No. 819,152. PATENTED MAY 1, 1906.

J. MATT.

WASHING MACHINE.

APPLICATION FILED MAR. 29, 1905.

3 SHEETS—SHEET 1.

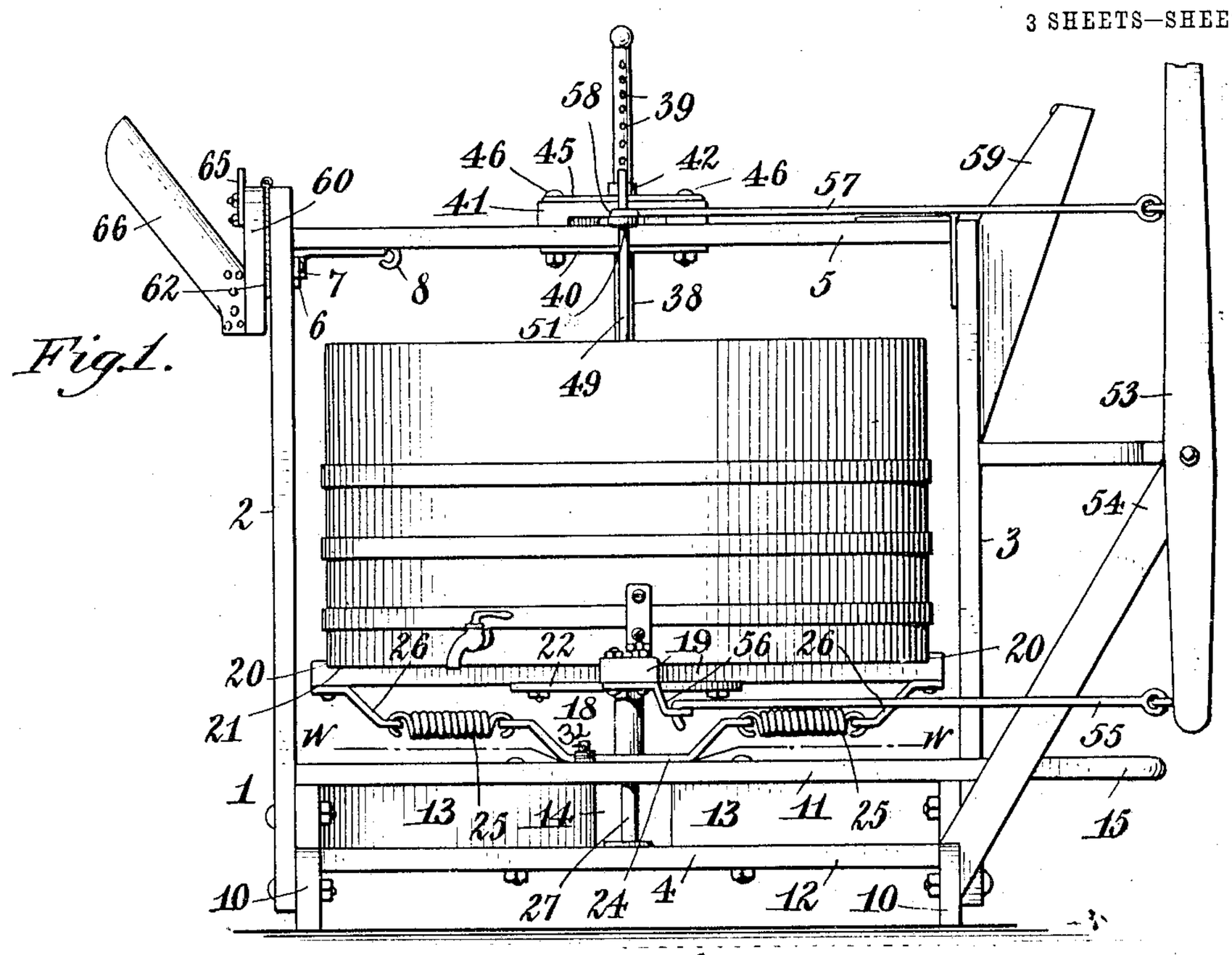

Fig. 1.

