E. F. SPAULDING.

COIN CONTROLLED VENDING MACHINE.

APPLICATION FILED AUG. 17, 1910.

981,892.

Patented Jan. 17, 1911.

4 SHEETS—SHEET 1.

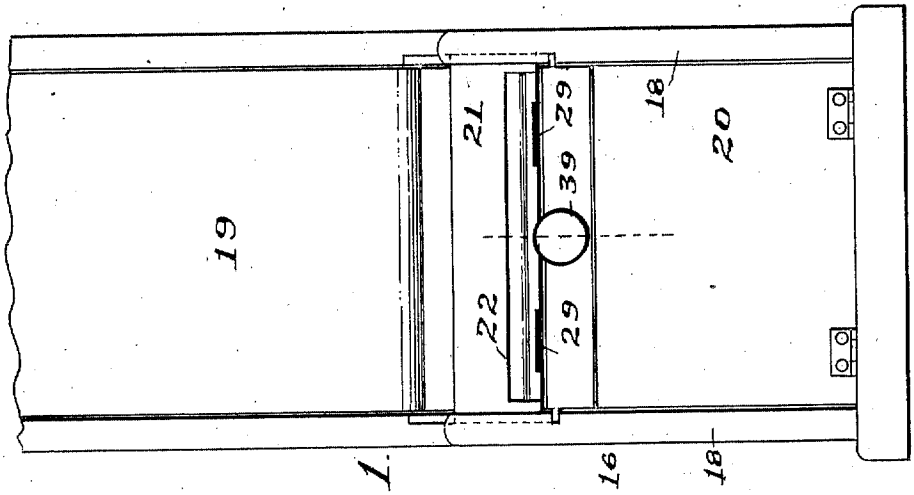

Fig. 1.

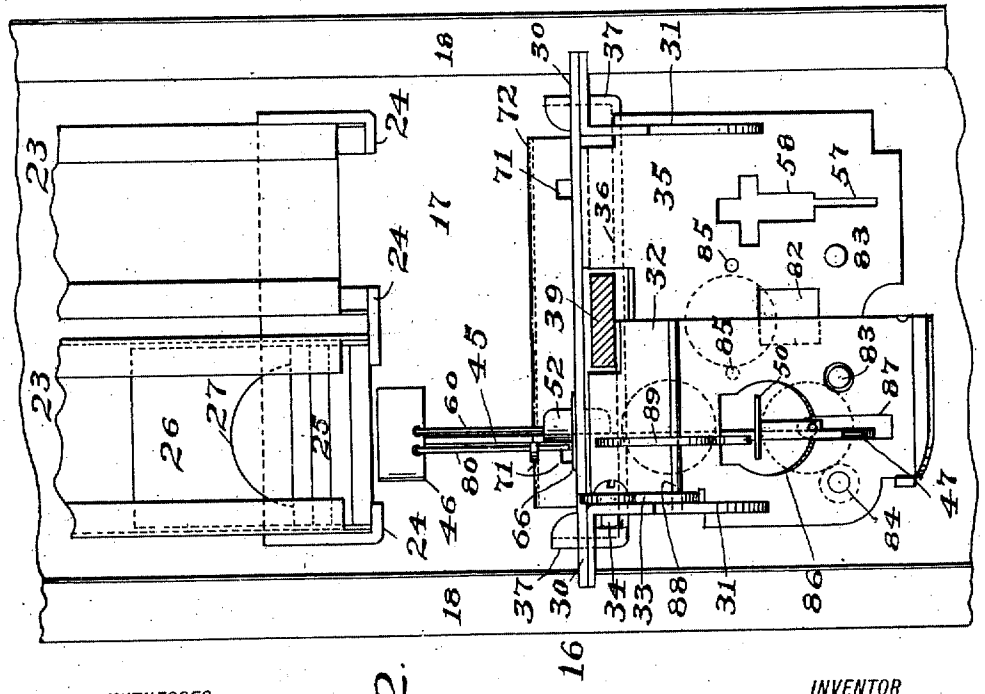

Fig. 2.

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4 SHEETS—SHEET 2.

