

(No Model.)

2 Sheets—Sheet 1.

J. H. LAMSON.  
WASHING MACHINE.

No. 573,336.

Patented Dec. 15, 1896.

FIG. 1.

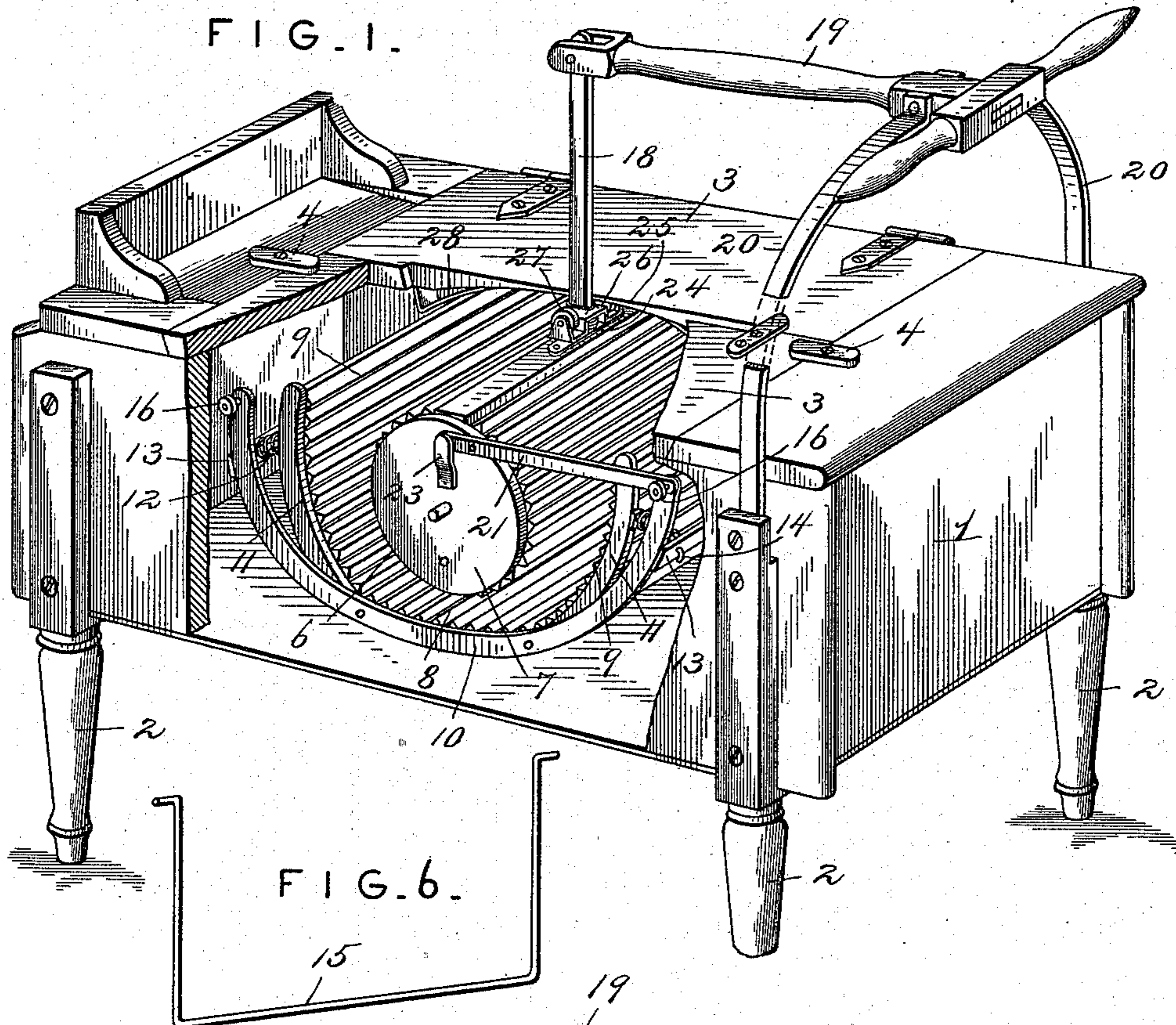
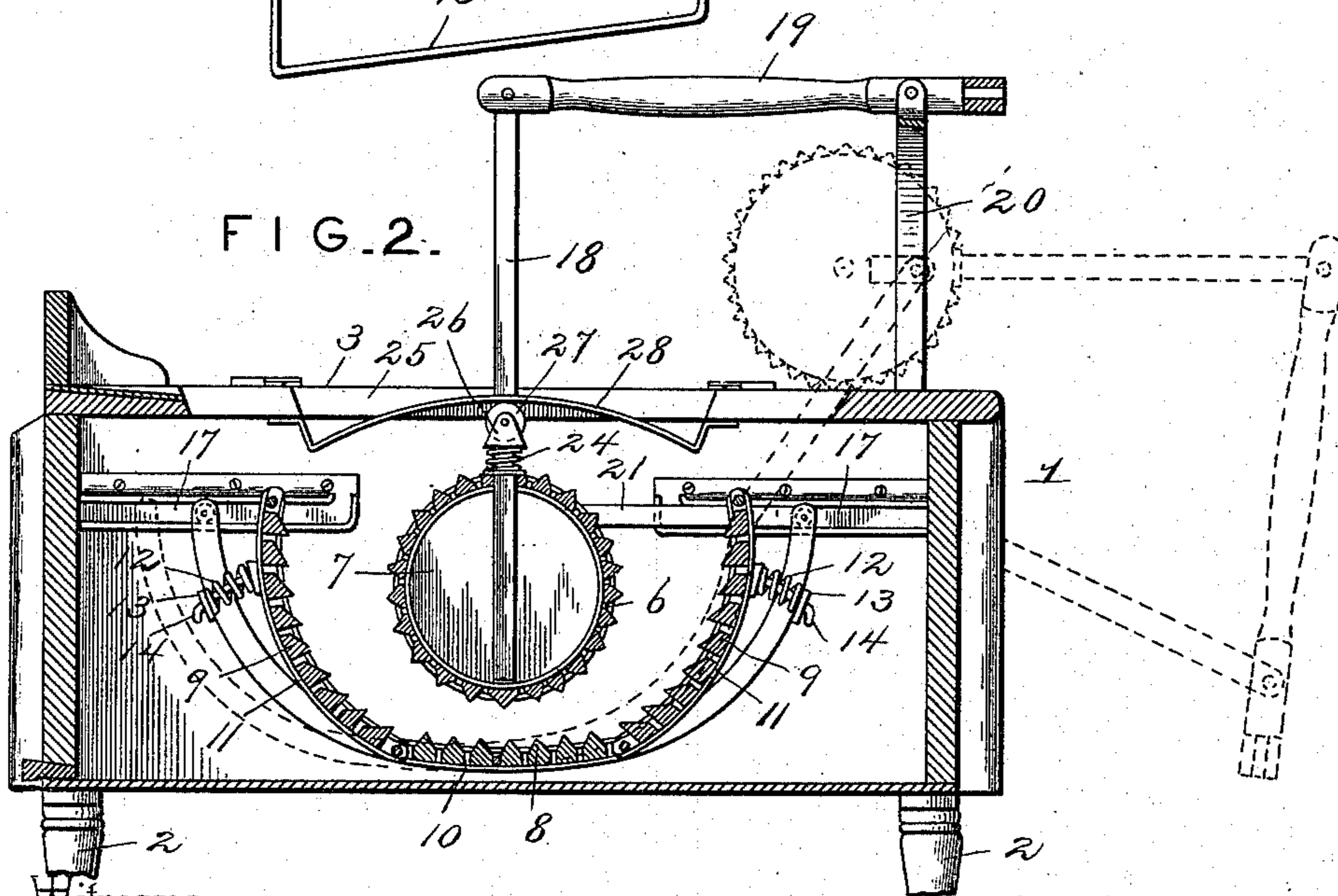