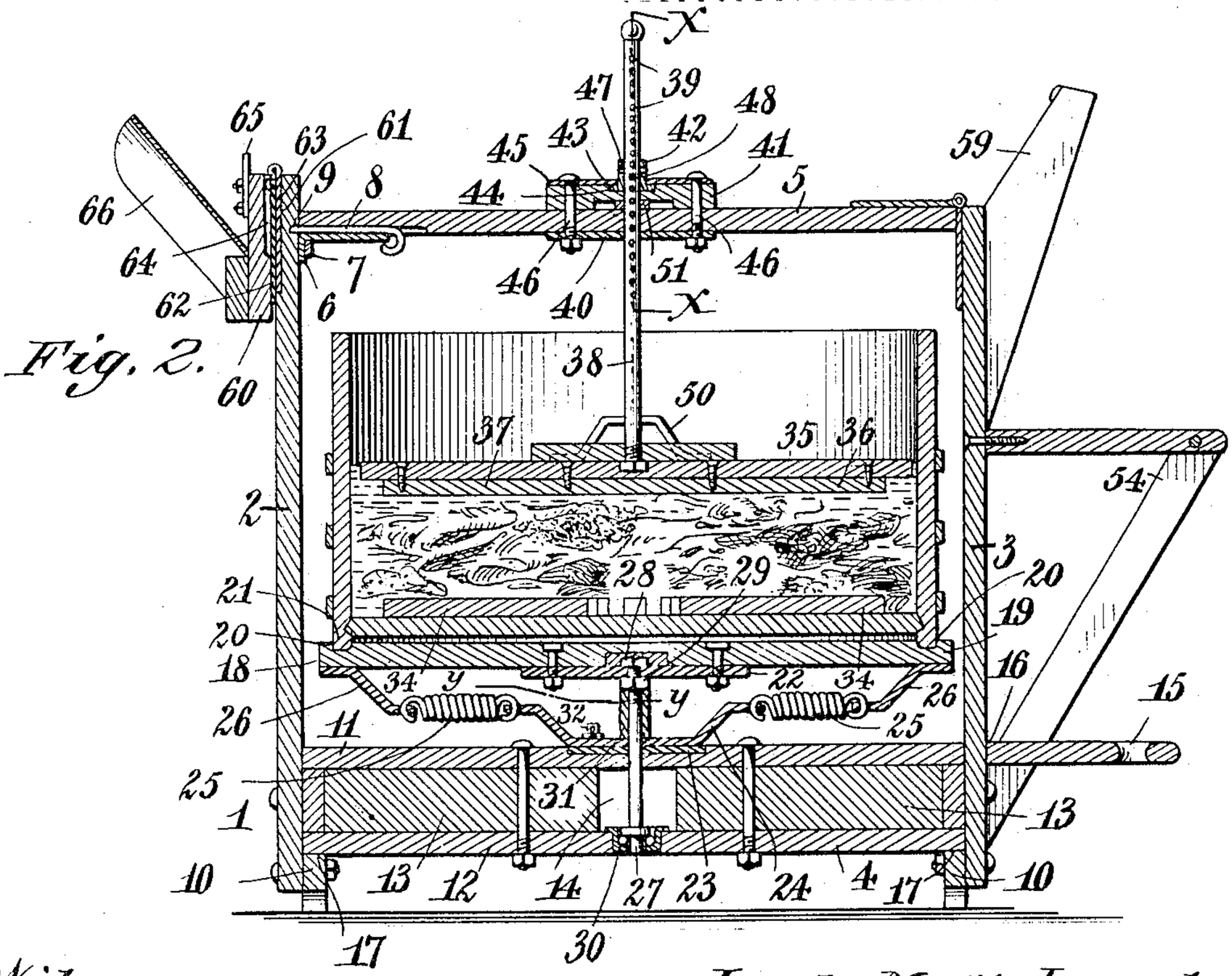

Fig. 2.

Witnesses:

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3 SHEETS—SHEET 2.

Fig. 3.

