

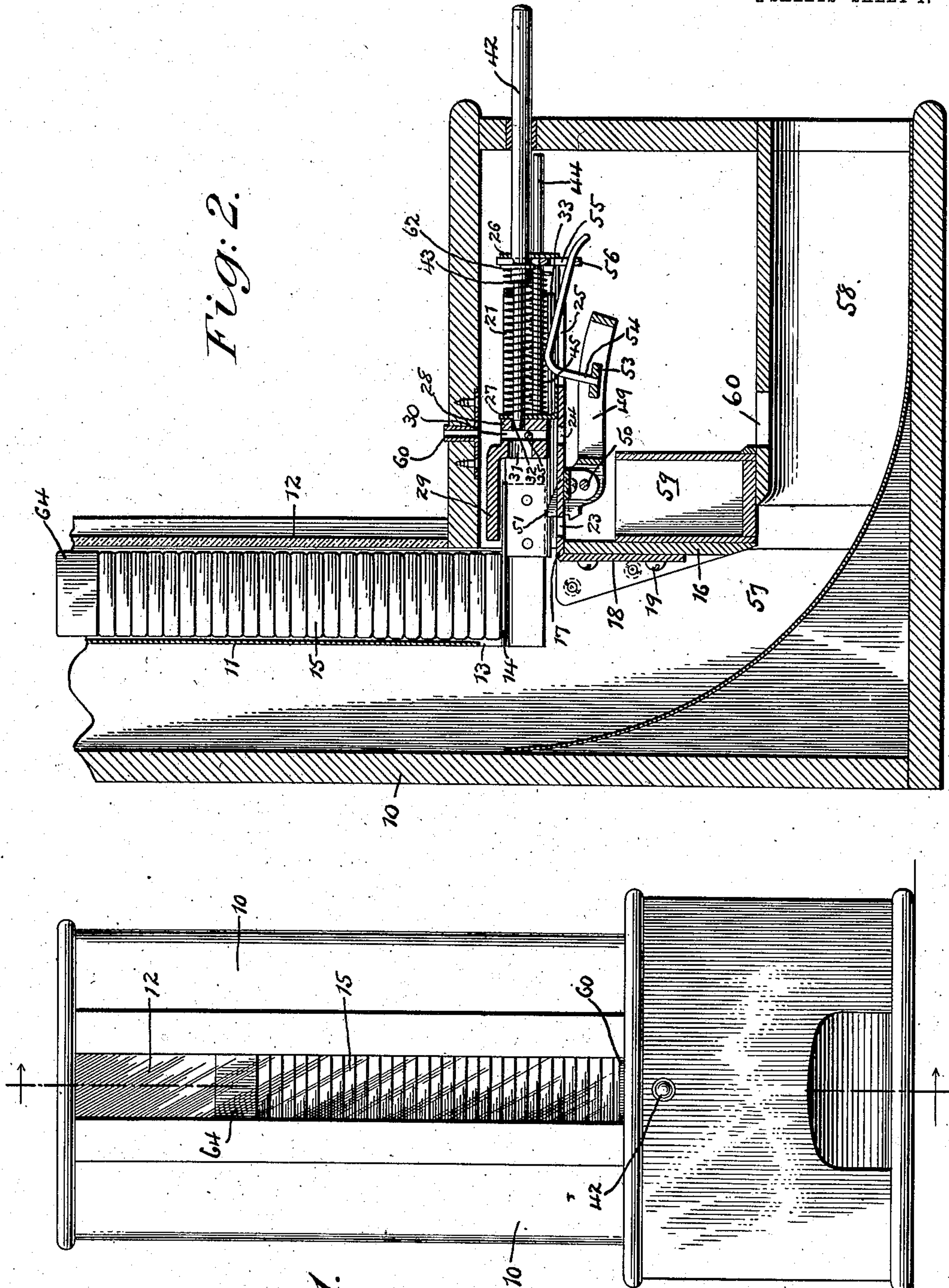
A. MERCKENS.  
VENDING MACHINE.

APPLICATION FILED JUNE 30, 1908.

919,912.

Patented Apr. 27, 1909.

2 SHEETS—SHEET 1.



Witnesses:  
William R. Phelan  
Fred Lloyd Smith

Fig. 1.