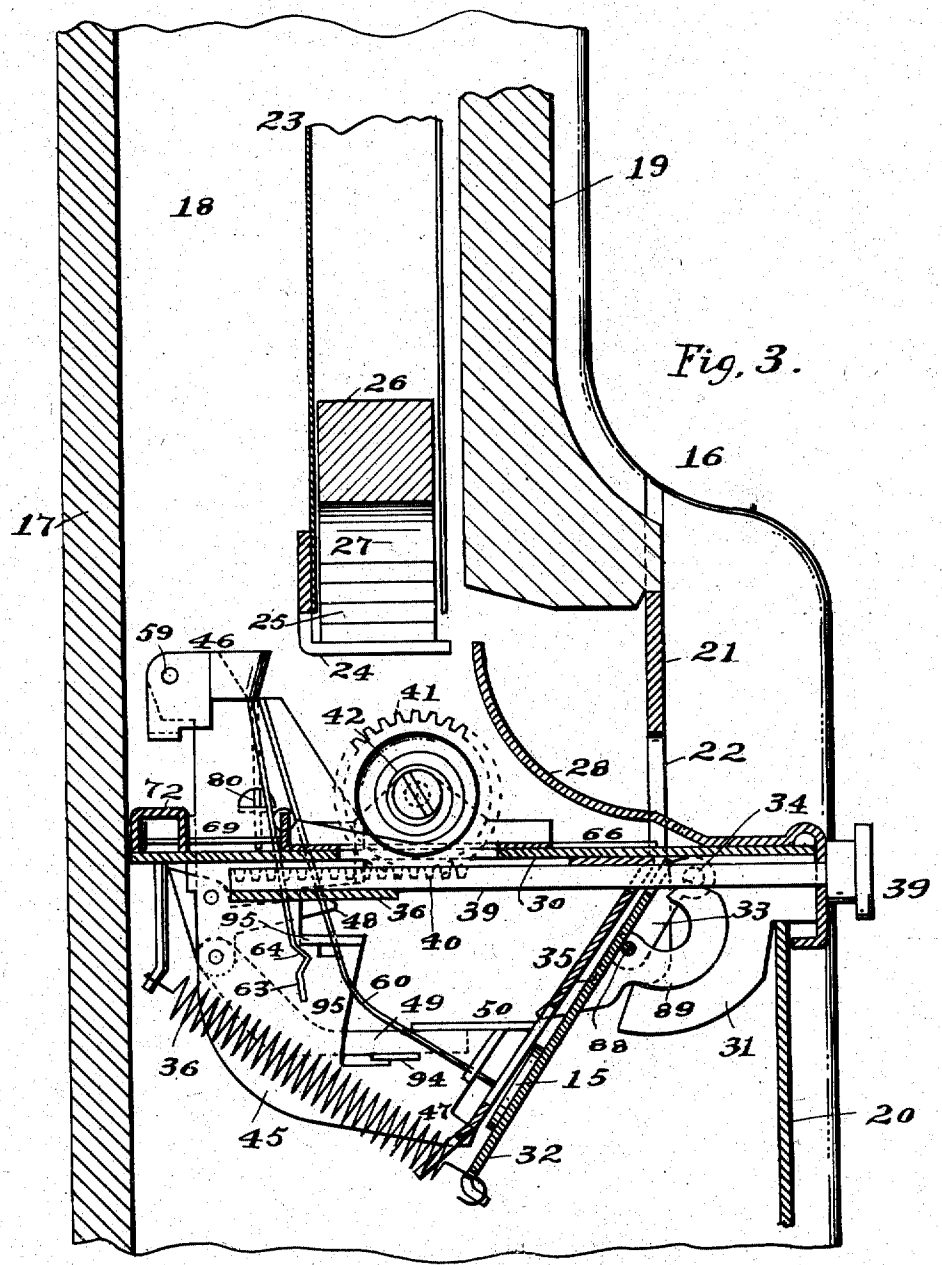

Fig. 3.

