

No. 668,265.

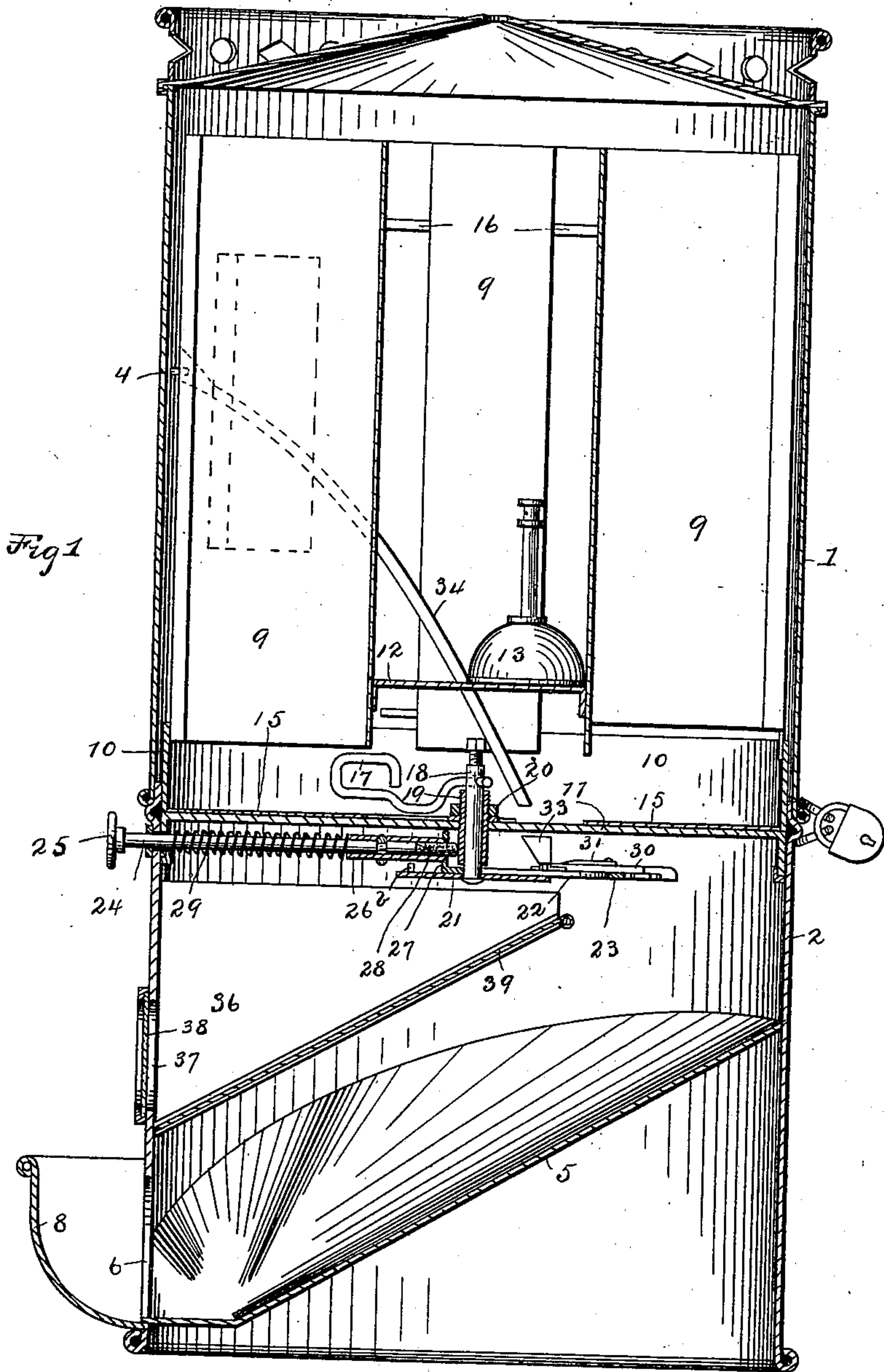
Patented Feb. 19, 1901.

W. PITT.
VENDING MACHINE.

(No Model.)

(Application filed Oct. 17, 1900.)

