F. STINES.

WASHING MACHINE.

APPLICATION FILED MAY 24, 1909.

947,285.

Patented Jan. 25, 1910.

3 SHEETS—SHEET 1.

Fig. 1.

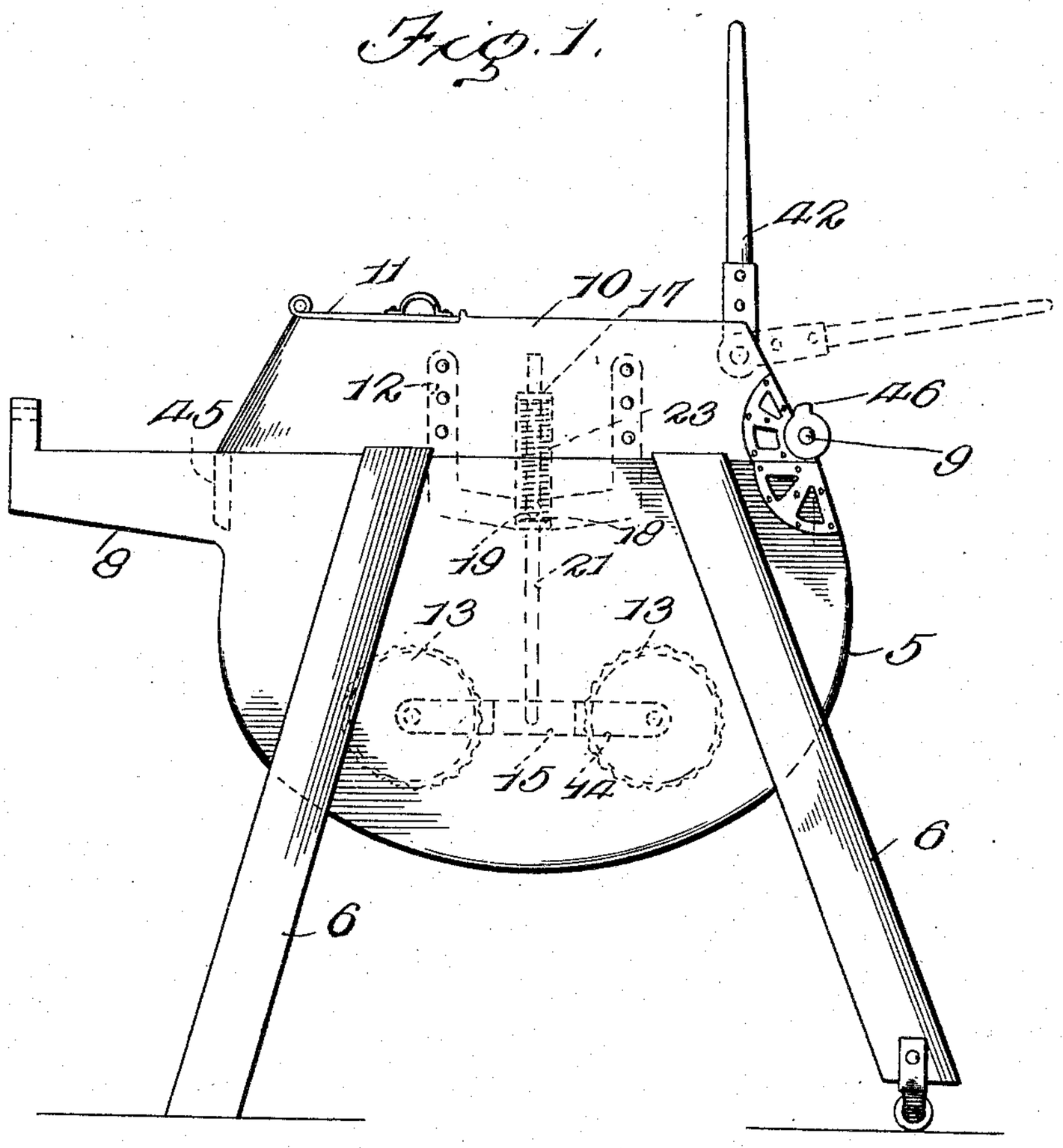
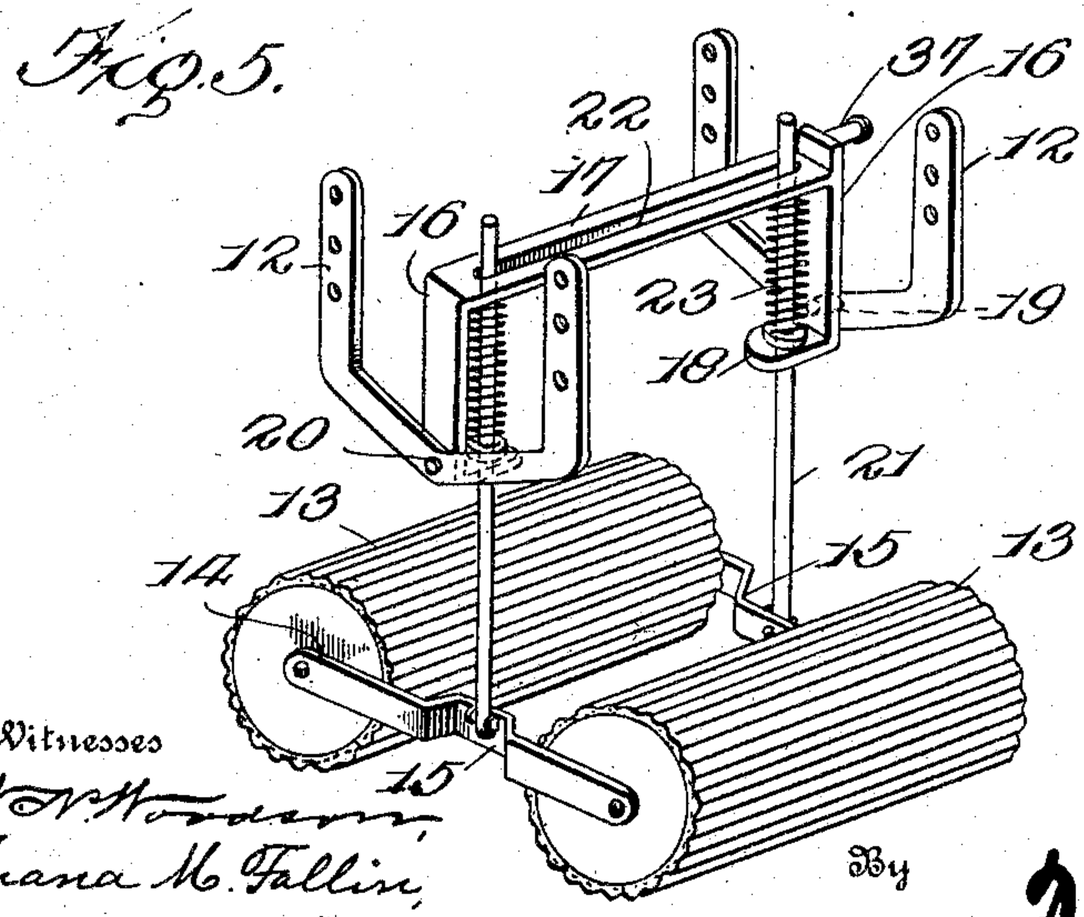