FIG. 6.



Inventor

James H. Lamson.

By his Attorneys,

C. A. Snow & Co.

Witnesses.

Harry L. Amer.  
J. F. Ciley

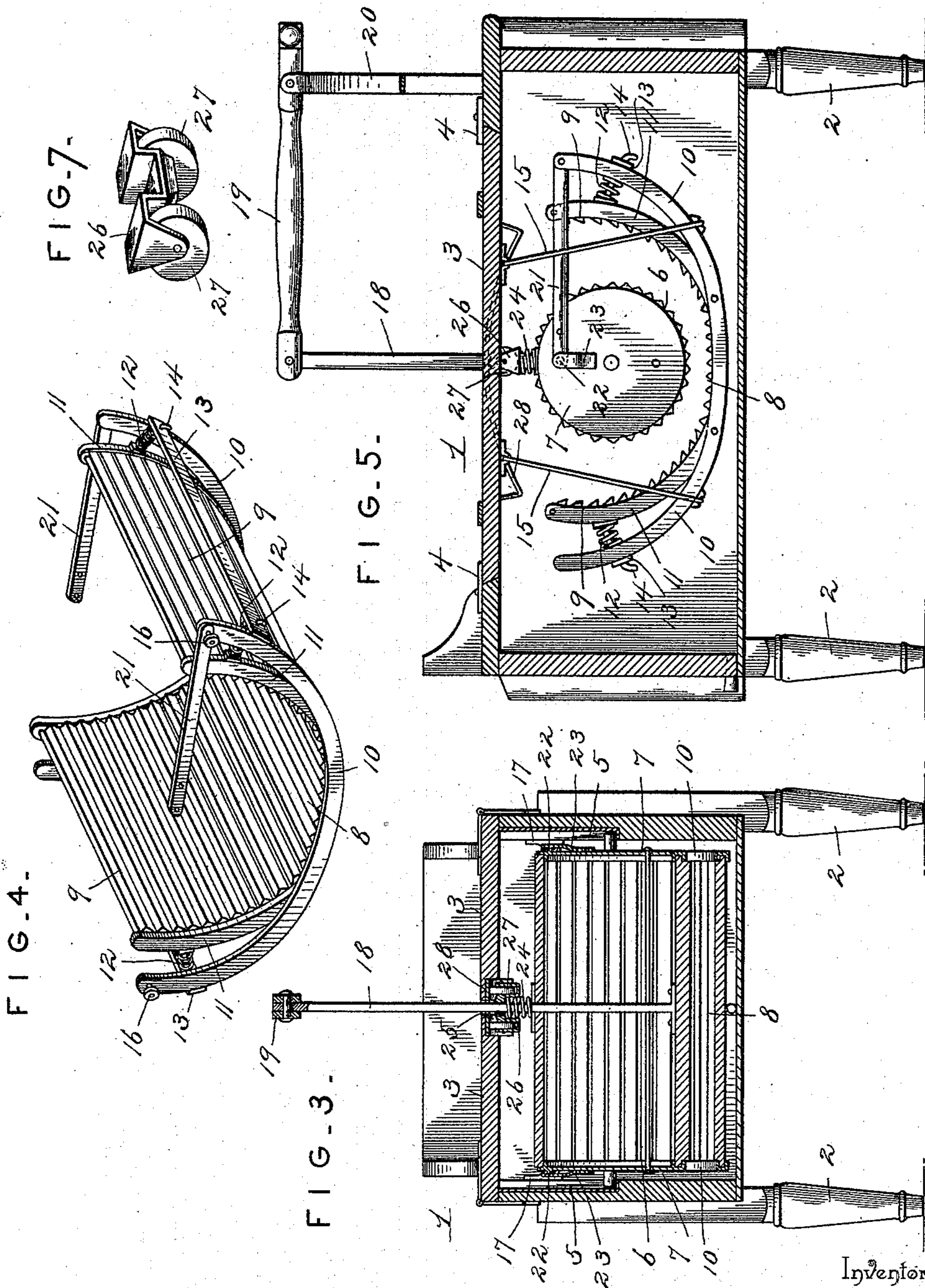
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2 Sheets—Sheet 2.

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Inventor

Witnesses

Harry L. Amer.  
J. F. Riley

By His Attorneys,

James H. Lamson.

Cashnow & Co.

# UNITED STATES PATENT OFFICE.

JAMES H. LAMSON, OF STREATOR, ILLINOIS, ASSIGNOR OF ONE-HALF TO  
WILLIAM A. BASS, OF OSWEGO, ILLINOIS.

## WASHING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 573,336, dated December 15, 1896.

Application filed January 16, 1896. Serial No. 575,771. (No model.)

### *To all whom it may concern:*

Be it known that I, JAMES H. LAMSON, a citizen of the United States, residing at Streator, in the county of La Salle and State of Illinois, 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 washing-machines and to provide a simple, inexpensive, and efficient one which will exert a rubbing and squeezing action on clothes to effect a rapid removal of dirt and stains and which may be operated at the expenditure of a minimum amount of labor and without wearing, tearing, or otherwise injuring the fabrics.

