

965,427.

Fig. 1.

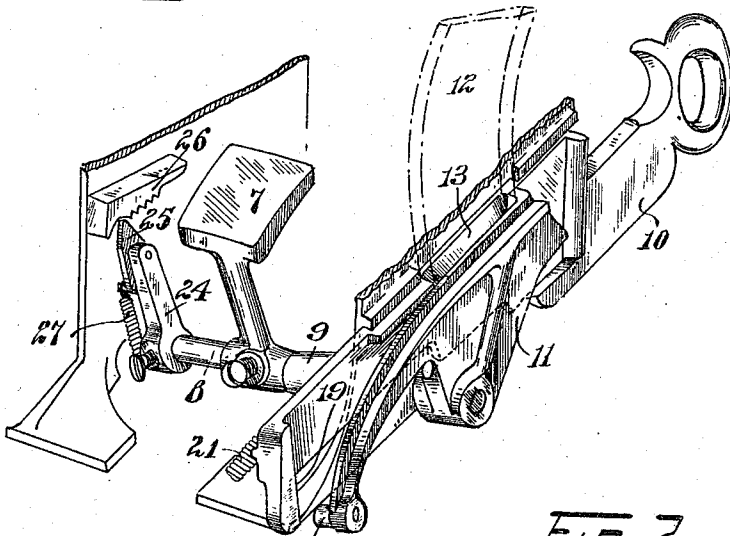


Fig. 2.

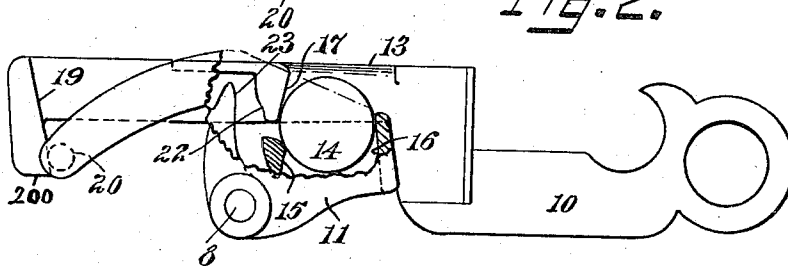


Fig. 3.

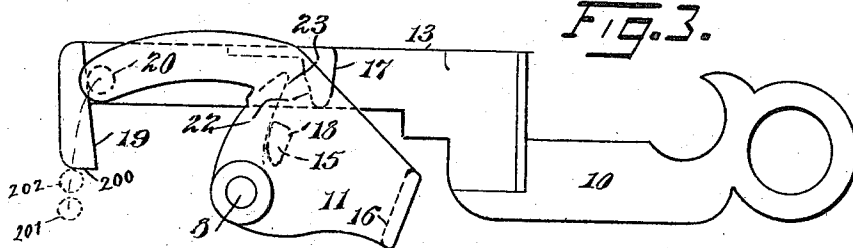
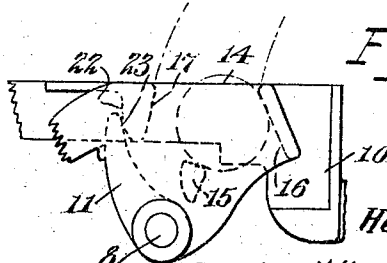


Fig. 4.



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UNITED STATES PATENT OFFICE.

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CHECK-CONTROLLED MECHANISM.

965,427.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, HENRY V. WESTERVELT, a citizen of the United States, residing in Cresskill, in the county of Bergen and State of New Jersey, have invented certain new and useful Improvements in Check-Controlled Mechanism, of which the following is a specification.

This invention relates to check controlled mechanism and has for an object to provide an improved structure of this class in which the ejector movement is inaugurated by virtue of the presence of a check and completed by the positive engagement between the machine parts, such inauguration of movement places the actuator in operative engagement with the ejector, the check will be released upon such inauguration of the movement and operative engagement of the parts.

A form of my invention is illustrated in the drawings accompanying and forming a part of this specification, and in which drawings—

Figure 1 is a perspective view showing check controlled mechanism surrounded by the broken away frame of an automatic vending machine. Figs. 2, 3 and 4 are side views showing the check engaging portions of the mechanism in various operative positions.

