No. 631,458. Patented Aug. 22, 1899.

J. H. DOUB.

WASHING MACHINE.

Application filed July 3, 1897.

(No Model.) 2 Sheets—Sheet 1.

FIG. 1.

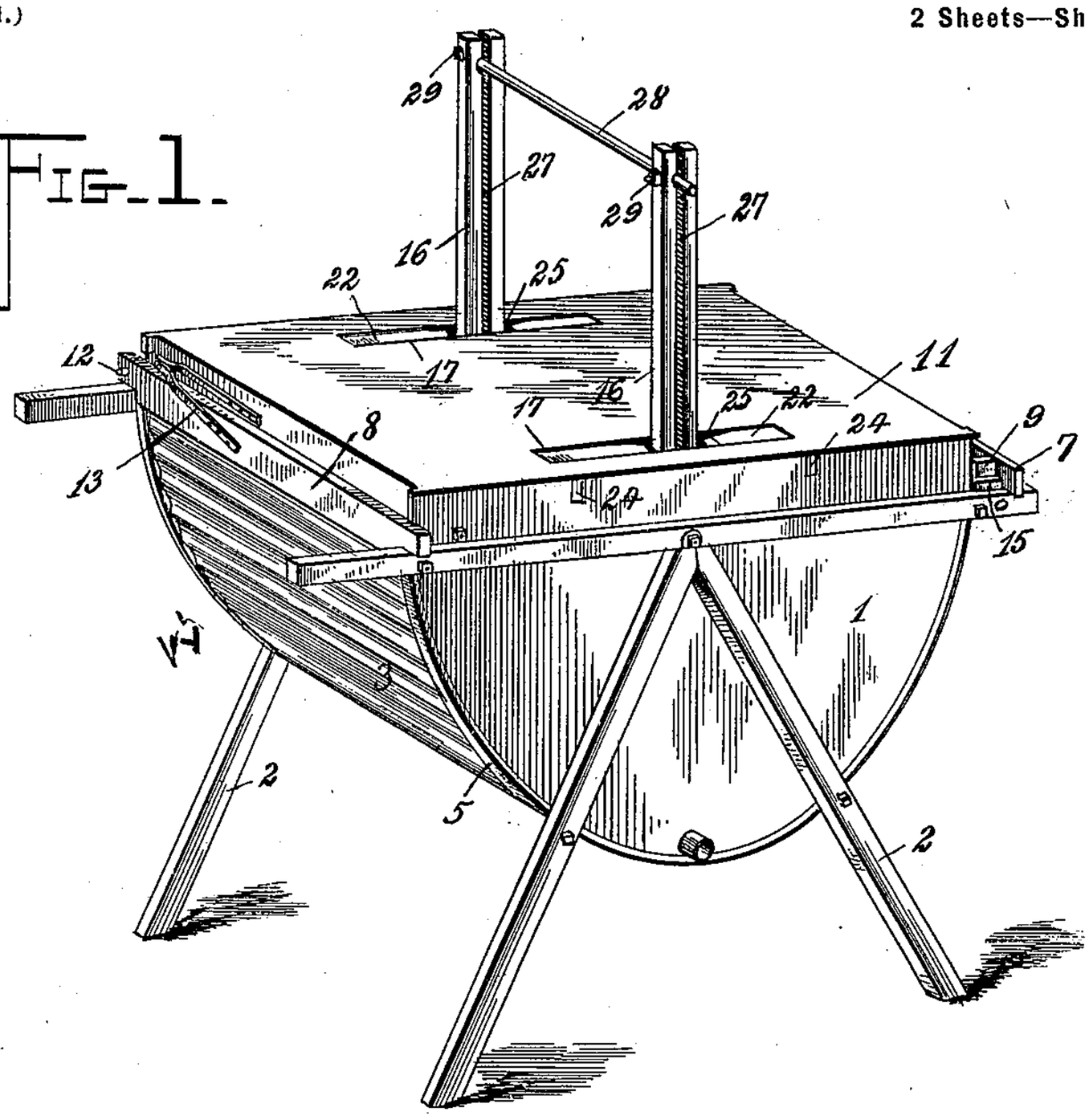
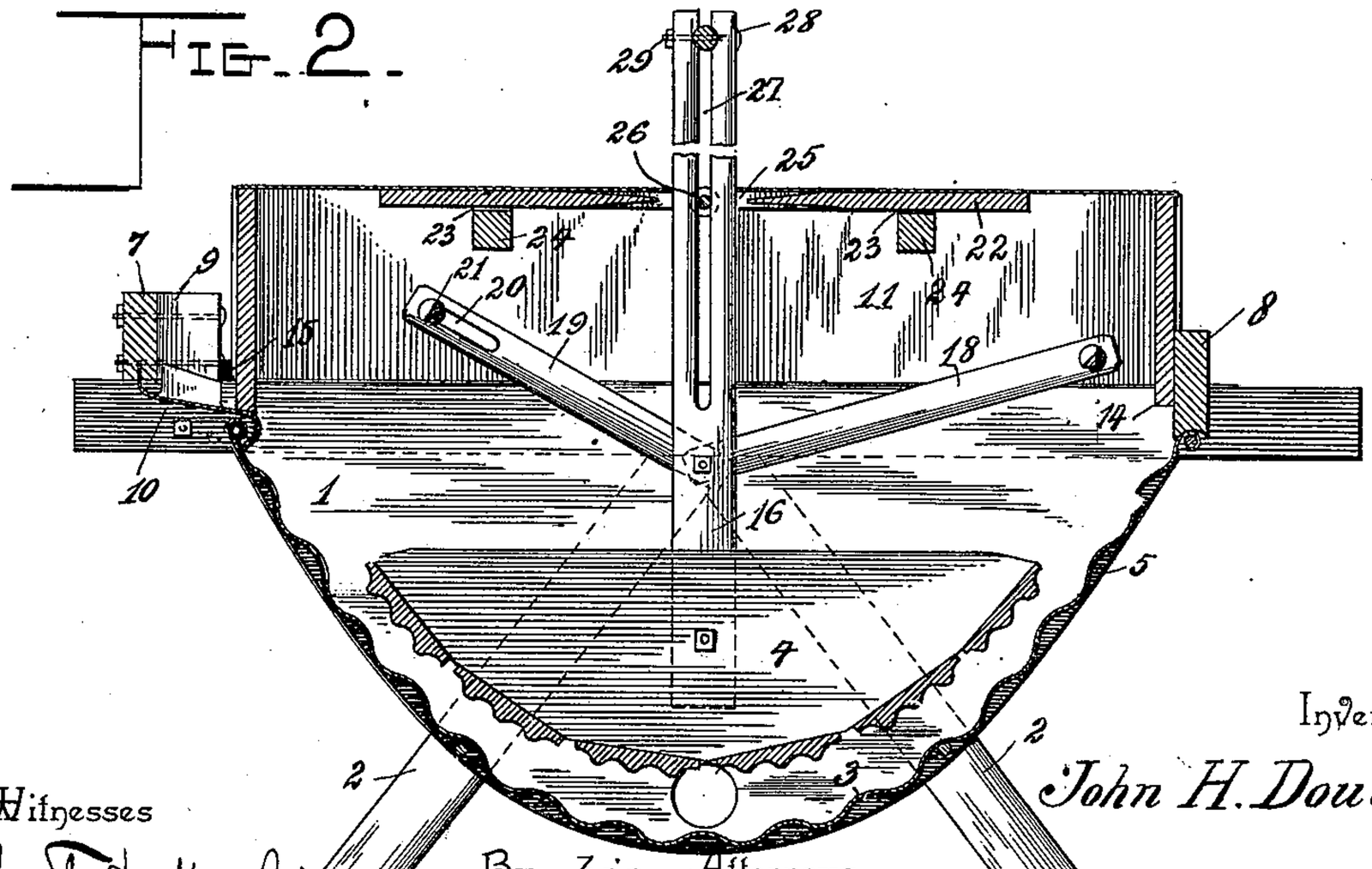


FIG. 2.



Witnesses
John F. Dieterich
J. F. Riley

Inventor
John H. Doub.

