

No. 654,932.

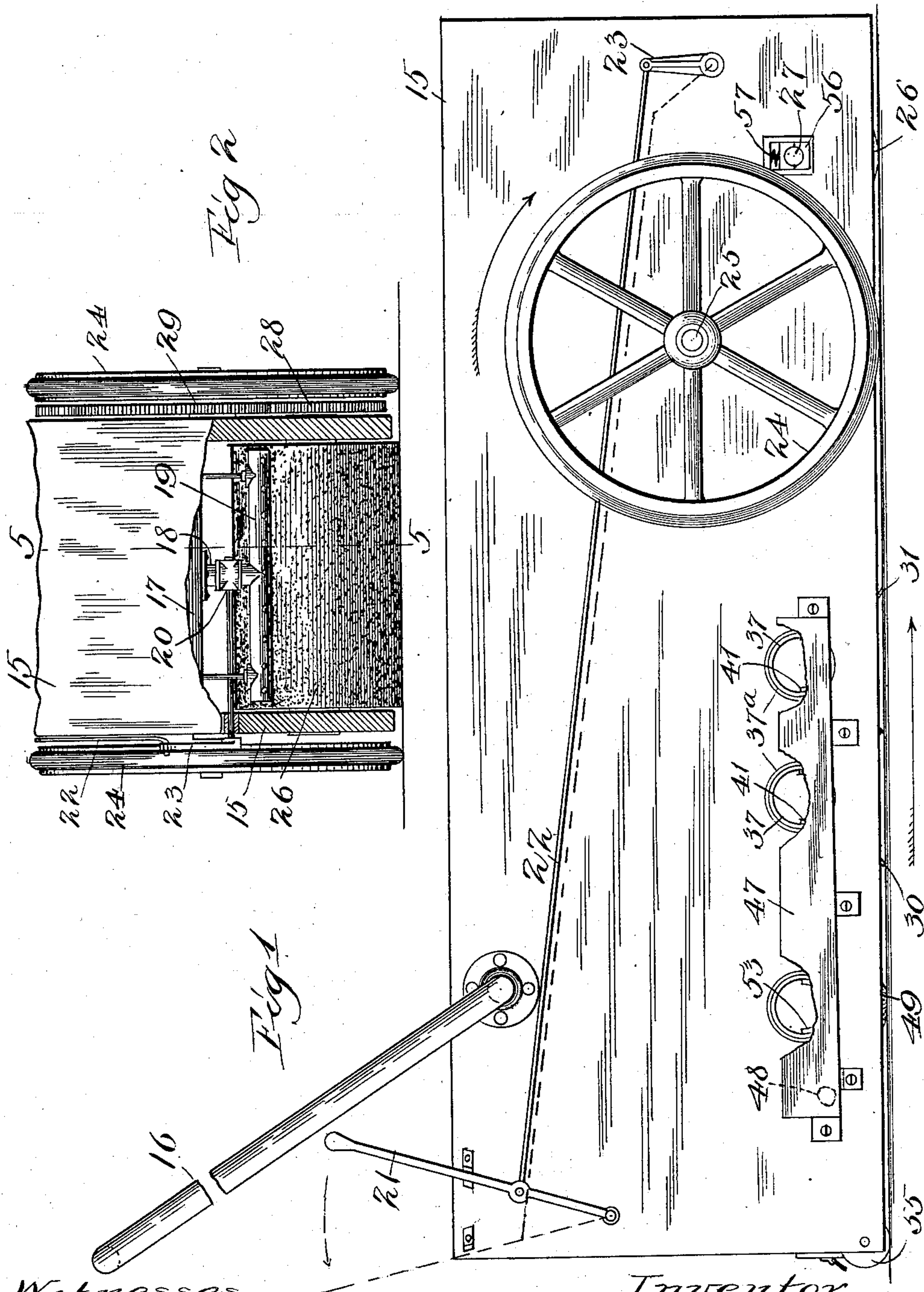
Patented July 31, 1900.