An oscillatory package ejector 7 is illustrated, which will engage the lowermost package of a chute in a well known manner and move this package into a position for delivery to the customer of the machine. The ejector is shown mounted upon a shaft 8 which is supported by a bearing 9 carried by the framework of the mechanism. Only so much framework is shown as is necessary to illustrate the support of one or another part of the device. In the form of mechanism illustrated the actuator is illustrated in the form of a reciprocatory pull bar 10, which bar is mounted to slide in a straight path in ways upon the frame of the machine. A member 11, constituting an ejector-controller, is shown fast upon the shaft 8. When the parts are in the position illustrated in Figs. 1 and 4 a coin or check traversing the chute 12, illustrated in dotted lines, will find entrance between the chamfered portion 13 of the actuator and the member 11 and will assume the position

illustrated in Fig. 4. In this initial position the check 14 is shown resting upon a lug or support 15 carried by the framework, and will rest against the check engaging face 16 of the member 11. The check in this position will be in the path of movement of the face 17 upon the actuator. The coöperative check engaging faces 17 and 16 are substantially transverse to the line of the path of reciprocation of the actuator, and will engage the edges of a check and hold the same in a vertical plane. The faces 16 and 17 slant away from each other and from the vertical from their upper to their lower ends for permitting the escape of the check when this has been moved from its position over the support 15.

Upon the outward movement of the actuator 10 the face 17 will engage the check and partly owing to the fact that said face slants slightly away from the perpendicular at its lower end and away from its direction of movement the coin will not only be forced against the face 16 but also against the upper corner 18 of the lug 15 and will have a downward movement along the face 16, which face 16 during the period of coin engagement slants at its bottom away from the perpendicular and away from the line of actuator movement. The face 16 is located forwardly of the vertical plane in which the axis of oscillation of the member 11 is disposed, and above the horizontal plane in which said axis is disposed. The face 17 is also located above said horizontal plane.

The actuator carries a cam 19 disposed transversely of the path of reciprocation of the actuator and which at its upper end slants away from the perpendicular and away from the line of the path of movement of the actuator. The ejector is provided with a cam engaging face, in the present illustration the member 11 carries the cam engaging member in the form of an anti-friction roller 20. When the parts are in the positions illustrated in Figs. 1 and 4 the actuator may be moved forward and the lower edge 200 of the cam 19 will idly pass the roller 20; but after a check has been interposed between the faces 16, 17 and 18 and the parts moved to about the position illustrated in Fig. 2 the roller 20 will be brought into a position to be engaged by the cam 19. This happens after the inaugu-

ration of the ejector movement and before the ejector has performed its work. A slightly further movement of the actuator from the position illustrated in Fig. 2 will
 5 move the check to such a position relative to the faces 17, 18 and 16 that there will be no support under the check and this will be permitted to drop out. This happens at the early period of the ejector movement. The
 10 check having been released from the mechanism, the forward movement of the actuator will, by means of its cam 19 in engagement with the roller 20, rock the shaft 8 and cause the ejector to move to its forward
 15 position and eject the merchandise or place this in a position where the purchaser may readily take possession of it.

Some suitable means, as for instance a coiled spring 21, may be employed for returning the actuator to its idle or initial
 20 position. For the purpose of returning the ejector the actuator is shown as having a face 22 for engaging a face 23 on the member 11 and returning said member and the
 25 rock shaft to idle or initial position.

The face 23 in the forward movement of the member 11 engages the rear of the lug 15 and so limits the forward movement of the parts. In Fig. 3 face 23 is shown in en-
 30 gagement with the lug 15, this view illustrating the forward position of the parts. In Fig. 4 the faces 22 and 23 are shown in engagement and this position illustrates the rearward or initial position of the parts.

The mechanism illustrated embodies means for requiring a full stroke of the ejector in each direction before a return movement can take place. If the actuator should hesitate in its forward movement and be permitted
 40 to move backward slightly after the check was moved from its first position the check might thus fail to do its work and the unskilful actuation of the device occasion the loss to the operator of his check; or if this
 45 movement occurred after the release of the check similar undesirable results would occur if the roller so moved out of position for the engagement of the cam 19. For the prevention of such mishaps and also of
 50 fraud, the shaft 8 is provided with an arm 24 carrying a pawl 25, running on a rack 26. The pawl is pivoted between its ends, one end being adapted for traversing the rack, and to the other end a coiled spring 27 is
 55 attached for yieldingly holding the pawl in the proper position. The pawl is of such dimensions relative to the rack that after the ejector has commenced its movement in either direction it must make a full stroke
 60 and free the pawl from the rack before returning.

