No. 742,063. PATENTED OCT. 20, 1903.

F. F. PULVER.

VENDING MACHINE.

APPLICATION FILED JAN. 17, 1901.

NO MODEL. 2 SHEETS—SHEET 1.

Fig. 1.

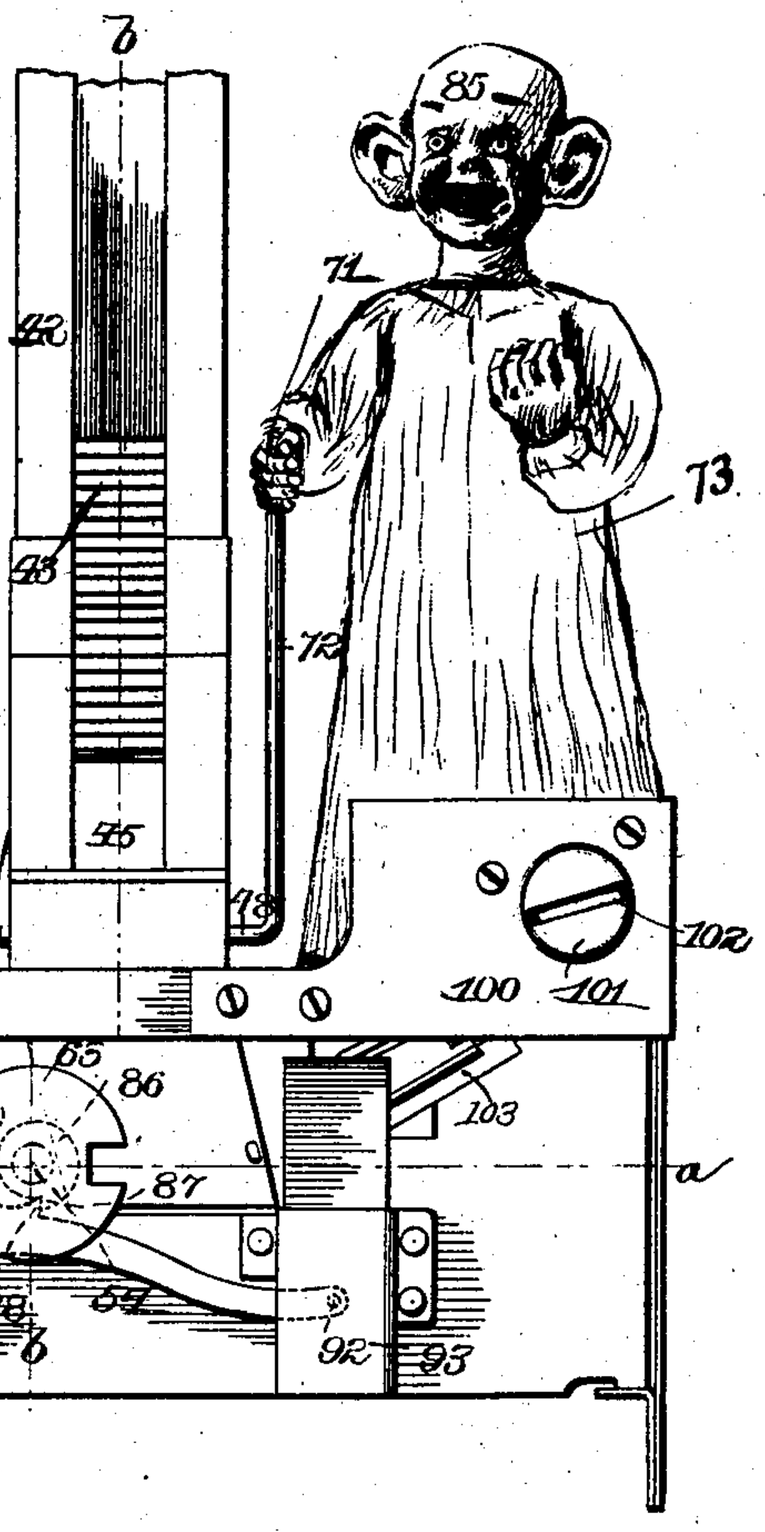


Fig. 3.