L. ANDERSON.
SCRUBBING MACHINE.

(Application filed Apr. 23, 1900.)

(No Model.)

4 Sheets—Sheet 1.



Witnesses
W. C. Collier
Wm. Guger

Inventor
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By Louis A. Gleson Atty.

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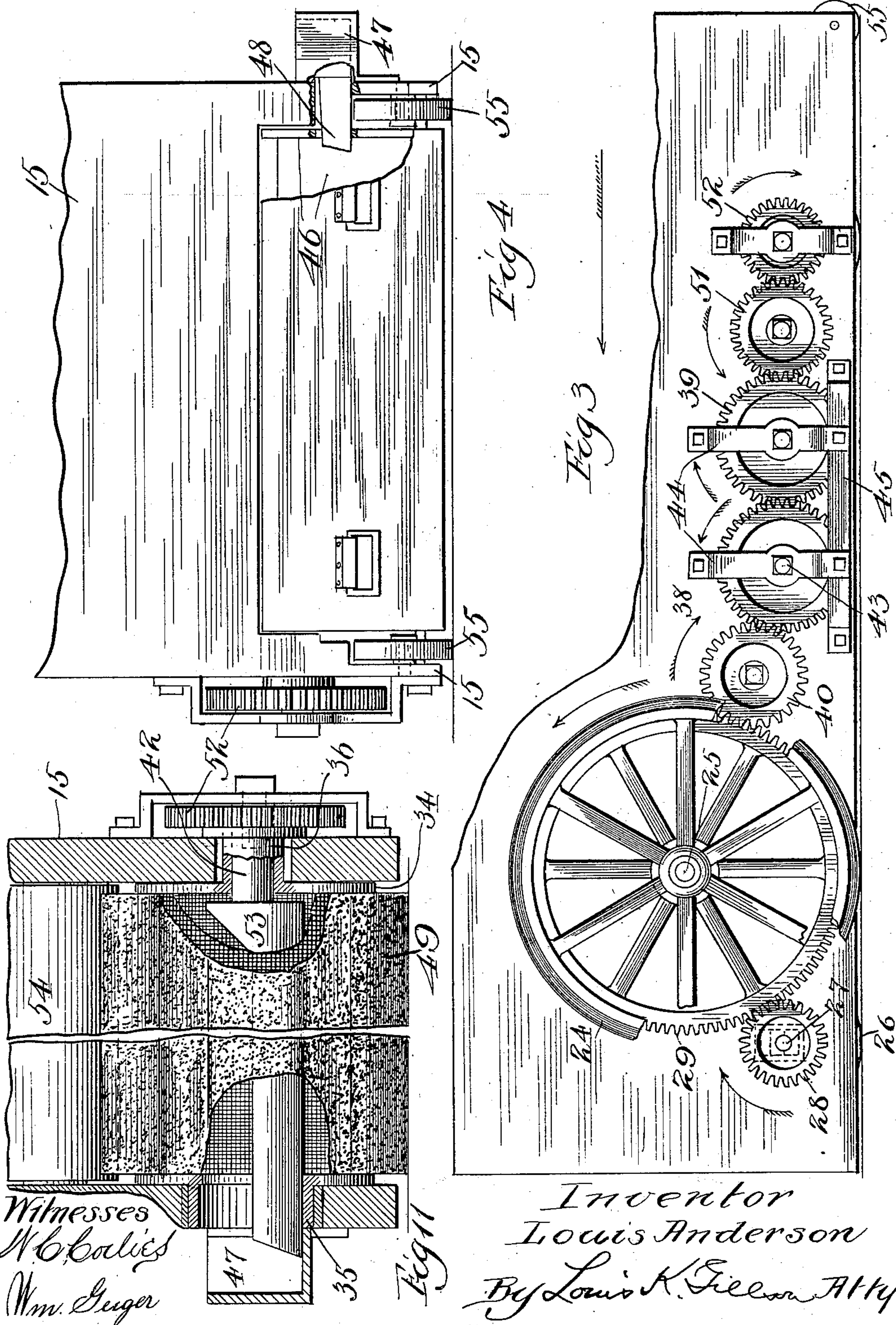
