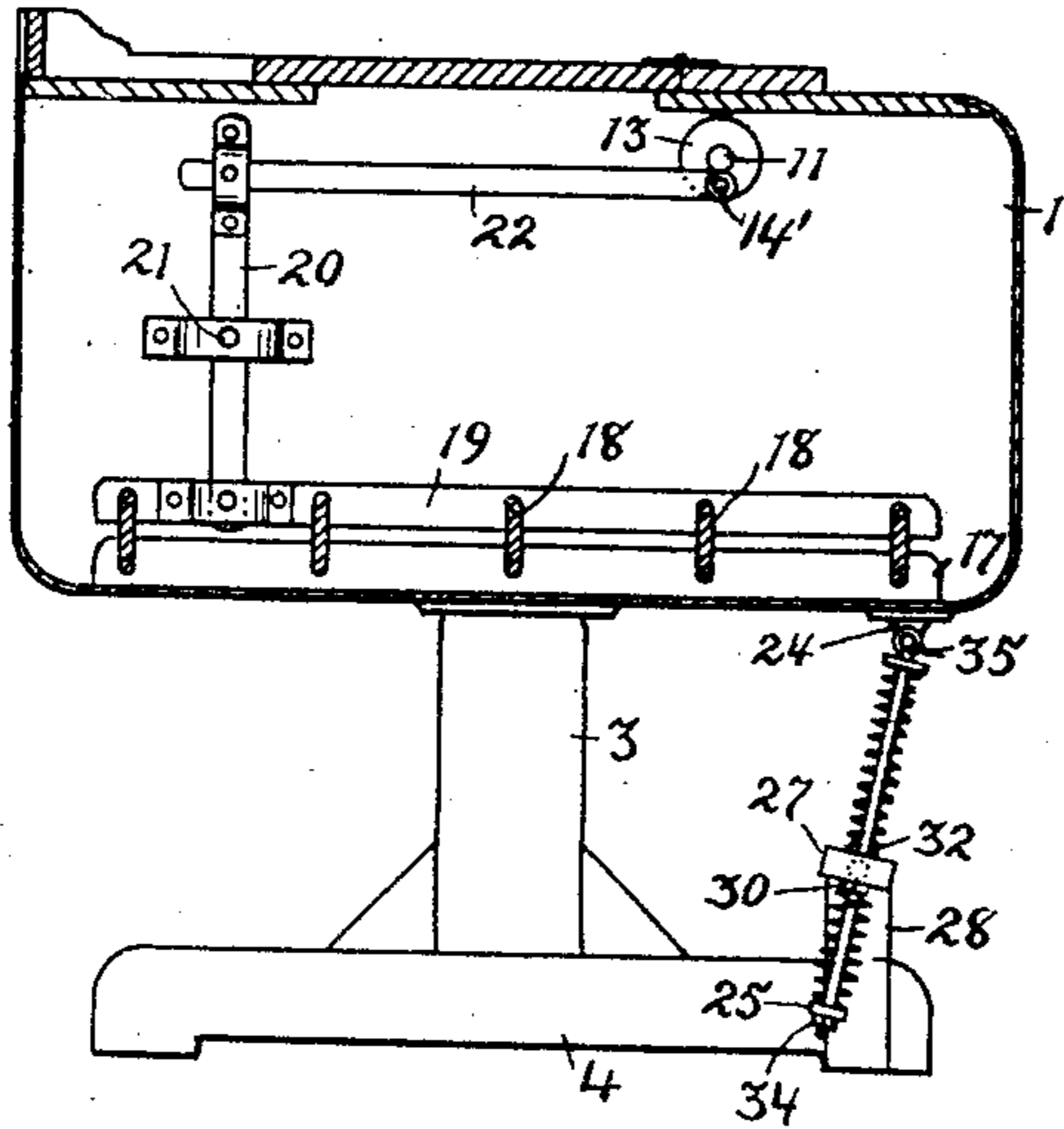
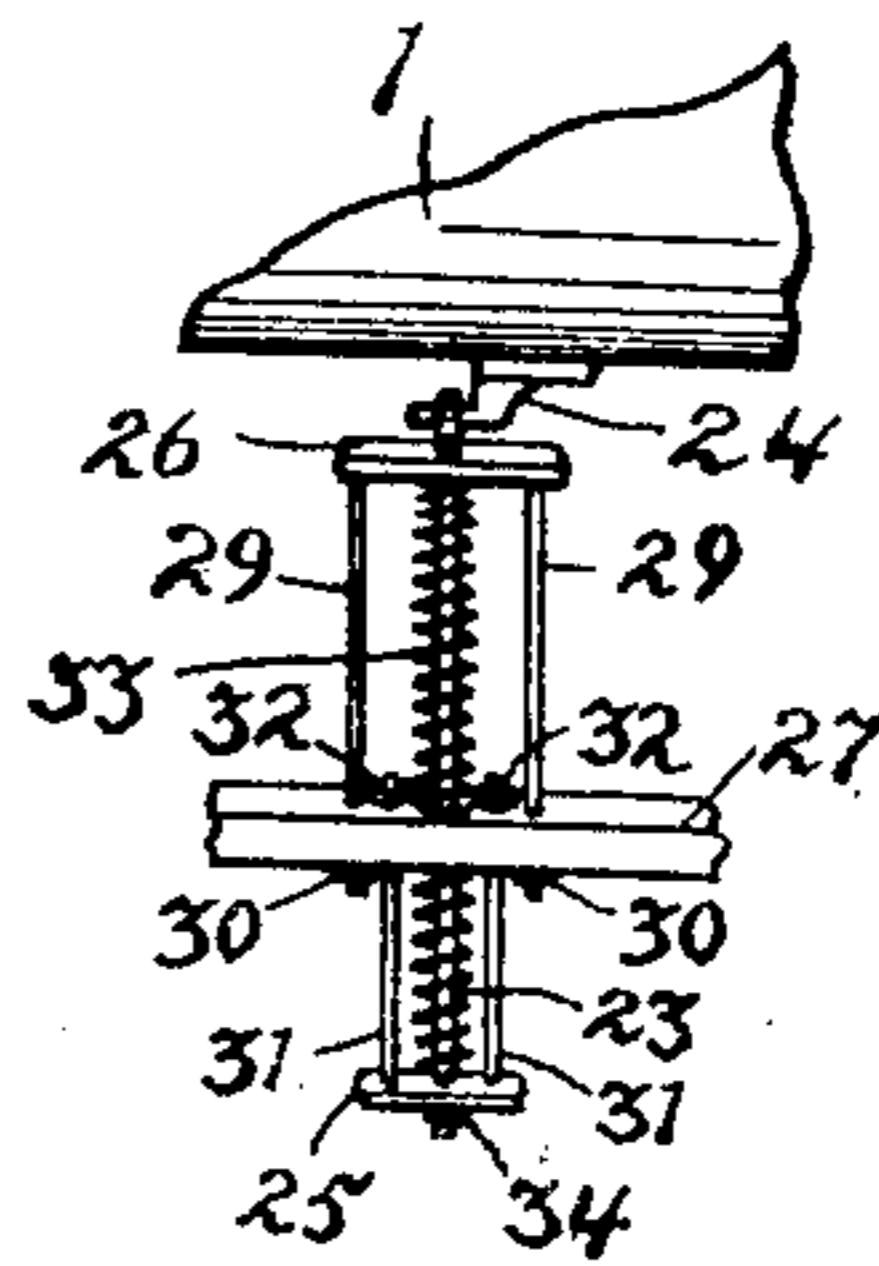