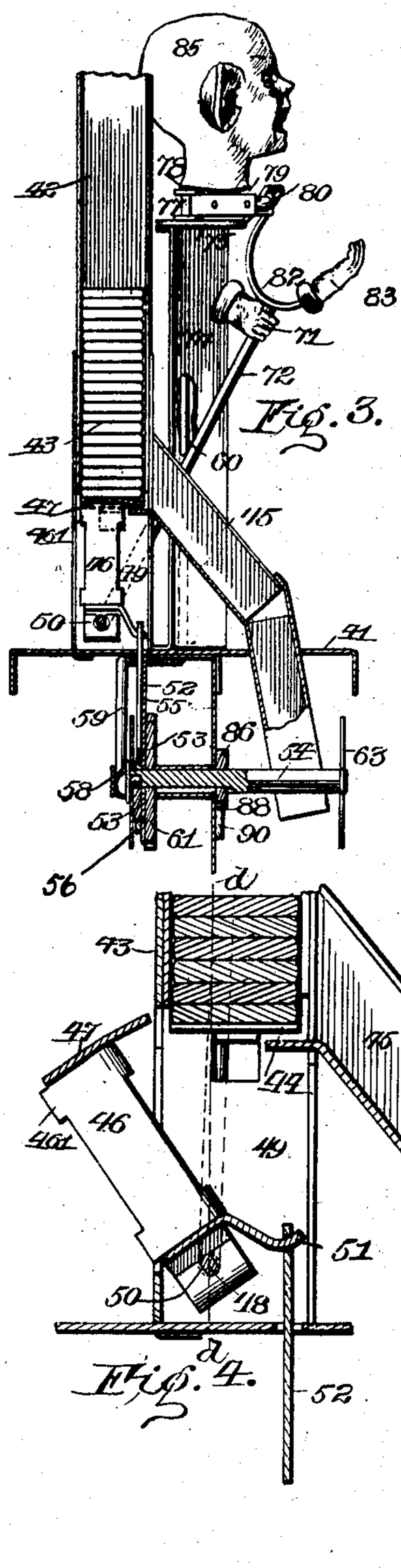
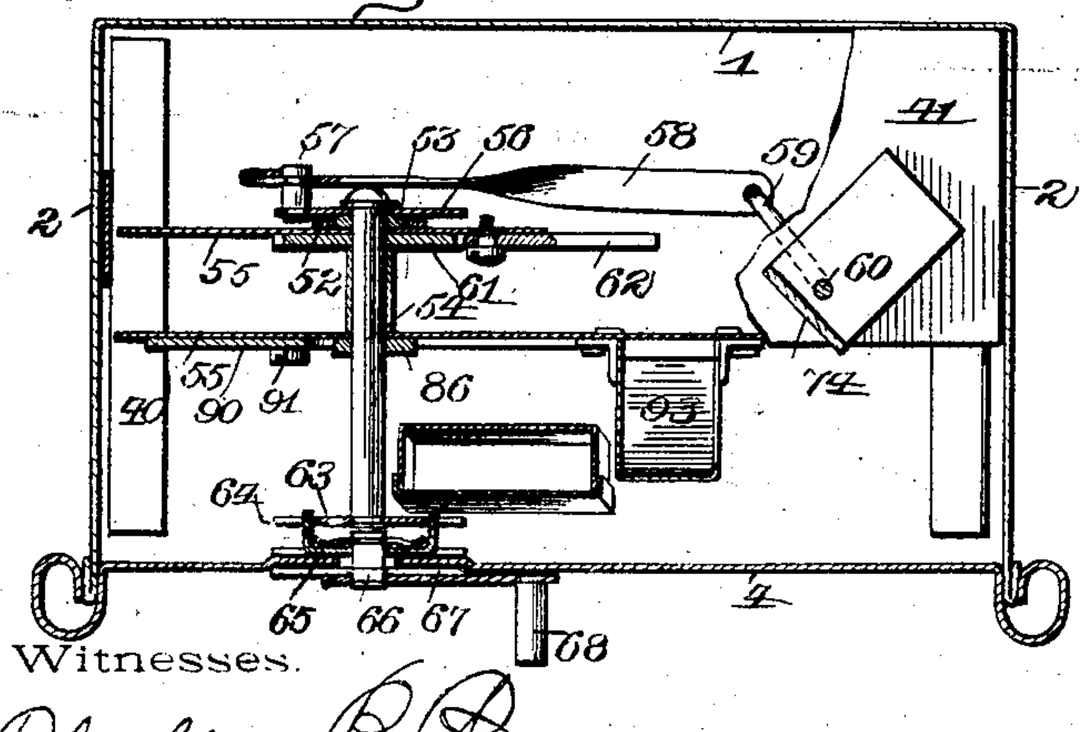


