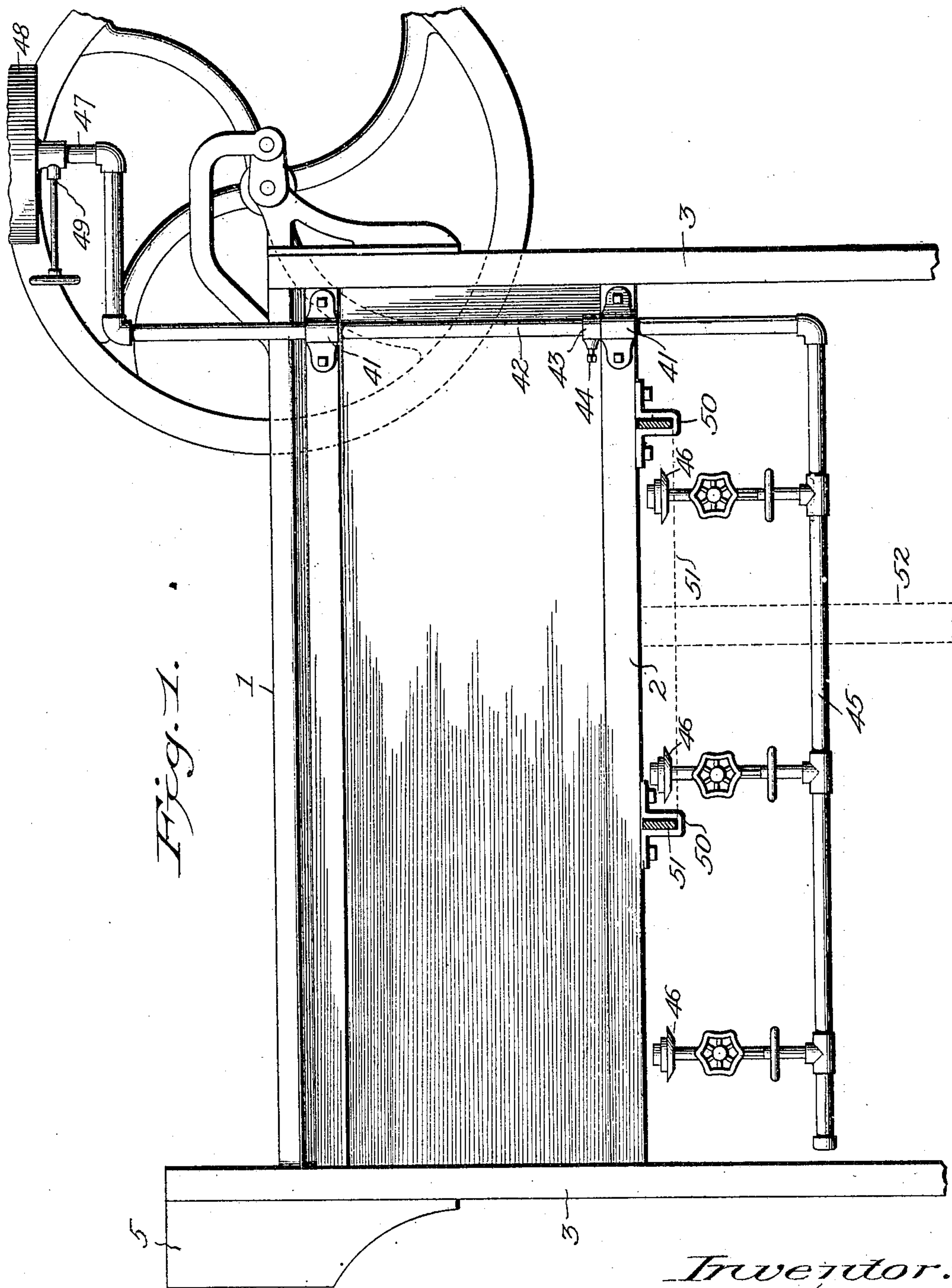


No. 830,876.

PATENTED SEPT. 11, 1906.