Fig. 3.



WITNESSES:

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CHARLES GARVER AND MARTIN LAUER, OF FORT WAYNE, INDIANA.

WASHING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 779,704, dated January 10, 1905.

Application filed June 3, 1904. Serial No. 210,959.

To all whom it may concern:

Be it known that we, CHARLES GARVER and MARTIN LAUER, citizens of the United States of America, and residents of Fort Wayne, in the county of Allen and State of Indiana, 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 the object thereof is to construct suitable driving mechanism which will cause a suds vessel arranged in connection therewith to rock upon its bearings and at the same time actuate a rubbing device within said suds vessel. We accomplish this object by the construction illustrated in the accompanying drawings, in which—

Figure 1 is a side elevation of the machine, showing part of the suds vessel cut away. Fig. 2 is a longitudinal vertical section of the machine, showing the interior of the suds vessel; and Fig. 3 is a detail showing a rear elevation of the spring-balance.

Similar numerals of reference indicate corresponding parts throughout these several views.

Referring to the drawings, 1 is a suds vessel, which is provided with trunnions 2, the latter resting in suitable standards 3, which extend from the supporting-base 4. Upon one side of the suds vessel is secured a plate 5, from which extend two studs 6 and 7. A gear-wheel 8 is mounted upon the stud 7, so as to rotate thereon, and a driving-gear 9, having a crank 10 in connection therewith, is mounted upon the stud 6 and meshes with the gear-wheel 8. A revoluble shaft 11 is mounted in the plate 5 and extends into the suds vessel. A pinion 12 is rigidly mounted upon the outer end of the shaft 11 and meshes with the gear-wheel 8, so as to be driven thereby, and a crank-disk 13 is mounted upon the rear end of the shaft 11 within the suds vessel. A crank-pin 14 extends from the side of the gear-wheel 8, and a stud 15 extends from the side of the base 4 at a point beneath said gear-wheel, and a connecting-rod 16 is attached at its ends, respectively, to said stud 15 and crank-pin 14.