Fig. 5.



Witnesses

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3 SHEETS—SHEET 2.

FIG. 2

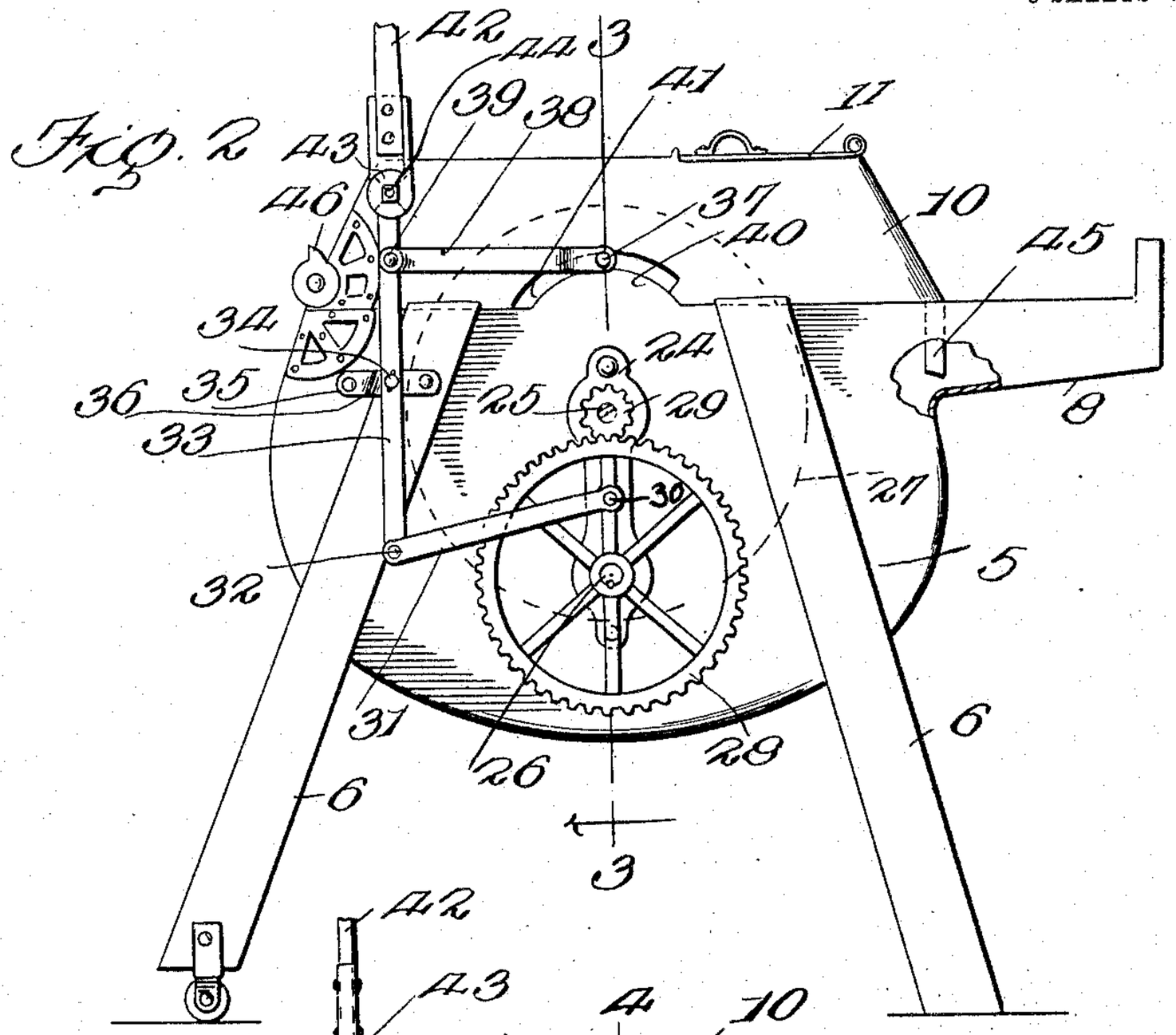
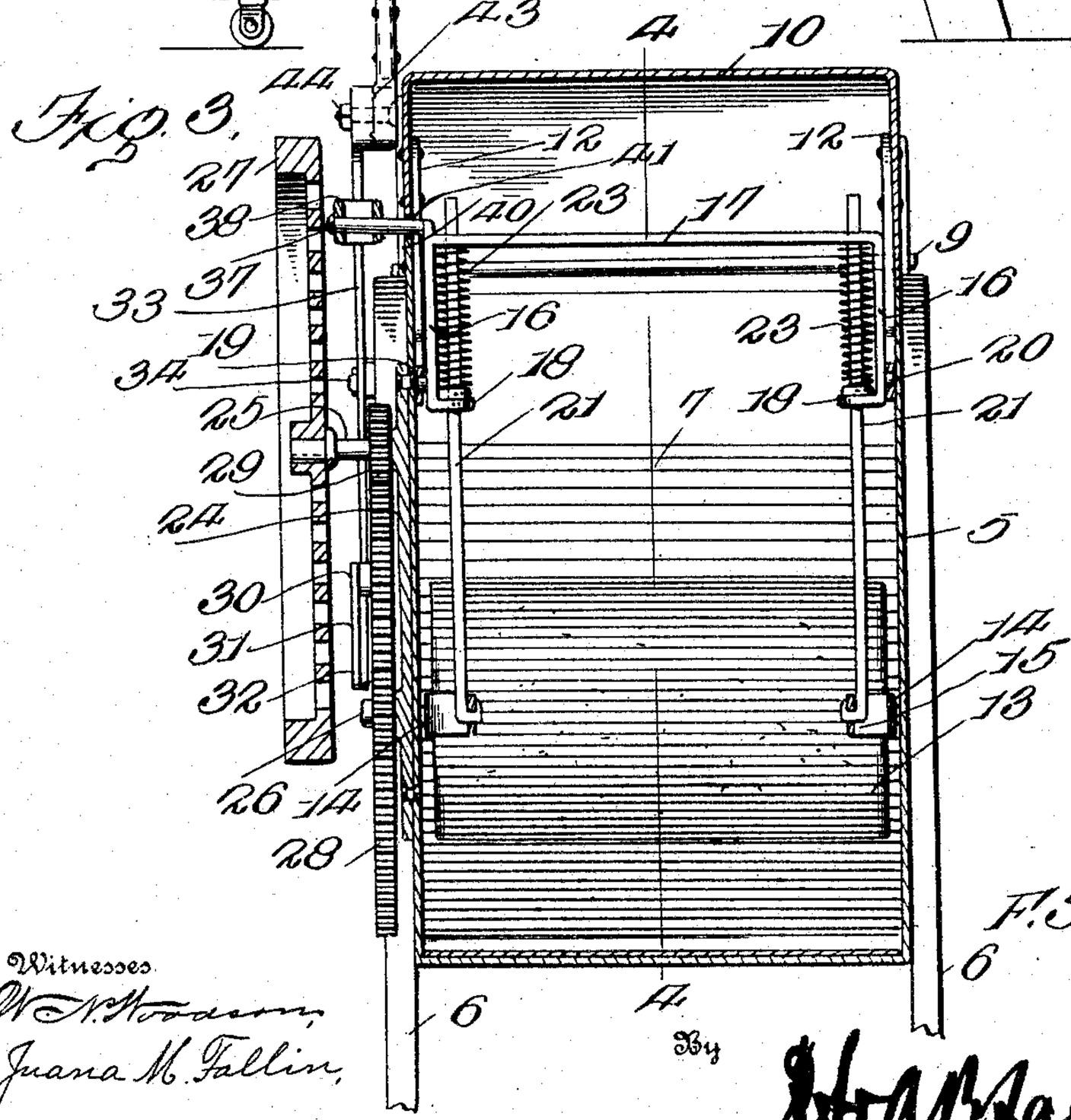