R. N. BRENT.  
WASHING MACHINE.  
APPLICATION FILED JULY 27, 1905.

4 SHEETS—SHEET 1.



Witnesses:  
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Adella M. Fowle

By

H. S. Bailey. Attorney.

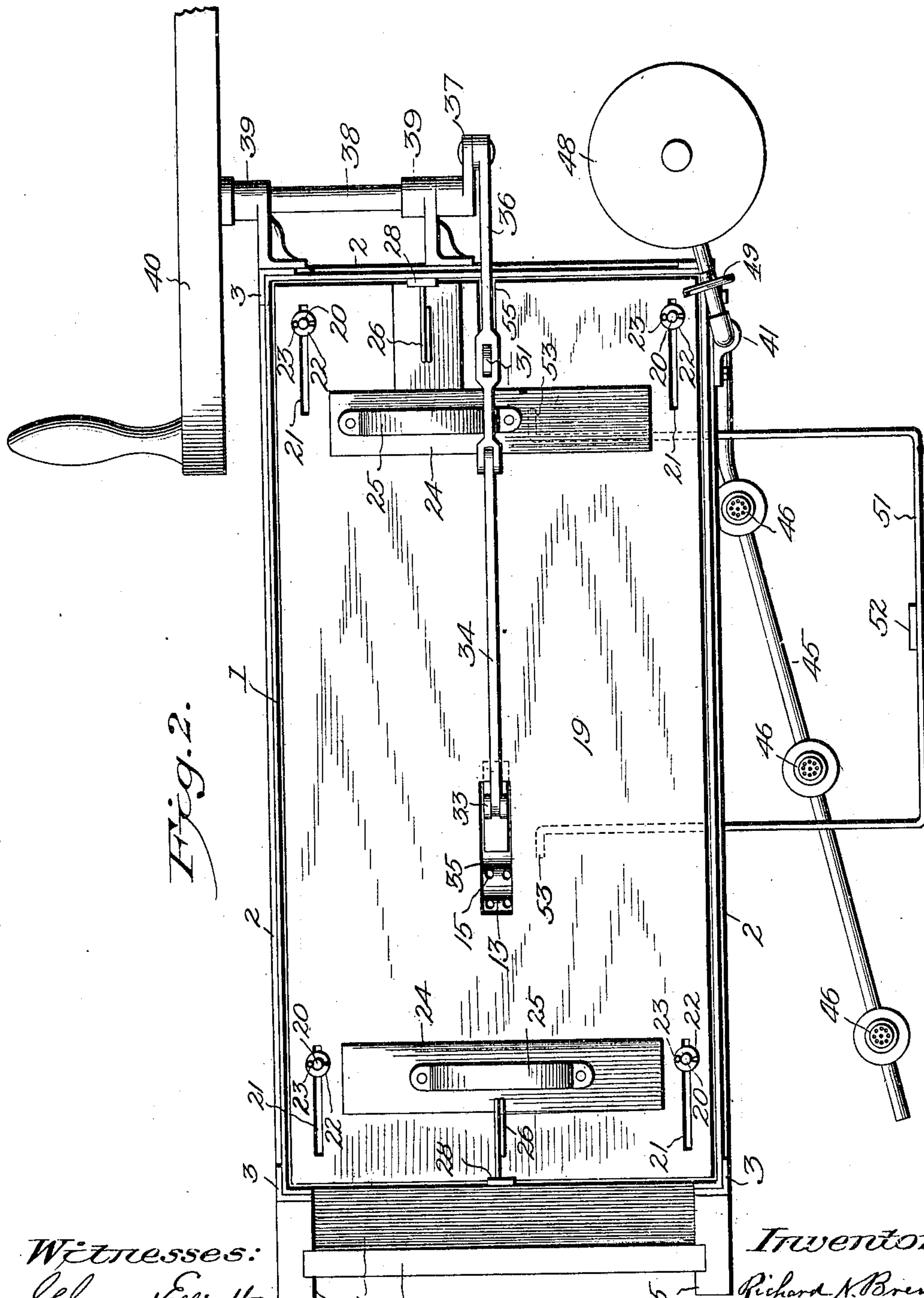
Inventor:  
Richard N. Brent.

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4 SHEETS—SHEET 2.