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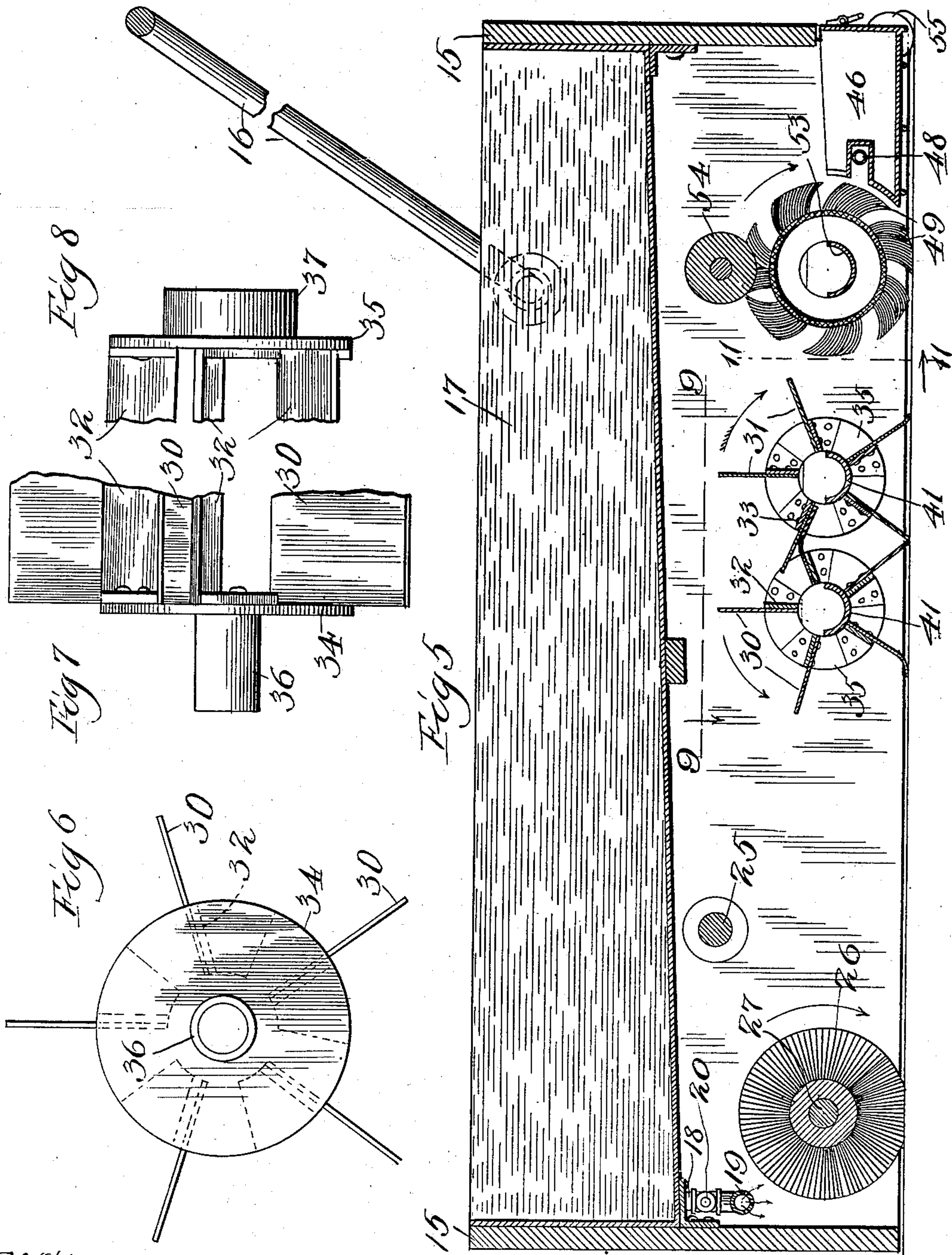
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Witnesses
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