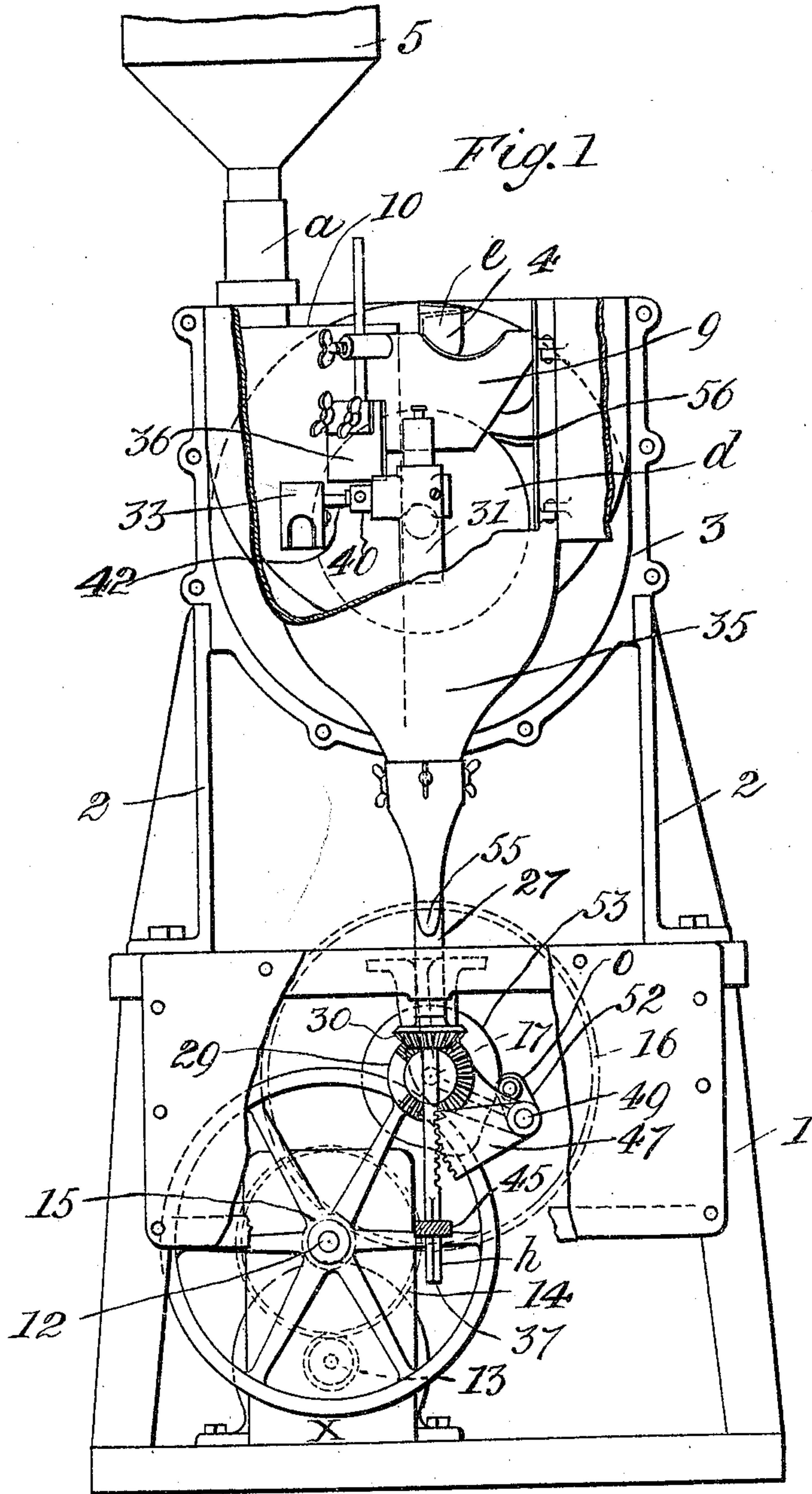


934,118.

Patented Sept. 14, 1909.
3 SHEETS—SHEET 1.



