

No. 621,612.

Patented Mar. 21, 1899.

J. M. MATTINGLY.

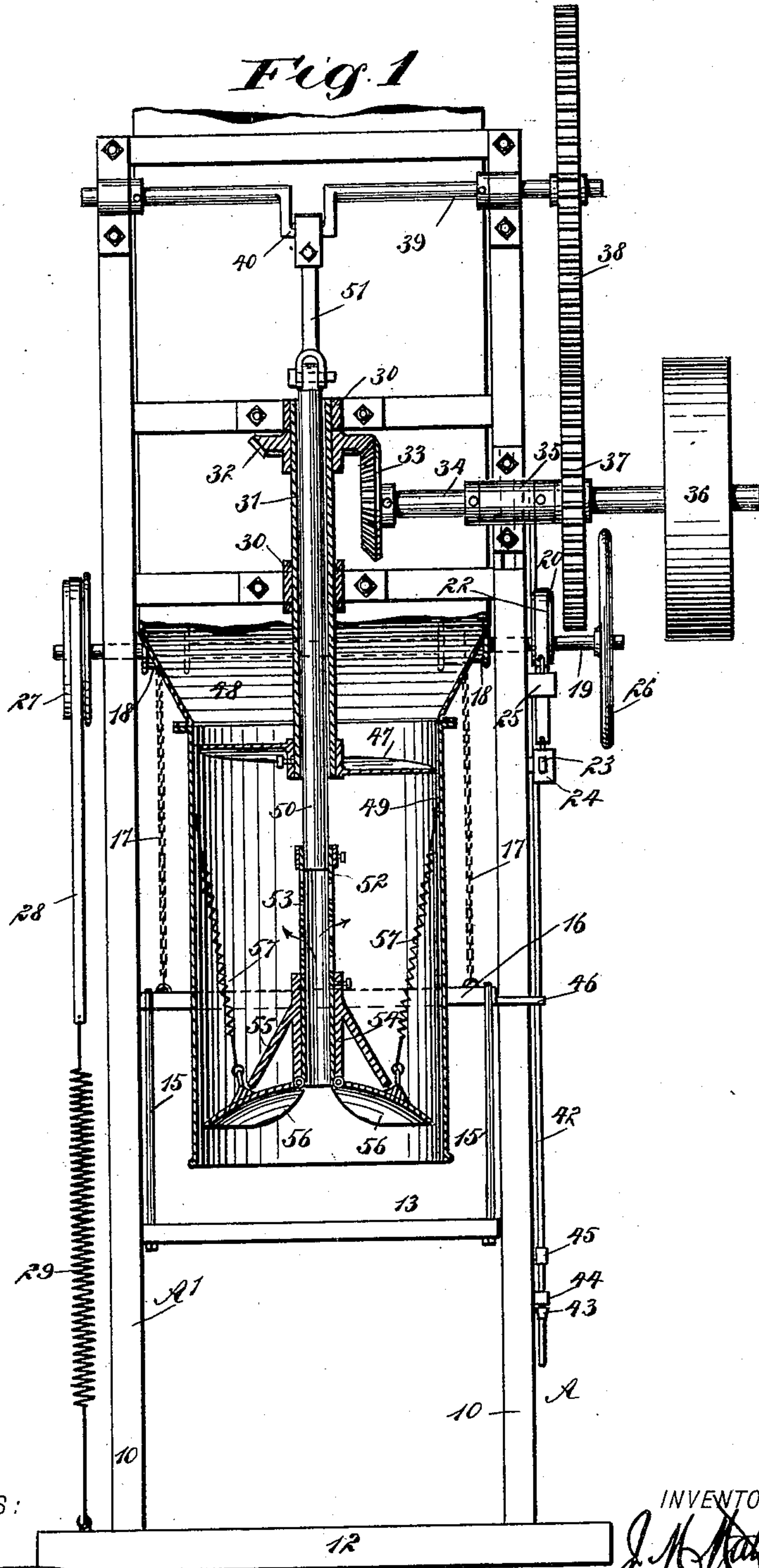
FLOUR PACKER.