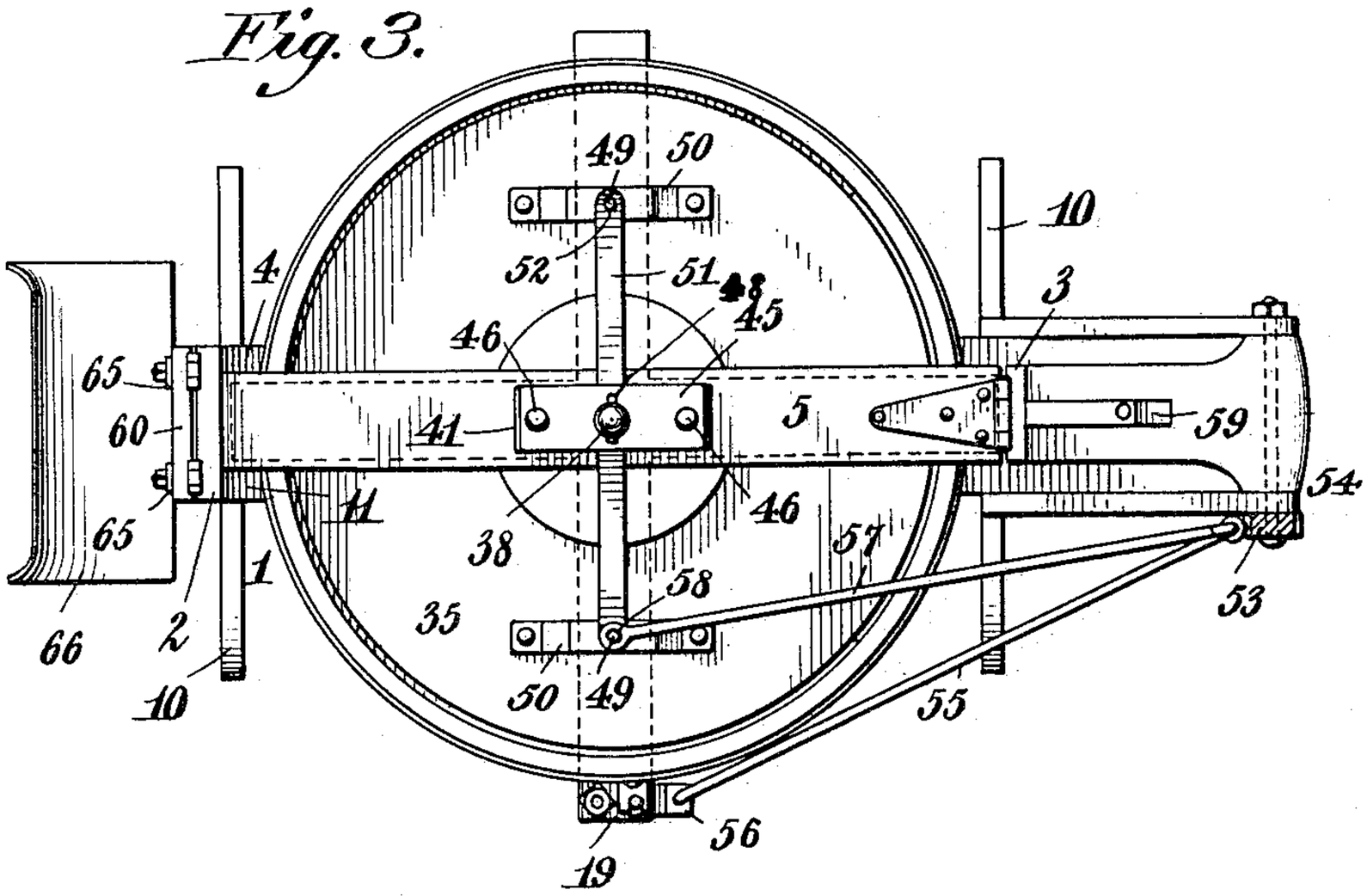
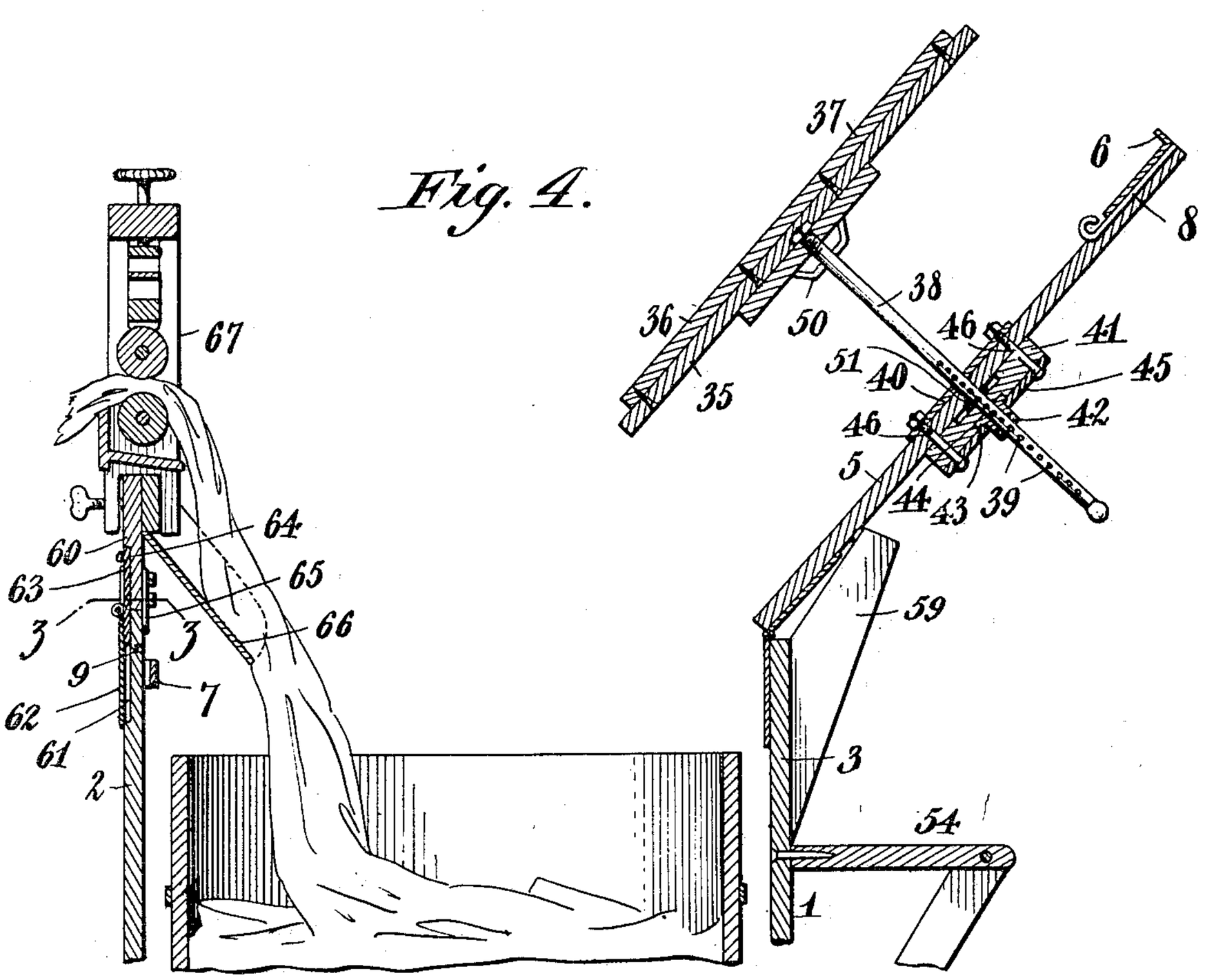