By his Attorneys,
C. A. Snow & Co.

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(No Model.) 2 Sheets—Sheet 2.

FIG. 3.

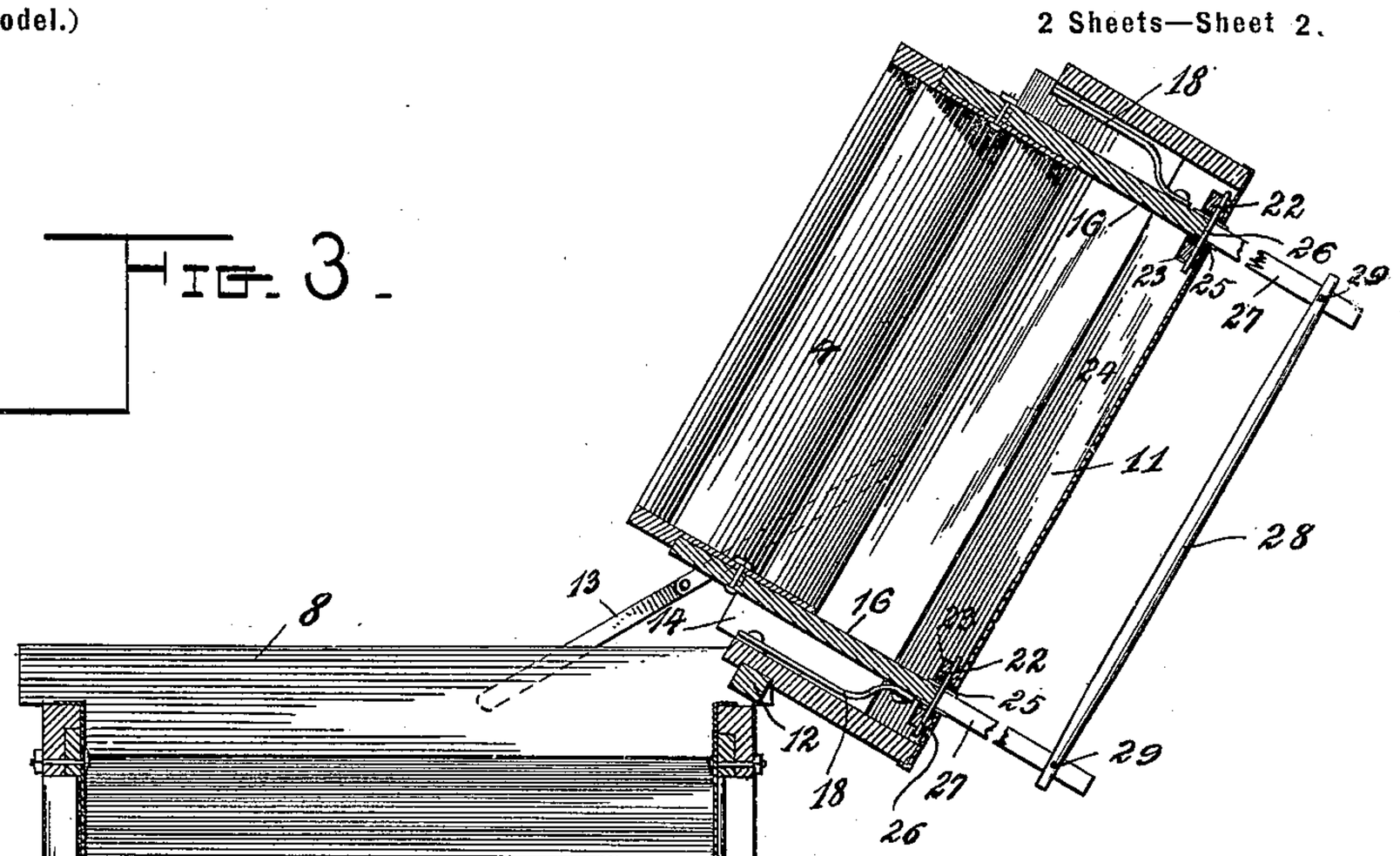
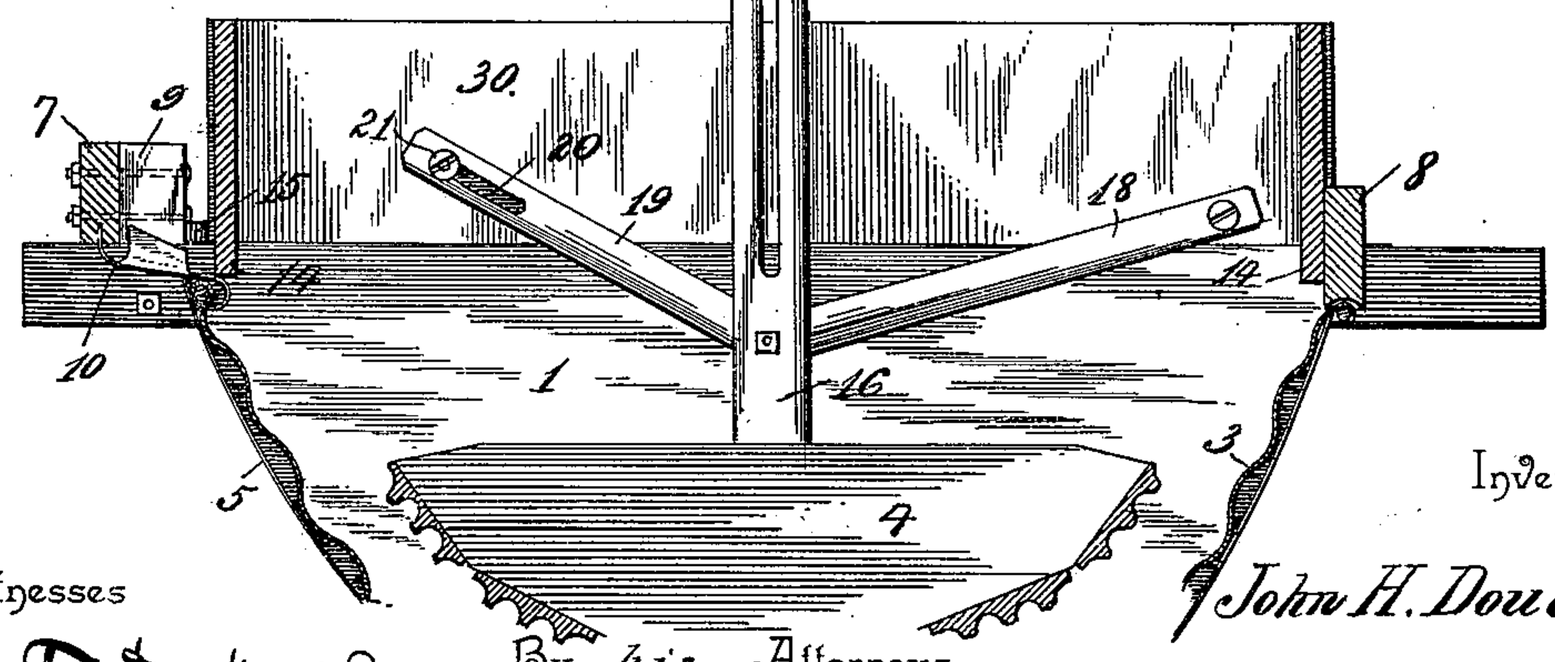