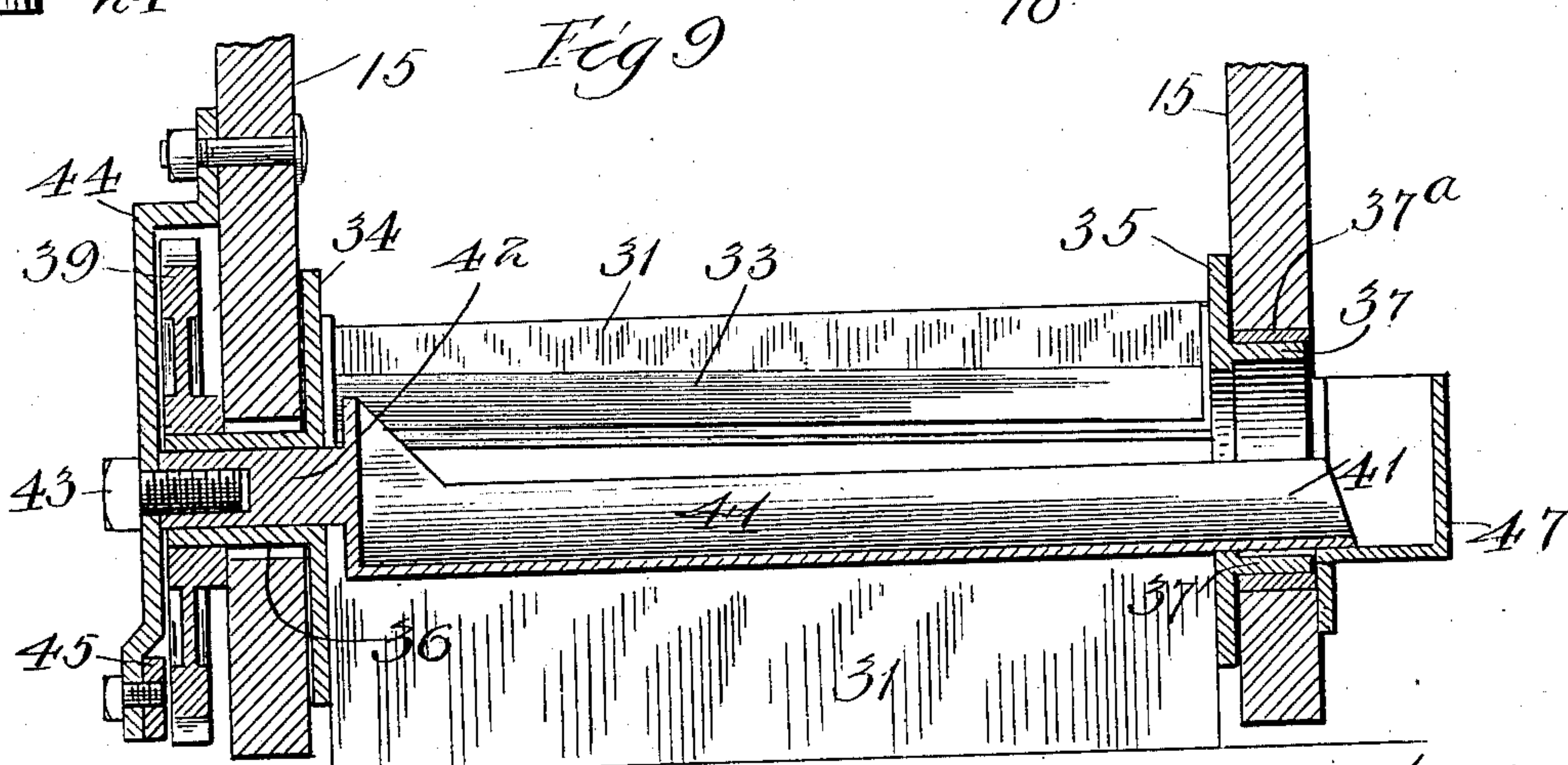
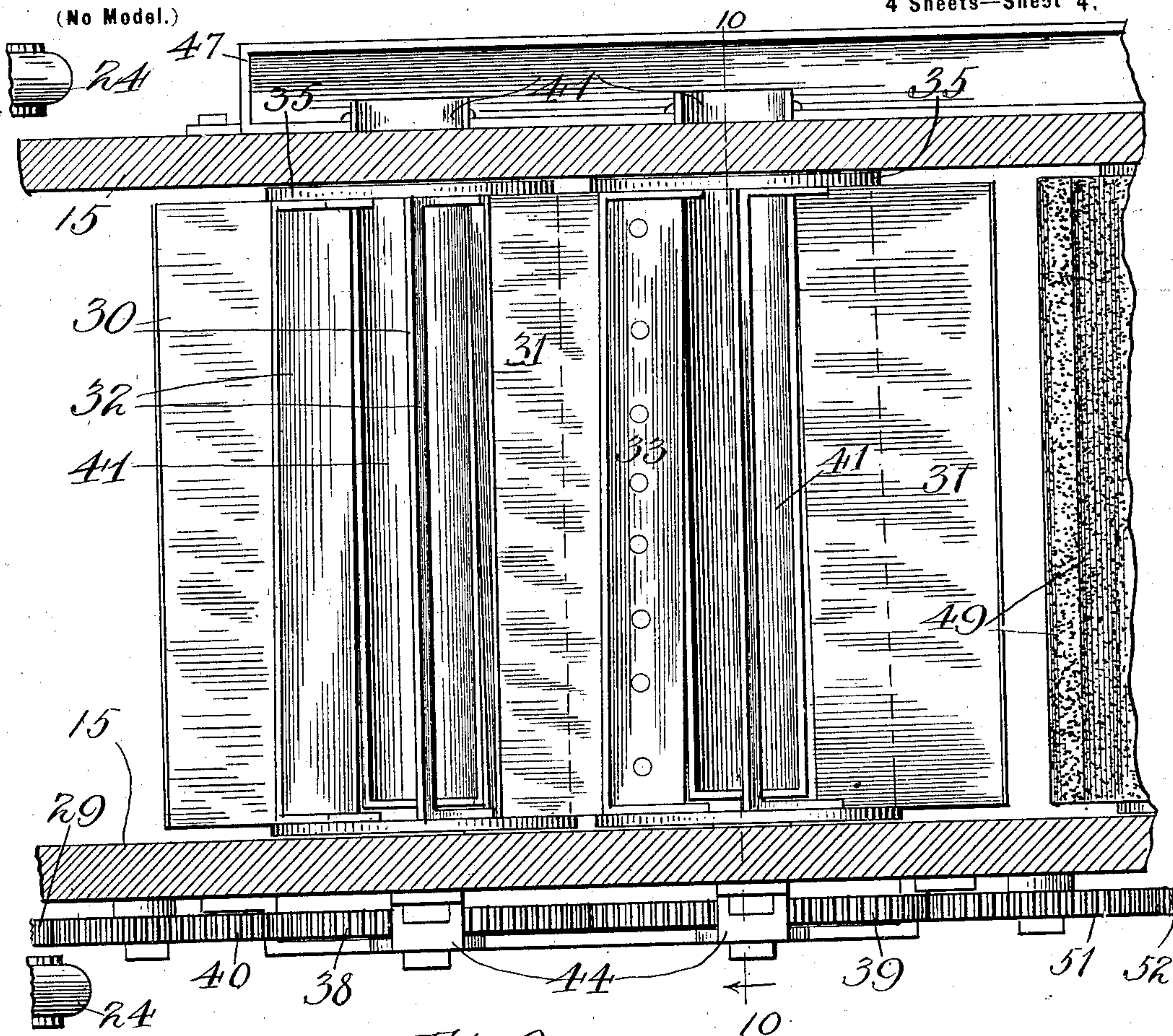
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4 Sheets—Sheet 4.