(Application filed Mar. 25, 1898.)

(No Model.)

2 Sheets—Sheet 1.

Fig. 1



WITNESSES:

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(No Model.)

2 Sheets—Sheet 2.

Fig. 2

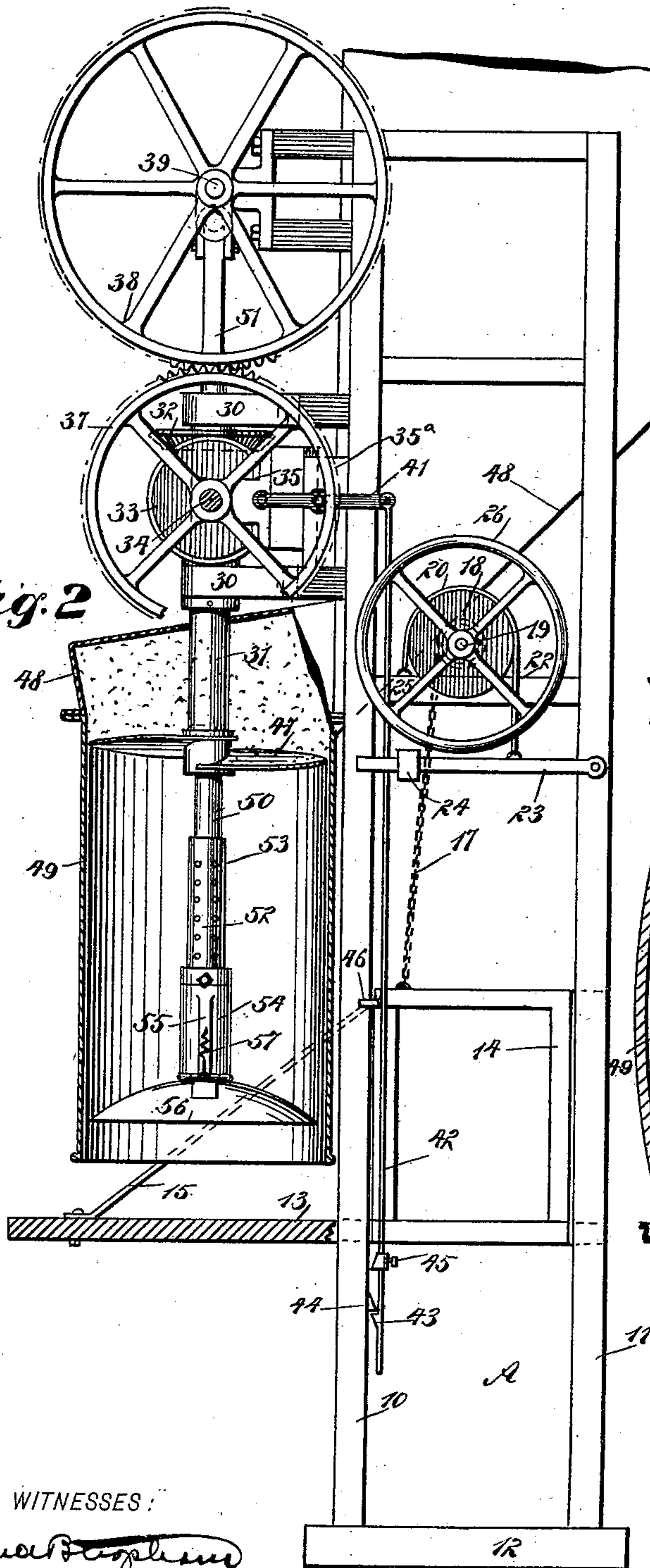
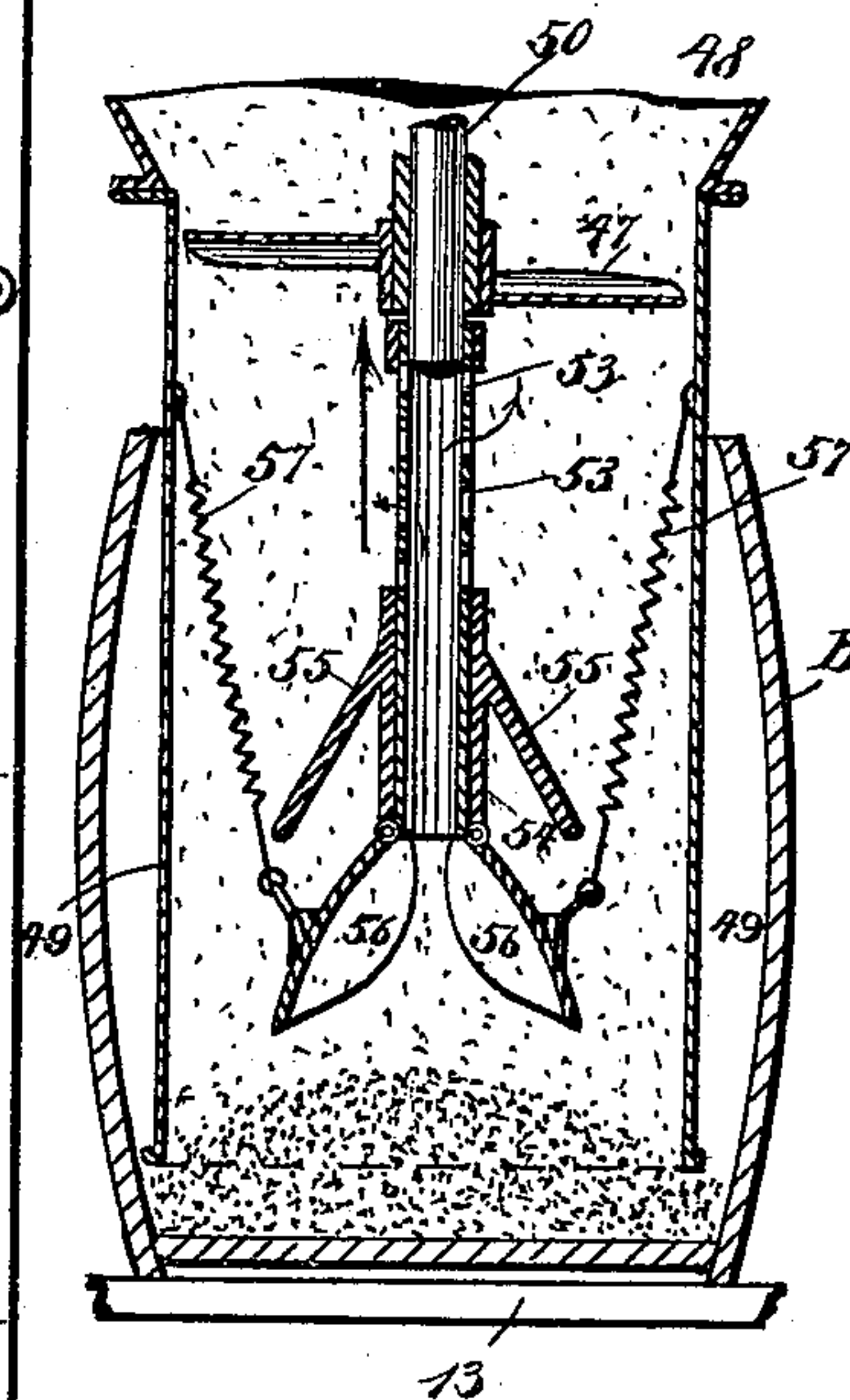


Fig. 3



WITNESSES:

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UNITED STATES PATENT OFFICE.