FIG. 3.



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3 SHEETS—SHEET 3.

Fig. 4.

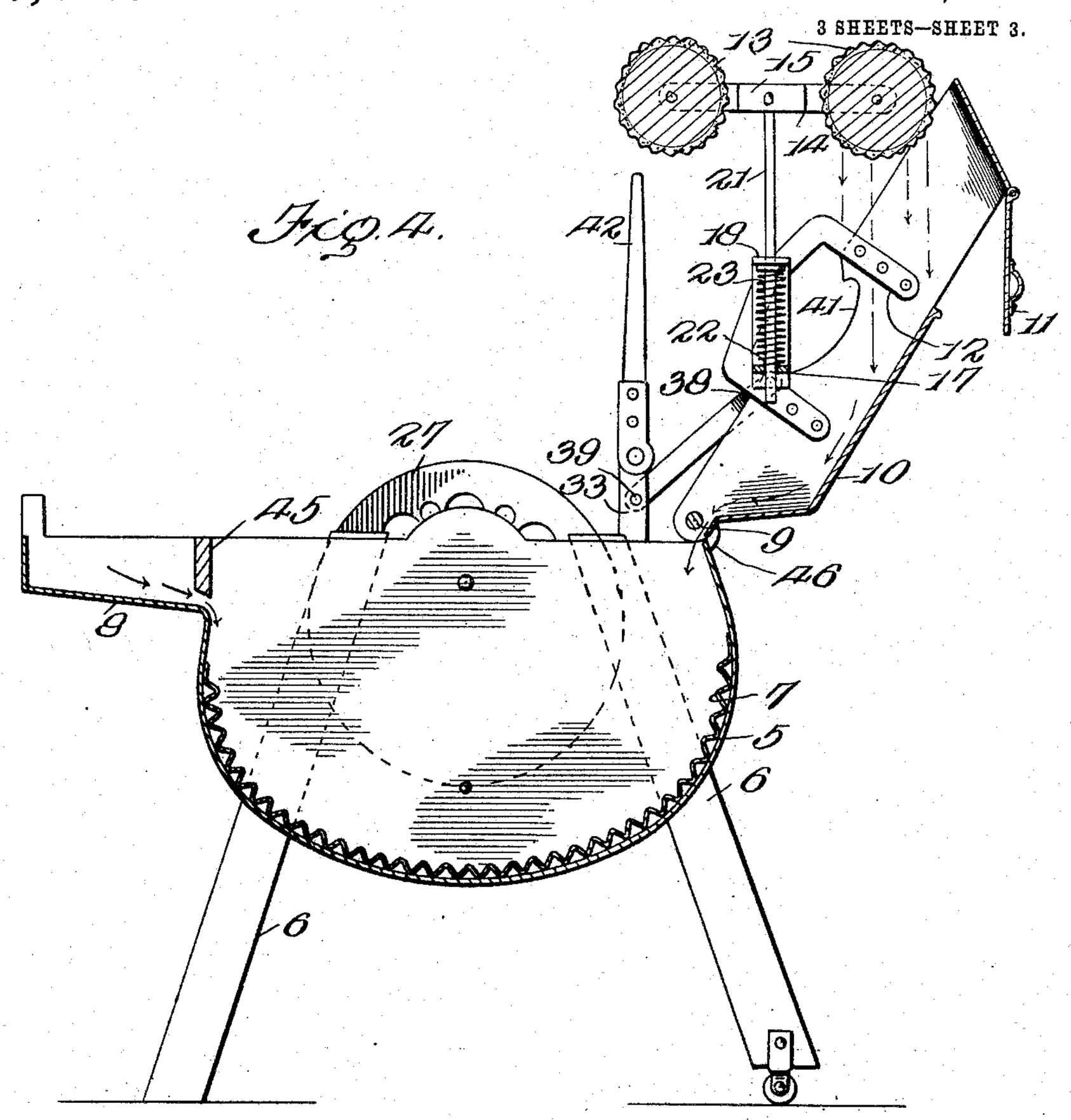


Fig. 6.

