

C. H. DEMPSEY.  
WEIGHING MACHINE.

APPLICATION FILED JUNE 25, 1908.

Patented Feb. 9, 1909.

3 SHEETS—SHEET 1.

912,088.

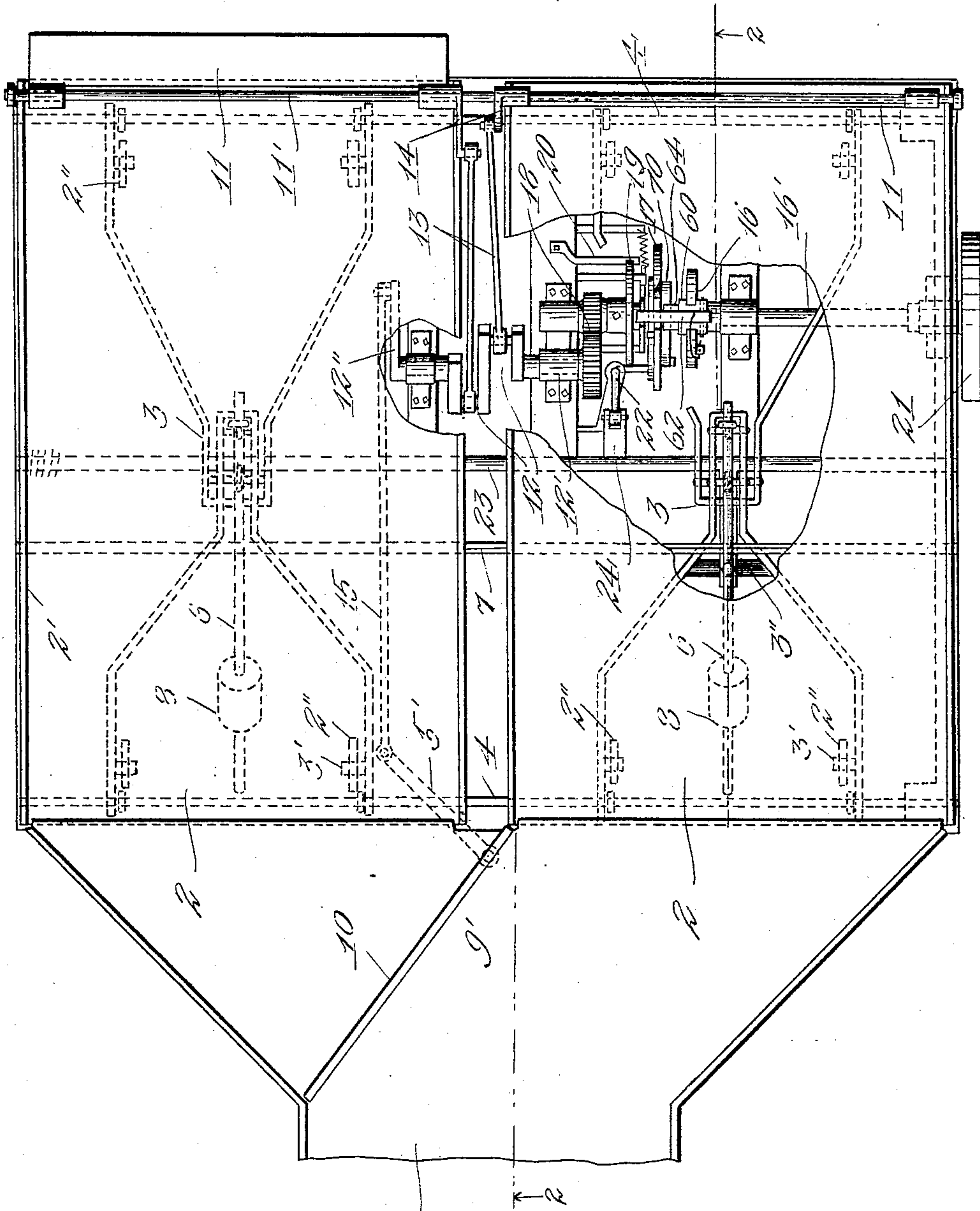


Fig. 1

Witnesses

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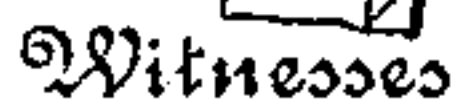
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3 SHEETS—SHEET 3.