Fig. 2.



Witnesses.
Walter B. Payne.
Willard Rich.

Inventor.
Frank F. Pulver.
by Frederick P. Church
his Attorney.

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VENDING MACHINE.

APPLICATION FILED JAN. 17, 1901.

NO MODEL. 2 SHEETS—SHEET 2.

Fig. 6.

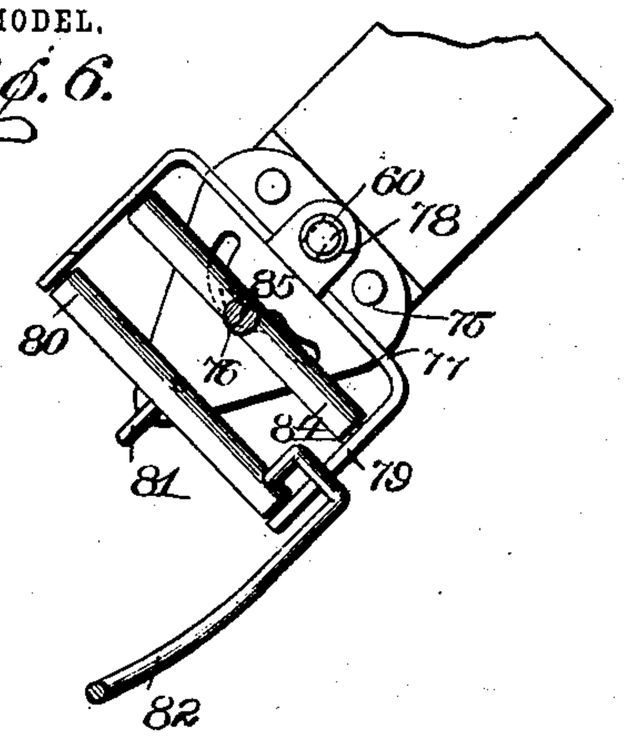


Fig. 5.