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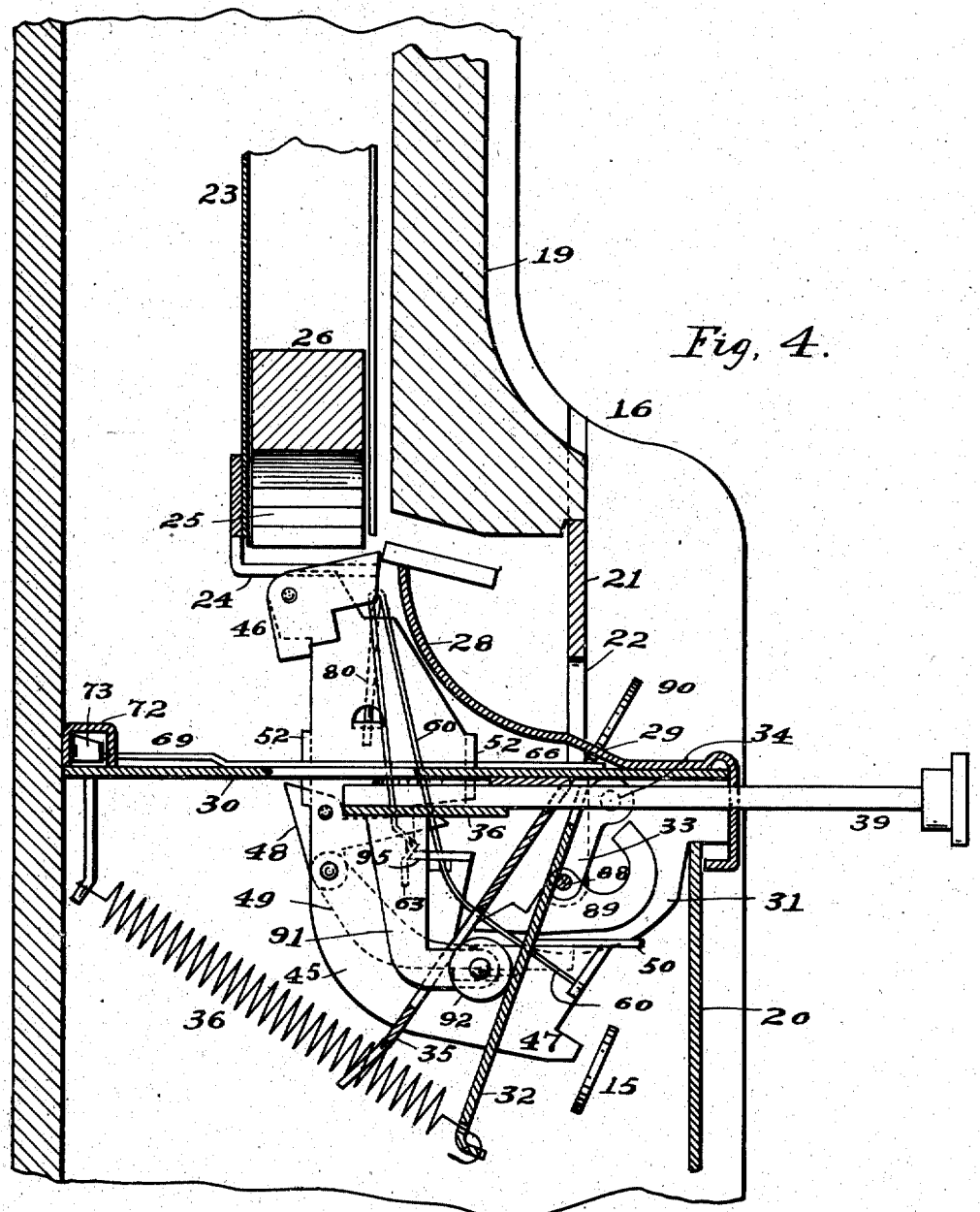
4 SHEETS—SHEET 3.

Fig. 4.



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4 SHEETS—SHEET 4.

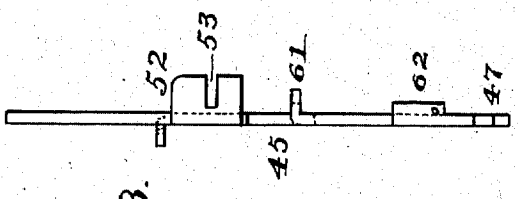

Fig. 8.

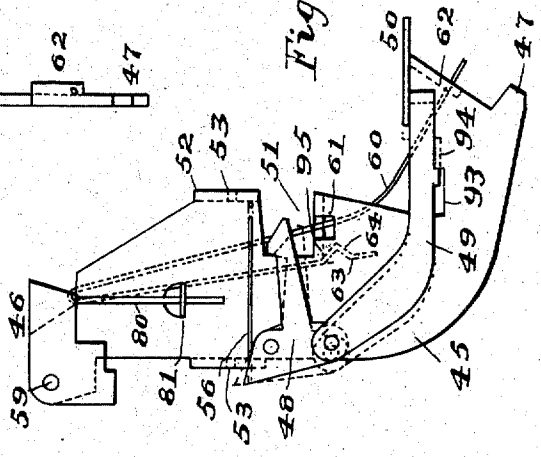

Fig. 7.

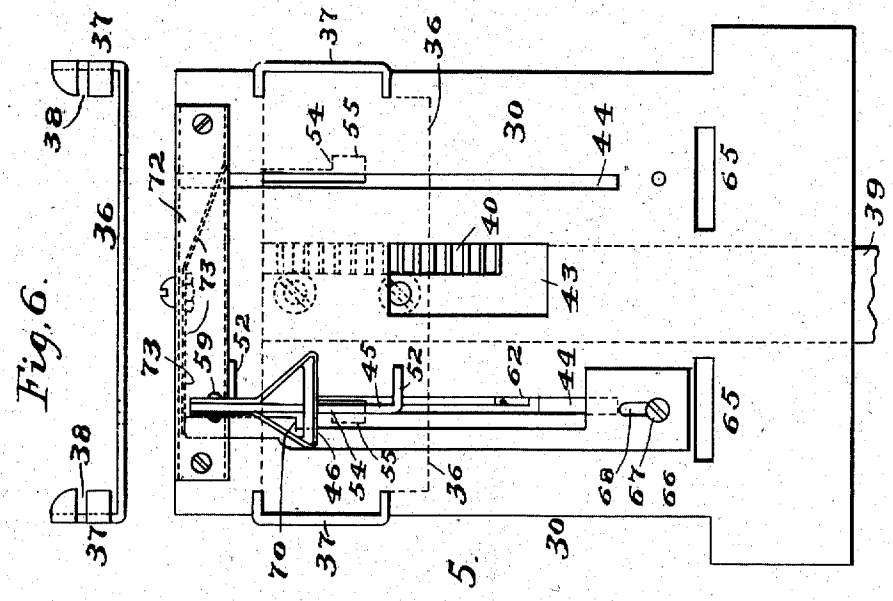

Fig. 6.