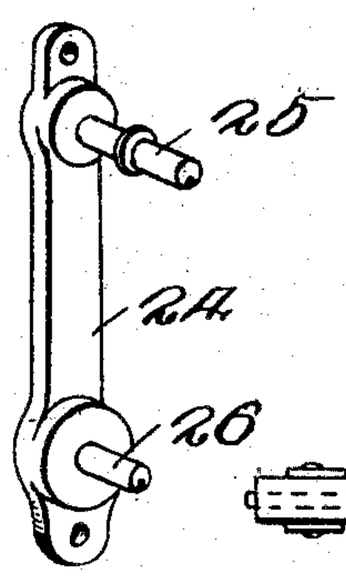
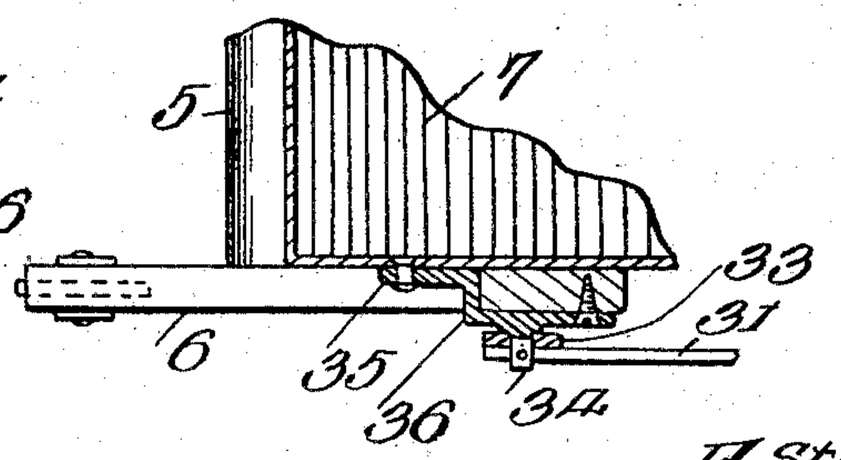


Fig. 7.



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UNITED STATES PATENT OFFICE.

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WASHING-MACHINE.

947,285. Specification of Letters Patent. Patented Jan. 25, 1910.

Application filed May 24, 1909. Serial No. 497,868.

To all whom it may concern:

Be it known that I, FRED STINES, a citizen of the United States, residing at Newton, in the county of Jasper and State of Iowa, have invented certain new and useful Improvements in Washing-Machines, of which the following is a specification.

This invention relates to washing machines and has for its object to provide a strong, durable, and thoroughly efficient machine of the character described, in which the washing or cleaning of the clothes is effected with less exertion on the part of the operator than heretofore.

A further object of the invention is to provide a washing machine including a liquid containing receptacle having a rubbing element mounted for oscillation within the same and movable to inoperative position above the receptacle when the cover is tilted rearwardly, thus to permit the removal of the clothes and at the same time allow the liquid dripping from the rubbing element to drain back into the containing receptacle.

A further object is to provide means for yieldably supporting the rubbing element in engagement with the clothes, and means for oscillating the rubber to effect the cleaning of the clothes.

A still further object of the invention is generally to improve this class of devices so as to increase their utility, durability, and efficiency.

Further objects and advantages will appear in the following description, it being understood that various changes in form, proportions, and minor details of construction may be resorted to within the scope of the appended claims.

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

Figure 1 is a side elevation of a washing machine constructed in accordance with my invention; Fig. 2 is a similar view looking at the opposite side of the machine; Fig. 3 is a vertical sectional view taken on the line 3—3 of Fig. 2; Fig. 4 is a longitudinal sectional view taken on the line 4—4 of Fig. 3; Fig. 5 is a detail perspective view of the oscillating frame and its associated parts; Fig. 6 is a perspective of the face plate; Fig. 7 is a transverse sectional view of the lever supporting bracket.

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.