Fig. 4.



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3 SHEETS—SHEET 3.

Fig. 5.

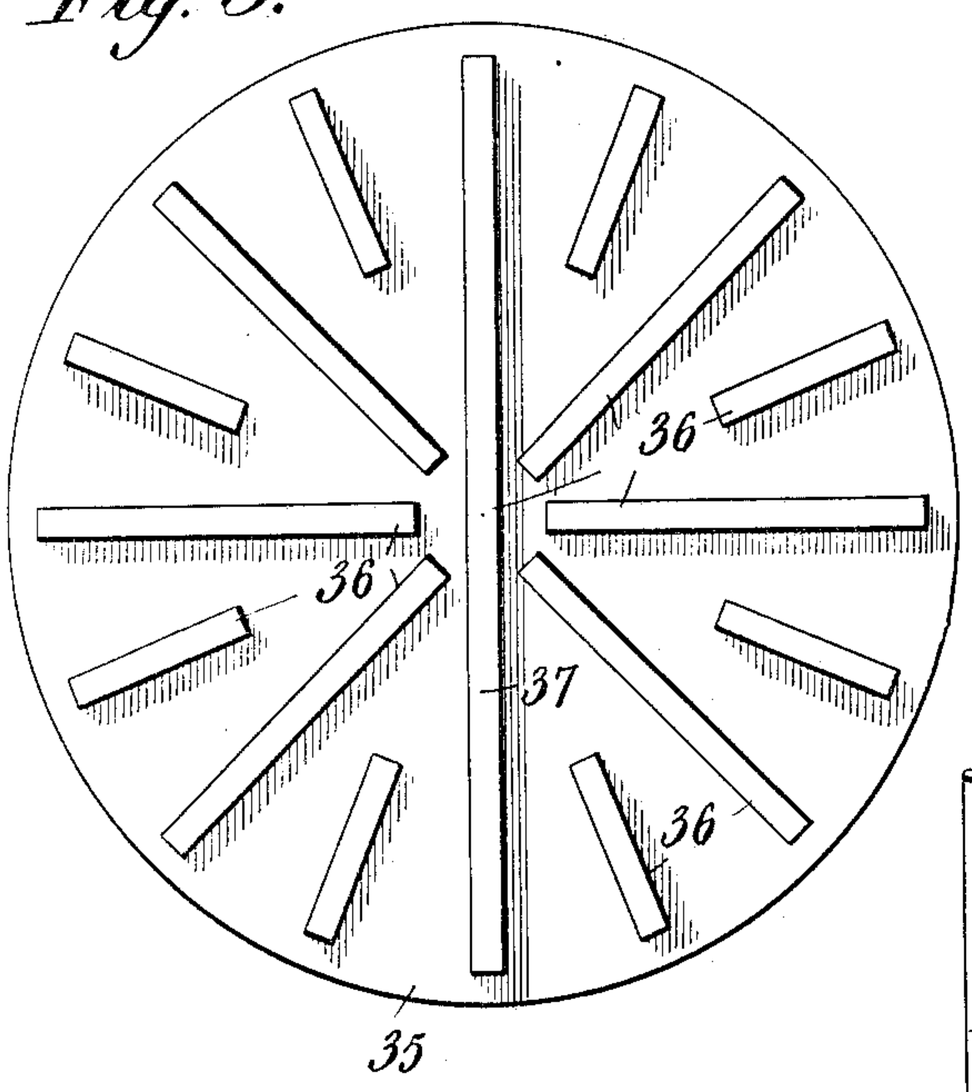

Fig. 6.