Fig. 5.

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UNITED STATES PATENT OFFICE.

ELIJAH F. SPAULDING, OF BROOKLYN, NEW YORK.

COIN-CONTROLLED VENDING-MACHINE.

981,892. Specification of Letters Patent. **Patented Jan. 17, 1911.**

Application filed August 17, 1910. Serial No. 577,578.

To all whom it may concern:

Be it known that I, ELIJAH F. SPAULDING, a citizen of the United States, and a resident of Brooklyn, in the county of Kings and State of New York, have invented certain new and useful Improvements in Coin-Controlled Vending-Machines, of which the following is a specification.

The invention relates to improvements in coin-controlled vending machines, and it consists in the novel features, arrangements and combinations of parts hereinafter described, and particularly pointed out in the claims.

The object of the invention is to provide an entirely efficient and reliable vending machine, capable of ready manufacture and operation and adapted to be operated for ejecting goods only upon the introduction of the proper coins to the machine.

The invention will be fully understood from the detailed description hereinafter presented, reference being had to the accompanying drawings, in which:

Figure 1 is a front elevation, with the upper portion broken away, of a vending machine embodying my invention; Fig. 2 is a front view, of the lower portion of the machine with certain features omitted and other parts in section, the entire front of the cabinet being omitted and the right hand half of the front hinged coin plate down which the coins slide after having passed through the coin slots, being removed, while the left hand half of said plate is shown in position with a coin indicated on the rear face thereof by dotted lines, the top circle indicating the coin as starting to slide down said plate and the bottom dotted circle denoting the coin in its at rest position in line with the coin ejector; Fig. 3 is a substantially central vertical section through a portion of the machine, the operative mechanism being shown in its normal initial or inoperated position, but ready to be operated, a coin 15 having attained a proper position to permit the machine to be operated; Fig. 4 is a like view of the same showing the parts in their operated position, with the operating handle pulled outwardly, the coin 15 released to descend and the lower piece of goods in the vertical tray ejected ready to descend to the purchaser; Fig. 5 is a top view of the stationary supporting plate for the operative mechanism of the machine, the operating handle being partly broken away; Fig. 6 is a detached front edge view of a slidable plate connected with the operating handle and shown in Fig. 5, by dotted lines, in top elevation; Fig. 7 is a detached side elevation of one complete set of mechanism for acting against the coin 15 when in the position shown in Fig. 3, and for positioning the pivoted goods ejector and effecting during the continued movement of the handle bar the dislodgment of the coin and the ejection of a piece of goods from the tray, in the manner represented in Fig. 4, all of the parts shown in Fig. 7 being carried by an individual plate; Fig. 8 is a front edge view of the plate shown in side elevation in Fig. 7, with the operative parts omitted from said plate.

In the drawings, 16 designates the cabinet as a whole, said cabinet comprising a back 17, sides 18, an upper removable front 19 behind which the trays for the stacks of confection are located, and a lower front hinged coin door 20, behind which and between the sides and back of the cabinet is formed a chamber to receive a portion of the operative mechanism of the machine, and also the coins fed to the machine. The removable front 19 may be of any suitable character, and the one shown corresponds substantially with the removable front described in Letters Patent No. 935,824 and Number 939,563 heretofore granted to me. The front 19 is supported upon the upper edge of a plate 21, as described in the said Letters Patent, and said plate at its lower portion affords a discharge opening 22 for the pieces of confection sold.

The trays for the stacks of confection are numbered 23 and are of customary character, said trays having below their lower ends base plates 24 for supporting the stacks of confection or pieces 25 at their end portions, as shown in Fig. 2. The plates 24 below each stack are separated at their facing edges so as to afford space for the passage between them of the goods ejector. Upon the stacks of confection I apply weights 26 which are recessed longitudinally on their lower surfaces, as at 27, so that at no time will said weights interfere with or act against the goods ejectors.

At the front and extending forwardly and downwardly from the trays 23 is the stationary coin slot plate 28 down which the purchased pieces of confection slide through the opening 22 and which is formed with a coin

receiving slot 29 for each tray 23. The coin slot plate 28 is stationary and its front edge turns downwardly and terminates adjacent to the upper edge of the door.