The washing machine forming the subject matter of the present invention includes a liquid containing receptacle 5 having parallel side walls to which are bolted or otherwise rigidly secured depending supporting feet or legs 6. The bottom of the receptacle 5 is curved or rounded and provided with interior serrations or corrugations 7 constituting a rubbing surface, one end of the receptacle 5 being extended laterally at 8 to form an auxiliary receptacle or support for a wringer (not shown).

Pivotally mounted at 9 is a lid or cover 10 having a pivoted section 11 formed in the top thereof so that by moving the pivoted section 11 to open position, the water or other liquid may be introduced into the main receptacle 5 during the washing operation, without the necessity of disturbing the main cover 10.

Secured to the opposite interior side walls of the cover 10, are depending brackets 12, preferably U-shaped as shown, and having their lower ends projecting within the receptacle 5 to form supports for the rubbing element. The rubbing element comprises spaced rollers 13 having their exterior walls corrugated or otherwise roughened, and their end portions connected by longitudinal bars 14, the intermediate portions of which are offset, as indicated at 15.

Pivotally mounted in the supporting brackets 12 is an oscillating frame including spaced side members 16 having their upper ends connected by a transverse bar 17 and their lower ends bent inwardly to produce perforated ears 18, each side member 16 being provided with a laterally extending lug or trunnion 19 which enters a correspondingly shaped opening 20 in the adjacent bracket 12, thus to permit free swinging movement of the frame during the washing operation.

Secured to the connecting bars 14 at the offset portions thereof, are vertically disposed rods 21, the upper ends passing through the perforations in the ears 18 and through a slot 22 formed in the transverse bar 17, there being coil springs 23 interposed

between the ears 18 and the bar 17 and serving to normally and yieldably support the rollers 13 in engagement with the clothes.

Secured to one of the side walls of the liquid containing receptacle 5, is a plate 24 having spaced pins 25 and 26 extending laterally therefrom and on one of which is journaled a balance wheel 27 and on the other a master gear 28. The hub of the balance wheel 27 is formed with teeth constituting a pinion 29 for engagement with the teeth of the master gear 28 so that when the latter is rotated, motion will be transmitted from the master gear 28 to the balance wheel.

Pivotally connected at 30 with one of the spokes of the master gear 28, is one end of a pitman 31, the opposite end of which is pivotally connected at 32 with the adjacent end of an operating lever 33. The intermediate portion of the operating lever 33 is pivotally mounted on a stud 34 extending laterally from a plate 35 fastened to the adjacent side wall of the receptacle 5, said plate being formed with an offset portion 36 to accommodate the adjacent supporting leg 6 of said receptacle.

One of the side members 16 of the oscillating frame is provided with a laterally extending finger 37 to which is pivotally connected the adjacent end of a rod or lever 38, the opposite end of which is pivotally connected at 39 with the operating lever 33 so that when the lever 33 is reciprocated, motion will be imparted to the oscillating frame through the medium of the lever 38.

One of the side walls of the receptacle 5 is curved upwardly to form a segmental guide 40 for the extension or pin 37 of the oscillating frame, there being a segmental slot or recess 41 formed in one side of the cover 10 to accommodate the extension or pin 37 during the oscillation of the rubbing element.

Detachably secured to the operating lever 33 is an extension handle 42 having its lower end provided with radiating ribs 43 arranged to enter correspondingly shaped sockets formed in the operating lever so that the extension handle 42 may be adjusted at any desired angle or inclination with respect to the lever 33, the parts being clamped in adjusted position by means of a bolt or similar fastening device 44. A plate or partition 45 is extended transversely across the receptacle 5 at the wringer support 8, the lower end of the partition 45 being spaced from the adjacent wall of the receptacle 5 so as to permit the water discharged from the clothes during the wringing operation to drain into the receptacle 5.

As a means for limiting the tilting movement of the cover 10, the pivoted end thereof is provided with a stop lug 46 which bears against the adjacent wall of the receptacle 5 when the cover is moved to open position, and thus serves to assist in sustaining the weight of the cover and its associated parts when removing the clothes from the main receptacle 5.

