

(No Model.)

N. D. KILLGORE.
WASHING MACHINE.

No. 462,139.

Patented Oct. 27, 1891.

Fig 1.

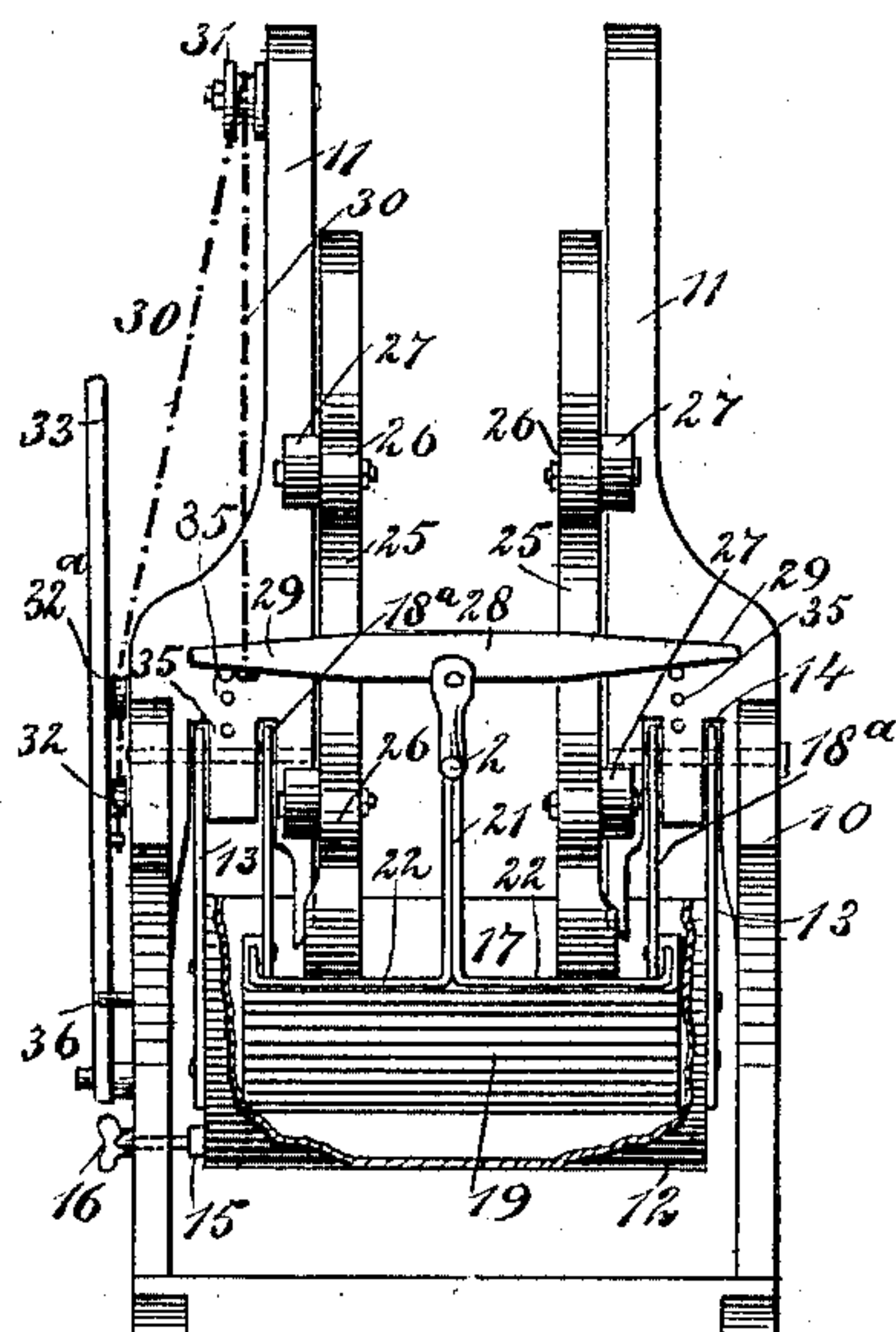


Fig 2.