Below the coin slot plate 28 is mounted in the sides of the cabinet a horizontal plate 30 for the operative mechanism of the machine, said plate being stationary but preferably detachable from the cabinet. The plate 30 has secured to the lower side of its front opposite edge portions brackets 31 which extend downwardly and have pivotally secured to them a front coin-plate 32, said plate having at its upper opposite edges small flanges 33 through which the screws or pins 34 hinging said plate 32 to the brackets 31 pass. At the rear of the coin-plate 32 is secured, to the bed-plate 30, a transverse downwardly and inwardly inclined rigid plate 35 between which and the hinged front coin-plate 32 the coins fed through the coin-slots 29 necessarily pass. The hinged plate 32 is given a normal spring tension toward the plate 35 by means of the coiled spring 36, but said spring permits the plate 32 to be turned downwardly and forwardly from the plate 35 and to the position shown in Fig. 4.

The slidable portion of the operative mechanism is connected with a transverse plate 36 (Figs. 5 and 6), which is preferably formed from sheet metal and is slidably mounted on the edges of the stationary plate 30, said plate 36 having its body portion spaced below the plate 30 and its ends 37 turned upwardly to embrace the edges of said plate 30. The front and rear edges of the ends 37 are bent inwardly at right angles and are slotted, as at 38, to pass upon the edges of the plate 30 and slidably support the plate 36 therefrom. The plate 36 has secured to it the operating handle bar 39 by which said plate, with the parts carried by it, may be pulled forwardly in operating the machine. The handle bar 39 is formed with rack-teeth 40, which are engaged by a gear-wheel 41 around whose shaft is wound a coiled leaf-spring 42, said spring 42 having constant tension to rotate said wheel 41 frontwardly and downwardly and toward the rear against the rack-teeth 40 of the handle-bar 39, whereby said spring is enabled to normally hold the bar 39 and plate 36 at their inner rear position shown in Fig. 3 and to return said parts to said position after said bar has been pulled outwardly to the position shown in Fig. 4 and then released. The plate 30 is formed with an opening 43 to enable the gear-wheel 41 to engage the rack 40 on the bar 39.

Upon the plate 30 there is slidably mounted in a slot 44, for each tray 23, a vertical plate 45 carrying at its upper end a pivoted goods-ejector 46, at its lower end a rigid coin-ejector 47, and on its side a pivoted latch 48 to which is pivoted an arm 49 having a forwardly projecting lip 50. The plate 45 is preferably formed of sheet metal and has in its front edge a recess 51 and at its front and rear edges laterally turned lips 52 containing horizontal slots 53 which receive the edge of the plate 30 along the slot 44 therein and thereby support the plate 45 from said plate 30. The plate 45 carrying the coin-ejector and goods-ejector may have a sliding movement forwardly and backwardly under the operation of the handle bar 39 and spring 42 when said plate 45 is connected with the transverse plate 36 to which said handle bar is secured. The means for connecting the plate 45 with the plate 36 is the latch 48, which, in the proper operation of the machine, is engaged with a shoulder 54 formed at the rear edge of a slot 55 in said plate 36. A spring 56 normally keeps the latch 48 in engagement with the shoulder 54 so that when the plate 36 is pulled forwardly the plate 45 and parts connected with it will slide forwardly. When a certain attempt is made to cheat the machine, as hereinafter explained, the latch 48 will, through the lip 50 and arm 49, be turned downwardly from the shoulder 54, and at such time the plate 36 may slide forwardly with the handle-bar 39 but will not draw with it the plate 45, since the latter will have become unlatched from said plate 36. The coin-ejector-portion 47 of the plate 45 is an integral forwardly projecting part of said plate and it projects into a narrow portion 57 of a main slot 58 in the rigid plate 35. The portion 57 of the slot 58 is made narrow so as to snugly receive the coin-ejector 47, as shown in Fig. 3, to aid in steadying and preventing tilting of the plate 45. When the plate 45 is drawn forwardly it passes bodily into the slot 58, its lower portion being within the narrow part 57 of said slot and its upper portion, including the lip 50 and forward portion of the arm 49, extending through the upper enlarged portion of said slot.

The goods-ejector 46 is preferably formed of sheet-metal bent to present a broad front surface, as shown in Fig. 5, to the goods to be sold and at its rear portion to straddle the upper end of the plate 45 to which the goods-ejector is pivotally secured, as at 59. The goods-ejector 46 is normally on a plane below the lower piece of goods in the tray 23, as shown in Figs. 2 and 3 and in rear of said tray, while in the active position of the goods-ejector the latter is tilted upwardly, as shown in Fig. 4, in rear of and in line with the lower piece of goods in the tray 23, so that when the plate 36 and plate 45 are drawn frontwardly by the handle bar 39, the goods-ejector may move against said lower piece of goods and force it frontwardly from the tray to a position at which it may slide down the coin-slot plate 28 to