3 Sheets—Sheet 1.



WITNESSES:
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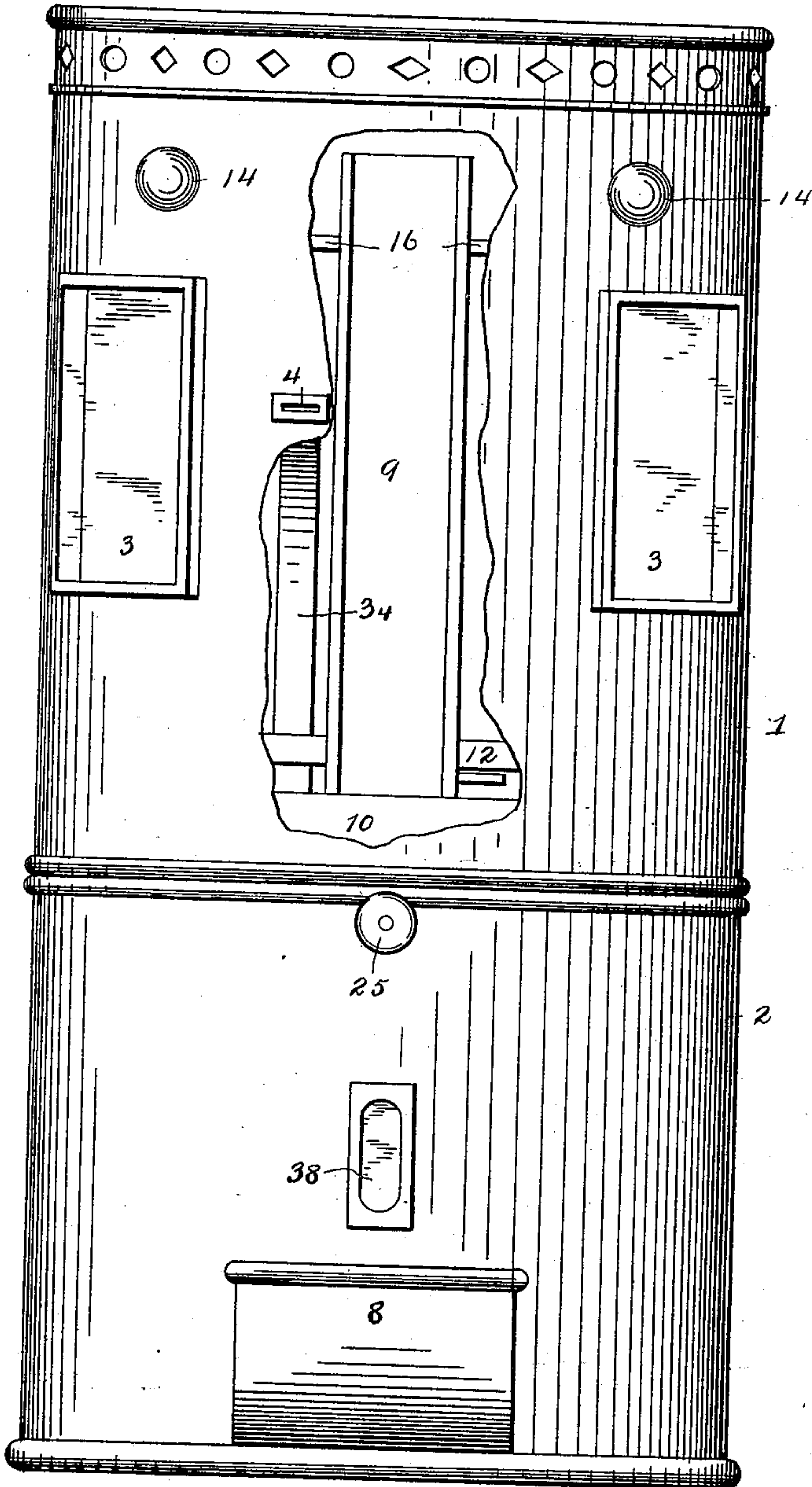
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3 Sheets—Sheet 2.

Fig 2.