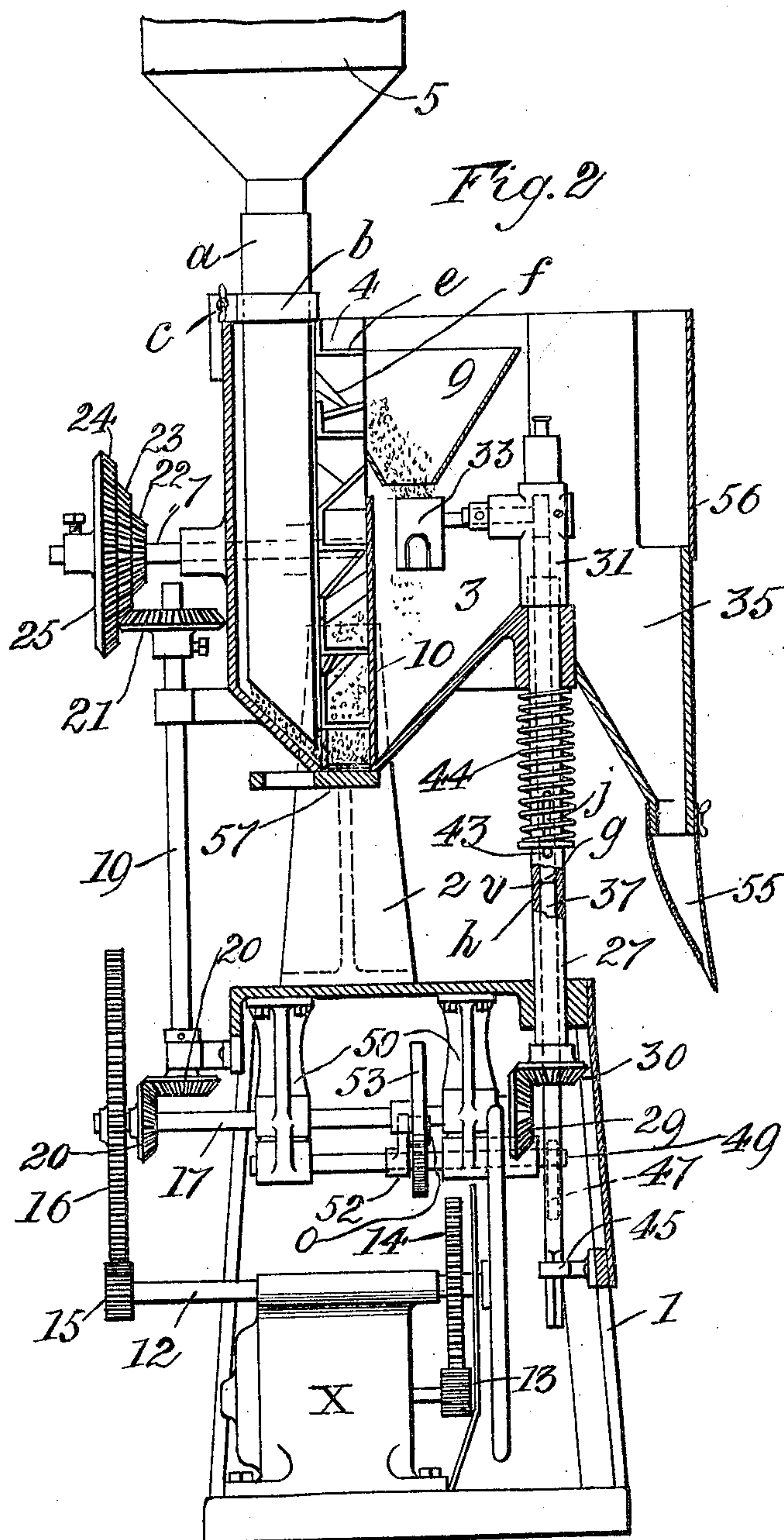
WITNESSES
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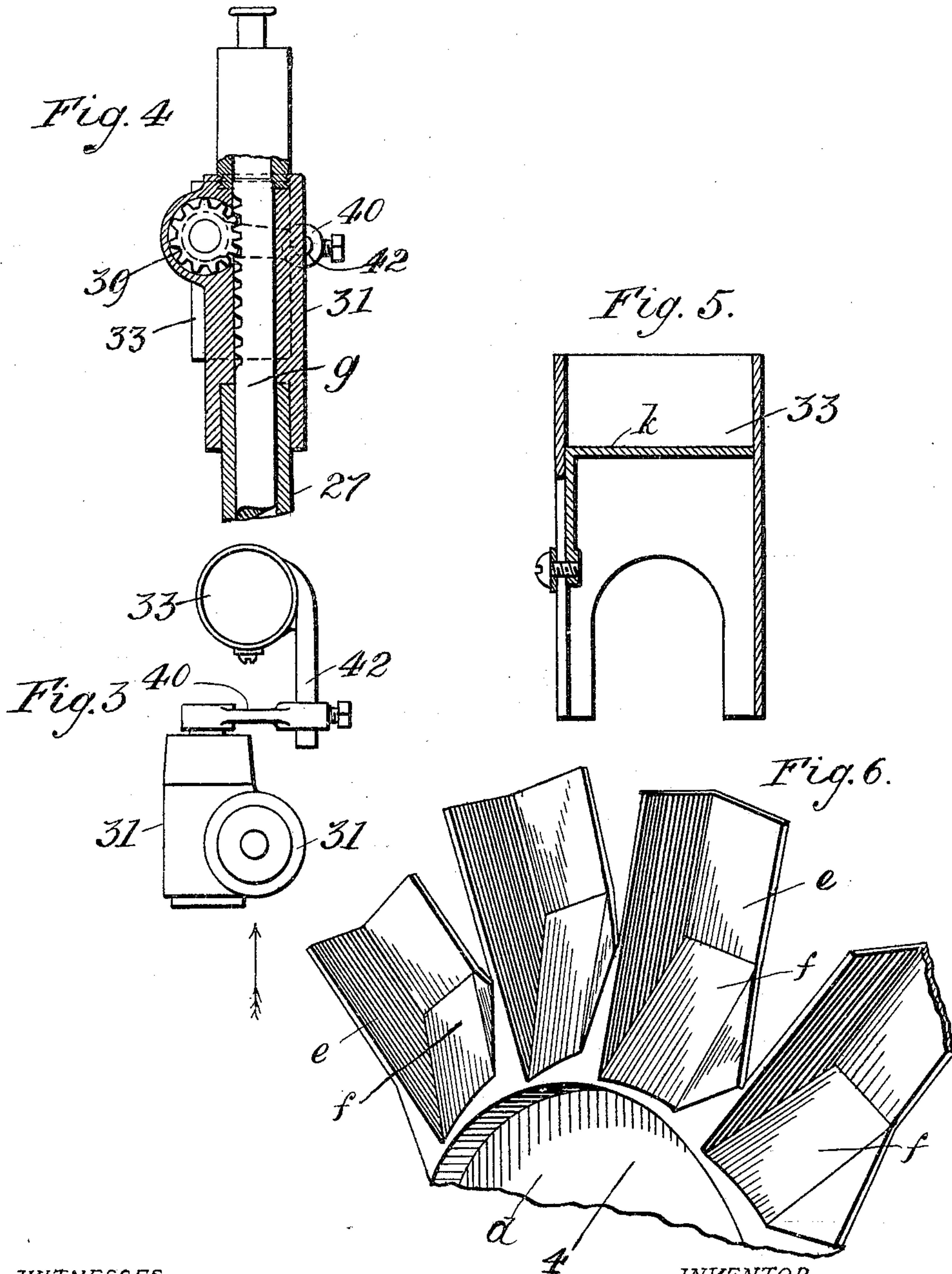
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UNITED STATES PATENT OFFICE.