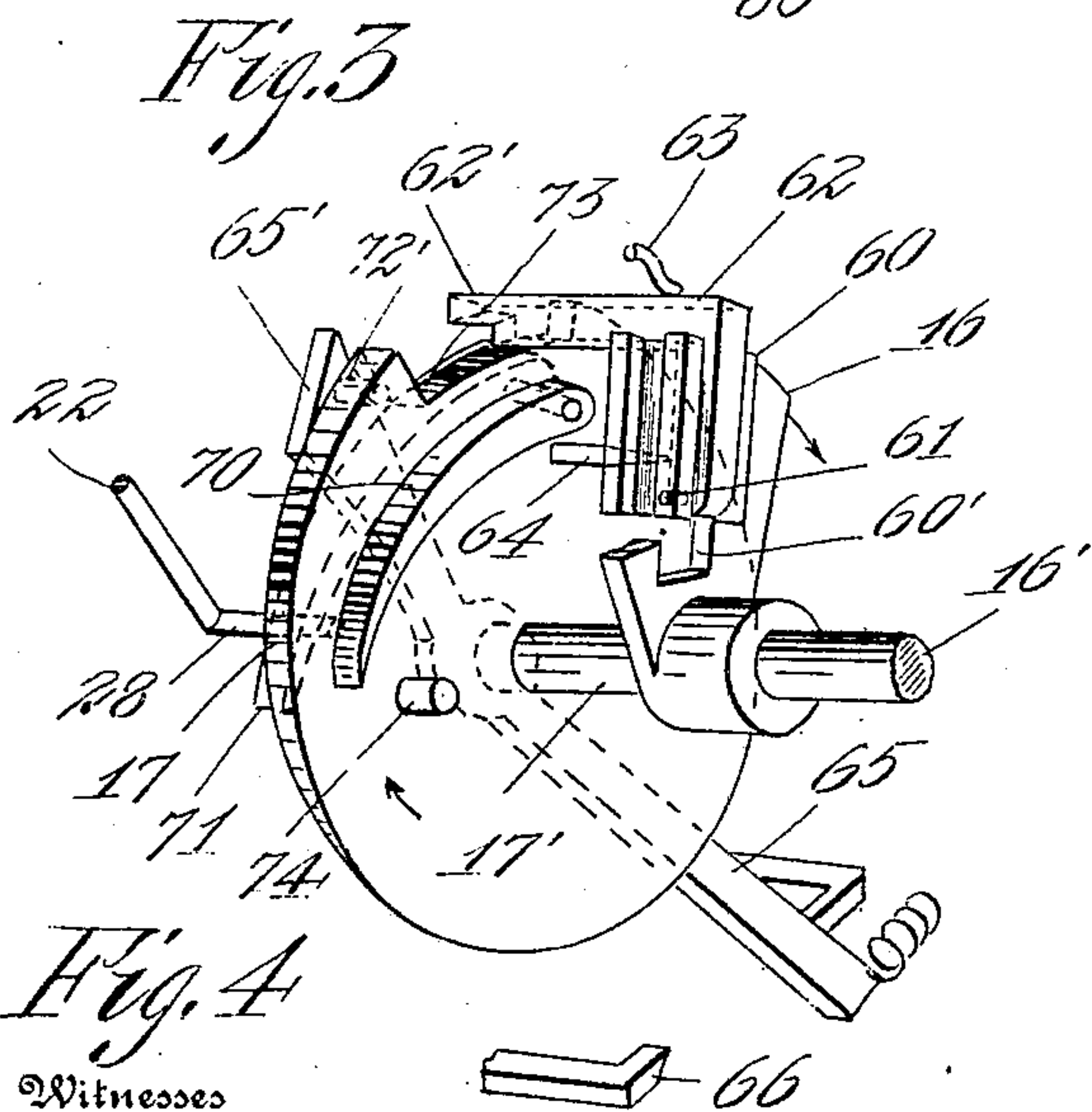