Inventor:  
August Merckens.  
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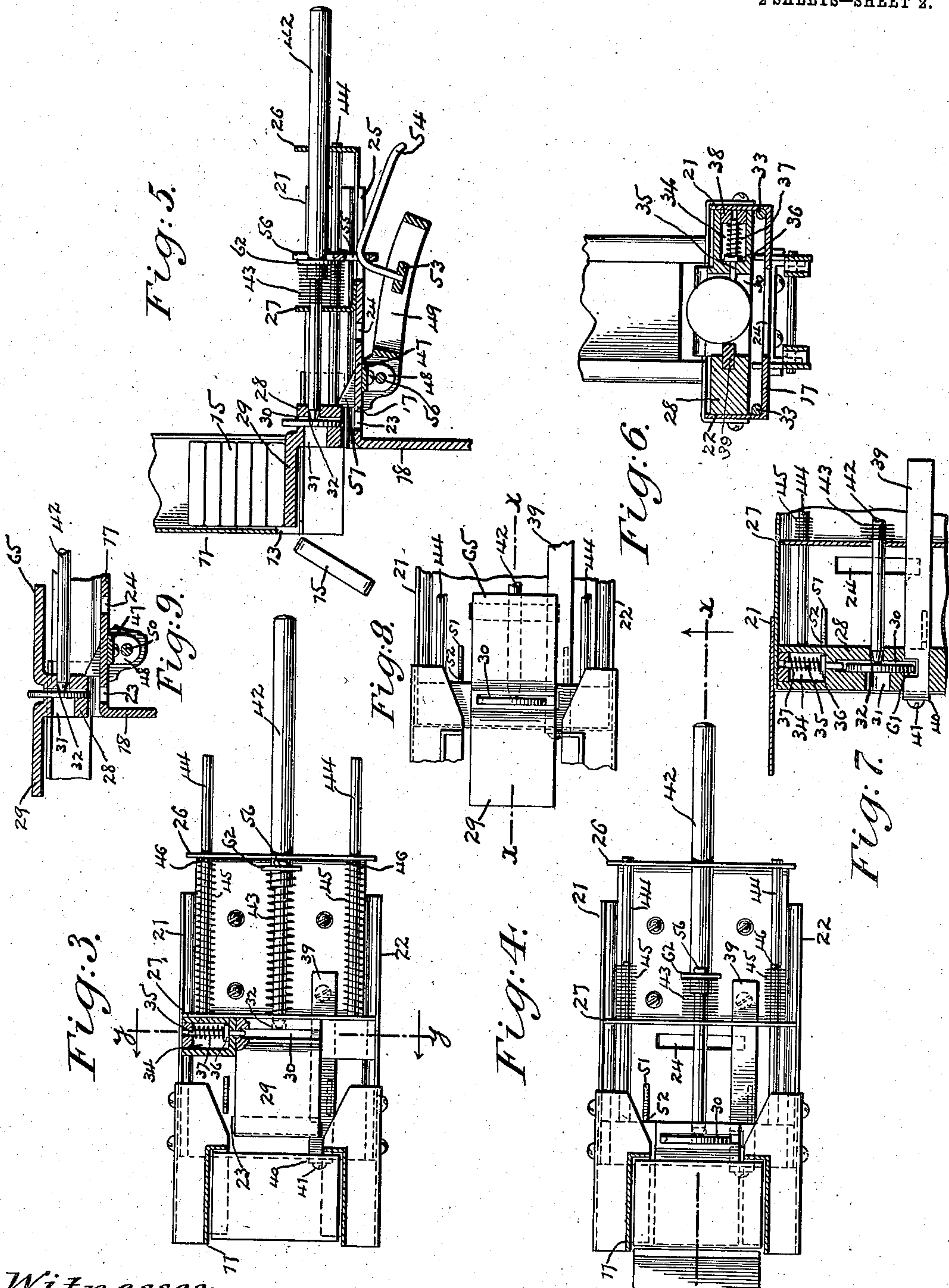
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Witnesses:  
William R. O'Neil  
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August Merckens  
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# UNITED STATES PATENT OFFICE.

AUGUST MERCKENS, OF NEW YORK, N. Y.