JAMES M. MATTINGLY, OF HARTFORD, KENTUCKY.

FLOUR-PACKER.

SPECIFICATION forming part of Letters Patent No. 621,612, dated March 21, 1899.

Application filed March 25, 1898. Serial No. 675,137. (No model.)

To all whom it may concern:

Be it known that I, JAMES M. MATTINGLY, of Hartford, in the county of Ohio and State of Kentucky, have invented a new and Improved Machine for Packing Flour, of which the following is a full, clear, and exact description.

The object of my invention is to provide a simple, durable, and economic machine for packing flour; and a further object of the invention is to so construct the machine that the grinding action upon the flour common to such machines will be reduced to a minimum and wherein when flour is delivered to the machine white and granular it will be packed in the same condition, whereas in the majority of machines for this purpose the continual grinding action pulverizes the flour, ruining its granulation, and rendering it blue, specky, and woolly.

The invention consists in the novel construction and combination of the several parts, as will be hereinafter fully set forth, and pointed out in the claims.

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

Figure 1 is a front elevation of the machine, the packing mechanism being shown in vertical section. Fig. 2 is a side elevation of the machine, the packing mechanism being shown in vertical section; and Fig. 3 is a detail view of the packing-cylinder, illustrating the packing-plates in their closed position, permitting the flour from the delivery-spout to enter the barrel to be packed, which barrel is shown also in vertical section.

The frame of the machine comprises mainly a base 12 and two side sections A and A' of suitable height, and each side section consists of a front and a rear upright 10 and 11, connected by suitable cross-bars, and proper cross-bars likewise connect the two side sections of the said frame. A platform 13 extends within the frame and beyond the front of the frame in a horizontal position, as shown in Figs. 1 and 2. That portion of the platform which is within the frame is provided with a superstructure 14, serving as a guide and practically a balance for the main platform

being connected by suitable braces 15. The front bar 16 of the superstructure of the platform has attached to it near each end a chain 17. These chains extend upward from the superstructure and are attached to drums 18, the said drums being attached to a shaft 19, journaled in the main frame and extending beyond both of its sides.

At the right-hand side of the shaft 19 a friction-disk 20 is secured, and a strap 22 is passed over the upper portion of this friction-disk, being attached at one end to the beam 23, between the ends of the said beam, and the opposite extremity of the strap 22 is attached to a fixed support 25 on the frame of the machine. A counterbalance-weight 24 is held to slide on the beam 23, and according to the position in which the weight 24 of the beam is set the movement of the platform downward under the weight of the flour in the barrel placed upon it will be controlled. Thus if the counterbalance-weight 24 is placed near the front end of the beam the friction exerted upon the wheel 20 will be such as to necessitate a great weight on the platform to carry it downward, and when the weight 24 is carried toward the center of the beam a lesser weight will operate the platform in its downward movement.

A hand-wheel 26 is secured at the right-hand end of the shaft 19, whereby the shaft may be operated by hand so as to raise the platform 13, and this platform is practically balanced by attaching a friction-wheel 27 to the left-hand end of the shaft 19 and securing to the peripheral portion of the wheel 27 one end of a strap 28, the wheel having a peripheral flange, and a weight or a spring 29 is attached to the lower end of the strap and to the base 12 of the frame, as shown best in Fig. 1.

Hangers 30 are projected horizontally from the forward central portion of the frame above the shaft 19, one hanger being below the other, and in these hangers a vertical tubular shaft 31 is mounted to revolve. The tubular shaft 31 carries a beveled gear 32 at its upper end, which meshes with a second beveled gear 33, secured upon a drive-shaft 34, mounted in bearings 35, which bearings, as illustrated in Fig. 2, are in their turn mounted in suitable slides 35^a. At the outer or left-hand end of the drive-shaft 34 a driving-pulley 36 is at-