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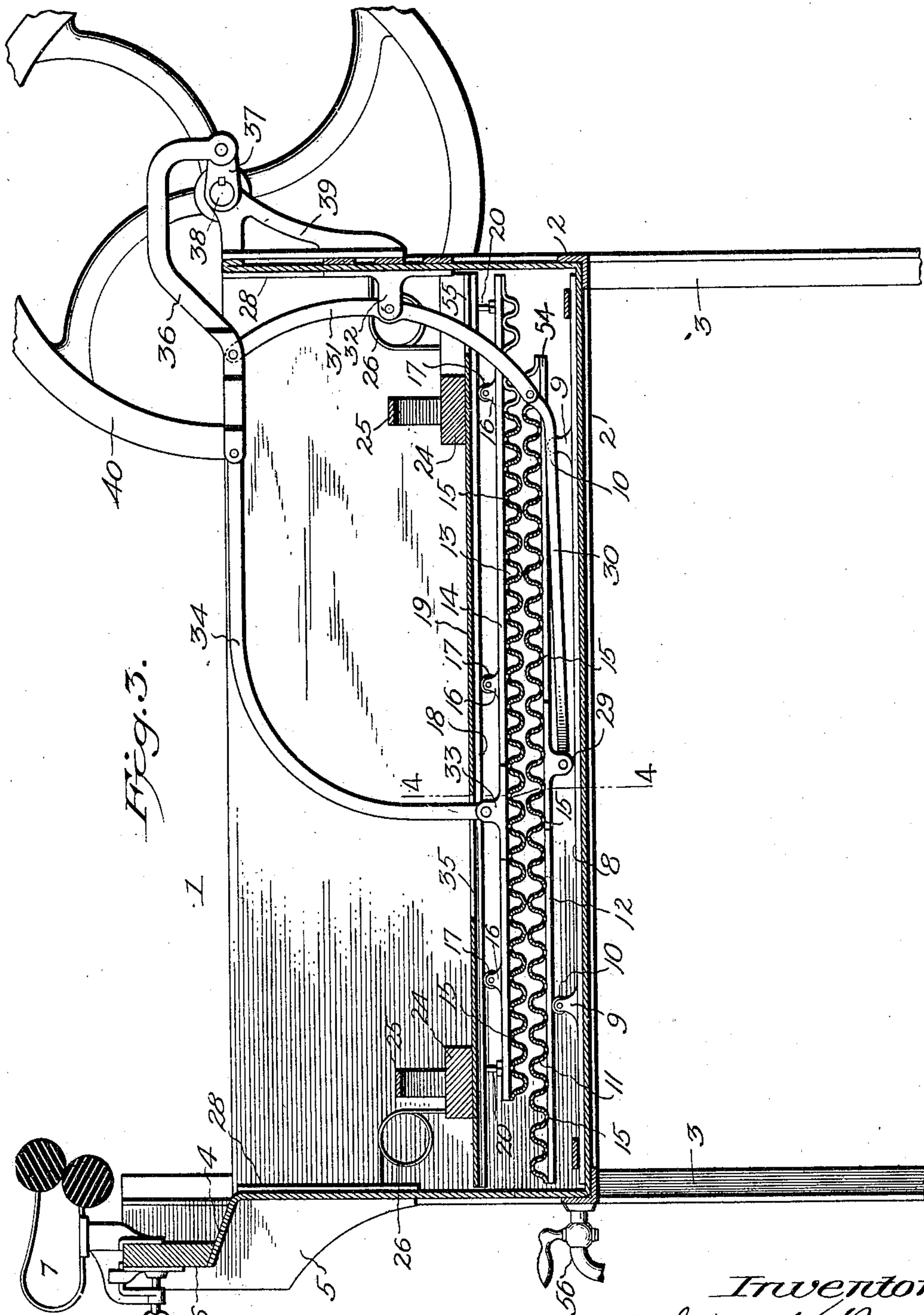
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4 SHEETS—SHEET 3.