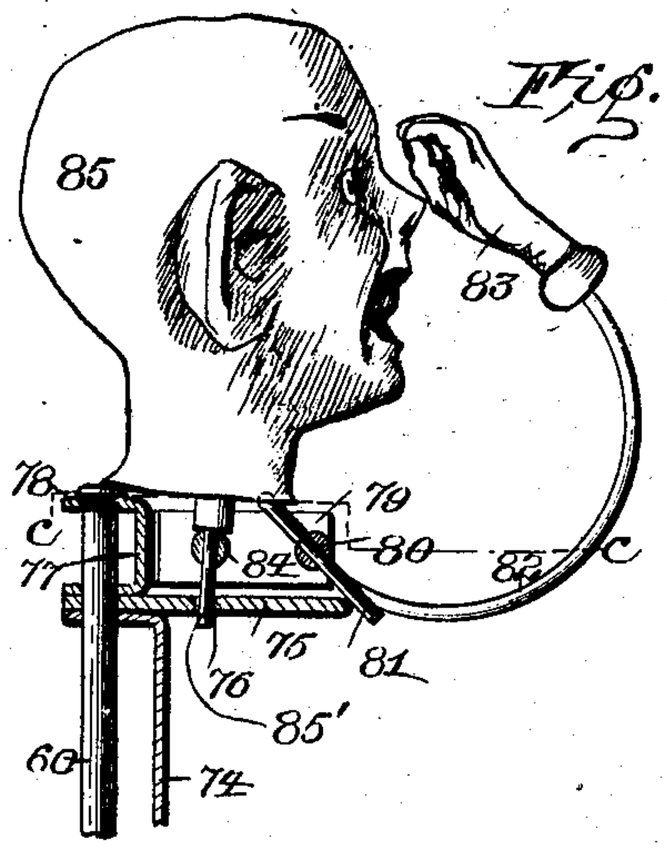


Fig. 7.

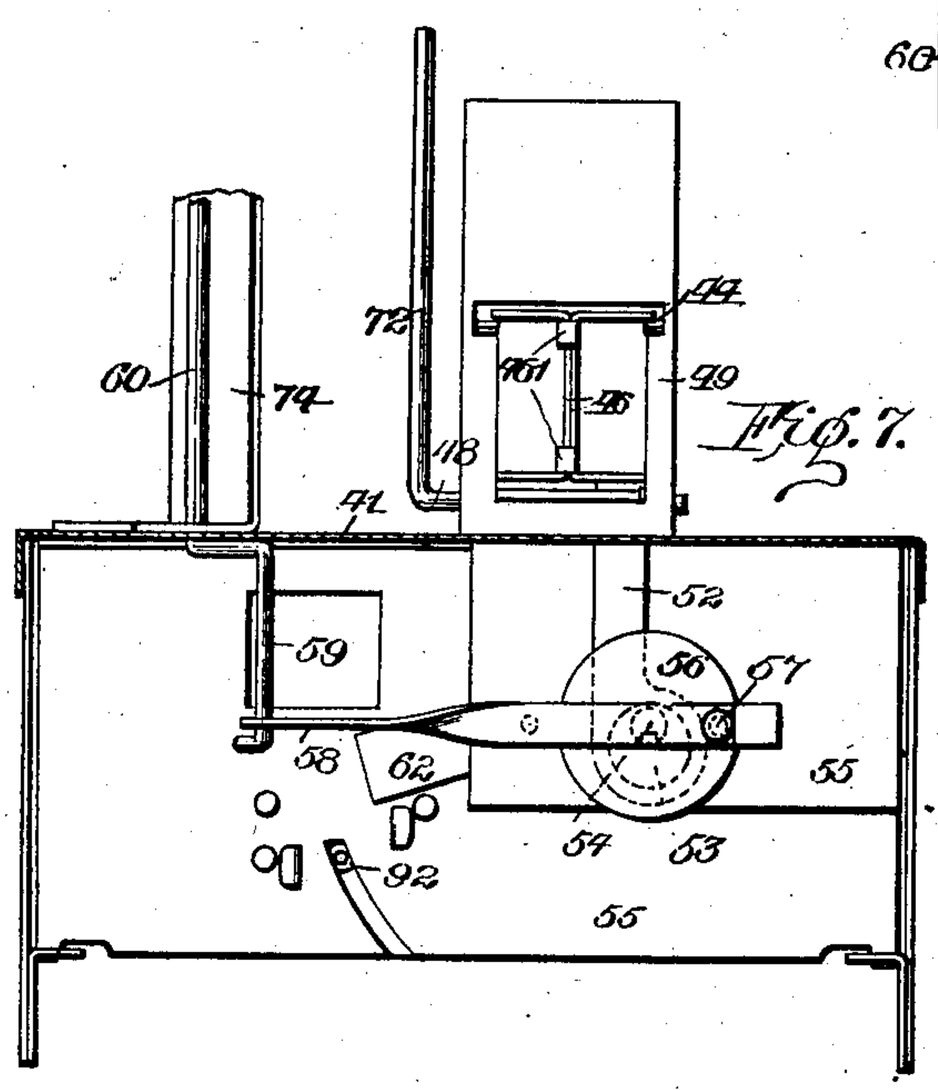
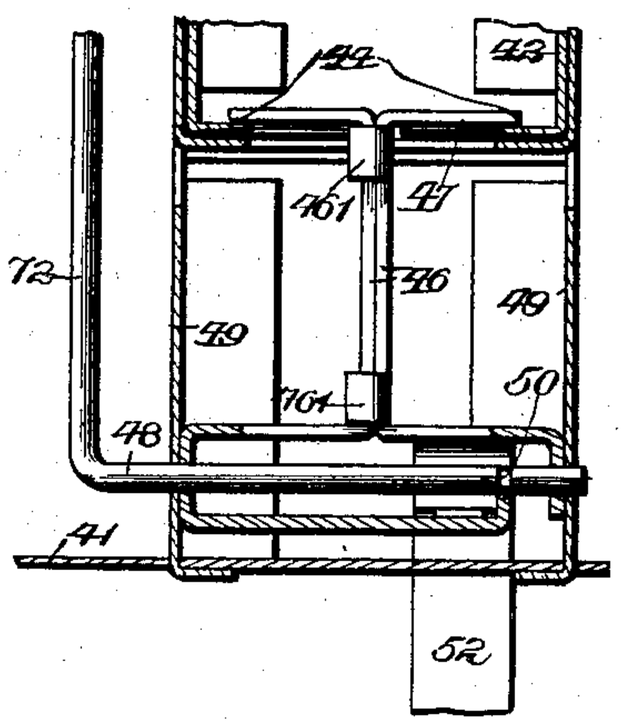