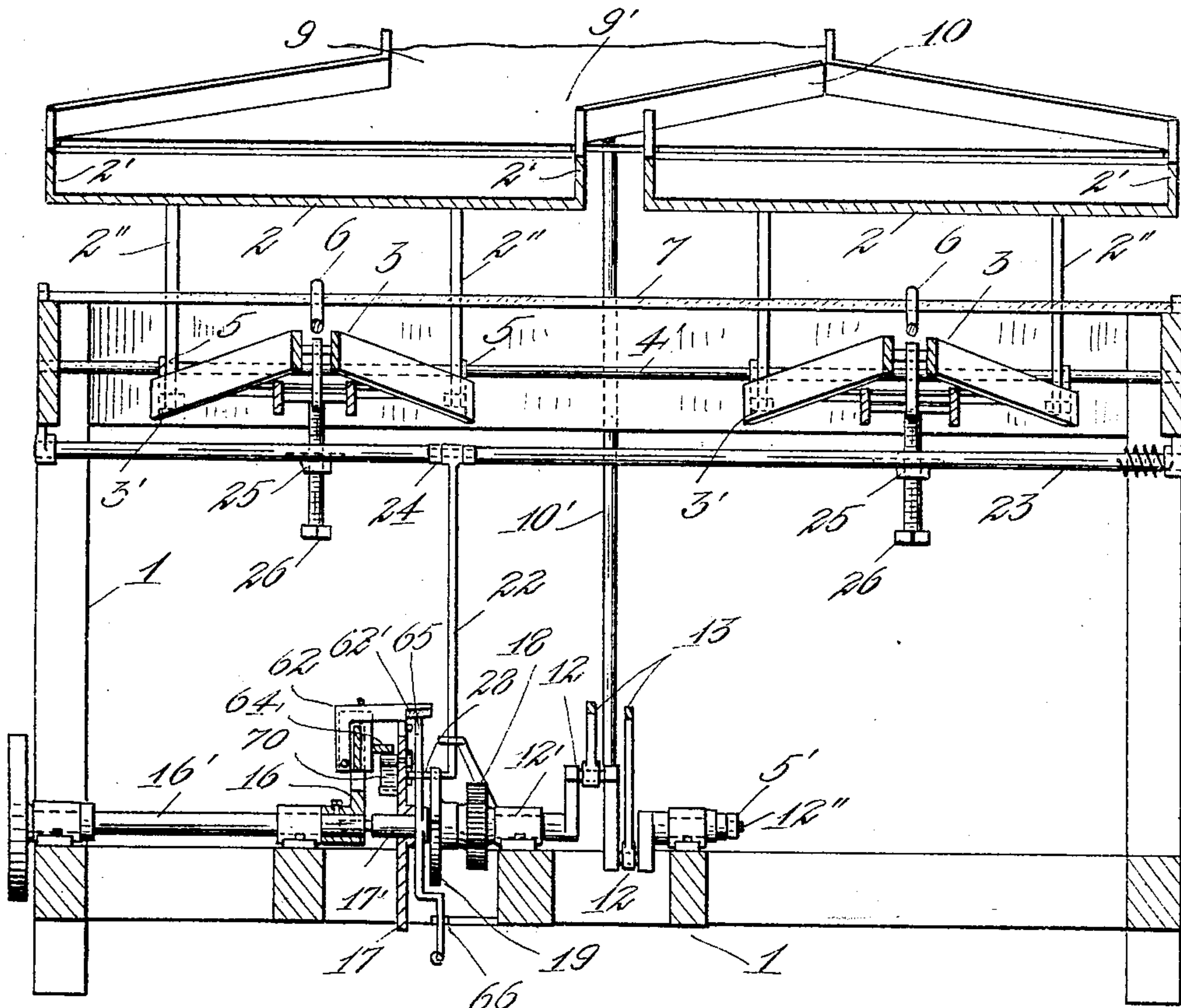