the purchaser. On the return movement of the plate 45 to its rear position, the weight of the confections in the tray 23 will turn the goods-ejector 46 downwardly to its initial position, the forward portion of the ejector on its return movement being compelled to move against the goods in the tray 23, which goods upon the ejection of the lower piece thereof will immediately settle to the lower end of the tray. The means for pushing the forward end of the goods-ejector 46 upwardly operates in connection with a properly positioned coin 15 (Fig. 3) and comprises a wire-rod 60 which is hooked through the front portion of the ejector and thence extends downwardly through an apertured guiding lip 61 at one side of the plate 45 and then through another apertured lip 62 formed on the plate 45 above the coin-ejector 47. The guiding lips 61, 62 are clearly shown in Fig. 8. The rear portion of the wire 60 forms a spring latch 63 and extends downwardly along the side of the plate 45 and has a bent or latch portion 64 capable of yieldingly engaging the rear end of the lip 95. The main wire 60, when it is carried into contact with the coin 15, is, due to the resistance offered by the coin, forced rearwardly and upwardly and elevates the forward portion of the goods-ejector 46, releasing during this movement the spring-latch 63 from the lip 95. When, during the rear movement of the plate 45 to its initial position the goods-ejector 46 is pressed downwardly by the weight of the stack in the tray 23, the wire 60 and spring latch 63 are moved downwardly by the ejector to their lower initial positions, shown in Fig. 7, and the latch 63 automatically engages the lip 95 and yieldingly holds the ejector 46 in its inoperative position. The spring latch 63 is employed more particularly for preventing any rattling movement of the goods-ejector 46 and while desirable of use is not an indispensable feature of the structure.

I provide the plate 30 with coin-slots 65 (Fig. 5) one being below each coin-slot 29 of the plate 28, and for each of these slots 65 I provide upon the plate 30 a sliding shutter 66 in the form of a plate resting upon the plate 30 and at its front portion secured thereto by a screw 67 which passes through a slot 68 in the shutter. The rear end of the shutter plate 66 is formed with an upward-bent or offset portion 69 (Fig. 4), which has a shoulder 70 (Fig. 5) and enters an opening 71 in a transverse box 72 secured on the rear end of the plate 30. The shutter-plate 66 is guided at its front end by the screw 67 and slot 68 and at its rear end by the walls of the opening 71 in the box 72. Within the box 72 is secured a leaf-spring 73 which normally acts against the rear end of the shutter 66 to drive the latter forwardly over the coin-slot 65, so that said shutter may close said slot at all times when the plate 45 is away from its initial position and also at all times when the goods-ejector 46 is in its upper position ready for operation. The means which restrain the spring 73 from causing the shutter 66 to close the slot 65 is a wire rod 80 secured to the forward end of the goods-ejector 46 and projecting downwardly through a guiding lip 81 turned laterally from the side of the plate 45, as shown in Fig. 7. The lower end of the wire rod 80 normally stands in front of the shoulder 70 on the shutter 66 and holds said shutter in its rear position against the stress of the spring 73, this being when the plate 45 is in its rear position and the goods-ejector 46 is in its lower position. After a coin has been introduced to the machine and the plate 45 pulled frontwardly with the plate 36 and handle rod 39 and the goods-ejector 46 has been turned upwardly by the resistance the coin 15 offers to the rod 60, the wire rod 80 is relieved from the shoulder 70 of the shutter 66 and the spring 73 then forces said shutter forwardly to close the slot 65. When, therefore, the machine is started in operation, the goods-ejector 46 turns upwardly to its operative position and in doing so carries the rod 80 from the shoulder 70 of the shutter 66 and releases said shutter to be moved to its closure position by the spring 73. During the rearward movement of the plate 45 returning the goods-ejector to its normal initial position, the ejector is turned downwardly as hereinbefore described, by the weight of goods in the tray 23 and the lower end of the rod 80 is by this downward movement of the ejector projected downwardly in front of the shoulder 70 on the shutter-plate 66 and during the continued rearward movement of the plate 45 the rod 80 acting against the said shoulder 70 forces the shutter plate 66 rearwardly against the stress of the spring 73 and holds said shutter in its rear position with the slot 65 open to receive another coin. When the last piece of goods in a tray 23 shall have been sold, the goods-ejector 46 will return to its rear position without becoming turned downwardly against the top of the plate 45, there then being nothing in the tray to act against the said ejector, which on its then rearward movement will travel through the recess 27 in the weight 26 without being acted on by said weight, and under this condition the wire rod 80 will remain in its upper position above the shoulder 70 of the shutter plate 66 and be unable to move the shutter to its rear position, whereby the shutter will be permitted to remain in its forward position closing the slot 65, so as to exclude coins therefrom, there then not being any goods in the tray 23 to be delivered.