Fig. 8.



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UNITED STATES PATENT OFFICE.

FRANK F. PULVER, OF ROCHESTER, NEW YORK, ASSIGNOR, BY MESNE ASSIGNMENTS, TO THE PULVER CHEMICAL MANUFACTURING COMPANY, OF ROCHESTER, NEW YORK, A CORPORATION OF NEW YORK.

VENDING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 742,063, dated October 20, 1903.

Application filed January 17, 1901. Serial No. 43,573. (No model.)

To all whom it may concern:

Be it known that I, FRANK F. PULVER, of Rochester, in the county of Monroe and State of New York, have invented certain new and useful Improvements in Vending-Machines; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming a part of this specification, and to the reference-numerals marked thereon.

My present invention relates to coin-controlled vending devices preferably embodying an automaton which is adapted to be actuated to perform certain movements during or previous to the operation of the vending device; and to these and other ends it consists in certain improvements and combinations of parts, all as will be hereinafter fully described and the novel features pointed out in the claims at the end of this specification.

In the accompanying drawings, Figure 1 is a front elevation of the operating parts of the machine or apparatus removed from the containing casing; Fig. 2, a horizontal sectional view taken on the line *a a* of Fig. 1 with the containing casing in position and showing the operating-handle; Fig. 3, a vertical sectional view on the line *b b* of Fig. 1; Fig. 4, an enlarged vertical sectional view of the package-ejecting devices; Fig. 5, an enlarged vertical sectional view of the upper portion of the automaton; Fig. 6, a horizontal sectional view on the line *c c* of Fig. 5; Fig. 7, a rear view of the lower portion of the operating parts shown in Fig. 1; Fig. 8, a sectional view on the line *d d* of Fig. 4.

Similar reference-numerals in the several figures indicate similar parts.