(No Model.)



Witnesses,
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Fig 10

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UNITED STATES PATENT OFFICE.

LOUIS ANDERSON, OF CHICAGO, ILLINOIS.

SCRUBBING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 654,932, dated July 31, 1900.

Application filed April 23, 1900. Serial No. 14,043. (No model.)

To all whom it may concern:

Be it known that I, LOUIS ANDERSON, a citizen of the United States, and a resident of Chicago, county of Cook, and State of Illinois, have invented certain new and useful Improvements in Scrubbing-Machines, of which the following is a specification, and which are illustrated in the accompanying drawings, forming a part thereof.

This invention relates to machines adapted for the scrubbing of floors, the machine being provided with a tank of water, a scrubbing-brush, and means for drying the floor after the scrubbing operation. Its object is to improve upon machines of this character, particularly with reference to the means for drying the floor; and it consists of the structure hereinafter described, and which is illustrated in the accompanying drawings, in which—

Figure 1 is a side elevation of the machine. Fig. 2 is a front elevation thereof. Fig. 3 is a detail elevation of the side of the machine opposite to that shown in Fig. 1. Fig. 4 is a rear elevation, some of the parts being broken away. Fig. 5 is a longitudinal section on the line 5 5 of Fig. 2. Fig. 6 is an end elevation of one of the wipers used in the machine. Figs. 7 and 8 are details of such wiper, some of the parts being removed in Fig. 8. Fig. 9 is a detail plan section on the line 9 9 of Fig. 5. Fig. 10 is a detail section on the line 10 10 of Fig. 9; and Fig. 11 is a detail section on the line 11 11 of Fig. 5, some of the parts being shown in elevation and some as broken away.

The frame 15 of the machine is oblong rectangular and may take the form of a box, open at the top and bottom, as shown. A handle 16 is provided by means of which the machine may be pushed by the operator.

Within the upper portion of the frame 15 there is located a water-tank 17, having at its forward end a discharge-pipe 18, provided with a valve 20 and leading to a cross-pipe 19, which is freely perforated to distribute the water upon the floor. The valve 20 is controlled by a hand-lever 21, pivoted to the frame 15 near its rearward end, so as to be within convenient reach of the operator, this lever being connected, by means of a rigid link 22, with the crank-arm 23, fixed upon the

valve-stem. A pair of wheels 24, fixed upon an axle 25, journaled across the frame of the machine, support the latter and provide the necessary traction. The scrubbing-brush 26 is in cylindrical form and mounted upon an axle 27 at the forward end of the machine and directly back of the water-distributing pipe 19. A gear-wheel 28, fixed upon a shaft 27, meshes with a gear-wheel 29, carried by one of the wheels 24, so that the brush 26 is turned in the reverse direction from that in which the traction-wheels 24 run as the machine advances.

The wipers for raising the water from the floor after the scrubbing operation consist of a pair of oppositely-rotative frames provided with flexible radial blades which bear forcibly upon the floor and overlap as they rise therefrom, each pair of blades, one blade of each frame, forming a trough or pocket by which the water is elevated. The flexible blades are shown at 30 31 and are secured to rigid blades 32 33, fixed to end plates 34 35, each of which has a tubular arbor projecting through the side walls of the frame 15. The arbors 36 of the end plates 34, one for each frame, carry the gear-wheels 38 39, which intermesh and are driven from the gear-wheel 29 by means of an intermediate pinion 40, so that the forward wiper turns in the same direction as the traction-wheels, while the rearward wiper turns in the opposite direction. The arbors 37 of the plates 35 have a bearing in a bushing 37^a, set in the side wall of the frame 15. The plates 32 and 33 are set out from the center sufficiently to provide space at the axis of each of the wiper-frames for a trough 41, one end of which projects through the arbor 37 and is supported thereby, the other end of the trough being provided with a stem 42, which projects through and forms a bearing for the arbor 36 and is secured by means of a screw-bolt 43, set through a bracket 44, secured at its upper end to the frame 15 and at its lower end to a cross-bar 45, having its ends offset and secured to the side wall of the frame 15.