FIG. 4.



Witnesses

John F. Dewhurst

T. J. Riley

Inventor

John H. Doub.

By his Attorneys,

Cachow & Co.

UNITED STATES PATENT OFFICE.

JOHN H. DOUB, OF WALNUT, KANSAS.

WASHING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 631,458, dated August 22, 1899.

Application filed July 3, 1897. Serial No. 643,423. (No model.)

To all whom it may concern:

Be it known that I, JOHN H. DOUB, a citizen of the United States, residing at Walnut, in the county of Crawford and State of Kansas, have invented a new and useful Washing-Machine, of which the following is a specification.

The invention relates to improvements in washing-machines.

The object of the present invention is to improve the construction of that class of washing-machines employing an oscillating rubber and to provide a simple, inexpensive, and efficient one capable of rapidly and thoroughly washing clothes without injuring them.

A further object of the invention is to improve the construction for mounting the oscillating rubber and to provide means for practically closing the slots of the slotted cover to prevent water from splashing through the same during the operation of washing.

Another object of the invention is to enable the oscillating rubber to move vertically to adjust itself automatically to the mass of clothes being washed and to enable the operator to apply the proper pressure to the same and at the same time to prevent the oscillating rubber from coming into contact with the lower rubbing-surface.

The invention consists in the construction and novel combination and arrangement of parts, as hereinafter fully described, illustrated in the accompanying drawings, and pointed out in the claims hereto appended.

In the drawings, Figure 1 is a perspective view of a washing-machine constructed in accordance with this invention. Fig. 2 is a longitudinal sectional view of the same. Fig. 3 is a transverse sectional view, the hinged cover being swung to one side. Fig. 4 is a longitudinal sectional view showing a modification of the invention and illustrating the manner of mounting the oscillating rubber when a hinged cover is not employed.

Like numerals of reference designate corresponding parts in all the figures of the drawings.

1 designates a substantially semicylindrical washing-machine body, supported by legs 2 and preferably constructed of sheet metal and provided with a corrugated bottom 3, which forms a lower stationary rubbing-surface and coöperates during the operation of washing with an oscillating rubber 4. The curved edges of the sides of the washing-machine body are preferably provided with a groove or bend forming a flange 5 and receiving the side edges of the corrugated bottom. This construction increases the strength and durability of the washing-machine body and enables the parts to be soldered together more effectively and to withstand blows on the exterior of the body.

The washing-machine body is provided on the exterior of the sides with horizontal side bars which support a wringer-board 7 at one end of the body and a transverse bar 8 at the other end of the body, the wringer-board being secured to blocks or pieces 9, which are gained into the adjacent end bars and secured to the same. An inclined shield or plate 10 extends downward from the wringer-supporting board to the washing-machine body to direct the water expelled from clothes back to the washing-machine body and prevent the same from dripping upon the floor or other supporting-surface.

A cover 11, which is hinged to the washing-machine body, is adapted to swing outward laterally thereof, as illustrated in Fig. 3 of the accompanying drawings, to lift the oscillating rubber from the body and afford access to the latter to permit clothes to be placed therein and removed therefrom. The cover is provided at one side with a longitudinal pintle-bar 12, provided at its ends with journals and arranged in bearing-openings of the wringer-supporting board and the transverse bar 8, whereby the cover is hinged to the body. It is supported when swung back by a brace 13, composed of two pivoted sections connected at their outer ends to the body and to the cover. The cover is provided at the lower edges of its ends with portions 14, which depend below the sides and extend into the washing-machine body when the cover is closed, and they effect a tight joint and at the same time prevent the cover from moving laterally. The transverse bar 8 forms a stop and braces the cover against longitudinal movement at one end of the body, and the

latter is provided at its other end with a block 15, which forms a stop.

The oscillating rubber 4, which is secured to a pair of operating-levers 16, is composed of substantially segmental sides or heads and a series of corrugated slats secured to the peripheral edges of the sides or heads, as shown.

The operating-levers, which extend through the longitudinal slots 17 of the cover, are fulcrumed on and suspended from the cover by suspension bars or links 18 and 19, arranged in pairs at each side of the washing-machine body and pivoted together and to the operating-levers at their adjacent ends and similarly connected at their upper ends to the cover. The upper ends of the links or bars 19 are provided with longitudinal slots 20, receiving the pivots 21 and permitting the bars 19 to have a limited longitudinal movement, whereby the oscillating rubber is adapted to move vertically to adjust itself to the mass of clothes being washed. The link-bars, which fulcrum the oscillating rubber at any point of its vertical movement or adjustment, also prevent the rubber from coming in contact with the corrugated bottom of the washing-machine body.