FREDERICK W. WILD, JR., OF BALTIMORE, MARYLAND, ASSIGNOR TO BURT MACHINE COMPANY, A CORPORATION OF DELAWARE.

MACHINE FOR MEASURING AND PACKAGING SEEDS.

934,118.

Specification of Letters Patent. Patented Sept. 14, 1909.

Application filed May 23, 1908. Serial No. 434,448.

To all whom it may concern:

Be it known that I, FREDERICK W. WILD, Jr., of the city of Baltimore and the State of Maryland, have invented certain Improvements in Machines for Measuring and Packaging Seeds, of which the following is a specification.

In the description of the said invention which follows, reference is made to the accompanying drawings forming a part hereof, and in which,—

Figure 1 is an exterior front view of the machine, except that a portion thereof is broken away to show the interior. Fig. 2 is a side section of the machine. Fig. 3 is an enlarged top view of the seed measuring cup together with certain of the devices whereby it is made to revolve about an axial shaft, and be inverted during a portion of its revolution. Fig. 4 is a partly sectional view of Fig. 3 looking in the direction indicated by the arrow in that figure. Fig. 5 is a still further enlarged section of the measuring cup, illustrating the means whereby its holding capacity can be changed. Fig. 6 is a perspective view of a portion of a feed wheel forming a part of the machine.

Referring now to the drawings, 1 is the frame of the machine, and 2, 2 are stands erected on frame 1 to support the appliances whereby the seed is measured, and the measured quantity finally deposited into a chute over the delivery end of which a suitable envelop is held by hand to receive it, as hereinafter fully described.