5 attached, connected with any suitable source of power, and a gear 37 is likewise secured upon the drive-shaft 34, which meshes with a gear 38, secured upon a shaft 39, journaled in suitable bearings attached to the frame at a point above the upper end of the tubular shaft 31. The upper shaft 39 is provided with a crank-arm 40, preferably at its center. The vertical movement of the drive-shaft 34 is effected through the medium of a lever 41, (shown particularly in Fig. 2,) which lever is fulcrumed upon the slideway 35^a, being attached to the sliding bearing 35 at one end, and the opposite end of the lever 41 is pivotally connected with a rod 42, which rod is carried downward along the right-hand side of the frame to a point below the platform 13 when in its upper position. At the lower end of the rod 42 a projection 43 is formed, adapted for locking engagement with an extension or a lug 44, secured to the front standard 10 of the right-hand side member of the frame. An adjustable trip-block 45, having one of its surfaces inclined, is carried by the rod 42 at a point above the projection 43, and the trip-block 45 is adapted to be engaged by a projection 46 from the superstructure of the platform 13. Thus when the rod 42 is drawn downward and its projection 43 engages with the lug 44 on the frame the bearings for the drive-shaft 34 will be in such position as to insure driving connection between said shaft and the tubular shaft 31 and the crank-shaft 39.

35 When the barrel has received its proper quota of flour, the platform 13 will have been carried downward to such an extent that the projection 46 from the superstructure or guide for the platform will engage with the trip-block 45 on the bar 42 and force the bar outward from locking engagement with the lug 44 on the frame, whereupon the end of the lever 41 connected with the box of the drive-shaft will be forced downward by the weight of the said shaft and the drive-shaft will be disconnected from the tubular shaft 31 and the crank-shaft 39, immediately stopping the operation of the machine.

50 A feeder 47 is secured to the lower end of the tubular shaft 31, and this feeder is in the nature of a spiral disk, as shown in Fig. 2, or, in other words, the feeder 47 represents a complete blade of an auger, the upper extremity of the blade extending over the lower extremity. This feeder is located just beneath the hopper 48, into which the flour to be packed is placed, and within a packing-cylinder 49, attached to the lower end of the hopper 48, as shown particularly in Fig. 1. The packing-cylinder 49 is adapted to enter the barrel B to be packed, as shown in Fig. 3, and said packing-cylinder is open at its lower end. A shaft 50 has end movement in the tubular shaft 31. The upper end of the shaft 50 is connected by a pitman 51 with the crank-arm 40 of the crank-shaft 39. When the crank-arm 40 is in its lowest position, as shown in

Fig. 1, the lower end of the vertically-moving shaft 50 will be at a point below the lower end of the tubular shaft 31. A tubular extension 52 is attached to the lower end of the vertically-moving shaft 50, which shaft may be termed a "packing-shaft," and the tubular extension 52 is provided with a series of openings 53, adapted for the outward and inward passage of air. A sleeve 54 is secured at the lower end of the tubular extension of the packing-shaft and the sleeve is provided at opposite sides with diverging arms 55, and beneath each diverging arm a packing-plate 56 has a hinged connection with the lower end of the sleeve 54, as shown best in Figs. 1 and 3. These packing-plates 56 are cupped and are of segmental or semicircular form, and each packing-plate 56 is attached to the end of a spring 57, and these springs are carried upward and secured to the inner wall of the packing-cylinder 49, at a point near the top of the said cylinder.