## VENDING-MACHINE.

No. 919,912.

Specification of Letters Patent.

Patented April 27, 1909.

Application filed June 30, 1908. Serial No. 441,125.

*To all whom it may concern:*

Be it known that I, AUGUST MERCKENS, a citizen of the United States, residing in the borough of Brooklyn, county of Kings, city and State of New York, have invented an Improvement in Vending-Machines, of which the following is a specification.

My present invention relates to a vending machine for dispensing packages of gum, chocolate and similar merchandise and particularly to the coin operated mechanism for effecting the delivery of the merchandise to be sold.

The principal object of my invention is the provision of a delayed but quick and positive return movement of the coin carriage of the apparatus in the class of vending machines to which this invention relates, and a further object of my invention is the provision of a yielding coin rest within the slot in the coin carriage, whereby a coin of predetermined denomination is arrested and yieldingly held in the desired position, so that by the ordinary push rod and through the intervention of the coin, the mechanism may be operated, and whereby further, any device other than the coin of predetermined denomination and which will not operate the machine, may be forced past this yielding rest or support and passed to the delivery chute by means of inserting a coin of the predetermined denomination into the machine.

In carrying out my invention, I preferably employ a casing, a receptacle for the packages of merchandise to be vended, the coin carriage having a coin slot therein, means for yieldingly supporting a coin of predetermined denomination within the said slot in the carriage, a push rod for actuating the coin carriage through the intervention of the coin to deliver the packages of merchandise one at a time, means for returning and maintaining the push rod in an initial or normal position, means for arresting the carriage in its return movement, means actuated by the push rod in its return movement to release the coin carriage and means for returning the coin carriage to its initial or normal position,—all of which will be hereinafter more particularly described.

In the drawing, Figure 1 is a front elevation of a vending machine illustrating my

present invention. Fig. 2 is a central vertical section of the same on an enlarged scale. Fig. 3 is a plan and partial section of the operating mechanism, showing the parts in the position shown in Fig. 2. Fig. 4 is a plan and partial section showing the parts immediately after a package has been ejected. Fig. 5 is a sectional elevation on line *x, x*, Fig. 4. Fig. 6 is a section on line *y, y*, Fig. 3. Fig. 7 is a sectional plan showing the relation of the operating parts when the coin is permitted to drop into the receptacle provided therefor. Fig. 8 is a partial plan of a modified coin carriage, and Fig. 9 is a section on line *x, x*, Fig. 8.

Referring particularly to the drawing, the vending machine comprising my present invention includes a casing 10 which is of the usual construction and as is customary, is provided with the package receptacle 11 secured in any suitable manner adjacent to the front of the casing, in which is a slot covered by a glass 12 in order that the contents of the package receptacle may be seen, and as is also customary, the package receptacle 11 at its lower end at the rear, is provided with an opening 13 through which the packages, one at a time, may be ejected, and at the base of the package receptacle and on the opposite sides thereof, are ledges 14 which support the superimposed pile of packages 15 which are to be vended. A cross bar 16 extends across the casing and is suitably secured therein, and 17 designates a support plate provided with a flange 18 at right angles thereto and by means of which the support plate 17 is secured in position by screws 19 or otherwise; the support plate 17 is provided with side members 21 22 and with transverse slots 23 24 and a centrally disposed longitudinal slot 25. Secured to the support plate 17 I employ a frame whose end members are designated by 26 and 27 respectively, the said frame fitting within and extending between the sides 21 22 of the support plate 17. A coin carriage 28 is also located within and extends between the sides 21, 22, of the support plate 17 and this coin carriage 28 is provided with an ejector member 29, so placed as to be in the same plane with the bottom package 15 in the package receptacle 11. Centrally the coin carriage 28 is provided with a slot 30



and extending transversely on opposite sides of the coin slot 30 are apertures 31, 32, respectively, and the support plate at the angle between the same and the sides thereof is provided with rails 33 upon which the coin carriage is adapted to travel.