3 is the seed receptacle or magazine which is supported directly by the stands 2, as shown in Fig. 1. The lower portion of the said magazine as seen from the front (Fig. 1) is semi-circular in order that a circular bucketed feed wheel 4 (hereinafter particularly described) may be rotated therein with its circumference nearly in contact with the inner surface of magazine; and the said portion as seen from the side, as in Fig. 2, is tapered toward the bottom. By this construction, the seed deposited in the magazine collects about the lower buckets of the feed wheel and in the rotation of the same are entirely filled with seed.

5 is a hopper into which seed in bulk is thrown, the same having a pipe *a* leading therefrom to the bottom of the magazine where it is shaped to correspond with the surface of the magazine at that point, as

shown in Fig. 2. The pipe *a* which supports the hopper, is adjustable in height so that the delivery of the seed therefrom to the magazine can be regulated to suit the character or size of the seed to be measured and packaged; and to this end, the pipe is held to the top of the magazine by means of the contractible ring *b* and a tightening screw *c*.

The bucketed feed wheel before briefly alluded to, consists of a disk *d* which is mounted on a rotary shaft 7 (see Fig. 2) having on its circumference the buckets *e* with inclined surfaces *f* within them. These inclined surfaces serve to direct the seed discharged from the buckets as they approach the top of the magazine, to an open-side funnel 9 which is attached to a vertical plate 10 projecting from the side of the magazine.

12 is the driving shaft of the machine, and it is shown in Fig. 2 as receiving its rotation from an electric motor X through the medium of the gear wheels 13 and 14 the latter being on the said shaft. The driving shaft 12 is also provided with a pinion 15 which is in mesh with the gear wheel 16 on the horizontal shaft 17, and the movement of the shaft 17 is communicated to the vertical shaft 19 by means of the miter gear wheels 20.

At the upper end of the shaft 19 is a beveled gear wheel 21 which can be meshed with any one of the beveled toothed faces 22, 23 and 24 of the wheel 25 which is adjustably fastened to the shaft 7 carrying the bucketed feed wheel.

The adjustment whereby the beveled gear wheel 21 can be made to engage with either one of the beveled faces 22, 23 and 24 is effected by merely loosening the said wheels 21 and 25 and moving them longitudinally of their respective shafts until the wheel 21 engages with the face required to give the desired speed of the bucketed feed wheel, and then tightening the wheels by means of the set screws in their hubs.

27 is a vertical shaft journaled in the frame 1, and also in the magazine 3, which receives its rotation from the shaft 17 through the medium of gear wheels 29 and 30; and at its upper end it is fitted with a head 31 to which the measuring cup 33 is attached in a manner hereinafter described. In the revolution of the measuring cup it passes under the funnel 9 and receives a charge of seed which is carried over a chute

35 into which it is dumped by the inversion of the cup in a manner hereinafter described.

It is desirable that the seed measuring cup 33 should rest or slow up for a short period 5 while under the funnel 9, to insure its being filled; and to obtain this stop, the gear wheel 29 is of the mutilated order, or devoid of teeth for a proper circumferential distance; and the space thus produced in the said wheel 10 is arranged to meet the wheel 30 at the time that the measuring cup is directly beneath the funnel 9.

36 is a scraper preferably of sheet rubber, suspended from the side of the funnel 9 15 under which the filled measuring cup passes. By means of this device any seed in the cup which projects above its edge, is swept off before the seed is dumped into the chute 35.

To effect the inversion of the measuring 20 cup so that it will dump its contents into the chute 35 and then right itself before again reaching the funnel 9 to receive another charge of the seed, the head 31 and the vertical shaft 27 are bored to receive the bar 25 37 in two parts *g* and *h* which parts meet at *v*. The upper part *g* of the bar 37 where it is contained within the head 31 is provided with rack teeth as shown in Fig. 4, and these teeth are in mesh with the teeth of a 30 pinion 39 inclosed within a cavity in communication with the bore of the head. The shaft of this pinion extends laterally through the head and to its end is fastened an arm 40 which is secured to the stem 42 carrying the seed measuring cup. The lower end of 35 the upper part *g* of the bar 37 is provided with a pin 43 which extends through a slot *j* in the hollow shaft 27, and upon the said shaft, and between the projecting ends of the 40 pin 43 and the under-side of the upper bearing for the shaft which is formed as a part of the magazine, is coiled a compressed spring 44. The effect of this coiled spring is to yieldingly hold down the part *g* of the 45 bar 37 in its lowest position and retain the measuring cup during the main portion of its revolution in its upright position shown in Figs. 1 and 2, wherein it is adapted to receive seed delivered from the funnel 9, and 50 carry the same to the chute 35 into which it is dumped by means of mechanism hereinafter described.