The vending device forming the subject-matter of this invention is adapted to be contained within a suitable casing or receptacle embodying the rear and side panels 1 and 2, a suitable bottom plate, and a removable front panel 4, secured removably in position by any suitable securing devices. The operating parts of the vending apparatus are in the present instance mounted upon a frame 40, located within the casing and having the top plate 41, to which is attached the vertically-extending channel or reservoir 42 for containing the commodity to be sold in the form of packages 43, suitable supports 44 being arranged at the lower portion of the sides of the reservoir or channel 42 for holding the packages, so that the lowermost one may be moved out of the channel and into the exit-channel 45 by means of an oscillatory ejecting device movable above said supports 44, as shown in Figs. 3, 4, and 8. This ejecting device consists of two metal plates 46, secured together by lugs 461 and having their upper ends flared outwardly, as shown particularly in Fig. 8, to form the ejecting-wings 47, and the lower portions of the plates are bent downwardly and perforated for the passage of an arbor or pin 48, journaled in the side plates or supports 49, (see Fig. 8,) the lower end of one of said arms or plates 46 being extended laterally and then vertically, so that its end may engage in a notch 50, formed in the arbor 48, and prevent the withdrawal of the latter, thus forming a secure fastening for the parts and dispensing with soldered joints. One of the plates 46 is provided at its lower front portion with an extension or ear 51, to which is connected a pitman 52, having a circular aperture in its end, in which operates an eccentric or cam 53, secured to the main operating-shaft 54, journaled in the plates or supports 55. At the end of this operating-shaft is also secured a disk 56, having a crank 57, to which is connected a pitman 58, the other end of said pitman being connected to a crank-arm 59 on a vertically-extending oscillatory shaft 60, to which the automaton is connected. The operating-shaft 54 is provided with a ratchet-wheel 61, with which coöperates a gravity-pawl 62 for preventing a retrograde motion, and at the outer end of said shaft is provided a disk 63, having notches at the edges, with which coöperate lugs or ears 64, formed upon a disk 65, secured to and rotating with a stud-shaft 66, journaled in the front plate or panel 4 of the casing. On the outer side of the panel 4 is arranged a disk 67 and the operating-handle 68, as shown particularly in Fig. 2.

The automaton in the present embodiment is arranged to apparently perform the operation of ejecting the package of material with one hand, to turn his head from left to right, making one or more short bows, and bring his other hand toward the head, as in saluting or throwing a kiss, and to this end the automaton's hand 71 is attached to a lever extension 72 of the arbor 48, connected with the ejecting device, and the sleeve of the gown 73 extends loosely from this hand, as indicated in Fig. 1. The body of the automaton, which is covered by the gown, as shown in Fig. 1, embodies the vertically-extending standard or support 74, secured to the plate 41 and having a flange at its upper end, in which one end of the vertical shaft or frame 60 is journaled. Secured rigidly to the upper end of the standard or support 74 is a cam-plate 75, having its exterior surface generally triangular, as shown in Fig. 6, and also provided with a cam-slot 76 of irregular contour, as shown, and secured rigidly to the upper end of the rock-shaft 60 is a frame or bracket 77, having the rearwardly-extending perforated ears 78 for attachment to the rock-shaft and the forwardly-extending perforated ears 79, in the outer ends of which is journaled an oscillatory arbor 80, provided with an arm or projection 81, coöperating with the exterior surface of the cam-plate 75 and also with an extended arm 82, to which the hand 83 of the automaton is connected, the weight of said hand being sufficient to hold the arm 81 in contact with the cam-plate. In rear of the arbor 80 is loosely journaled a similar arbor 84, to the upper end of which the head 85 of the automaton is connected, while from the lower portion of said arbor extends a pin or projection 85', operating in the slot 76 in the cam-plate.

The construction and operation of the parts just described are such that when the handle 68 is rotated a single package of material is ejected into the discharge-chute 45 apparently by the movement of the hand 71 of the automaton, and through the parts described the automaton's head is turned toward the container 42, the cam-slot 76 causing the head to make one or more short nods or bows, and the hand turning with the head is raised as the arm 81 engages the apex of the cam-plate, then is allowed to fall, and is raised again and allowed to fall when the figure returns to normal or first position, as shown in Fig. 8, by the continued rotation of the shaft 54.