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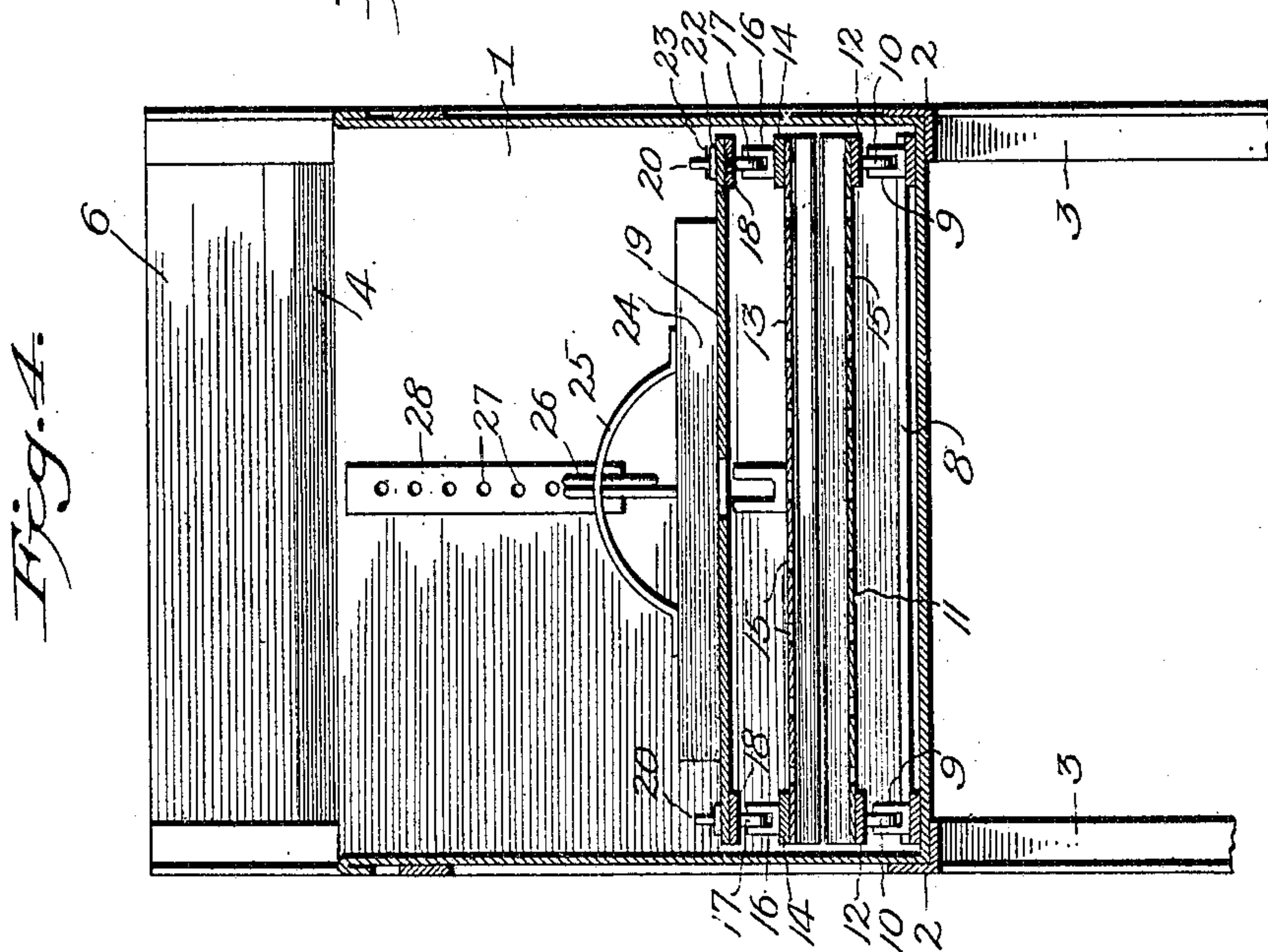
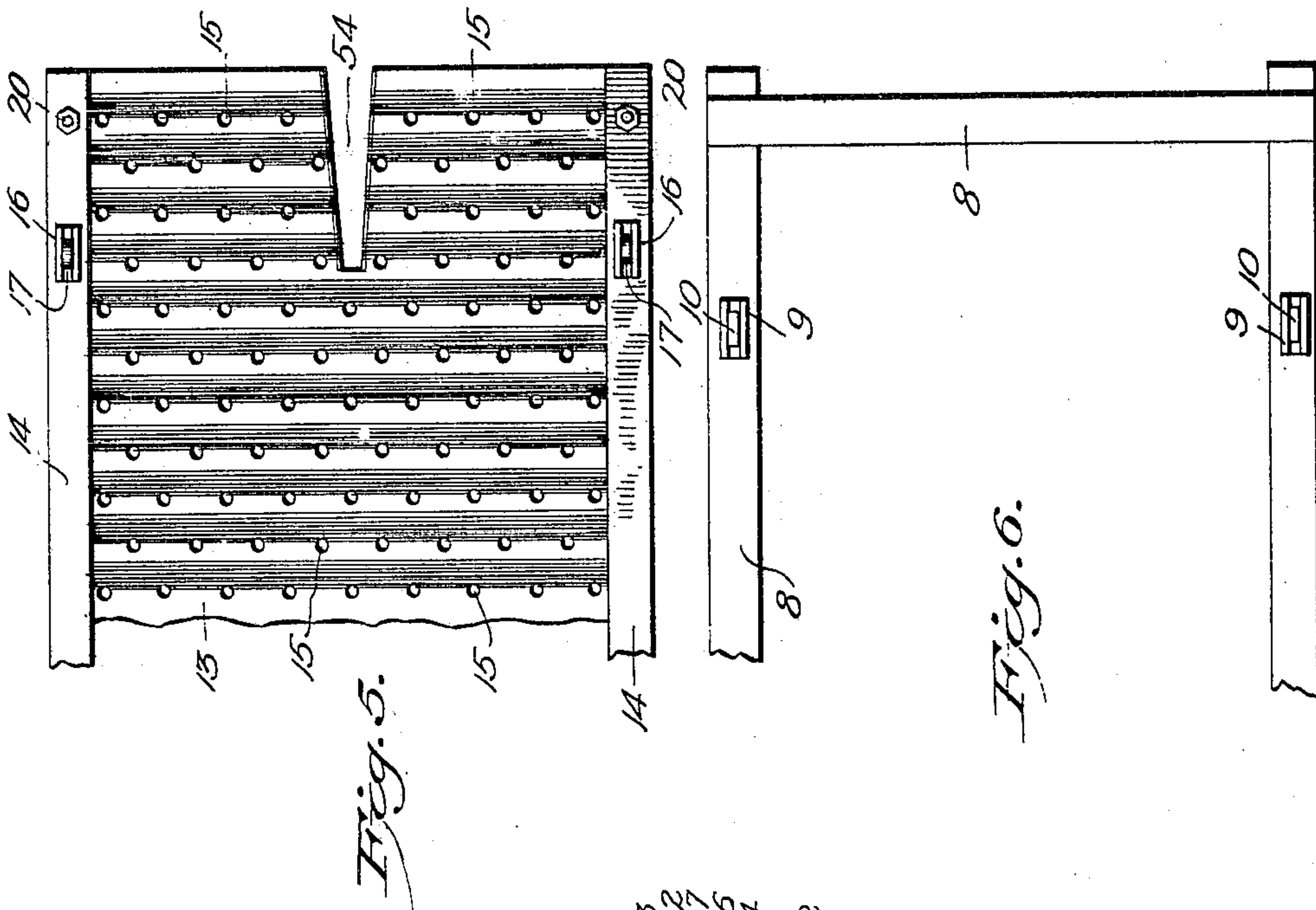
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4 SHEETS—SHEET 4.



