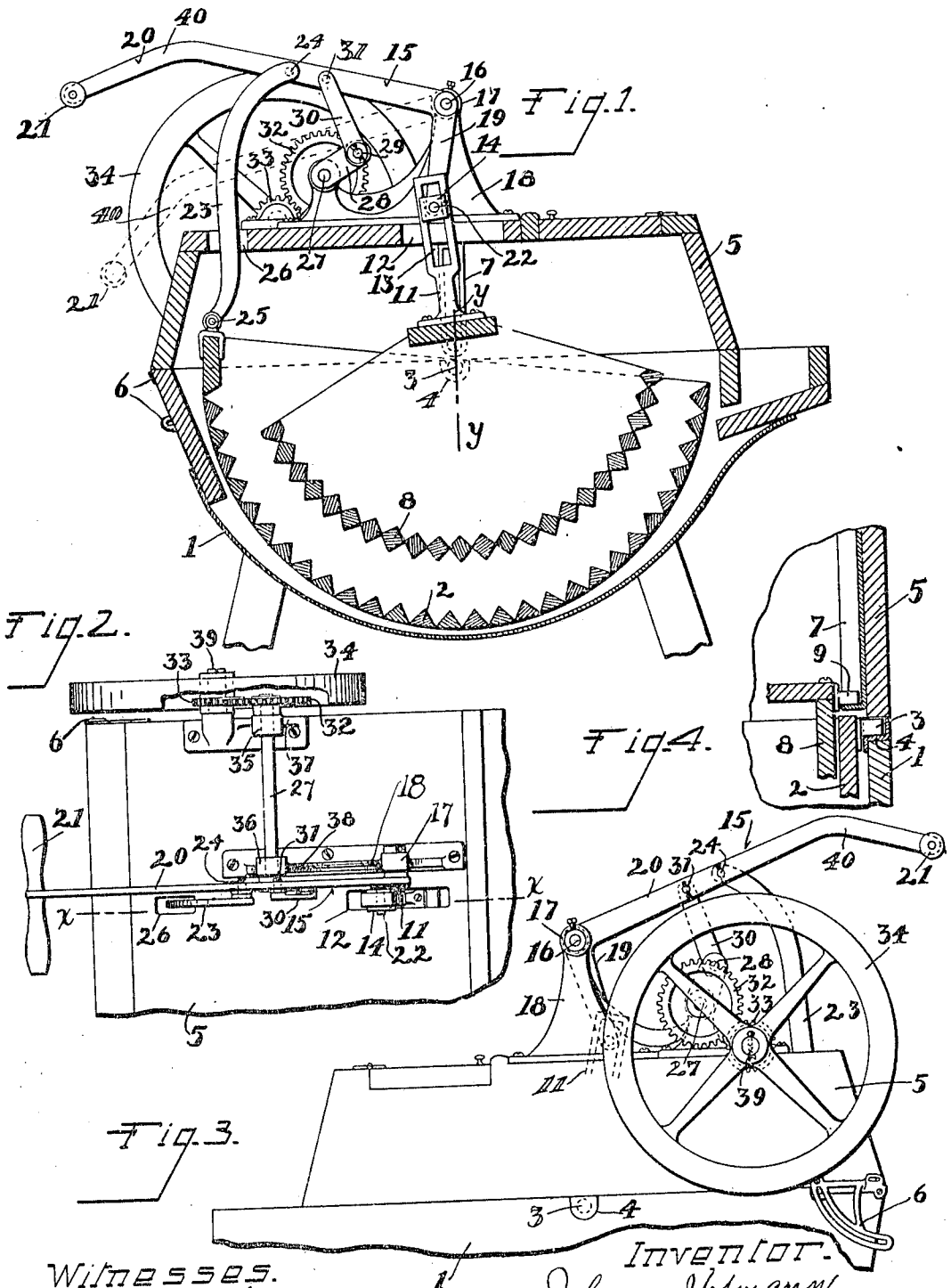


J. HOFMANN.
WASHING MACHINE.
APPLICATION FILED JUNE 1, 1908.

Patented Apr. 5, 1910.

954,187.



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UNITED STATES PATENT OFFICE

JOHANN HOFMANN, OF COVINGTON, KENTUCKY.

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Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, JOHANN HOFMANN, a citizen of the United States, residing at Covington, in the county of Kenton and State of Kentucky, have invented certain new and useful Improvements in Washing-Machines, of which the following is a specification.

My invention relates to washing machines having swinging reciprocating rubbers, and the invention will be readily understood from the following description and claims, and from the drawing, in which latter:

Figure 1 is a vertical section of my improved device, on the line $x-x$ of Fig. 2. Fig. 2 is a plan view of the same, partly broken away. Fig. 3 is an end elevation of the same, partly broken away; and, Fig. 4 is a detail in section on the line $y-y$ of Fig. 1, showing the manner of pivoting the rubbers.

1 represents the body of the washing machine in which the lower rubber 2 is hung at each side thereof on a trunnion 3 journaled in a bearing 4 in the side of the body.