The shaft or arbor 54 is provided with a cam 86, having a projection 87, with which coöperates a locking projection or catch 88, and also the finger or arm 89, forming part of the weighted lever 90, pivoted at 91 to the plate 55 of the frame. The lower end of the lever 90 extends below the shaft and is provided with a projection 92, entering a coin channel or chute 93 in such manner that when a coin passes down said chute it will turn the lever, disengage the projection 88 from the projection 87 on the shaft 54 and permit the latter to be rotated by the handle 68 to cause the operations described. The lowermost portion of the cam is engaged by the arm 89 only after the shaft is rotated far enough to disengage the projections 87 and 88, so that the longer arm of the lever may be moved by the coin sufficiently far down to release the coin and allow it to fall into the casing or a suitable receptacle.

Secured to the frame 40 is an upwardly-extending plate 100, having a slightly-embossed circular portion 101, adapted to extend through a suitable aperture in the front plate 4 of the casing and having a coin-slot 102 therein. In rear of said slot is a coin guide or support 103, formed of a plate and adapted to direct the coins inserted in the slot into the channel or chute 92. Any suitable coin-detecting devices for arresting or detecting spurious coins, disks, &c., may be employed, as usual in devices of this description.

The employment of an operating-handle mounted rotatably upon a removable panel of the casing, as shown, not only prevents the entrance of foreign material into the casing, but enables the operating parts of the device to be removed from the casing for the purposes of adjustment and repair and a new one to be inserted without requiring the use of special tools or of special skill on the part of the operator; but this manually-operated part may be dispensed with and the apparatus operated automatically, if desired.

I claim as my invention—

1. In a vending device embodying a goods-delivery mechanism, the combination with an automaton located adjacent to the delivering device and embodying a frame capable of oscillation on a vertical axis, of a head thereon pivoted to turn on a horizontal axis, and a relatively stationary cam with which the head coöperates to tilt it vertically when oscillated, and connections between the oscillatory frame and the goods-delivery mechanism.

2. In a vending device provided with a goods-delivery mechanism, the combination with an automaton located adjacent to the delivering device embodying a frame capable of oscillation on a vertical axis, a head and an arm pivoted on the frame on horizontal axes, of relatively stationary cam-surfaces with which the head and arm coöperate to move them vertically when the frame is oscillated and operating connections between the goods-delivery mechanism and the oscillatory frame.

3. In a vending device provided with a goods-delivery mechanism, the combination with an automaton located adjacent to the delivering device and having one hand connected thereto to simulate the operation thereof, said automaton also embodying an oscillatory frame movable on a vertical axis, of a head and an arm both pivoted on the frame to oscillate in a vertical plane, and relatively stationary cam-surfaces with which the head

and arm coöperate to tilt them when the frame is oscillated, and connections between said frame and the goods-delivery mechanism.

4. In a vending device embodying a goods-delivery mechanism, the combination with an automaton located adjacent to the delivering device and embodying a frame capable of oscillation on a vertical axis, and a head pivoted on the frame and having the pin 85′, of an arm pivoted on the frame having the pin 81, the stationary cam-plate 75 with which the pins coöperate and connections between the actuating mechanism and the oscillatory frame for moving the latter when the goods-delivery mechanism is operated.

5. In a vending-machine having a goods-delivery mechanism, the combination with the frame or support, the standard 74, and the stationary cam-plate 75 thereon, of the shaft 60, the frame 77, and the automaton-head pivoted thereon, having the pin 85′, the arm 82 also pivoted on the frame having the pin 81, said pins coöperating with the cam-plate, and connections between the shaft 60 and the actuating mechanism.

6. In a vending-machine, the combination with the goods-reservoir, of the pivoted oscillatory delivering member composed of the connected plates having perforations in their lower portions, an arbor extending through the perforations and a support in which said arbor is journaled.

7. In a vending-machine, the combination with a goods-reservoir, of a pivoted oscillatory delivering member operating therein composed of connected plates having lower perforated portions, an arm extended laterally of one of said portions, an arbor having a notch for the lateral arm and passing through the perforations, and a support for the ends of the arbor beyond the plates.

FRANK F. PULVER.

Witnesses:
G. WILLARD RICH,
WALTER B. PAYNE.