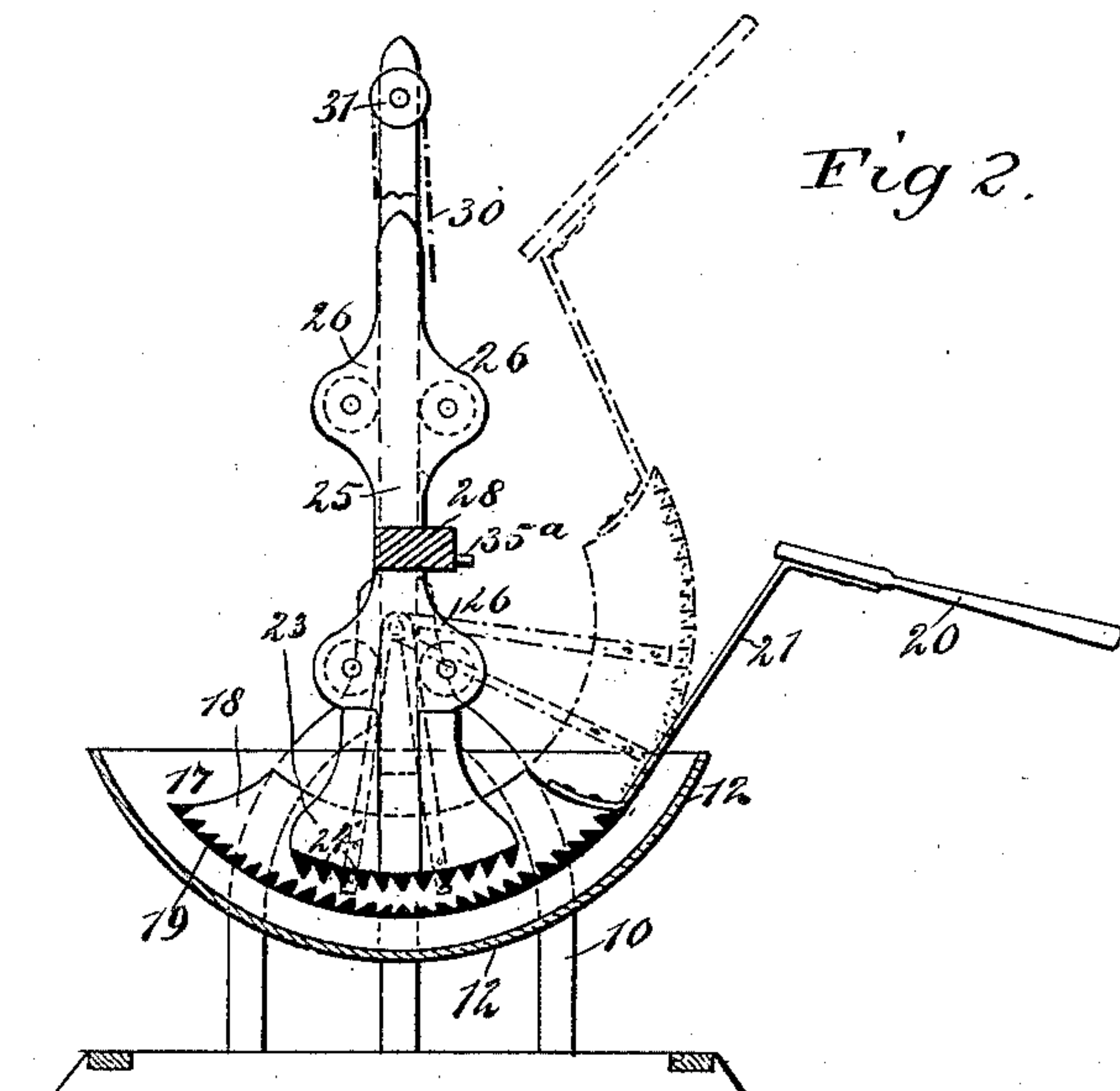
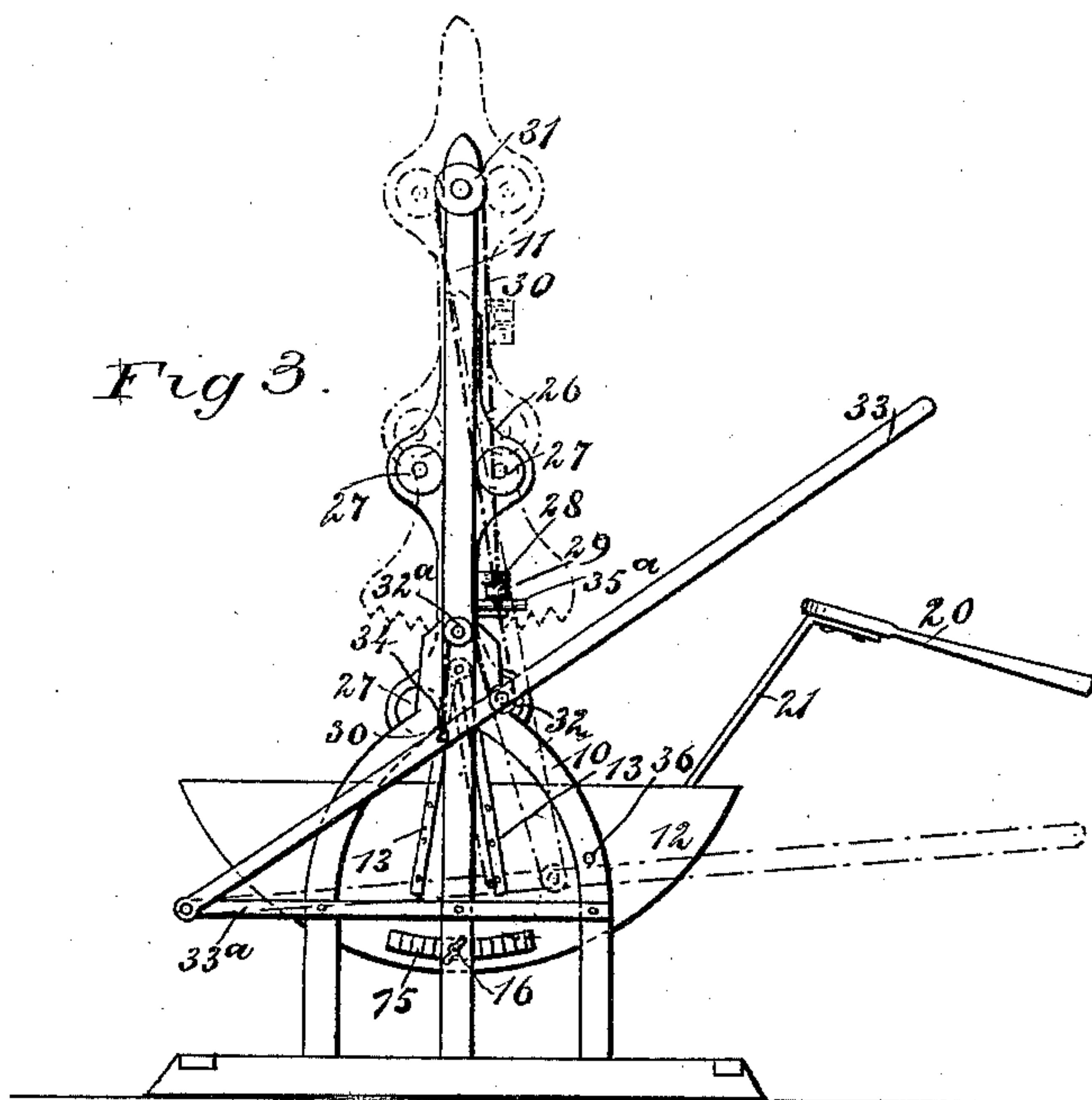