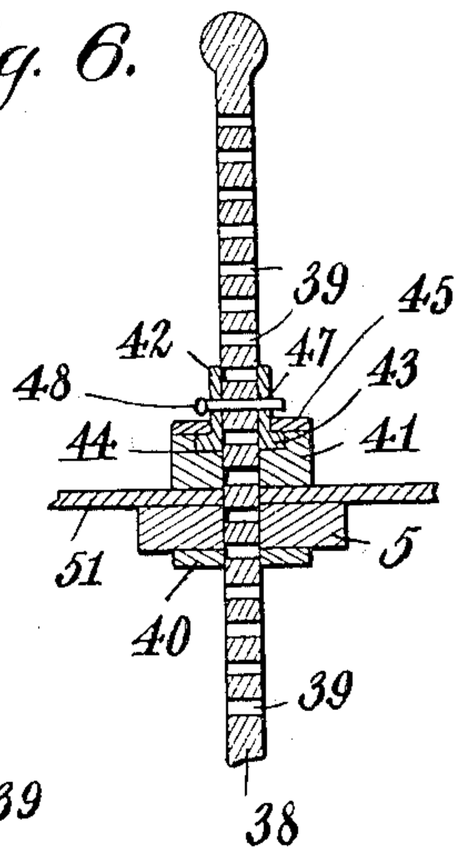

Fig. 8.

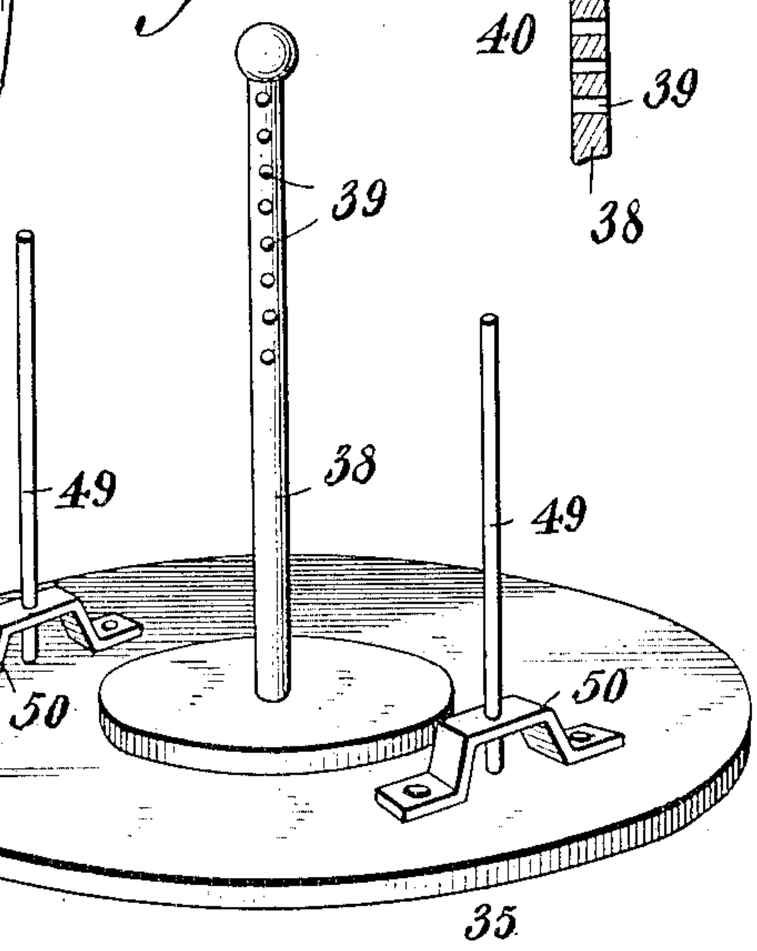

Fig. 7.