*Witnesses:*

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*Inventor:*

*By Richard A. Brent.*

H. S. Bailey, Attorney.



# UNITED STATES PATENT OFFICE.

RICHARD N. BRENT, OF DELEQUA, COLORADO.

## WASHING-MACHINE.

No. 830,876.

Specification of Letters Patent.

Patented Sept. 11, 1906.

Application filed July 27, 1905. Serial No. 271,475.

*To all whom it may concern:*

Be it known that I, RICHARD N. BRENT, a citizen of the United States of America, residing at Delequa, county of Las Animas, and State of Colorado, have invented a new and useful Washing-Machine, of which the following is a specification.

This invention relates to improvements in washing-machines.

The object of the invention is to provide a suitable receptacle in which is arranged a pair of reciprocating rubbing-boards located one above the other, between which the articles to be washed are placed, said boards or rubbers being moved in opposite directions with respect to each other by arms, which are suitably connected with the crank of an operating-shaft.

A further object of the invention is to provide means for heating the wash water in the receptacle and for maintaining the temperature of the water at the desired degree, the said tub or receptacle also being provided with means for supporting an additional tub or receptacle.

I attain these various objects by the mechanism illustrated in the accompanying drawings, in which—

Figure 1 is a side elevation of the improved washing-machine, showing the water-heating means in position thereon. Fig. 2 is a plan view of the machine, showing a supporting-rack, which is attached to the under side of the machine, partly withdrawn, and the heater swung so as to lie beneath the same, the said rack being adapted to receive an ordinary clothes-boiler. Fig. 3 is a vertical longitudinal sectional view of the machine, an ordinary wringer being secured at one end thereof. Fig. 4 is a vertical transverse sectional view on the line 4 4 of Fig. 3, the operating-arm for the upper rubbing-board being omitted. Fig. 5 is a plan view of a portion of the upper rubbing-board, and Fig. 6 is a plan view of a portion of the frame which lies in the bottom of the tub and that carries rollers upon which the lower rubbing-board slides.