As hereinbefore described the inclined plate 35 is rigid and the plate 32 down which the coins slide is hinged at its upper end. The plate 35 is formed in line with the plate 45 with a slot 58 and at its center is formed with an opening 82. The plates 35, 32 are respectively formed with pins 83, 84 provided, as shown in Fig. 2, to arrest a proper coin in line with the lower portion of the plate 45 and parts carried thereby, the pin 83 being secured to the plate 35 and extending forwardly through an opening in the plate 32, while the pin 84 is secured to the plate 32 and extends rearwardly to the plate 35, said pins 83, 84 thus initially crossing the space normally between the plates 35, 32 when the machine is at rest and being intended to arrest a proper coin, while permitting improper coins, disks and the like to slide downwardly between them without becoming arrested. I also provide on the plate 35, between the upper portions of the slots 58, pins 85 initially crossing the space between the plates 35, 32. The plate 32 is formed, in line with each plate 45, with a coin discharge opening 86 and the downwardly extending slot 87 leading from said opening and provided to admit the lower portion of the plate 45, as shown in Fig. 4. At the front of the plate 32 there is pivotally mounted, on a transverse rod 88, over each opening 86, a deflector 89 which has a lower rearwardly projecting arm extending through the upper portion of the coin discharge opening 86, as shown in Fig. 3, and an upper curved arm tending by its weight to turn the lower rearwardly projecting arm rearwardly across the space between the plates 32, 35.

The deflector 89 is an automatic device for aiding in preventing the cheating of the machine and its lower arm is directly in the path of the coins fed to the machine. If a coin of proper weight is fed to the machine it will pass against the lower arm of the deflector and turning said deflector on its pivot rod 88 pass the same and reach an at rest position against the pins 83, 84, as indicated by dotted lines at the left hand part of Fig. 2. If, however, the coin or disk fed to the machine should be deficient in weight to turn the lower arm of the deflector 89 downwardly, said coin or disk will be by said deflector turned laterally and pass downwardly between the pins 85 (Fig. 2) and thus not reach the position whereby the machine might be operated in connection therewith. The deflectors 89 are therefore safety devices to prevent improper use of the machine. I have found that the pins 85 are also useful in restraining a proper coin from taking a lateral course. When a proper coin is fed to the machine and reaches the lower arm of the deflector 89, it meets some resistance, and while overcoming this resistance there is a little danger of the coin turning to a slight extent laterally, and in the present instance should this occur the coin will strike the outer edge of one of the pins 85 and be kept on its true course to the pins 83, 84.

The operation of the machine will in many respects be understood from the description hereinbefore presented. Fig. 3 illustrates the normal position of the several parts of the machine ready to be placed in use. A coin 15 of proper dimensions is fed to the machine through the coin slot 29 and coin slot 65 and slides downwardly between the plates 32, 35 until arrested by the pins 83, 84, said coin having on its downward passage moved the lower arm of the deflector 89 outwardly so as to pass the same. Thereupon the operator will grasp the handle bar 39 and pull the same outwardly to secure the dislodgment of the lower piece of goods in the tray 23. The first portion of the outer movement of the handle bar 39 and its connected parts results in the lower end of the wire rod 60 moving against the coin 15, and in said rod being thereby pushed upwardly to elevate the goods ejector 46 into its operative position, and thereupon during the continued outward movement of the handle bar 39 the coin ejector 46 passes under the coin 15. The plate 32 is pressed forwardly on its hinges by the action of the front end of the plate 45 against the coin and the goods ejector 46 is carried forwardly against the lower piece of confection in the tray 23 and dislodges the same, said piece descending on the plate 28 to the purchaser, and the coin slot 65 being kept closed during this movement of the handle bar by means of the shutter 66. In Fig. 4 I illustrate the shutter as closing the slot 65 so as to exclude a coin (numbered 90) from being fed to the machine. Upon the return or inward movement of the handle bar 39 and its connected parts the coin ejector is turned downwardly by the weight of the goods in the tray 23, the lower end of the rod 80 engages the shutter 66 and opens the slot 65, and the spring 36 retracts the plate 32 to its position with relation to the plate 35, and thereupon the machine is ready for continued use.

In the construction shown in the drawings the machine is provided with two trays 23 and the sliding plate 36 is equipped with two sets of plates 45 and connected parts, one for each tray. The machine may be enlarged by employing a greater number of trays and by equipping the sliding plate 36 with a corresponding number of plates 45 and connected parts, the plates 45 and their connected parts being duplicates of one another.

The spring latch 48 and arm 49 are used to prevent the cheating of the machine by means of a thin strip of metal or stiff paper which in the absence of provision to the con-

trary might be passed downwardly through the coin slots 29, 65 and between the plates 32, 35 so as to stand in front of the coin ejector plate 45, above the coin ejector 47, so as to constitute an obstruction which, on the pull of the handle bar 39, would cause the wire rod 60 to move upwardly and set the goods ejector 46 in operative position. In order to frustrate the employment of the strip of metal or paper for enabling the operating of the machine, I provide the spring latch 48 and arm 49 whose front lip 50 projects forwardly in advance of the lower end of the wire rod 60 so that it, on the outward pull of the handle bar, would strike against any such strip and, due to the resistance thus offered, turn the spring latch 48 on its pivot to free the same from the shoulder 54 of the plate 36, this resulting in the plate 36 moving forwardly with the plate 45 remaining in its rear position, said plate 45 having become unlatched from the sliding plate 36. Except for providing against the use of a strip of thin metal or stiff paper for cheating the machine, the latch 48 and arm 49 would not be made use of, but the plate 45 would be permanently connected with the transverse plate 36 so as to always slide therewith. The arm 49 is guided on the edge 93 of the plate 45 (Fig. 7) and is formed with a bent-finger 94 (Figs. 3 and 7) serving to hold said arm against the side of said plate.