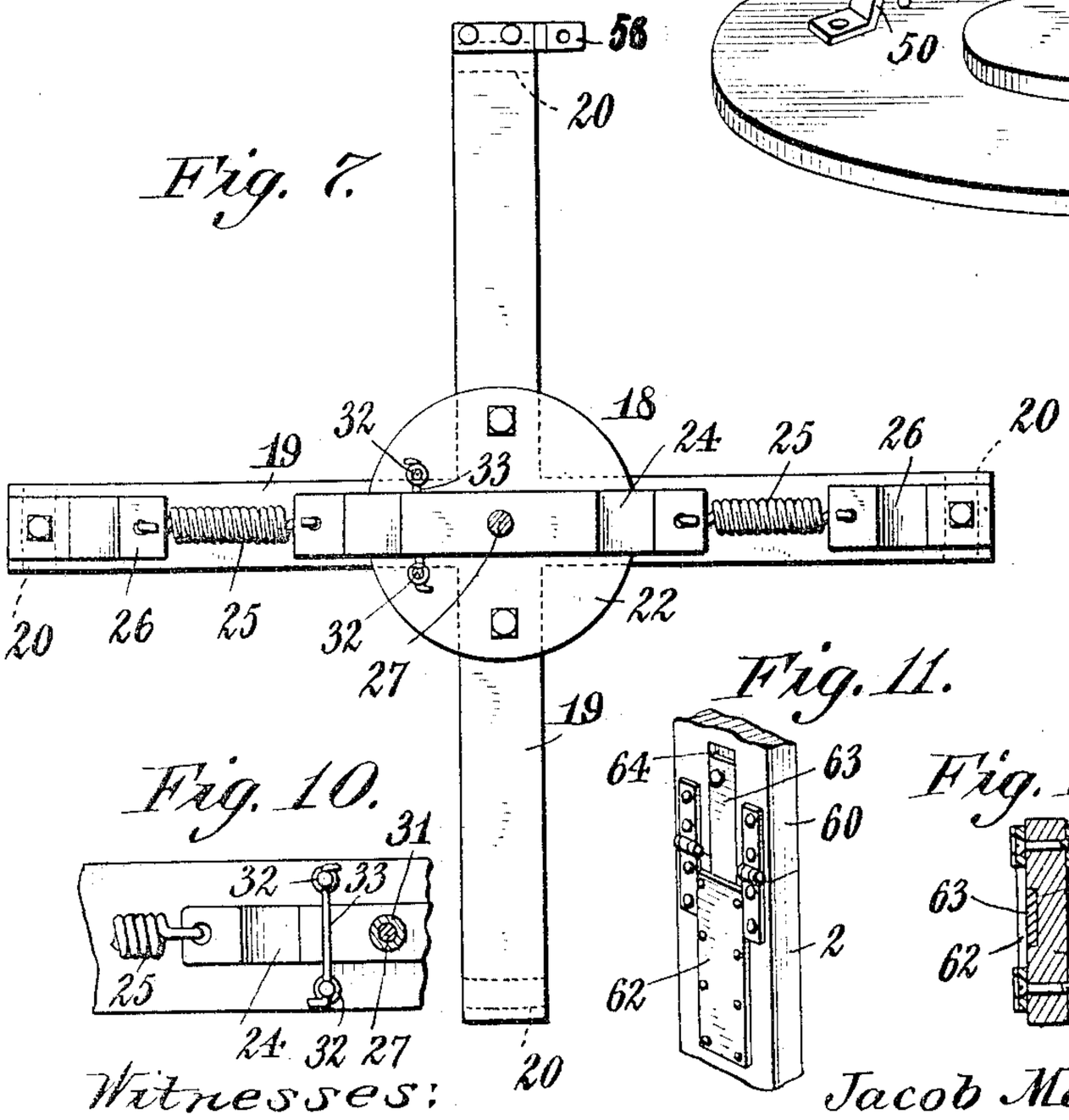

Fig. 9.

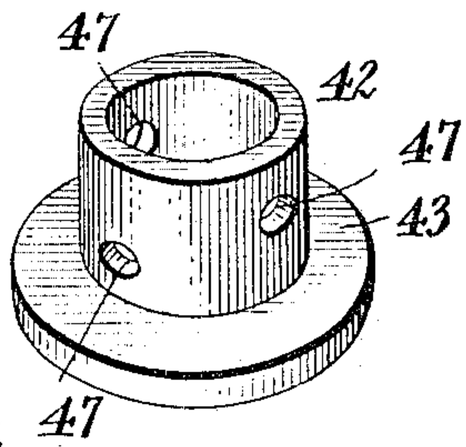

Fig. 11.

Fig. 10.

Fig. 12.

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UNITED STATES PATENT OFFICE.

JACOB MATT, OF BUFFALO, NEW YORK.

WASHING-MACHINE.

No. 819,152. Specification of Letters Patent. Patented May 1, 1906.

Application filed March 29, 1905. Serial No. 252,739.

To all whom it may concern:

Be it known that I, JACOB MATT, a citizen of the United States, residing at Buffalo, in the county of Erie and State of New York, have invented certain new and useful Improvements in Washing-Machines, of which the following is a specification.

This invention relates to washing-machines of that type in which a rubbing-disk is provided within a tub and the disk and tub oscillated in reverse directions.