Similar numerals of reference refer to similar parts throughout the several drawings.

Referring to the accompanying drawings, the numeral 1 refers to the tub or receptacle, which is preferably rectangular in form and is constructed of sheet metal. The bottom edges of the tub are reinforced by angle-bars 2, and the tub is supported upon legs 3,

which are also preferably angle-bars and are secured upon the four corners of the tub. One of the ends of the tub extends a short distance above the sides and is bent out to form an inclined plane, as shown at 4. The upper portions of the legs at this end of the tub also extend above the sides, and brackets 5 are secured thereto, which support a transverse board 6, the lower edge of which rests upon and is secured to the inclined portion 4 of end of the tub. Upon the board 6 may be clamped a wringer 7 of any preferred type, and the water wrung from the various articles will be delivered again to the tub by the inclined plane 4. A metal frame 8 of substantially the same dimensions as the interior of the tub is placed in the tub and rests upon the bottom thereof. The side strips of this frame are each provided with a pair of bearings 9, which are so positioned that a bearing will be located near each end of the side rail and the bearings upon the two rails will be opposite. In these bearings are supported rollers 10, upon which rests the lower rubbing-board or rubber 11. This rubber consists of a sheet of corrugated metal, to the under side of which and along each side edge is soldered or otherwise secured a rigid metal strip or track 12, which tracks serve not only to stiffen the corrugated sheet, but rest upon the rollers 10 and slide thereon. The rubber is of substantially the same width as the tub, but several inches shorter, in order that it may have a longitudinal reciprocating movement therein. Above the rubber 11 is located a rubber 13, also consisting of a corrugated metal sheet to which is secured side strips 14, which in this instance are upon the top of the rubber.

The rubbers are formed with a plurality of perforations 15, as shown in Fig. 5, so as to permit the water to pass freely through them. The side strips 14 of the upper rubber 13 are provided with bearings 16, having rollers 17, preferably three on each side, and upon the rollers rest the tracks 18 of a cover 19. The strips 14 are also provided adjacent to their ends with bolts 20, which extend up through slots 21, which extend through the tracks 18 and the cover, washers 22 being placed upon the projecting ends of the bolts and split pins 23 passed through holes in the ends of the bolts to keep the tracks 18 in bearing contact with the rollers 17, so that the upper rubber may move freely beneath the cover and always parallel with it. The cover adjacent



to each end is provided with a batten 24, to which are secured handles 25, by which the cover and upper rubber may be lifted from the tub, and the cover may be resiliently held at the desired horizontal plane in the tub by springs 26, which are formed preferably into a single coil having extended ends which are at right angles to each other. One end of each of these springs is secured to the cover or to the batten, while each of the remaining ends extends horizontally into one of a series of holes 27, formed in strips 28, secured upon the ends of the tub.

The rubbers are reciprocated in the following manner: To the under side of the lower rubber and about centrally of its length and width is secured a lug 29, to which is pivotally attached one end of an arm 30, which extends substantially to the end of the rubbers and is pivotally attached to the lower end of a rock-arm 31, which is centrally pivoted to a lug 32, secured to the end of the tub. The upper rubber is also provided with a lug 33, to which is pivotally attached one end of an arm 34, which extends up through a slot 35 in the cover. This arm is bent to form a horizontal member, the end of which connects with a pitman 36, the opposite end of which connects with a crank 37 on a driving-shaft 38, which has bearings in brackets 39, secured to the end of the tub. A balance-wheel 40 is secured to the outer end of the driving-shaft, having a handle by which the wheel and shaft are turned. The upper end of the rock-arm 31 is pivotally attached to the pitman 36 near its connection with the arm 34, so that the rock-arm and arm 34 are operated by the pitman to effect the simultaneous but opposite movements of the rubbers, as will presently be shown.