In operation the clothes are placed in the receptacle 5 and the cover 10 swung downwardly to closed position, after which the operator grasps the extension handle 42 and reciprocates the same, thus oscillating the rubbing element to effect the cleaning of the clothes, the pitman 31 at the same time rotating the master gear 28 through the medium of the pinion 29 thus transmitting rotary movement to the balance wheel 27, thereby to assist in actuating the rubbing element. After the cleaning of the clothes has been effected, the cover 10 is swung laterally on the pivot 9 to the position shown in Fig. 4 of the drawings, and in which position the liquid will drip from the rollers 13 into the cover 10 and drain back into the receptacle 5.

Attention is here called to the fact that by having the rod 38 pivotally connected with the operating lever and oscillating frame respectively, when the lid or cover is swung rearwardly to open position, said rod will exert a lateral pull on the oscillating frame and thus cause the rubbing elements or rollers 13 to assume a vertical position so as to permit the ready removal of the clothes from the receptacle and also to facilitate drainage of the liquid on the rollers onto the receptacle 5. It will also be noted that the rubbing elements or rollers 13 are yieldably supported within the receptacle 5 so as to adapt themselves to the clothes within the receptacle, the pressure exerted by the rollers varying according to the amount of clothes in the receptacle.

The member 27 not only forms a balance wheel, but also forms a housing for the gearing.

The receptacle 5 may be made in different sizes and shapes and formed of galvanized iron, wood or other suitable material.

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

1. A washing machine including a receptacle having a cover, brackets depending from the cover, a frame mounted for oscillation in said brackets and provided with inwardly extending perforated lugs, rubbing elements disposed within the receptacle, rods extending vertically from the rubbing elements and projecting through the perforations in the lugs of the oscillating frame, springs for normally and yieldably supporting the rubbing elements within the receptacle, and beams operatively connected with the frame for oscillating the latter.

2. A washing machine including a receptacle having a corrugated bottom and provided with a cover, brackets depending from the cover, an oscillating frame journaled in

the brackets and provided with a pin extending laterally through one wall of the receptacle, a yieldably supported rubbing element depending from the oscillating frame, an operating lever pivotally mounted on the receptacle, and a rod forming a pivotal connection between the lever and lateral pin of the oscillating frame.

3. A washing machine including a receptacle having its bottom provided with a rubbing surface, a cover pivotally mounted on the receptacle, brackets depending from the cover, a frame mounted for oscillation in the brackets, rods depending from the frame, bars secured to the lower ends of the rods, and having their intermediate portion bent inwardly, corrugated rollers mounted for rotation between the bars, on opposite sides of the bent portions thereof, springs surrounding the rods, an operating lever, a rod forming a connection between the operating lever and oscillating frame, said corrugated rollers and oscillating frame being movable to inoperative position above the receptacle when the cover is swung laterally to open position.

4. A washing machine including a receptacle having a cover, brackets depending from the cover, a frame mounted for oscillation on the brackets, a rubbing element yieldably supported on the oscillating frame, an operating lever having a pivoted handle movable to different angular positions, and a rod forming a connection between the operating lever and oscillating frame.

5. A washing machine including a receptacle having a pivoted cover, brackets depending from the cover, a frame mounted for oscillation in the brackets and including spaced side members having inwardly extending perforated ears and a longitudinally slotted connecting bar, trunnions extending from the side members of the oscillating frame and journaled in the supporting brackets, rods extending through the slot in the connecting bar and perforations in the ears of the oscillating frame, bars secured to the lower ends of the rods, rollers mounted for rotation between the bars, springs encircling the rods and interposed between the ears and slotted connecting bar of the oscillating frame, a pin extending laterally from one of the side members of the frame, an operating lever, and a rod forming a connection between the pin and operating lever.

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

FRED STINES.

Witnesses:
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RAY B. GIBFORD.