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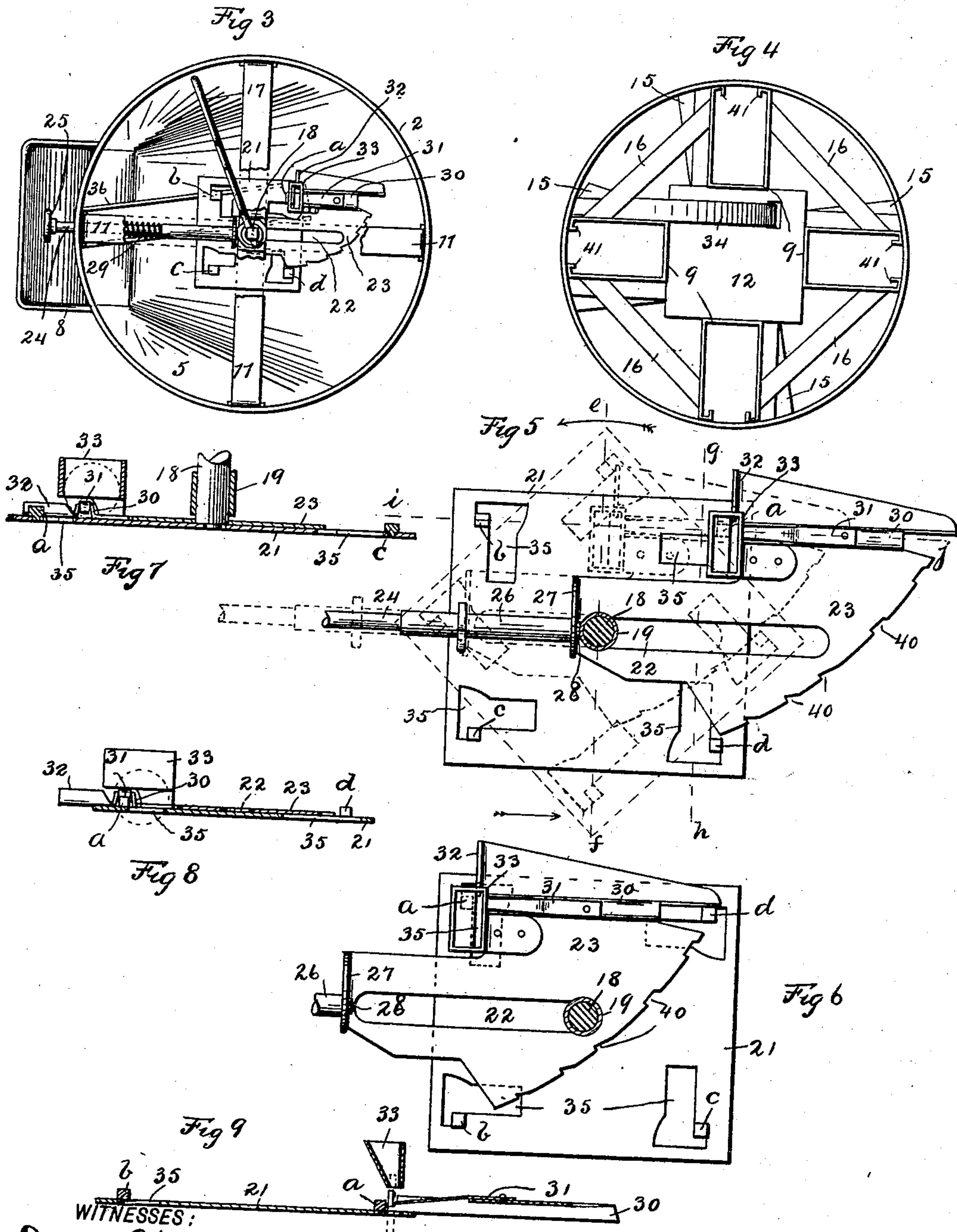
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UNITED STATES PATENT OFFICE.

WILLIAM PITT, OF INDEPENDENCE, MISSOURI.

VENDING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 668,265, dated February 19, 1901.

Application filed October 17, 1900. Serial No. 33,336. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM PITT, a citizen of the United States, residing at Independence, in the county of Jackson and State of Missouri, have invented a new and useful Improvement in Vending-Machines, of which the following is a specification, reference being had therein to the accompanying drawings, forming a part thereof.

My invention relates to improvements in machines for vending articles, such as packages of peanuts or popcorn. It relates particularly to the coin-controlled mechanism by means of which the packages are ejected one at a time from the machine.

The object of my invention is to provide a vending-machine with an efficient, simple, and easily-operated coin-controlled package-ejecting mechanism.

My invention provides a suitable package-holder combined with means for ejecting the packages therefrom, a rotary member operating the ejecting means, a reciprocal operating member provided with means for engaging with and rotating the rotary member, and a locking device for holding the two said members against movement, but permitting movement thereof and the rotation of the rotary member when a coin is inserted and the reciprocal member is moved in the proper direction.

My invention comprises, further, certain other novel features of construction hereinafter fully described and claimed.