5 is the top of the washing machine which is hinged to the body by a hinge 6 at each side thereof. At each side of the top, inside of the top, there is a guide-way 7 in which the upper rubber 8 is hung on a trunnion 9. The trunnions 9 normally rest on the bottoms of the guide-ways 7, these guideways guiding the said trunnions when the upper or inner rubber is raised by the wash between the rubbers.

An arm 11 is secured to the upper rubber, being rigid therewith, and projects through a slot 12 in the top 5, this arm having a slide-way 13 therein along which a slide-block 14 is slidable. An operating lever 15 is pivoted on a pin 16 in a bearing 17 on an upright 18 secured to the top. The operating lever comprises a depending arm 19 and a laterally extending arm 20, this laterally extending arm at its outer end being provided with a handle 21 for operating the lever. The depending arm has a pin 22 which is journaled in the slide-block 14. A link 23 is pivoted to this laterally extending arm intermediate of the ends of said arm on a pin 24 and is in turn articulated on a pin 25 secured to the lower or outer rubber, this link being suitably bent for passing the inner or upper rubber and passing through an aperture 26 in the top 5.

27 is a crank-shaft having a crank 28

thereon, the crank-pin 29 of which has a bearing in one end of a link 30, the other end of said link being articulated with the laterally extending arm of the operating lever, preferably between the connection of the link 23 therewith and the pivot of said operating lever, as shown at 31.

A suitable fly-wheel is provided for the crank-shaft. I accomplish this by providing the crank-shaft with a gear 32 with which a pinion 33 meshes, there being a fly-wheel 34 operatively secured to said pinion so as to move therewith, preferably by being formed integral therewith. The crank-shaft is supported in bearings 35 36 on uprights 37 38 secured to the top, there being a stud 39 provided, also secured to the top, on which stud the fly-wheel and pinion are journaled.

It will be noted that the pinion 33 is of considerably less diameter than the gear 32, for rotating the fly-wheel with considerably greater speed than the crank-shaft and thereby obtaining increased power at the fly-wheel which is in turn communicated to the crank-shaft for operating the operating lever.

In operating the machine the handle is moved up and down for swinging the operating lever on its pivot, and for convenience of operation the laterally extending arm of the operating lever has a downward curve 40 for bringing the handle into most convenient position and permitting it to pass the horizontal plane of the upper face of the top 5 when in lowermost position, as shown in dotted lines in Fig. 1. When the handle is swung up and down the lower or outer rubber is swung on its trunnions through the medium of the connecting link 23, and the upper or inner rubber is swung on its trunnions through the slide-bearing connection between the depending arm of the operating lever and the arm extending upwardly from the upper or inner rubber, this slide-bearing accommodating for the different positions assumed by the articulation between the operating lever and the upwardly extending arm of the inner rubber owing to the different arcs of swing between these parts, this construction also accommodating for the raising of the inner rubber by the wash between the rubbers. This construction acts to press the inner rubber downwardly when in operation. The operation of the lever also causes the opera-

tion of the crank through the medium of the link 30, which in turn causes the turning of the fly-wheel, which then aids in the swinging of the operating lever so that very little power is required at the handle of the operating lever for operating the same, resulting in a very easy operation of the washing machine. My improved device is also very simple in construction and is compact and strong.

Having thus fully described my invention what I claim as new and desire to secure by Letters Patent is:

1. In a washing machine, the combination with upper and lower rubbers, of a pivoted operating lever which extends in a general horizontal disposition to one side of the machine in position for direct manipulation by the user, said operating lever having an arm which has a slip connection to the upper rubber, and a link connected to the lower rubber and pivoted to the lever between the fulcrum and the free operating end of the latter.

2. In a washing machine, the combination with upper and lower rubbers, of a pivoted operating lever which extends in a general horizontal disposition to one side of the machine in position for direct manipulation by the user, said operating lever having an arm which has a slip connection to the upper rubber, a link connected to the lower rubber and pivoted to the lever between the

fulcrum and the free operating end of the latter, a fly-wheel, and a link pivoted to the operating lever between the fulcrum of the latter and the connection of the lever with the link first named, and operatively connected to said fly-wheel.

3. The hereindescribed washing machine comprising a body, a movable top, a lower rubber journaled to the body, an upper rubber having a slidable journal connection with the cover, a lever pivoted to the cover and disposed outside thereof and extending in general horizontal disposition to the side of the machine and there provided with a handle, an arm carried by said lever, an arm carried by the upper rubber to which the arm aforesaid is slidably and operatively connected, a link which is pivoted to the lower rubber and pivoted to the lever between the fulcrum and handle of the latter, a fly-wheel carried by the cover, gearing for rotating said fly-wheel, and a crank and link for turning the gearing, the link being pivoted to the lever between the fulcrum of the latter and the connection of the lever with the link last named.

In testimony whereof, I have subscribed my name hereto in the presence of two subscribing witnesses.

JOHANN HOFMANN.

Witnesses:

O. S. BRYANT,
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