The face 17 forces the check forwardly against the face 16 and also downwardly against the face 18. The check is released
 65 from between the actuator and the ejector

by the movement of these parts one relative to the other which is effected by the presence of the check between the check-engaging faces by the repositioning of these
 parts by the check between them. The
 70 check is released upon the parts assuming a proper position. If the actuator bar 10 should be drawn forward in the position illustrated in Fig. 3 at a time when there is
 no check in the machine for effecting its
 75 operation a portion of the actuator will be in position to stop the movement of the ejector. The face 200 at the end of the cam 19 will be in the path of movement of the member 20 when this moves from its normal
 80 idle position 201 to the position 202. This will prevent the fraudulent actuation of the machine by the holding of the actuator at its advanced position by then
 manipulating the ejector. This will fore-
 85 stall any fraudulent manipulation of the machine as by moving the ejector while the actuator is at its forward position. The relative positions and locations of the cam 19 and member 20 is such that the ejector
 90 cannot be moved backwardly independent of the actuator unless the actuator also moves back a sufficient distance to permit the member 20 to clear the lower portion of the face 19.

Having described my invention I claim:

1. The combination with an oscillatory ejector provided with a cam engaging face, of an actuator and means for guiding the
 same in a straight path, said actuator hav-
 100 ing a cam disposed transversely of its path of reciprocation for engaging said face and oscillating the ejector, a check support, said ejector and actuator being provided
 with coöperative check engaging faces dis-
 105 posed for engaging the edges of a check supported upon said support, moving the check off of the support, and holding the same in a vertical plane, said faces slanting away from
 each other from their upper to their lower
 110 ends for permitting the escape of the check when this is moved off of the support.

2. The combination with a reciprocatory actuator having a check engaging face disposed generally transversely of its path of
 reciprocation and slanting backwardly from
 115 the vertical toward the lower portion, and a cam disposed generally transversely of said path and slanting backwardly from the vertical toward the upper portion, of an oscil-
 120 latory ejector provided with a check engaging face disposed generally transversely of the said path and slanting forwardly of the vertical at the lower end and a face for the engagement of said cam, and a check sup-
 125 port located at the initial check position.

3. In check controlled mechanism, the combination with a reciprocatory actuator, of an oscillatory ejector and a check sup-
 port, the actuator being provided with a
 130

forwardly and downwardly directed check engaging face having its path of reciprocation above the said support, the ejector being provided with a rearwardly and downwardly directed check engaging face normally in the line of the path of movement of the said face on the actuator and movable downwardly in respect of such line upon the reciprocation of the ejector, and the support being provided with a forwardly and downwardly directed check engaging face, substantially as specified.

4. The combination with an oscillatory ejector controller having a cam engaging face and a check engaging face, of a reciprocatory actuator having a cam located in position for engaging said cam engaging face upon the reciprocation of the actuator for the inauguration of the movement of the ejector controller, and a stop face for engaging the said cam engaging face upon the reciprocation of the actuator upon delayed movement of the ejector controller, and a check engaging face for coöperation with the check engaging face on the ejector controller for engaging a check and inaugurating the motion of the said ejector controller.

5. A check controlled mechanism em-

bodging an oscillatory member and a reciprocatory member these being respectively provided with check engaging faces located in position for engaging a check and inaugurating the movement of said oscillatory member, and said members being respectively provided with engaging faces located in position for locking inter-engagement upon movement of the oscillatory member prior to movement of the reciprocatory member.

6. A check controlled mechanism embodying an oscillatory ejector and a reciprocatory actuator, the ejector being provided with a check engaging face directed rearwardly in respect of the working movement of the actuator and located in a position forwardly of the vertical plane in which the axis of oscillation of the ejector is disposed and above the horizontal plane in which the said axis is disposed, the actuator being provided with a forwardly directed check engaging face located in a position above the said horizontal plane for coöperation with the face on the ejector.

HENRY V. WESTERVELT.

Witnesses:

CHAS. LYON RUSSELL,
O. KLUG.