In operation the barrel B is placed upon the platform 13 when it is in its lowest position. The platform is then raised by the manipulation of the shaft 19, the counterpoise-weight 24 having been set, and when the platform shall have reached its upper position the packing-cylinder will be near the bottom of the barrel, as shown in Fig. 3. The shifting-rod 42 is then drawn downward, and the projection 43 is brought in locking engagement with the lug 44 on the frame. The drive-shaft 34 will now be set in motion, the tubular shaft 31 will rotate, and the spiral or auger feeder 47 will conduct the flour from the hopper 48 into the packing-cylinder 49, and when the packing-shaft 50 is raised, as shown in Fig. 3, the packing-plates will practically fold together, permitting the flour to fall between the said plates and the wall of the packing-cylinder into proper position in the barrel. At the downward stroke of the packing-shaft 50 the packing-plates will move away from each other to the position shown in Fig. 1, being drawn to this position by the springs 57, and the upward movement of the packing-plates will be controlled by the plates striking the lower ends of the arms 55, as illustrated in Fig. 1. Thus upon the downward movement or thrust of the packing-shaft 50 the loose flour delivered to the barrel will be forced or packed downward, and the flour will have been delivered to the barrel and will have been packed without grinding it or interfering with its granulation, and by the construction above set forth it is evident that the flour will be packed in the barrel in the same condition in which it was delivered to the hopper 48. When the barrel has received its proper quota of flour, as heretofore stated, the platform will have reached such a low position that the trip 46 on the platform will act on the trip-block 45 and disengage the projection 43 from the lug 44 upon the frame and release the driving-shaft from

driving engagement with the crank-shaft and the feed-shaft or the shaft carrying the feeder 47.

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

1. In a packing-machine, the combination with the supply-chute and the packing-receptacle attached thereto, of a rotary feeder arranged at the junction of the supply-chute with the packing-receptacle, and the packing-plates having reciprocating movement in the packing-receptacle toward and from the said rotary feeder.

2. In a packing-machine, the combination with the supply-chute and the packing-receptacle attached thereto, of a hollow shaft, a rotary feeder secured upon said shaft at the junction of the supply-chute with the packing-receptacle, a rod or shaft mounted to reciprocate in said hollow shaft, and the packing-plates secured to said rod within the packing-receptacle.

3. In a packing-machine, the combination with a packing-receptacle, of a rod or shaft mounted to reciprocate therein, and packing-plates pivoted to said rod or shaft, said plates being cup-shaped or concaved on their opposing surfaces.

4. In a machine for packing flour, the combination, with a supply-chute, a receiving or packing receptacle attached to the supply-chute, and a feeder mounted to rotate within the said receptacle near its connection with the said chute, the said feeder consisting of a blade having the form of a single spiral, the ends of the spiral overlapping, of a shaft having end movement in the said receptacle, spring-controlled packing-plates having a hinged connection with the lower end of the said shaft, and means for limiting the upward movement of the packing-plates, substantially as described.

5. In a machine for packing flour, the com-

bination, with a supply-chute, a receiving or packing receptacle attached to the supply-chute, and a feeder mounted to rotate within the said receptacle near its connection with the said chute, the said feeder consisting of a blade having the form of a single spiral, the ends of the spiral overlapping, of a shaft having end movement in the said receptacle, the shaft being provided at its lower end with a tubular, apertured section, packing-plates of a cupped formation oppositely hinged to the lower end of the tubular section of the said shaft, springs attached to the packing-plates and to the said receptacle at a point above the plates, and arms projected from the tubular section of the shaft, and arranged to limit the upward movement of the said packing-plates, for the purpose specified.

6. In a machine for packing flour, the combination, with a frame, a platform held to slide in the said frame, a shaft having a windlass connection with the platform, a balance device for the platform connected with the said shaft, and a beam having a frictional engagement with the said shaft, of a supply-chute, a receiving or packing receptacle connected with the supply-chute and located over the platform, a feeder mounted to revolve within the said receptacle, packing-plates having vertical and lateral movement within said receptacle, a drive-shaft for communicating motion to the feeder and to the packing-plates, a sliding support for the said shaft, a trip-rod having lever connection with the sliding support of the drive-shaft, and a locking connection with the said frame, and means for releasing the trip-rod from locking connection with the frame upon the downward movement of the platform as specified.

JAMES M. MATTINGLY.

Witnesses:

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WILLIAM H. MOORE.