Fig. 4

Witnesses

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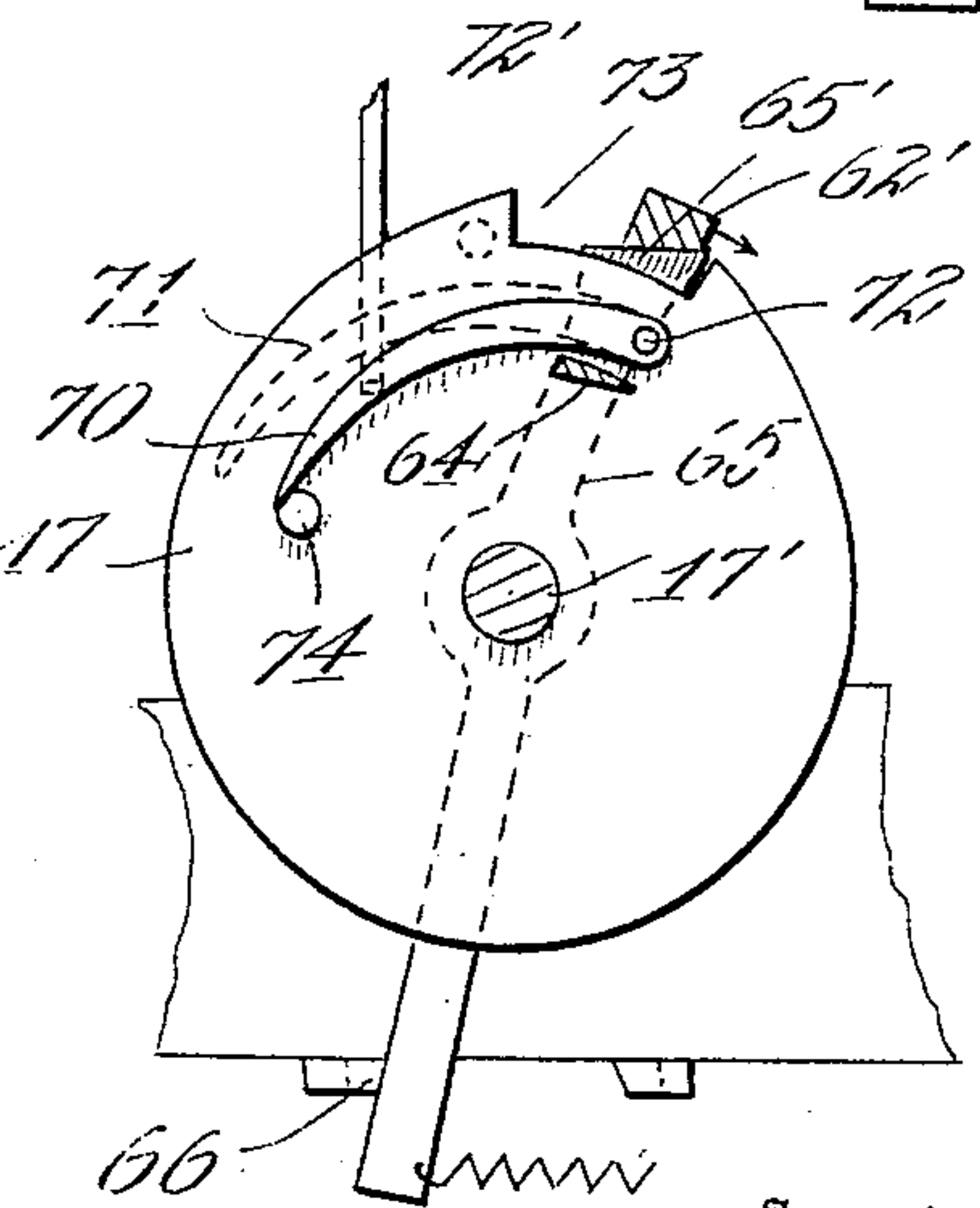


Fig. 5 C. H. Dempsey  
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# UNITED STATES PATENT OFFICE.