One end of the coin carriage 28 is provided with a recess 34 and within this recess I employ a pin 35 projecting through the body of the coin carriage into the coin slot thereof and within the recess 34 the pin 35 is provided with a collar 36 and a helical or other spring 37 bearing at one end against the collar and at the other end against a plug 38 filling the end of the recess and forming a portion of the end of the carriage, so that normally this pin 35 which forms a yielding support for the coin when inserted into the machine, is maintained in the position shown in Figs. 3, 4, 6 and 7 of the drawing. I may also employ a guide rail indicated at 39; this guide rail is provided with an arm 40 at right angles thereto and which by means of the screws 41 is secured in position in relation to the support plate 17; this guide rail 39 passes through an aperture provided therefor in the coin carriage 28 and extends into the coin slot 30 of the carriage and adjacent to its inner end the guide rail 39 is provided with a recess 61. I also employ a push rod 42 which extends through the front of the casing, through apertures provided therefor in the ends 26, 27, of the frame secured to the support plate and the push rod 42 is normally maintained in position by means of the spring 43 extending between the frame end 26 and a suitable collar 62 secured in the push rod. I also employ rods indicated at 44, each of which at one end is secured in the coin carriage 28 and extends through the end members 26, 27 of the frame member secured to the support plate and surrounding each of the said rods 44 is a helical spring 45 extending between the end 26 of the said frame member and a pin 46 secured in its rod 44.

Beneath the support plate 17 is a bracket indicated at 47 and at either end this bracket 47 is provided with a depending arm 48.

49 represents a gravity rocker frame which is pivotally connected as indicated at 50 in the depending arms 48. At its inner end and at one side of its pivotal point, the rocker frame 49 is provided with a pair of latches indicated at 51; these latches extend upward through slots 52 provided therefor in the support plate 17. Adjacent to the other end and at the opposite side of the pivotal point, the rocker frame is provided with a cross bar 53 and connected in this cross bar 53 is an arm 54 which extends through and operates in the slot 25 in the support plate 17, and the outer or free end of the arm 54 passes through a slot 55 in the bar 56 secured in and depending from the push rod 42.

As also illustrated, the machine is provided with a coin receptacle or drawer 59, but it will be understood that this forms no part of my invention and any of the customary coin receptacles may be employed in conjunction with the hereinbefore described coin controlled and operated mechanism.

In the operation of the hereinbefore described vending machine, a coin of the predetermined denomination for which the apparatus is designed, is inserted through the coin chute 60 and passes to the slot 30 provided therefor in the coin carriage 28. Within this slot 30 the coin is arrested by coming into contact both with the guide rail 39 and the protruding end of the pin 35, whereupon by pushing the rod 42 inwardly, the inner end thereof passes through the aperture 32 and contacts with the surface of the coin, and as will be apparent, by the further inward movement of the push rod 42, the coin carriage by means thereof and through the intervention of the coin, is also moved inwardly and the ejector member thereof by coming into contact with the edge of the lowermost package in the package receptacle, will have ejected the package when the push rod has reached the end of its inward movement, the package falling down the chute 57 where it may be reached at the delivery opening 58 by the person operating the machine. Upon the push rod 42 becoming released, it immediately returns to its initial or normal position by means of the spring 43 and momentarily at the beginning of the return movement of the push rod, the coin carriage travels with the same, being moved by the springs 45. This initial movement of the coin carriage however is slight, because the sides of the carriage abut against the latches 51 over which the carriage has ridden during its inward travel and is there arrested, in which position the coin slot registers with the slot 23 in the support plate and also with the slot 61 in the guide rail 39, whereby the coin is permitted to drop into the coin receptacle or drawer 59, the push rod 42 in its return movement carrying as it does, the bar 56, raises the outer end of the gravity frame 49 by means of the lifting of the arm 54, whereby the latches 51 are depressed sufficiently to release the coin carriage and permit it to return swiftly and positively to its normal or initial position under the action of the springs 45. As will also be apparent, in case a spurious coin or washer or similar device is placed in the machine and which by the push rod passing through the opening therein or for other reasons will not operate the machine,—that upon inserting a coin of the predetermined denomination, the spurious coin, washer or other device may be forced past the yielding support or pin 35 and passed by way of the



slot 24 to the chute and opening where the packages are delivered, the slot 24 registering with the coin slot 30 when the coin carriage is in its normal position.