In the accompanying drawings, which illustrate my invention, Figure 1 represents a central vertical sectional view of a vending-machine constructed in accordance with the principles of my invention. Fig. 2 represents a front elevational view of the same, a portion of the outer casing being broken away so as to disclose the coin-chute and one of the package-holders. Fig. 3 represents a plan view of the lower half of the casing and the coin-controlled mechanism, portions of the support for said mechanism being broken away. Fig. 4 represents a top view of the package-holders and the parts connected therewith. Fig. 5 represents a plan view of the rotary coin-engaging plate in the reciprocal operating-plate. In this view, in solid lines, the parts are shown in position ready to receive a coin. The po-

sitions of the parts after the coin has been inserted and the operating-plate has been drawn forward are shown in dotted lines. Fig. 6 represents a view similar to that shown in Fig. 5, the reciprocal operating-plate being shown in its most advanced position and ready for retracting. The stop pins or posts *a b c d* are shown to have been advanced one-quarter of a revolution ahead of the positions occupied by them as shown in Fig. 5. Fig. 7 represents a transverse vertical sectional view taken on the dotted line *e f* of Fig. 5 with the parts in the positions as represented by the dotted lines in Fig. 5. Fig. 8 represents a vertical sectional view taken on the dotted line *g h* of Fig. 5 while the parts are in the positions as shown by the solid lines representing the same in Fig. 5. Fig. 9 represents a vertical sectional view taken on the dotted line *i j* of Fig. 5. In Fig. 5 the curved arrow indicates the direction of rotation of the rotary coin-engaging member. The straight arrow in the said figure indicates the direction of sight in taking the two views shown in Figs. 7 and 8.

Similar numerals and letters of reference indicate similar parts.

The casing of the machine is in the form of an upright hollow cylinder, preferably, and is composed of two parts, the upper and lower, 1 and 2, respectively. The upper part is made to slip over the outside of the lower part, to which it may be secured by any suitable locking means. The upper casing 1 is provided in its upper end with a top, and display-boxes 3 may be provided in the vertical wall, in which samples of the goods delivered may be placed. In front of the display boxes or windows are provided openings in the casing covered by glass, through which the samples can be viewed. A coin-slot 4 is also provided in the casing 1. The lower casing 2 is provided with an inclined bottom 5, which converges from the back and sides to the front, where there is an opening in the casing-wall near the bottom, (indicated by 6,) through which the packages may be extracted as delivered upon the bottom 5. Inclosing the opening 6 is a guard-wall 8, the top of which is open. This guard prevents the insertion of the hand any great distance in the lower casing of such as may be inclined to meddle with the mechanism. The package-

holding mechanism comprises a series of parallel vertical chutes 9, open at their tops and bottoms and secured at their bottom outer edges to the horizontal ring 10, placed within the lower casing 2 and resting upon the transverse horizontal supporting-bars 11, the ends of which are supported by the outer wall of the lower casing. The chutes 9 may be braced in any desirable manner. In the drawings I have shown the lower ends of the chutes connected to a horizontal platform 12, to which they are secured and which forms a support for a lamp 13, that may be employed to heat the articles placed in the chutes as well as to light the interior of the casing. In the upper casing 1 may be provided openings closed by colored or transparent glass plates 14, through which the light of the lamp 13 is projected. The cross-bars 11 are disposed one below each chute 9 and has provided on its upper side a horizontal plate 15, designed to support the pile of packages held in the chute immediately above. In the machine illustrated are shown four chutes 9. The construction of the mechanism is such that the packages are ejected laterally from the lower end of the chute, the packages being ejected from the chutes in consecutive order. The packages are first placed in the holders or chutes 9 in four piles, one pile in each chute, and the bottom package resting upon the upper side of the plate 15, disposed directly under the pile. The side wall of the chute at the side on which the package is ejected is cut away sufficiently for the package to pass under the wall and permit the package to be swept by the ejecting means hereinafter described off from the plate 15 and to fall upon the inclined bottom 5 of the lower casing, on which it will slide forward to the opening 6, from which the purchaser or person operating the machine may extract the package that has been ejected. In Fig. 1 are shown horizontal braces 16, connecting the upper ends of the chutes 9, so as to retain them in their proper position.

I will now describe the mechanism by means of which the operator may extract a package from the machine.