As the operating-levers are fulcrumed at a point below the top of the cover, the long longitudinal slots 17 are necessary to permit the oscillation of the operating-levers, and in order to close those portions of the slots not actually occupied by the operating-levers a pair of reciprocating slides 22 is provided. These slides, which are arranged on the inner face of the top of the cover, are mounted in suitable ways, preferably formed by openings 23 of cross-bars 24, secured to the cover at the sides thereof and provided with alining openings 23. Each slide is provided with an opening 25 to receive its lever, and it has a transverse pin 26, which is arranged in a longitudinal slot 27 of the adjacent lever and which is disposed across the center of the opening 25. Each slide is beveled at its upper and lower faces at each end of the opening to flare the same at the top and bottom thereof for increasing the throw of the operating-levers.

The longitudinal slots 27 of the operating-levers extend from a point just above the link or suspension bars to the upper ends of the levers and render the sides of the upper portion of each lever resilient to enable them to clamp the ends of a handle-bar 28. The levers are provided within the slots with notches to receive the handle-bar, and fastening devices 29 pass through the levers and the handle-bar and are provided with nuts.

In Fig. 4 of the drawings is illustrated a modification of the invention, and the oscillating rubber is shown suspended from a hinged section 30 by suspension bars or links similar to those before described. The parts are designed to be arranged in this manner when a cover is deemed unnecessary and the hinged section permits the oscillating rubber to be swung out of the washing-machine body, and it is designed to be mounted similar to the cover 11.

The invention has the following advantages: The washing-machine is simple and comparatively inexpensive in construction and is adapted to wash clothes quickly and thoroughly, and the rubbing mechanism will adjust itself to the quantity of clothes being washed. The slots of the cover are practically closed by the reciprocating slides, which prevent water from splashing through them. The suspension bars or links, while permitting the oscillating lever to move freely vertically, prevent it from dropping too low and contacting with the corrugated bottom of the washing-machine body.

What I claim is—

1. In a washing-machine, the combination of a washing-machine body, an oscillating rubber, and the links arranged in pairs at opposite sides of the washing-machine and pivoted to the same and to the rubber and suspending the latter within the body, one of the links of each pair being capable of a limited longitudinal movement, whereby the oscillating rubber is permitted to move vertically, substantially as described.

2. In a washing-machine, the combination of a washing-machine body, an oscillating rubber, operating-levers connected with the rubber, and the upwardly-extending link-bars arranged in pairs at opposite sides of the washing-machine, and pivotally connected to the same and to the operating-levers, one of the link-bars of each pair being slotted and capable of a limited longitudinal movement, whereby the rubber is permitted to move vertically, substantially as described.

3. In a washing-machine, the combination with a washing-machine body having a cover with longitudinal slots, of reciprocating slides mounted in suitable ways or guides of the cover and arranged across the slots thereof, said slides being provided with openings, an oscillating rubber provided with levers passing through the openings of the slides and loosely connected with the latter, and the link-bars arranged in pairs at each side of the washing-machine body, pivoted at their adjacent ends to the levers and extending upward and pivoted to the cover, one bar of each pair being slotted and capable of longitudinal movement, substantially as described.

4. In a washing-machine, the combination with a washing-machine body, and a cover provided with longitudinal slots, of an oscillating rubber provided with slotted levers passing through the slots of the cover, slides arranged across the slots of the cover and provided with openings receiving the levers, said slides being beveled at their upper and lower faces at each end of the openings, transverse pins passing through the slots of the levers and mounted on the slides, and links arranged in pairs and suspending the rubber from the

cover, one of the links of each pair being capable of a limited longitudinal movement to permit the rubber to move vertically, substantially as described.

5. In a washing-machine, the combination of a washing-machine body provided in its cover with slots, as oscillating rubber, levers extending upward from the rubber and provided with slots 27 extending downward from their upper ends below the cover of the body, a transverse handle-bar connecting the levers and arranged in the slots 27, fastening devices extending transversely of the slots 27 and causing the slotted portions of the levers to clamp the handle-bar, and the slides having transverse pins passing through the slots of the levers, substantially as and for the purpose described.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

JOHN H. DOUB.

Witnesses:
LEWIS MARTIN,
E. L. MAXWELL.