5 I may also employ a weight indicated at 64 adapted to fit within the package receptacle resting upon the top of the superimposed pile of packages to insure the proper descent of the same and to prevent the operation of the machine when all of the packages have been sold and delivered, this latter function being performed by the end of the ejector member contacting with the weight and as will be manifest, preventing anything but a very slight movement of the coin carriage.

As shown in Figs. 8 and 9, I may also provide the coin carriage with a guard plate indicated at 65 extending in the opposite direction to the ejector member, and on the other side of the coin slot and preferably at about the same elevation as said ejector member, this guard is of such an extent as to cover the slot 30 when the coin carriage has reached the innermost point of its travel, the object of the said guard plate being to prevent the insertion of a coin in the apparatus, if for any reason the coin carriage should become wedged or inoperative in any but its initial position from any cause whatsoever.

As will also be seen from the drawing, access is obtained to the cash drawer or receptacle from the side of the apparatus and furthermore any coin but that of the predetermined denomination, whether one which will not be retained in the coin slot in the carriage or one which will be so retained but will not operate the apparatus, will pass by way of the slot 60 to the chute and place at which the packages sold are obtainable and will thus be returned to the party operating the machine, or attempting so to do.

I claim as my invention:

45 1. In a vending machine, a casing, a package receptacle, a push-rod, a support plate having slots therein, a coin carriage adapted to slide on the said support plate and having a slot therein and adapted through the intervention of a coin of predetermined denomination to be actuated by the push-rod to eject a package to be vended, means for yieldingly supporting a coin in said slot, means for returning the push-rod and normally maintaining the same in its initial position, a gravity rocker frame pivotally mounted beneath the said support plate, means carried by the said gravity rocker frame and adapted to pass through said slots in the said support plate to engage and arrest the coin carriage in its return movement after having traveled to the extreme of its forward movement, means actuated by the

return movement of the push-rod for actuating the said rocker frame to remove the means carried thereby from the coin carriage, and means operative upon the release of the coin carriage for returning and maintaining the same in its initial position.

2. In a vending machine, a casing, a package receptacle, a push-rod, a support plate having slots therein, a coin carriage adapted to slide on the said support plate and having a slot therein and adapted through the intervention of a coin of predetermined denomination to be actuated by the push-rod to eject a package to be vended, means for yieldingly supporting a coin in said slot, means for returning the push-rod and normally maintaining the same in its initial position, a gravity rocker-frame pivotally mounted beneath the said support plate, latches on the said gravity rocker-frame adapted to pass through said slots in the said support plate to engage and arrest the coin carriage in its return movement and after the same has traveled to the extreme of its forward movement, means actuated by the push-rod in its return movement for releasing the said latches from their engagement with the coin carriage and means for returning and normally maintaining the coin carriage in its initial position.

3. In a vending machine, a casing, a package receptacle, a push rod, a coin carriage having a slot therein and adapted through the intervention of a coin of predetermined denomination to be actuated by the push rod to eject the package to be vended, means for returning the push rod and normally maintaining the same in its initial position, a pivotally mounted gravity rocker frame, latches carried by the said gravity frame adapted to engage and arrest the coin carriage in its return movement, a bar secured in and depending from the push rod and having a slot within, an arm carried by and secured in the said gravity rocker frame with its free end passing through the said slot in the bar secured in the push rod, and means for returning the coin carriage to its initial position.

4. In a vending machine, a casing, a package receptacle, a push rod, a coin carriage having a coin slot therein and a recess in one end thereof and adapted through the intervention of a coin of predetermined denomination to be actuated by the push rod to eject the package to be vended, a pin within the said recess passing through an aperture provided therefor in the end of the said slot in the coin carriage, a spring for normally maintaining the said pin in position, a plug closing the said recess, means for returning the push rod and normally maintaining the same in its initial position, a pivotally



mounted gravity rocker frame, latches carried by the said gravity frame adapted to engage and arrest the coin carriage in its return movement, a bar secured in and depending  
5 from the push rod and having a slot therein, an arm carried by and secured in the said gravity rocker frame with its free end passing through the said slot in the bar secured

in the push rod and means for returning the coin carriage to its initial position.

10

Signed by me this 11th day of June 1908.

AUGUST MERCKENS.

Witnesses:

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