The packages are swept one at a time and in consecutive order from the chutes 9 by means of a sweep or arm 17, which is disposed between the plates 15 and the lower ends of the chutes 9 and which is made by the operator to pass under and past a chute every time that a coin is inserted in the machine and the mechanism properly operated. The sweep or arm 17 is a rod of any desirable form, the inner end of which is secured in any suitable manner to the upper end of a vertical shaft 18, disposed centrally with respect to the chutes 9 and rotatably mounted in any suitable bearing supported by the bars 11. In the drawings the bearing I have illustrated as designed for this purpose is a vertical sleeve 19, in which the shaft 18 is rotatably fitted and the outer periphery of which is

screw-threaded and fitted into screw-threaded openings provided in the bars 11 where they intersect. A lock-nut 20 is fitted on the upper end of the sleeve and bears upon the upper bar 11, thus securely holding the sleeve in position. Upon the lower end of the shaft 18 is secured a horizontal coin-engaging plate 21, which is rotatable with the shaft 18. The shaft 18 extends through a slot 22, provided in a horizontal reciprocal slide-plate 23, which lies upon the upper side of the rotary plate 21 and which is reciprocated forward and backward by means of a pull-rod 24, the forward end of which extends through the front wall of the lower casing 2 and has secured at its outer end a knob 25, which is grasped by the operator when the pull-rod is to be drawn forward. The rear end of the rod 24 is secured in a horizontal sleeve 26, the inner end of which is secured in a hole provided in a flange 27, upwardly turned on the forward end of the plate 23. In the rear end of the sleeve 26 is secured a rearwardly-projecting piece of rubber 28, which rests upon the forward side of the sleeve 19 when the parts are in the position shown in Fig. 5 and serves as a cushion. The pull-rod 24 is retracted by means of a coil-spring 29, which encircles the rod 24 and has its rear end bearing upon the forward end of the sleeve 26 and its forward end bearing against the downwardly-turned end of one of the bars 11.

Projecting upward from the upper side of the rotary member 21 are four posts *a*, *b*, *c*, and *d*, respectively. These posts are disposed at equal distances apart in a circle of which the axis of the shaft 18 is the center. The reciprocal member 23 in moving forward is provided with means for engaging the posts, and thus cause a rotation of the rotary member 21. The rotation of the member 21 causes a rotation of the shaft 18 and revolves also the sweep or arm 17. The means for engaging the posts *a*, *b*, *c*, and *d* with the reciprocal plate 23 consists, preferably, in the following construction: At a point to the rear of the posts *a* and *b* as viewed in Fig. 5 the plate 23 has formed in it a channel 30, extending from the front to the rear of the plate in a line parallel to the slot 22. This channel is of sufficient height to permit the passage therethrough of the posts *a*, *b*, *c*, and *d*. Upon the top of the channel 30 is secured the rear end of a horizontal flat spring 31, the forward end of which extends downwardly through an opening in the forward end of the channel, so that the forward end will engage the rear side of the adjacent post of the plate 21 when the plate 23 is drawn forward, or, as hereinafter described, will engage a coin when it is dropped into the slot 4. To prevent the machine being operated without a coin having been deposited in the slot 4, the forward edge of the plate 23 is upwardly bent, forming a flange 32, disposed to the left of the channel 30 and a little forward thereof. A space sufficient to admit the passage of a coin is

provided between the forward end of the spring 31 and the adjacent post on the plate 21. Upon the upper side of the plate 23 is provided a coin-receptacle 33, so disposed in front of the channel 30 that a coin entering therein will lie between the spring 31 and the adjacent post on the plate 21. A coin-chute 34 is provided, the upper open end being opposite the slot 4 of the casing 1, and, curving downward, it extends through the plate on the platform 12, the lower end being disposed just above the coin-receptacle 33. A coin inserted through the slot 4 will pass downward through the chute 34 into the receptacle 33. The plate 21 is provided with four slots 35, disposed adjacent to the posts *a*, *b*, *c*, and *d*, respectively, and so disposed that when the post adjacent to it is brought into the position shown by the post *a* in Fig. 5 the said slot 35 will be directly in line with an opening in the bottom of the receptacle 33, through which the coin passes. The transverse width of each of these slots is such that a coin of the proper denomination will be held therein, as shown in Fig. 8, and a smaller coin will drop through. The slots 35 and the opening in the bottom of the receptacle 33 are so disposed relative to each other and the flange 32 that a coin inserted will drop into the said slot with its edge opposite the flange 32 and remain between the adjacent post *a*, *b*, *c*, or *d*, as the case may be, and the forward end of the spring 31. If a coin has been inserted through the slot 4, it will pass through the chute 34 into the coin-receptacle 33 and into the slot 35, which is at this time below the said receptacle. The position of the coin is shown in Fig. 8 in dotted lines. If now the pull-rod be drawn forward, the plate 23 will also be drawn forward, and the inserted coin will be forced by the receptacle 33 and the spring 31 against the post *a*, when the parts are as represented in Fig. 5. The continued forward movement of the plate 23 will cause the inserted coin, by bearing against the post *a*, to rotate the plate 21, which in rotating in the direction indicated by the curved arrow in Fig. 5 will cause the edge of the coin to impinge against the right edge of the flange 32, and the coin will be forced upon the plate 21 into the position shown in Fig. 7. At this time the flange 32 will have passed against the rear side of the post *a* and on the continued forward movement of the plate 23 will force the plate 21 around to the position shown in Fig. 6, the post *a* then being again in front of the spring 31 and the channel 30. At this time the package will have been removed from one of the package-chutes 9 by the sweep 17 and the coin will have dropped through the slot 35, which by this time is at right angles to the position first occupied by it. In this position the coin can drop through the slot, the length thereof being sufficient for this purpose. The coin in dropping will enter the open top of a stationary coin-receptacle 36 and will pass downward on the inclined bottom thereof to