A tank or receptacle 46 is located across the rearward end of the frame 15 and at the bottom thereof, and a trough 47, secured along the side of the frame, discharges to this tank through a connection 48, and into this trough

the troughs 41 discharge, so that water elevated by the blades 30 and 31 is discharged into the trough 41 as the blades pass above the horizontal and is conveyed thence through the trough 47 to the receptacle 46, the several troughs being given a sufficient pitch to secure the ready flow of water.

A drying-brush 49, cylindrical in form, is located back of the wipers, being journaled in the side walls of the frame and driven by means of an intermediate gear 51, meshing with the gear 39, and a pinion 52, carried by the axle of the brush 49. This drying-brush may be made of any absorbent material, and it is intended to take up the moisture left by the wipers. It is provided with a cylindrical or tubular frame, open so that water squeezed out of the absorbent material by a suitable wringer may find its way to the center and be received by a trough 53, located upon the axis of this brush-axle in the same manner as the troughs 41 are mounted and leading also to the trough 47. The wringer is in the form of a solid roller 54, mounted above, so as to impinge forcibly against the wiper and by compression force the water out of its absorbent material.

The rearward end of the machine is preferably supported on rollers 55 55, and in the present instance these rollers are shown as casters attached to the rearward end of the frame 15.

The scrubbing-brush 26 is preferably mounted in movable journal-blocks 56, each of which is forced downwardly by a spring 57, so that the brush is held against the floor with a yielding pressure.

In operation the machine is pushed over the floor, the valve 20 having been opened, and water is sprinkled upon the floor from the perforated pipe 19 directly in front of the scrubbing-brush 26. This brush is driven at considerably-greater speed than the traction-wheels, so that its contact with the floor produces a scrubbing action. The water is taken up by the wipers, so that the floor is simply left damp, and this moisture is taken up by the drying-brush.

I claim as my invention—

1. In a scrubbing-machine, in combination

with and carried by a suitable frame; a water-tank, a discharge-pipe therefor, a scrubbing-brush, a pair of oppositely-rotative wipers having flexible radial blades, and being mounted so that their respective blades overlap, a receptacle for receiving water raised by the wipers, a passage for conveying water from the wipers to the last-named receptacle and a traction-wheel for actuating the scrubber and wipers.

2. In a scrubbing-machine, in combination with and carried by a suitable frame; a water-tank, a discharge-pipe therefor, a rotary scrubbing-brush, a pair of oppositely-rotative wipers having flexible radial blades and being mounted so that their respective blades overlap, a rotary drying-brush, a wringing-roller bearing upon the drying-brush, a receptacle for water raised from the floor, a trough located within each of the wipers and within the drying-brush, connection between such troughs and the last-named receptacle, and a traction-wheel for actuating the scrubbing and drying brushes and the wipers, substantially as described.

3. In a floor-wiping device, in combination, a pair of oppositely-rotative skeleton frames having flexible radial blades and being so mounted that their respective blades overlap, and a trough located within each frame for receiving water raised by its blades.

4. In a floor-wiping device, in combination, a pair of oppositely-rotative frames having flexible radial blades, the blades of the two frames overlapping, and a receptacle into which water raised by the blades may drain.

5. In a floor-wiping device, a suitable carrying-frame; a pair of oppositely-rotative frames each comprising a pair of end plates having tubular arbors, rigid radial blades connecting the end plates, and flexible blades projecting from the rigid blades; and a stationary trough located within each of such rotative frames; the rotative frames being mounted so that their flexible blades overlap.

LOUIS ANDERSON.

Witnesses:

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E. M. KLATCHER.