Fig 3.



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NATHAN DOUGHERTY KILLGORE, OF NICKELSVILLE, VIRGINIA.

WASHING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 462,139, dated October 27, 1891.

Application filed June 4, 1891. Serial No. 395,022. (No model.)

To all whom it may concern:

Be it known that I, NATHAN DOUGHERTY KILLGORE, of Nickelsville, in the county of Scott and State of Virginia, have invented
5 a new and Improved Washing-Machine, of which the following is a full, clear, and exact description.

My invention relates to improvements in washing-machines such as are used for wash-
10 ing clothes; and the object of the invention is to produce a simple machine which may be operated with great ease, which will wash clothes with great rapidity, and which is constructed in such a manner that it will not in-
15 jure the clothes.

To this end my invention consists in a washing-machine constructed substantially as hereinafter described and claimed.

Reference is to be had to the accompanying
20 drawings, forming a part of this specification, in which similar figures of reference indicate corresponding parts in all the views.

Figure 1 is a broken front elevation of the machine. Fig. 2 is a vertical longitudinal
25 section of the same, and Fig. 3 is a side elevation of the same.

The machine is provided with a main upright frame 10, which rests upon a suitable base, and the upper portion of which is pro-
30 longed to form two vertically-parallel uprights 11, the uprights being thickened transversely at the bottom to provide for attaching the other parts of the machine. A semi-cylindrical tub 12 is provided on opposite sides
35 with ears 13, which enter slots 14 in the thickened portions of the uprights 11, and in these slots the ears are pivoted, so that the tub may be oscillated when necessary.

The tub is provided on one side with a se-
40 ries of teeth 15, thus forming a rack, and this rack is arranged opposite a thumb-screw 16, which is held to turn in the frame 10, and by turning the thumb-screw so as to make it engage with the teeth of the rack the tub will
45 be held rigidly in place. When, however, the tub is to be emptied, the thumb-screw may be released, and by raising one end of the tub the water will run from the other end.