Upon one side of the tub and adjacent to one of its ends are secured bearings 41, in which is loosely mounted a vertically-disposed tube or pipe 42, which extends a suitable distance above and below the top and bottom of the tub, the position of this tube being defined by a collar 43, which is clamped upon the tube by a set-screw 44, said collar resting upon the lower bearing 41. Upon the lower end of this tube is screwed an elbow, in the other end of which is screwed a horizontal tube 45, which is provided with a plurality of ordinary gasoline-burners 46. The upper end of the tube 42 has an elbow in which is screwed a short horizontal tube, having an elbow at its opposite end in which is screwed a nipple 47, which supports a gasoline-tank 48, having a cut-off valve 49. The tube 42 is adapted to turn freely in its bearings, so that the burners may be positioned beneath the tub or swing to one side, as shown in Fig. 2. Upon the under edge of the tub and on that side to which the tube 42 is hinged is secured a pair of guides 50, in which is supported so as to slide therein a substan-

tially U-shaped bracket 51, which is horizontally disposed and which is provided at its closed end with a leg 52, which rests against the floor. The ends of this bracket are bent at right angles, as shown at 53, to prevent the withdrawal of the bracket from the guides. When the bracket is drawn out, as shown in Fig. 2, an ordinary washboiler may be supported thereon and the burners may be swung around so as to lie beneath the boiler and so heat the water therein.

The operation of the improved washing-machine is as follows: The cover and upper rubber are lifted and turned up on end, the pivotal connection of the arm 34 with the rubber and with the pitman 36 permitting of this movement. The tub is filled to the required depth with soapy water, and the articles to be washed are placed upon the lower rubber. The upper rubber, with the cover, is then placed upon the wash articles, and the cover is secured in the manner previously described and as shown in Fig. 3. The operating-shaft is then revolved, and the crank 37 will cause the pitman 36 to reciprocate, which movement will also reciprocate the arm 34, and consequently the upper rubber, to which it is attached. The movement of the pitman will at the same time rock the arm 31, which will reciprocate the arm 30, as well as the lower rubber, to which the said arm is attached, but in an opposite direction to the upper rubber. The ends of the rubbers are slotted, as shown at 54, to permit of the movement of the lower end of the rock-arm, and the cover is also provided with a slot 55 for the same purpose. As the rubbers are reciprocated the articles placed between them will be thoroughly scoured, the water meantime passing freely through the perforations in the said rubbers. The rollers 10 and 17 will afford a smooth and even movement to the rubbers, and the springs 26 will hold the upper rubber upon the wash articles with a yielding pressure, which will permit the rubber to adjust itself to the uneven surface due to the bunching of the said articles. When the washing is completed, the water may be drawn off through a faucet 56.

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

1. In a washing-machine, a tub having a shaft journaled upon one end thereof, which has a balance-wheel on one of its ends and a crank on the other; a pitman attached to said crank and a rock-arm upon the end of the tub, the upper end of which connects with said pitman; a frame resting on the bottom of the tub having rollers thereon; a rubbing-board, comprising a corrugated, perforated metal sheet, faced upon its under side edges with strips forming tracks which rest upon said rollers; an arm pivoted to the



under side of the rubbing-board, and connecting with the lower end of the rock-arm; an upper rubbing-board similar to said lower board, having strips upon its upper side edges, provided with rollers; a cover, which rests upon said rollers; bolts secured to said board, which pass up through slots in said cover, and receive pins, which hold the cover upon the rollers but permit the free movement of the board, and an arm, one end of which connects with the pitman, while the other end passes through a slot in the cover and is pivotally attached to the upper board.

2. In a washing-machine, a rectangular tub, having a removable frame resting upon its bottom, which is provided with rollers; a perforated, corrugated, metal rubbing-board, having tracks which rest upon the rollers, and an arm pivoted to its under side; a perforated, corrugated, metal rubbing-board, above the first board, the side edges of which are faced with metal strips having rollers thereon; a cover, which rests upon

said rollers; springs which exert a downward, resilient pressure on said cover; and an arm pivoted to said upper board and extending up through a slot in the cover; brackets upon the end of the tub, having bearings therein; a driving-shaft in said bearing, having a crank on one end and a balance-wheel on the other end, provided with an operating-handle; a pitman connecting at one end with said crank and at the other end with the arm of the upper rubbing-board; a lug upon the end of the tub, and a rock-arm pivoted to said lug, one end of which connects with the arm of the lower rubbing-board, while the other end connects with the pitman.

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

RICHARD N. BRENT.

Witnesses:

JOHN COINT,  
PETER ZUVANICK.