CHARLES H. DEMPSEY, OF RIVERSIDE, CALIFORNIA.

## WEIGHING-MACHINE.

No. 912,088.

Specification of Letters Patent.

Patented Feb. 9, 1909.

Application filed June 25, 1908. Serial No. 440,410.

*To all whom it may concern:*

Be it known that I, CHARLES H. DEMPSEY, a citizen of the United States of America, and a resident of the city of Riverside, in the county of Riverside and State of California, have invented certain new and useful Improvements in Weighing-Machines, of which the following is a specification.

This invention has particular reference to automatic weighing machines, and the primary object thereof is the provision of a simple and efficient apparatus whereby large quantities of oranges may be expeditiously and accurately weighed.

Further objects and advantages will be set forth as the description progresses and those features on which I desire protection defined in the appended claims.

With reference to the accompanying drawings, wherein similar reference numerals designate corresponding parts throughout, Figure 1, is a plan view illustrating my invention in such form as now preferred by me, portions of some of the parts being broken away. Fig. 2 is a longitudinal sectional view taken on line 2—2 of Fig. 1. Fig. 3 is a transverse sectional view on line 3—3 of Fig. 2. Fig. 4 is a fragmentary perspective view illustrating the releasable connection of the driving mechanism connected for active operation, and Fig. 5 is a fragmentary sectional view of said connection illustrating the relative positions of the parts in effecting a releasing operation.

Reference numeral 1 designates a suitable frame, and 2, 2 indicate receivers conveniently in the form of platforms having side wall 2' and yieldingly supported side by side for independent downward movement on suitable weighing mechanism, which, as shown, comprises articulated beams as 3, suspended from rods 4 of said frame by link 5 and connected with respective counterbalancing levers 6 fulcrumed on frame bar 7 and having screw threaded engagement with weights 8. The receivers 2 are suitably inclined endwise to effect discharge of the oranges by gravity and for this purpose legs 2'' of proper length are provided on the receivers and bear on respective lugs 3' of beams 3.

At the upper ends of receivers 2 I have shown an inclined feed way or trough 9 having a flaring delivery end portion 9' common to both receivers and provided with a feed regulator in the form of a deflector 10

which is secured to a vertical rock shaft 10' for angular adjustment to direct the feed to the receivers alternately.

At the lower ends of the receivers are gates 11 which are adapted to the same against discharge as the oranges are directed thereto. These gates are swingably suspended on a rod 11 of frame 1 for opening and closing movements and in connection therewith I provide means for effecting such movements correlatively with the adjustment of deflector 10 so that one receiver will be closed and have the feed directed thereto while the other receiver is open and the contents discharging.

While the aforesaid operation of the feed controlling and discharging means may be otherwise effected I preferably provide for this purpose a crank mechanism including oppositely disposed cranks 12 secured to a shaft 12' journaled on frame 1 and connected by rods 13 with respective rock arms 14 secured to gates 11. This shaft is furthermore provided with a crank 12'' which is connected by means of a rod 15 with an arm 5' of shaft 10' to adjust deflector 10 simultaneously with the gates to cut off the feed to the receiver whose gate is opened.

The relative proportions of the crank mechanism just described is such that the deflector and gates may be adjusted from one position of set to the other by giving shaft 12' a half turn, consequently a subsequent adjustment of said parts may be effected by completing the rotation of the shaft.