The objects of my invention are to provide mechanism whereby the machine is rendered easy to operate; to provide novel means for connecting the rubbing-disk with the operating mechanism so that said disk may be adjusted to the quantity of clothes within the tub without effecting the operating mechanism; to provide convenient and simple means for holding the rubbing-disk in any desired position; to provide an improved support for the tub, and to otherwise improve on washing-machines now in use.

The invention consists in the construction, arrangement, and combination of parts to be hereinafter described, and particularly pointed out in the subjoined claims.

In the accompanying drawings, Figure 1 is a side elevation of my improved machine. Fig. 2 is a central vertical section of the same. Fig. 3 is a top plan view. Fig. 4 is a central vertical section through the upper part of the machine, showing the rubbing-disk and its supporting cross-bar swung up to render the clothes within the tub accessible and showing also the swinging wringer-support elevated for use. Fig. 5 is an enlarged inverted view of the rubbing-disk. Fig. 6 is an enlarged vertical section taken on line *x x*, Fig. 2. Fig. 7 is an enlarged horizontal section taken on line *w w*, Fig. 1, looking up, all parts above the tub-support being removed. Fig. 8 is a detached perspective view of the rubbing-disk and attached parts. Fig. 9 is an enlarged detached perspective view of the lock-sleeve or bushing for holding the rubbing-disk in any adjusted position. Fig. 10 is an enlarged horizontal section on line *y y*, Fig. 2. Fig. 11 is a perspective view of the wringer-support when elevated and the upper end of the upright to which it is secured. Fig. 12 is an enlarged section on line *z z*, Fig. 4.

Referring to the drawings in detail, similar numerals of reference refer to similar parts in the several figures.

The reference-numeral 1 designates the frame, which consists of uprights 2 3, a built-up transverse bed-piece 4, and a top cross-bar 5, connecting the upper ends of the uprights. Said cross-bar is hinged at one end to the upright 3 and provided at its other end with a hook 6, fitting a loop or strap 7 on the upright 2, and with a slide-bolt 8, fitting a notch 9 in said upright directly above said loop or strap. Said hook and loop serve to tie the uprights together and provide a solid frame, while the slide-bolt 8 prevents unintentional disconnection of the cross-bar 5 from the upright 2. The uprights are provided at their lower ends with base-pieces 10, secured to the inner sides by bolts or otherwise.

The bed-piece comprises two transverse bars 11 12, between which filling-pieces 13 are held, the inner ends of said filling-pieces being separated by an intervening space 14. The upper bar 11 is supported on the base-pieces 10 and at one end extends beyond the upright 3 to form a handle 15, said bar having a transverse slot 16, through which the upright 3 passes. The base-pieces 10 are provided with transverse openings 17, into which the ends of the transverse bar 12 are secured. The bars 11 12 and the filling-pieces 13 are bolted together and form a solid bed on which the tub-support and tub are carried.

18 designates the tub-support, comprising bars 19, arranged at right angles and having at their ends grooves 20, into which the chime of the tub 21 fits. Secured to the under side of said support is a circular or other shaped plate 22, by means of which the bars 19 are securely connected. A wear-plate 23 is embedded in the top of the bed 4, and bearing thereon is a yoke piece or strap 24, arranged parallel with one of the bars 19 and having attached to its ends the inner ends of springs 25, whose outer ends are connected to brackets 26, extending downward and inward from the ends of said bar.

The tub-support is mounted on a vertical shaft 27, whose upper end is threaded and passes through the plate 22 and has clamping-nuts 28 29 bearing against opposite sides of said plate, the nut 28 fitting into a socket in the contiguous bar of the tub-support. Said shaft passes through the yoke-piece 24, wear-plate 23, and upper bar 11 of the bed-piece and enters a thrust-bearing 30 in the lower bar 12 of said bed-piece. A sleeve 31 surrounds said shaft between the lower nut 29 and the yoke-piece 24.

On oscillating the tub the springs 25 are placed under tension and exert their power in pulling the tub in the reverse direction.

32 designates stops arranged on opposite sides of the yoke-piece 24 and adapted to limit the oscillating movement of the latter when the springs 25 are placed under tension, said stops being connected and held rigid by a wire 33 passing over the yoke-piece.

The bottom of the tub has slats 34 secured thereto to form a rubbing-surface, said slats being disposed radially or in any other manner.