a point in front of an opening 37, provided in the casing 2 and covered by a transparent observation glass plate 38, secured upon the outside of the casing 2 in front of the opening 37. The bottom of the receptacle 36 is provided with a rearwardly-slidable plate 39, mounted in suitable ways in the said receptacle. By rearwardly moving the slide 39 the coins contained in the receptacle 36 may be dropped through an opening covered by the slide upon the bottom 5 of the lower casing, from which they can be removed. After the slide-plate 23 has been drawn into the position shown in Fig. 6 the pull-rod is released by the operator and the retracting-spring 29 will retract the rod, forcing rearward the plate 23, the channel 30 of which is now also in line with the post *d*. The post *d* will pass through the channel 30 during the rearward movement of the plate 23, forcing upward the free end of the spring 31 and remaining in front thereof when the slide-plate has reached the position shown in solid lines in Fig. 5. The parts will now be in position ready for another coin to be inserted and the operation repeated. The rear end of the plate 23 is curved, as shown, and its edge is provided with a series of notches 40, adapted to engage with the posts on the plate 21 in case the rod 24 has not been pulled forward sufficiently. This engagement will prevent the slide-plate 23 from moving rearward and will force the operator to again pull the rod 24 the full distance forward in order to obtain the package for which he has inserted the coin. The post engaged by the notches 40 will be the one that is to the right of the slot 22, which, as shown in Fig. 5, will be the post *d*.

It will be noted that when a coin is inserted and passes into the receptacle 33 the coin instead of the spring 31 comes into contact with the post *a*, *b*, *c*, or *d*, as the case may be, and prevents the post striking the end of the flange 32 on the plate 23. As the plate 23 is drawn forward the post slips along the face of the coin and passes in front of the flange 32 instead of against its end. The flange then bearing against the rear of the post causes the plate 21, to which it is secured, to rotate. If, however, a coin is not inserted when the plate 23 is drawn forward, the flange 32 advances sufficiently before the spring 31 strikes the post to obstruct with its end the movement of the post.

In the event that any one dishonestly attempts to operate the machine by pulling the pull-rod 24 forward without first having inserted a coin the forward end of the spring 31 will come in contact with the post on the plate 21, which is directly in front of the spring. The continued forward movement of the plate 23 will cause the plate 21 to rotate until the left edge of the post will come in contact with the right end of the flange 32, which will hold the post from moving farther, thus locking the plate 21 and the plate 23 from any further movement.

In order to fill the machine with packages, the locking device holding the upper casing 1 and the lower casing 2 is released and the upper casing is then lifted upwardly and re-
 5 moved. The packages can then be inserted into the different chutes 9 from the tops of the same or through the open outer sides of the chutes. As shown in Fig. 4, the outer
 10 sides of the chutes 9 are inwardly turned at each side, forming flanges 41, which hold the packages held in the chute away from the outer side thereof, and thus prevent the pack-
 15 ages from striking the upper side of the ring 10, to which the lower ends of the chutes are secured.

My invention is subjective of many modifications without departing from its spirit.

Having thus described my invention, what I claim, and desire to secure by Letters Pat-
 20 ent, is—

1. In a vending-machine, the combination with a package-holder, of means for ejecting the packages therefrom, a rotary member operating the ejecting means provided with a
 25 slot for receiving and holding the inserted coin, a reciprocal member provided with means for engaging the inserted coin, means operative for locking the two said members against movement when a coin has not been
 30 inserted but inoperative for the purpose when a coin has been inserted, means for reciprocating the reciprocal member, and means for imparting rotation to the rotary member when the reciprocating member is properly recip-
 35 roated, substantially as described.