Within the tub, and a little above the bot-
50 tom is a movable rubber 17, formed of the side pieces 18 and the connecting bottom slats 19. This rubber is shaped to correspond with

the shape of the tub 12, and the slats 19, when viewed in cross-section, are shaped like a right-angle triangle, as shown in Fig. 2, and
55 they are arranged so that their slant sides will be next the ends of the rubber and their abrupt or vertical portions next the center of the same. This rubber is provided with a handle 20, which is arranged above the tub
60 and connects with the rubber by means of a double wire rod 21, the lower ends of the rod being made to diverge and extend along the top of the rubber at one end, as shown at 22 in Fig. 1. This construction enables the rub-
65 ber to be very easily oscillated. Above the movable rubber is another rubber, which is not capable of lateral motion, and this rubber is formed of the side strips 23 and the connecting-slats 24. This rubber corresponds
70 in shape on the bottom to the shape of the rubber 17, and the slats are likewise of triangular shape, their slant sides being arranged toward the ends of the rubber. The side strips 24 of the rubber are secured to the
75 vertically-movable side pieces 25, which side pieces are adapted to move up and down against the inner sides of the uprights 11, and to enable the side pieces and the rubber supported thereon to be easily moved the side
80 pieces are widened near the top and bottom, as shown at 26, and are provided with rollers 27, which rollers embrace and impinge upon the uprights 11, and consequently the side pieces may be raised and lowered with very
85 little friction. The side pieces 25 are connected by a cross-piece 28, the ends of which are prolonged to form arms 29, which extend beyond the inner edges of the uprights 11 and which enable the upper rubber to be ad-
90 justed, as described below. To one of the arms 29 is secured a cord 30, which extends over a pulley 31, pivoted on the upper end of one of the uprights and then downward over a pulley 32, pivoted centrally in a recess in a
95 lever 33, thence upward over a pulley 32^a on the main frame, and from thence the cord extends downward and is secured to the lever 33, as shown at 34 in Fig. 3. The lever 33 is pivoted at its lower end to a cross-piece 33^a
100 on the main frame, and by depressing the lever the pulley 32 will be carried downward and will thus pull down the cord 30, and when the lower end of the cord is pulled down it

will draw the cord over the pulleys 32^a and 31, thus raising the cross-piece 28 and the upper rubber connected therewith. This arrangement enables the rubber to be raised with the utmost ease, and when it is to be lowered the lever is simply released and it will drop by gravity. The upper rubber may be held a desired distance from the lower rubber by means of pins 35^a, which are inserted in the holes 35 in the lower portion of the uprights 11, and the arms 29, striking upon the pins, will support the upper rubber. When the upper rubber is raised by depressing the lever 33 in the manner described, it may be held in this position by slipping the lever 33 beneath a pin 36 on the lower portion of the frame 10, as shown in dotted lines in Fig. 3, and the upward movement of the rubber and connected parts is also indicated by dotted lines in the same figure.

The operation of the machine is as follows: The suds are placed in the tub 12, which tub is secured in a fixed position in the manner described, the upper rubber is raised by depressing the lever 33, and the clothes to be washed are placed upon the lower rubber. The upper rubber is then allowed to drop upon the clothes, which is done by releasing the lever 33, and the operator grasps the handle 20 and moves the lower rubber 17 backward and forward. The triangular slats of the upper rubber will serve to hold the clothes centrally beneath it, and as the lower rubber is moved the clothes will spread out upon it. When the lower rubber is moved in either way, the edges of the triangular slats thereon will cause the clothes to be caught between them and the slant sides of the slats on the upper rubber, and consequently the clothes will not be injured, and while the upper rubber cannot vibrate laterally on account of the pulleys 27, which hold it in position, it may yield vertically, and this vertical movement will guarantee the clothes against injury.

Having thus fully described my invention, I claim as new and desire to secure by Letters Patent—

1. A washing-machine comprising a frame

having vertically-parallel uprights thereon, a semi-cylindrical tub mounted in the frame, an oscillating rubber pivoted in the frame and extending into the tub, said rubber having triangular cross-slats, a rubber mounted above the oscillating rubber and provided with similar slats, and vertically-movable side pieces secured to the upper rubber and provided with anti-friction pulleys which embrace the uprights of the main frame, substantially as described.

2. In a washing-machine, the combination, with a main frame having uprights on opposite sides, a tub secured in the frame, and an oscillating rubber suspended in the tub, of an upper rubber mounted above the oscillating rubber and provided with vertical side pieces aligning with the uprights of the frame, pulleys pivoted on opposite sides of the side pieces and adapted to run upon the uprights of the frame, a lever pivoted on the lower portion of the frame and provided with a central pulley, and a cord connected with the upper rubber and extending over a pulley on the upper portion of the frame, the pulley in the lever and another pulley on the frame, said cord being finally secured to the lever, substantially as described.

3. The combination, with a main frame having uprights on opposite sides, a semi-cylindrical tub supported in the frame, and an oscillating rubber pivoted in the frame and extending into the tub, of a rubber mounted above the oscillating rubber and provided with vertical side pieces, pulleys mounted upon the side pieces and arranged to embrace the uprights, a cross-piece connecting the side pieces and having its ends prolonged to form arms, stop-pins to engage the arms and limit their downward movement, and a lever and pulley mechanism for raising the cross-piece and the connected rubber, substantially as described.

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Witnesses:

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