To effect automatic operation of the controlling means I preferably employ a driving mechanism embodying a releasable connection such as particularly described and claimed in an application for patent signed by me on even date herewith and bearing Serial No. 440,409. The said connection includes companion carriers as an arm 16 and a disk 17 secured to independently rotatable shaft sections as 16' and 17' respectively journaled on frame 1. Section 17' I have shown connected by means of suitable movement reducing gearing 18 with shaft 12' to drive the latter at a relative ratio of one half to one.

Associated with section 17' is a catch contrivance comprising a disk 19 secured to said section, and a relatively fixed catch 20 in the form of a spring bar normally engaging in a peripheral notch of the disk to secure the



feed controlling mechanism in either position of set.

Secured to shaft section 16' is a pulley 21 for the application of power to impart continuous rotary movement thereto, and related to both of the weighing mechanisms I provide a shipper mechanism including a rod 22 which is adapted to set the releasable connection intermittently to operate the feed controlling means as will later be understood.

At opposite sides of carrier 17 are curved arms 70 and 71 which are secured at their rear ends to a common pivot 72 journaled in said carrier adjacent the rear end of a peripheral notch 73 thereof. These arms have their outward movement limited by a lug 72' of carrier 17.

Mounted on carrier 16 in slidable engagement with the edge walls of a radially disposed slot 60' thereof is a head 60 having pivotal engagement, as at 61, with one end of an L-shaped catch 62 which projects across the edge of carrier 17. Engaged with catch 62 is a spring 63 arranged to press inwardly upon the same directly over the head 60.

Secured to head 60 is a shoe 64 adapted during inactive operation of the connection to ride upon arm 70 to carry catch 60 clear of notch 73—the said arm normally resting by gravity with its free end lying within the sweep of said shoe upon a lug 74 of carrier 17.

Related to catch 62 is a spring pressed trip 65 swingably supported on shaft section 17' and normally lying adjacent the forward edge of notch 73 with its upper beveled end portion 65' in the path of a beveled end portion 62' of catch 62 when the latter is engaged in said notch. The movement of trip 65 with catch 62 is limited by a relatively fixed stop 66 which serves to retain the trip so that the catch will be forced outwardly to disengage it from notch 73 at the end of a complete revolution of carrier 17 as indicated in Fig. 5.

Shipper rod 22 as shown, has pivotal connection with an arm 24 of a spring retracted rock shaft 23 journaled on frame 1 beneath the weighing mechanism and provided with arms 25 projecting in an opposite direction to arm 24. Engaged with arms 25 are screws 26 adapted for contact with respective brackets 3'' of the beams 3 for downward movement to turn shaft 23 and thereby elevate rod 22 when either one of said beams is depressed. Rod 22 has slidable engagement with a bracket 27 of frame 1 and is provided with a laterally projecting termination 28 adapted to engage and swing arm 71 outwardly and thereby move arm 70 clear of the path of shoe 64 for active operation of the releasable connection when either of the receivers 2 have been properly loaded.

Assuming that the feed is passing to the receiver on the left in Fig. 3 and shaft 16' rotating, the operation of the machine would be substantially as follows. Catch 62 rides

on carrier 17 and shoe 64 on arm 17 to carry the catch clear of notch 73 until sufficient load has been applied to the receiver to depress its supporting beam 3 and effect movement of rock shaft 23 to operate rod 22 and thereby move arm 70 clear of the path of shoe 64 and permit catch 62 to engage in notch 73, when further movement of the catch with shaft 16' will operate shaft 17' and connected mechanism to shift the deflector 10 and gates 11 to free the contents of the loaded receiver for discharge and effect loading of the other. As catch 62 is completing its active revolution it engages trip 65 and moves the same into engagement with stop 66 thereby effecting release of the catch from carrier 17 as hereto described as catch 20 engages its seat in disk 19 and arms 70, 71 returns to normal position by gravity.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent of the United States of America, is:

1. In a machine of the character described, a means for reception of the fruit to be weighed, scale means with which said first means is connected, said first means having an inclined support for the fruit, a gate at the lower end portion of the support of said first means for retaining the fruit, and mechanism controlled by said scale means for opening and closing said gate.