2. In a vending-machine, the combination with a package-holder, of means for ejecting the packages therefrom, a rotary member operating the ejecting means and provided with
 40 a plurality of coin-engaging slots, a reciprocal member provided with a coin-receptacle adapted when the rotary member is rotated to be brought consecutively opposite the slots in the said rotary member, means for recip-
 45 roating the reciprocal member, means for rotating the rotary member, when the reciprocal member is reciprocated, and means for locking the members against rotation unless a coin has been inserted and engages the re-
 50 ceptacle carried by the reciprocal member and one of the slots in the rotary member, but inoperative for the purpose if a coin has been so inserted, substantially as described.

3. The combination with a rotary member
 55 provided with a coin-engaging slot and a projection, of a slidable member provided with means for engaging a coin inserted in the said slot, means for rotating the rotary mem-
 60 ber when the slidable member is properly moved, and a locking device for engaging the slidable plate with the said projection and preventing movement of the members but in-
 65 operative for the purpose when a coin has been inserted in the said slot, substantially as described.

4. The combination with a rotary member

provided with a coin-engaging slot and a pro-
 jection, of a slidable member provided with
 means for engaging a coin inserted in the
 said slot, means for rotating the rotary mem- 70
 ber when the slidable member is properly
 moved, a stop on the slidable member for en-
 gaging the projection on the rotary member
 to prevent movement of the two members,
 and means for preventing such engagement 75
 when a coin is inserted in the said slot, sub-
 stantially as described.

5. The combination with a rotary member
 provided with a series of coin-engaging slots,
 of a slidable member provided with a coin-re- 80
 ceptacle cooperating consecutively with the
 said slots for engaging the inserted coin,
 means by which rotation is imparted to the
 rotary member when the slidable member is
 properly moved, and a locking device releas- 85
 able by an inserted coin for preventing move-
 ment of the two members, substantially as
 described.

6. The combination with a rotary member
 provided with a series of coin-engaging slots 90
 and a corresponding number of projections,
 of a slidable member provided with a coin-re-
 ceptacle cooperating consecutively with the
 said slots for engaging the inserted coin,
 means by which the slidable member is recip- 95
 roated, and rotation imparted therefrom to
 the rotary member, and a locking device on
 the slidable member adapted to engage pro-
 jections on the rotary member and prevent
 movement of the two members, substantially 100
 as described.

7. The combination with a rotatable mem-
 ber, of a reciprocal member, means for im-
 parting rotation to the rotary member by a
 series of steps when the reciprocal member is 105
 reciprocated forward and backward consecu-
 tively, means for so reciprocating the said
 member, a series of posts on the rotary mem-
 ber, a locking device on the reciprocal mem-
 ber movable in the path of the said projec- 110
 tions when the reciprocal member is for-
 wardly moved, and means by which the said
 locking device is rendered inoperative for the
 purpose when a coin has been engaged be-
 tween the two members, substantially as de- 115
 scribed.

8. The combination with a rotary member
 provided with a series of coin-engaging de-
 vices, of a reciprocal member provided with a
 coin-engaging device normally in position to 120
 receive a coin and cooperate with the coin-
 engaging devices of the rotary member con-
 secutively, means by which the rotary mem-
 ber is rotated when a coin has been inserted
 and the reciprocal member has been recipro- 125
 cated in one direction, means by which the
 reciprocal member is retracted to its original
 position so as to cooperate with the next suc-
 ceeding coin-engaging device of the rotary
 member, a package-holder for holding pack- 130
 ages in a pile, and a package-ejecting arm ro-
 tatable with the rotary member for ejecting

packages one at a time from the pile when the rotary member is rotated, substantially as described.

9. The combination with a rotary member provided with a series of coin-engaging devices, of a reciprocal member provided with a coin-engaging device normally in position to receive a coin and cooperate with the coin-engaging devices of the rotary member consecutively, means by which the rotary member is rotated when a coin has been inserted and the reciprocal member has been reciprocated in one direction, means by which the reciprocal member is retracted to its original position so as to cooperate with the next succeeding coin-engaging device of the rotary member, a plurality of package-holders, and means by which the stationary packages are consecutively discharged from the different holders when the rotary member is rotated, substantially as described.