35 designates the adjustable rubbing-disk, having slats 36 on its under side, as shown in Figs. 2, 4, and 5. One of said slats (designated 37) extends almost from edge to edge, and the remaining slats are arranged radially on opposite sides of the slat 37. An upright shaft 38 is secured centrally to the disk in any desired manner and its upper portion provided with a series of transverse openings 39. Said shaft passes through the top cross-bar 5 and is rotatable and vertically adjustable therein. To strengthen the cross-bar at this point and to provide for proper adjustment of the rubbing-disk, I secure a metallic plate 40 to the under side thereof, and to the upper side a yoke-piece 41 is applied. A lock-sleeve or bushing 42 is held to said yoke-piece and has at its lower end a flange 43. A depression 44 is formed in the upper face of the yoke-piece, which receives the lower flanged end of said sleeve or bushing, the latter being held to said yoke-piece, so as to be capable of rotating therein, by a securing-plate 45. Bolts 46 pass through said securing-plate, the yoke-piece 41, cross-bar 5, and plate 40 and secure the whole together in a durable manner. The upright shaft 38 extends through the cross-bar thus strengthened and through the lock-sleeve or bushing 42, and through apertures 47 in the latter and one of the transverse openings in said shaft a lock-pin 48 is passed. In this manner the shaft and its attached rubbing-disk may be adjusted to the quantity of clothes in the tub and held in its adjusted position. Incidentally the disk may be pressed against the clothes to any desired extent. There are two pairs of registering apertures 47 in the lock-sleeve or bushing 42, which permits of a close adjustment of the rubbing-disk without the necessity of boring the openings in the shaft 38 too close together, which would tend to weaken the same. The distance on a horizontal plane between the two sets of apertures in the bushing is one-half that between the successive openings in the upright shaft.

Secured to the rubbing-disk 35 are upright rods 49, braced by brackets 50, secured to said disk. A horizontal lever 51 is arranged at an angle to and is supported on the cross-bar, it being fulcrumed on the shaft beneath the yoke-piece. The ends of said lever are connected to the upright rods, the latter passing through openings 52 in said lever, so as to permit of their moving vertically, while retaining operative connection with said lever.

An upright operating-lever 53 is fulcrumed between its ends to a bracket 54, extending from one side of the frame. A pull-and-thrust rod 55 connects the lower end of said lever with a bracket 56, secured to the tub-support. A similar rod 57 connects said lever with one of the upright rods 49 on the rubbing-disk, and to permit said upright rod to move vertically without effecting the connection between the same and the pull-and-thrust rod 57 the latter is provided with an eye 58, through which said upright rod passes. Through the intervention of the horizontal lever 51 and said upright rods the power is imparted to the rubbing-disk at diametrically-opposite points, which renders the machine easy to operate.

As shown in Fig. 4, the upper cross-bar and the rubbing-disk carried thereby can be swung upward against a stop 59 on the frame. When in this position, the clothes within the tub are easily accessible.

60 designates a wringer-support hinged to the upright 2. The latter is provided with a vertical groove 61, which is covered by the plate 62. A slide-bolt 63 is held in said groove and is adapted to be slid into a coinciding groove 64, formed in the wringer-support. Straps forming lips 65 are secured to the hinged end of said support and are adapted to be brought against the inner face of said upright when the wringer-support is elevated. A drip-deflector 66 is secured to said support and directs the drippings from the wringer 67 into the tub.

Having thus described my invention, what I claim is—

1. The combination with a frame having an upright and adapted to support a tub, of a wringer-support pivoted to the upper end of said upright, a lip extending from the hinged end of said wringer-support and adapted to bear against the inner side of the upright when said support is swung into its elevated position, and a slide-bolt on the outer side of said upright adapted to hold said wringer-support elevated.

2. The combination with a frame having uprights, a cross-bar connecting the upper ends of said uprights, and a tub carried on the frame, of a rubbing-disk in said tub, a bushing held rotatably in said cross-bar and having diametrical apertures, an upright shaft secured to the rubbing-disk and passing through said bushing, said shaft having a series of transverse openings, a pin passing through said bushing and any one of the series of openings in said shaft, and means for oscillating said rubbing-disk.

3. The combination with a frame having

uprights, and a tub carried on said frame, of a cross-bar connecting the upper ends of said uprights, a yoke-piece on said cross-bar, a bushing rotatable in said yoke-piece and provided with two pairs of diametrical apertures, an upright shaft secured to said rubbing-disk and passing up through said cross-bar, the yoke-piece and bushing, said shaft having a series of transverse openings, and a pin passing through one pair of apertures in said bushing and one of said openings in the shaft.

4. The combination with a frame having uprights, and a tub carried on said frame between said uprights, of a rubbing-disk in said tub, a cross-bar connecting the upper ends of said uprights, a yoke-piece on said cross-bar having a depression in its upper face, a bushing having a flange which fits into said depression and being provided with two pairs of diametrical apertures, a plate secured to said cross-bar and holding said bushing rotatably in said depression, an upright shaft secured to the rubbing-disk and passing through said cross-piece and the bushing, said shaft having a series of transverse openings, and a pin passing through one pair of apertures in said bushing and one of said openings in the shaft.

In testimony whereof I have affixed my signature in the presence of two subscribing witnesses.

JACOB MATT.

Witnesses:
N. M. NEUHART,
MAY F. SEWERT.