2. In a machine of the character described, a pair of means for reception of the fruit to be weighed, scale means with which said first means is associated, said first means having inclined fruit supports, gates for said first means arranged at the lower end portions of the supports thereof, and mechanism controlled by said scale means for alternately opening and closing said gates, one gate being opened during the closing operation of the other.

3. In a machine of the character described, scale means, a pair of means related to said scale means for reception of the fruit to be weighed, a feed way leading to said last named means, a deflector supported to, upon being operated, deflect the fruit from said feed way into said pair of means alternately, said pair of means having inclined fruit supports, gates arranged at the lower end portions of the fruit supports of said pair of means for retaining the fruit, and mechanism controlled by said scale means for alternately opening and closing said gates and operating said deflector so that the fruit will be deflected into the fruit receiving means whose gate is closed.

4. In a machine of the character described, a pair of receivers, gates for retaining the fruit in said receivers, there being inclined supports in said receivers extending to said gates whereby the fruit will travel thereon by gravity, scale mechanism associated with



said receivers for weighing the fruit, mechanism controlled by said scale mechanism for alternately opening and closing said gates, one of said gates being closed during the opening operation of the other, and means for directing the feeding of the fruit into said receivers alternately, said last means being connected to be operated simultaneously with said gates to direct the fruit being fed into the receiver whose gate is closed.

5. In a machine of the character described, a pair of receivers, there being inclined supports in said receivers whereby the fruit will travel through said receivers by gravity, a shaft, gates for retaining the fruit in said receivers carried by said shaft, scale mechanism with which said receivers are associated for weighing the fruit, and mechanism controlled by said scale mechanism connected to said gates for simultaneously swinging the same, whereby one of said gates will be opened and the other closed.

6. In a machine of the character described, a pair of receivers having fruit supports which are inclined lengthwise of the receiver, gates for retaining the fruit in said receivers, means for feeding the fruit to said receivers alternately, independent scale mechanism for said receivers, said gates being supported so that during their operation one is closed while the other is being opened, and a single mechanism common to both of said scale mechanisms controlled thereby for operating said gates.

7. In a machine of the character described, a frame, a receiver having a fruit support inclined lengthwise thereof whereby fruit will travel by gravity through the receiver, a gate normally retaining the fruit in said receiver, a scale mechanism comprising an articulated beam whose sections are pivotally connected at their inner ends and being pivotally sup-

ported on said frame at their outer ends, and a counter-balance lever fulcrumed on said frame and being connected to one of the sections of said beam, depending members on said receiver bearing on said beam, and mechanism for opening and closing said gate controlled by said scale mechanism.

8. In a machine of the character described, a pair of receivers for the fruit, gates for retaining the fruit in said receivers, independent scale mechanism for said receivers, and intermittently acting mechanism for operating said gates controlled by said scale mechanism and including a rock shaft arranged to be rocked by either of said scale mechanisms for active operation of said last named mechanism.

9. In a machine of the character described, a pair of receivers having inclined fruit supports, a feed way, a deflector arranged in said feed way for directing the fruit into said receivers alternately, a rock shaft to which said deflector is secured, said rock shaft being provided with an arm, gates for retaining the fruit in said receivers, said gates being swingingly supported and arranged so that one will be closed while the other is in open position, scale mechanism associated with said receivers to be operated by the weight of the fruit therein, and mechanism controlled by said scale mechanism for operating said gates and said deflector including a crank shaft, links connected thereto and to said gates, and another link connected therewith and to the arm of said rock shaft.

Signed at Seattle, Washington this 1st day of June 1908.

CHARLES H. DEMPSEY.

Witnesses:

JOHN E. BURKHEIMER,  
CHARLES E. SHEPARD.