10. The combination with a rotary member provided with a series of coin-engaging devices, of a reciprocal member provided with a coin-engaging device normally in position to receive a coin and cooperate with the coin-engaging devices of the rotary member consecutively, means by which the rotary member is rotated when a coin has been inserted and the reciprocal member has been reciprocated in one direction, means by which the reciprocal member is retracted to its original position so as to cooperate with the next succeeding coin-engaging device of the rotary member, a plurality of package-holders, and an arm rotatable with the rotary member for ejecting packages from the said holders consecutively when the reciprocal member has been reciprocated consecutively, substantially as described.

11. The combination with a rotary member provided with a series of coin-engaging devices, of a reciprocal member provided with a coin-engaging device normally in position to receive a coin and cooperate with the coin-engaging devices of the rotary member consecutively, means by which the rotary member is rotated when a coin has been inserted and the reciprocal member has been reciprocated in one direction, means for reciprocating the said member in such direction, a spring for retracting the said member in the opposite direction whereby the coin-engaging device of the reciprocal member is in position to cooperate with the next succeeding coin-engaging device of the rotary member, and a locking device for preventing rotation of the rotary member when a coin has not been inserted, substantially as described.

12. The combination with a rotatable package-ejecting device, of a rotary member rotatable therewith, means for preventing the backward rotation of the rotary member, means for preventing the forward rotation thereof releasable by the insertion of a coin in the proper place, a reciprocal member, means for rotating the rotary member when

the reciprocal member has been reciprocated in one direction, means for so reciprocating the said member, and means for reciprocating the said member in the opposite direction, substantially as described.

13. The combination with a rotary member provided with a coin-engaging means, of a reciprocal member provided with a coin-engaging means cooperating normally with the coin-engaging means of the rotary member to receive and engage an inserted coin, means for locking the rotary member against backward rotation, means for preventing the forward rotation thereof rendered inoperative when a coin is inserted, means for rotating the rotary member forwardly when the reciprocating member is reciprocated in one direction, means for so reciprocating the said member, and means for reciprocating the said member to its initial position, substantially as described.

14. The combination with a rotary member rotatable by a series of consecutive steps, of a reciprocal member, means for advancing the rotary member a step upon the reciprocation of the reciprocal member, a coin-controlled locking device for preventing rotation of the rotary member and the reciprocation of the reciprocal member but permitting the rotation of the rotary member a step forward when a coin is inserted, means for reciprocating the reciprocal member in both directions, and means for preventing rearward rotation of the rotary member, substantially as described.

15. The combination with a series of package-holders, of a package-ejecting device for ejecting packages consecutively from the different holders, a rotary member rotatable by a series of steps corresponding in number to the number of package-holders, a reciprocal member, means for rotating the rotary member step by step by the consecutive reciprocation of the reciprocal member, a coin-controlled locking means for preventing the rotation of the rotary member, and means by which the ejecting device is caused to eject packages consecutively from the several holders when the rotary member is rotated step by step, substantially as described.

16. The combination with a series of package-holders, of a rotary package-ejecting device rotatable by consecutive steps, a rotary member rotatable by a corresponding series of steps, a coin-controlled locking means for preventing rotation of the rotary member, a reciprocal member, means for rotating the rotary member a step when the reciprocal member is reciprocated, and means for rotating the rotary ejecting device step by step when the rotary member is so rotated, substantially as described.

17. The combination with a series of package-holders, of a rotary package-ejecting device for ejecting packages from the several holders consecutively, a rotary member rotatable step by step with the package-eject-

ing device the steps in each rotation corresponding to the number of package-holders, a coin-controlled locking means for preventing rotation of the rotary member, a reciprocal member, and means by which the rotary member is rotated step by step upon consecutive reciprocations of the reciprocal member, substantially as described.

18. The combination with a rotary member rotatable step by step, of a coin-controlled locking means for preventing the rotation of the rotary member, a reciprocal member, means for rotating the rotary member a step forward when the reciprocal member is reciprocated the required distance in one direc-

tion, means for retracting the said reciprocal member in the opposite direction, means for preventing the retraction thereof unless the said member has been reciprocated sufficiently to advance the rotary member a full step, and a package-ejecting means operated by each step-by-step movement of the rotary member, substantially as described.

In testimony whereof I have signed my name to this specification in presence of two subscribing witnesses.

WILLIAM PITT.

Witnesses:

WARREN D. HOUSE,
JESSIE R. COMSTOCK.