The invention consists in the construction and novel combination and arrangement of parts 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, the body being partly broken away to show the construction and arrangement of the rubbers. Fig. 2 is a longitudinal sectional view, the parts being shown in operative position in full lines and the rotary rubbing-cylinder being shown swung back in dotted lines. Fig. 3 is a transverse sectional view. Fig. 4 is a detail perspective view of the lower curved rubber. Fig. 5 is a longitudinal sectional view illustrating a modification of the invention. Fig. 6 is a detail view of one of the hangers of the curved lower rubber employed in the modification of the invention. Fig. 7 is a detail view of the bearing-bracket.

In the drawings, 1 designates a washing-machine body supported by suitable legs 2 and provided with longitudinally-disposed laterally-swinging lids or covers 3, hinged to the sides of the washing-machine body and secured, when closed, by pivoted buttons 4. The pivoted buttons are mounted on the end portions of the top of the washing-machine body, and one of the lids is provided with a projecting lip or lips overlapping the adjacent edge of the other lid and securing the latter in its closed position. One of the said end

portions of the top of the washing-machine body is provided with a board for the attachment of a wringer.

The sides of the washing-machine body are provided at their inner faces with vertically-disposed grooves or ways 5, receiving journals of a cylindrical rubber 6. The journals may be formed by a transverse shaft or may be suitably mounted on the ends of the cylindrical rubber, and the latter is capable of vertical movement to accommodate itself to the quantity of clothes being washed. The cylindrical rubber is provided with a rubbing-surface composed of transverse slats, preferably beveled, as shown, and having their terminals secured to heads or ends 7 of the cylinder.

During the operation of washing the rubbing-cylinder is rocked or partially rotated by means hereinafter described, and it co-operates with the lower curved rubber, which extends beneath the cylindrical rubber and upward at opposite sides thereof, and during the operation of washing is moved longitudinally of the washing-machine body and has its under sections alternately carried toward the cylindrical rubber to squeeze the clothes being washed and to subject the same to a rubbing action.

The lower curved rubber is composed of a bottom section 8 and yieldingly-mounted curved end sections 9, pivotally connected at their inner or lower terminals with the ends of the central section 8 and adapted to engage the clothes yieldingly to prevent the fabrics from being torn, worn, or otherwise injured during the operation of washing. The central section is composed of beveled transverse slats or bars having their terminals secured in suitable grooves of side bars 10, which have curved end portions forming supports for the end sections 9. The end sections 9 are composed of similar transverse bars or slats secured at their terminals in suitable grooves of curved bars 11. The upper or outer portions of the end sections 9 are connected with the side bars of the central section by springs 12 which are interposed between the end sections and transverse bars 13. The latter are rigidly secured to the curved portions of the side bars and connect the

same, and the springs are supported in proper position by pins 14, carried by the end sections and passing through perforations of the bars 13 and adapted to reciprocate therein.

5 As either end of the lower curved rubber approaches the cylindrical rubber the springs are compressed as the clothes are closed, and as such end is carried away from the cylindrical rubber the springs move the end section inward, throwing the clothes toward the center of the washing-machine and turning them over to subject other portions of the fabrics to the squeezing and rubbing action of the machine, thereby washing the clothes uniformly and thoroughly.

10 The lower curved rubber may, as illustrated in Fig. 5 of the accompanying drawings, be suspended within the washing-machine body by oscillating hangers 15, but the side bars are preferably provided with rollers 16, mounted in horizontally-disposed ways 17 of the washing-machine body, whereby the curved lower rubber is adapted to reciprocate longitudinally of the washing-machine body to carry its curved end sections alternately to and from the cylindrical rubber. The horizontal ways may be constructed in any suitable manner, but preferably consist of plates provided with horizontal flanges, and the rollers may, if desired, be dispensed with, and the pins or journals on which the rollers are mounted may directly engage or be arranged in the horizontal ways.

15 The cylindrical rubber has secured to it an upwardly-extending bar or arm 18, extending within the drum and attached to the same by any suitable means. The meeting edges of the lids are recessed to provide an opening or slot 25 to receive the arm or bar 18. The upper end of the arm or bar 18 is pivoted to the inner end of a horizontally-disposed connecting-bar 19, which is supported adjacent to its outer end by a pair of oppositely-disposed links or bars 20. The bars 20 are curved and pivoted at their lower ends to the washing-machine body, at opposite sides thereof, and the connecting-bar 19 is provided at its outer end with a handle-bar disposed transversely of the washing-machine and arranged within convenient reach of the operator.