The lower end of the lower section *h* of the bar 37 is made polygonal and is guided 55 by a properly supported bracket 45, and it is consequently not susceptible to rotation; and at a point between the said bracket and the beveled gear wheel 30 it is provided with rack teeth similar to those of the upper section 60 *g*.

47 is a toothed sector on a horizontal shaft 49 supported by the brackets 50 which also support the shaft 17, the teeth of which sector are in mesh with the rack teeth of the 65 lower section *h* of the bar 37; and on the

shaft 49 is also an arm 52 carrying a roller *o* which bears against a cam 53 on the shaft 17.

The shape of the cam 53 is such that as the seed measuring cup in its revolution 70 reaches the chute 35, the bar 37 is suddenly lifted, the seed measuring cup inverted and its contents dumped into the chute. After the cup has discharged its measured quantity of seed to the chute 35, it is immediately 75 righted, and upon again passing under the funnel 9 receives another supply of seed.

The lower end of the chute 35 is provided with a nozzle 55 adapted to receive an envelop held over it by hand, during the 80 dumping operation of the machine.

56 is a hinged door in the front of the seed magazine to give access to its interior. In Fig. 1 the door is supposed to be open, the edge and the hinges only being shown. 85

57 is a sliding door which forms the bottom of the seed magazine 3, to be opened for the discharge of any seed left in the machine upon the completion of its operation.

The seed measuring cup 33 is extensible 90 and contractible in effective length to alter its capacity, by means of a movable bottom *k* held by a set screw which extends through a slot in the wall of the cup as shown in Fig. 5. 95

I claim as my invention,—

1. In a machine for measuring and packaging seed, a seed magazine, a funnel, and a rotary bucketed feed wheel adapted to elevate seed from the magazine and discharge 100 it into the funnel, combined with a chute, a seed-measuring cup with means whereby it is revolved in a horizontal plane and made to pass under the said funnel to receive seed from the same, and devices to invert the said 105 cup and thereby dump its contents into the chute, substantially as specified.

2. In a machine for measuring and packaging seed, a seed magazine, a funnel, and a bucketed feed wheel to elevate seed from the 110 magazine and discharge it into the funnel, combined with a chute, a revoluble seed measuring cup adapted to receive the seed from the funnel, mechanism whereby the said seed-measuring cup is inverted at the 115 time that it is above or over the chute, and a feed hopper with a delivery pipe leading therefrom to near the bottom of the magazine, the said pipe being adjustable in height 120 whereby the quantity of seed delivered from the hopper to the magazine may be varied, substantially as specified.

3. In a machine for measuring and packaging seed, a seed magazine, a funnel, a device to elevate seed from the magazine and 125 discharge it into the funnel, and a chute, combined with a measuring cup, devices whereby the said cup is revolved horizontally about an axis which is exterior of the said funnel and made to pause while under 130

the funnel to insure of its being filled with seed, and other mechanism to effect the inversion of the cup while the same is over the chute, substantially as specified.

5 4. In a machine for measuring and packaging seed, a frame, a seed magazine which is supported by the frame, a funnel, a feed wheel to elevate seed from the magazine and discharge it into the funnel, combined with a
10 chute, a revoluble seed measuring cup, mechanism whereby the seed measuring cup is revolved about an axis, other means to invert the cup when the same is above or over the said chute, and differential gear wheels to
15 drive the feed wheel, whereby the speed of the feed wheel with respect to that of revolution of the measuring cup about its axis can be varied, substantially as specified.

20 5. In a machine for measuring and packaging seed, a seed magazine, a horizontal rotary shaft carrying a bucketed wheel which is situated within the magazine and

adapted in its rotation to elevate and discharge the seed contained in the magazine, combined with a bevel gear wheel secured to 25 the shaft of the bucketed wheel and adapted for adjustment toward and from the said feed wheel, the said gear wheel having a multiplicity of toothed faces of different diameters, and a vertical driving shaft carry- 30 ing a bevel gear wheel having a single toothed face, which beveled gear wheel is adjustable longitudinally of the said shaft, whereby the teeth of the second wheel can be brought into mesh with the teeth of any 35 one of the toothed faces of the first wheel, to change the relative speeds of the bucketed feed wheel and the driving shaft, substantially as specified.

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Witnesses:

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