Within the suds vessel, in the bottom there-

of, are arranged two stationary side bars 17, in which are pivotally arranged a series of transverse slats 18. A shifting bar 19 is pivotally connected with each of the slats 18 and is adapted to actuate said slats when suitably driven. A lever 20 is pivoted to said shifting bar and is also pivoted, as shown at 21, to the side of the vessel 1. A pitman 22 is connected with the crank-disk 13 upon the wrist-pin 14 thereof and is pivoted at its other end to the upper end of the lever 20.

By operating the crank 10 the driving-gear 9 will be actuated, and in turn the gear-wheel 8 and pinion 12 will be driven accordingly. Because of the connection of the rod 16 with the base 4 and crank-pin 14 the suds vessel will be rocked upon its trunnions 2 accordingly as the gear-wheel 8 is rotated, and because of the connection between the shifting bar 19 and the revoluble shaft 11 the slats 18 will be actuated accordingly as the gear-wheel 8 and pinion 12 are driven.

A spring-balance is arranged in connection between the suds vessel 1 and the base 4, which is designed to counteract the effect of the shifting weight within the suds vessel, which is due to the rush of water therein from one end to the other as the said suds vessel is rocked. The spring-balance consists of a rod 23, one end of which is connected to the bottom of the suds vessel 1 by means of a suitable lug 24, attached to the latter. A plate 25 is loosely arranged at the lower end of the rod 23, and a yoke-plate 26 is arranged loosely upon the rod 23 near its upper end. A transverse bar 27 is supported in connection with the base 4 by means of suitable standards 28, and said yoke-plate 26 has pendent rods 29, which range parallel with the rod 23 and extend through said transverse bar 27. Nuts 30 are fixed upon the lower ends of the rods 29 beneath the transverse bar 27 and are adapted to limit the upward movement of the rods 29 by coming into contact with the under side of the transverse bar 27, and a nut 34 is fixed upon the lower end of the rod 23 beneath the plate 25. Rods 31 are secured to the plate 25 and extend upwardly through the transverse bar 27 and have secured to their tops nuts 32, which

are adapted to limit the downward movement of said rods 31 by coming into contact with the upper surface of said transverse bar. A spring 33 is arranged around the rod 23, extends loosely through said transverse bar 27, and is interposed between the plate 25 and the yoke-plate 26. By this arrangement the spring 33 will be compressed when the suds vessel is tilted either in one direction or the other. Example: When the suds vessel is tilted, so as to draw the rod 23 upward, the spring will be drawn upward at its lower end because of the consequent upward movement of the plate 25, and the upper end of the spring 23 will be prevented from rising because of the connection of the yoke-plate 26 with the transverse bar 27, and when the suds vessel is tilted, so as to carry the rod 23 downward, the yoke-plate 26 will be carried downward also because of its contact with the head 35 of the rod 23, and the upper end of the spring 33 will therefore be carried downward; but the lower end of the spring will be detained by the plate 25 because of its connection with the transverse bar 27. Normally the suds vessel will be held level, because in this position the stress upon the spring 33 is least.

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

1. In a washing-machine, a suds vessel; stationary side bars arranged within said suds vessel, in the bottom thereof; a series of transverse slats pivotally arranged in connection with said side bars; a shifting bar pivotally

connected to each of said slots; and suitable mechanism for actuating said shifting bar.

2. In a washing-machine, a supporting-base; a suds vessel mounted to rock thereon; a gear-wheel, having a crank-pin, mounted on said suds vessel; a connecting-rod having connection with said crank-pin and base; stationary side bars arranged within said suds vessel, in the bottom thereof; a series of transverse slats pivotally arranged in connection with said side bars; a shifting bar pivotally connected to each of said slats; and means in connection with the said gear-wheel and shifting bar to actuate the latter.

3. In a washing-machine, a supporting-base; a suds vessel mounted to rock thereon; a transverse bar mounted in connection with said base; a rod connected to said suds vessel near one end thereof, and ranging downward through said transverse bar; a yoke-plate loosely arranged on said rod and having a connection with said transverse bar to limit its upward movement; a plate loosely arranged on the lower end of said rod and having connection with said transverse bar to limit its downward movement; a nut on said rod beneath said plate; and a spring interposed between said plate and yoke-plate.

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

CHARLES GARVER.
MARTIN LAUER.

Witnesses:

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W. G. BURNS.