20 The lower curved rubber is connected with the cylindrical rubber by longitudinally-disposed bars 21, eccentrically pivoted at their inner ends to the ends of the cylinder and pivoted at their outer terminals to the ends of the side bars, adjacent to the handle of the operating mechanism, to permit the cylindrical rubber to be readily swung upward out of the washing-machine body, as illustrated in dotted lines in Fig. 2 of the accompanying drawings. By eccentrically pivoting the connecting-bars 21 to the cylindrical rubber the bars operate as pitmen and reciprocate the lower curved rubber, causing the ends of the same alternately to approach the cylindrical rubber to effect a squeezing of the clothes being washed, and during the squeezing opera-

tion the cylindrical rubber is oscillated or partially rotated to produce a rubbing action. The inner terminals of the connecting-bars 21 are perforated to receive pins or projections 22 of the ends of the cylinder and are detachably secured to the same by resilient catches or springs 23 to enable the cylinder to be readily detached when desired.

75 As the cylindrical rubber is oscillated or partially rotated it exerts a downward pressure on the clothes and yieldingly engages the same, a spiral spring 24 being interposed between the top of the cylinder and the top or lids of the washing-machine body. The spiral spring 24 is disposed on the upwardly-extending arm 18 and carries the bracket or bearing 26, and rollers 27 are journaled on the bracket or bearing 26 and engage curved track-bars 28. The track-bars 28 are secured to the inner faces of the lids and are engaged by the rollers during the operation of the machine. The bearing or bracket is loosely mounted on the arm or bar 18, being provided with a central opening to receive the same, and the spring permits a vertical movement of the cylindrical rubber to prevent too great a pressure on the clothes.

95 It will be seen that the washing-machine is simple and comparatively inexpensive in construction, that it is capable of readily and thoroughly washing clothes without injuring them, and that it is operated at the expenditure of a minimum amount of labor.

100 Changes in the form, proportion, and minor details of construction may be resorted to without departing from the spirit or sacrificing any of the advantages of the invention.

What I claim is—

1. In a washing-machine, the combination of a washing-machine body provided with horizontal ways, a cylindrical rubber journaled in the washing-machine body, a lower rubber extending beneath the cylindrical rubber and extending upward at opposite sides thereof and mounted in the said ways and capable of reciprocation longitudinally with the washing-machine body, and bars pivoted to the lower rubber and eccentrically connected with the cylindrical rubber, substantially as and for the purpose described.

2. In a washing-machine, the combination of a washing-machine body, an upper rubber journaled in the body, a lower rubber capable of movement longitudinally of the washing-machine body and composed of a central section and movable end sections adapted to engage alternately the upper rubber, means for cushioning the end sections, whereby they will be compressed when they engage the upper rubber, and will be caused to move inward as they are carried away from the same to throw the clothes being washed toward the center of the machine, and connections between the rubbers, substantially as described.

3. In a washing-machine, the combination of a washing-machine body provided with vertical ways, a curved track-bar depending

from the top of the washing-machine body, a rubber journaled in said ways, capable of vertical movement and yieldingly engaging the curved track-bar, and means for operating the rubber, substantially as described.

4. In a washing-machine the combination of a washing-machine body, an upper rubber, a lower rubber comprising a central section, side bars having upward extensions or end portions, end sections pivotally connected with the central section, and springs interposed between the end sections and the end portions or extensions of the side bars, and means for operating the rubbers, substantially as described.

5. In a washing-machine, the combination of a washing-machine body provided with vertical ways, a rubber journaled in said ways and capable of vertical movement, a curved track-bar depending from the top of the washing-machine body and located above the rubber, a yieldingly-supported roller mounted on

the rubber and engaging the track-bar and means for operating the rubber, substantially as described.

6. In a washing-machine, the combination with a washing-machine body provided with vertical ways, a rubber journaled in the ways and capable of vertical movement and having an upwardly-extending arm, curved track-bars depending from the top of the washing-machine body, a bearing or bracket loosely mounted on the upward-extending arm rollers journaled on the bearing or bracket and arranged to run on the track-bars, and a spring disposed on the arm and supporting the bearing or bracket, substantially as described.

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

JAMES H. LAMSON.

Witnesses:

GEO. W. ROSE,

THEO. ROCKENFELLER.