I provide my invention with means for moving the plate 32 outwardly on its hinges each time the handle bar 39 is operated regardless of whether a proper coin has been introduced to the machine, and these means comprise simply an arm 91 (Fig. 4) secured to the lower central portion of the plate 36 and having a forwardly bent lower end upon which is a roller 92. When the handle bar 39 is pulled forwardly the roller 92 passes through an opening 82 in the rigid plate 35 and pressing against the rear face of the hinged plate 32 turns the same forwardly and assures the freeing of anything that may have become lodged between said plates. The brackets 31 at their lower ends serve as stops to prevent, at all times, any undue outward movement of the hinged plate 32.

In the regular operation of the machine, commencing with the parts shown in Fig. 3, the coin 15 engaged by the coin ejector is, during the outward movement of the plate 32, caused to slide upwardly on said plate until it passes into line with the discharge opening 86 therein at which time the pressure of the coin ejector being still exerted against the coin, the latter will be thrown forwardly through said opening 86 and fall into the general coin receiving chamber of the machine. In an instance in which the machine might be equipped with a series of trays with a plate 45 for each tray, the one handle bar 39 would be employed for all of said plates, and if a coin should be inserted through each of the coin slots for the respective trays and the handle bar 39 pulled outwardly, the machine would eject the lower piece of goods from each of the trays by a simultaneous operation. When, however, only one coin is inserted in one of the slots, only one goods ejector will be rendered operative, and although all of the goods ejectors will move forwardly on the pull of the handle bar, only one piece of goods will be discharged from the machine.

What I claim as my invention and desire to secure by Letters Patent, is:

1. In a coin-controlled vending machine having a coin-slot plate and a tray for the goods to be sold, a transverse slide below the tray, a handle-bar for operating the slide, a vertical plate connected with the slide and constituting at its lower portion a coin-ejector and at its upper portion carrying a movable goods-ejector, a hinged coin-plate on which a coin may descend from the coin-slot and having an opening therein of sufficient size to permit a coin to be forced through it when the said opening and coin are in line with each other, means adjacent to said opening for arresting a proper coin in a plane with the coin-ejector, a spring yieldingly holding said hinged plate in its initial position, and a rod connected with said goods-ejector and extending along said vertical plate to a point in line with the coin held on said hinged-plate, so as to contact with said coin when said slide and vertical plate are started on their movement and thus be forced to elevate said goods-ejector to its operative position, said hinged plate initially being at an angle to the path of the coin-ejector so that as said ejector is, on the operation of said handle, moved against the arrested coin said plate will be thereby caused to turn on its hinge and carry the opening therein in line with said coin and permit the coin to escape through the same; substantially as set forth.

2. In a coin-controlled vending machine having a coin-slot plate and a tray for the goods to be sold, a transverse slide below the tray, a handle-bar for operating the slide, a vertical plate connected with the slide and constituting at its lower portion a coin-ejector and at its upper portion carrying a movable goods-ejector, a hinged coin-plate on which a coin may descend from the coin-slot and having an opening therein of sufficient size to permit a coin to be forced through it when the said opening and coin are in line with each other, means adjacent to said opening for arresting a proper coin in a plane with the coin-ejector, a spring yieldingly holding said hinged plate in its initial position, a spring latch for yieldingly holding the goods-ejector in its inoperative

position, and a rod connected with said goods-ejector and extending along said vertical plate to a point in line with the coin held on said hinged-plate, so as to contact with said coin when said slide and vertical plate are started on their movement and thus be forced to elevate said goods-ejector to its operative position, said hinged plate initially being at an angle to the path of the coin-ejector so that as said ejector is, on the operation of said handle, moved against the arrested coin said plate will be thereby caused to turn on its hinge and carry the opening therein in line with said coin and permit the coin to escape through the same; substantially as set forth.

3. In a coin-controlled vending machine having a coin-slot plate and a tray for the goods to be sold, a transverse slide below the tray, a handle-bar for operating the slide, a vertical plate connected with the slide and constituting at its lower portion a coin-ejector and at its upper portion carrying a movable goods-ejector, a hinged coin-plate on which a coin may descend from the coin-slot and having an opening therein of sufficient size to permit a coin to be forced through it when the said opening and coin are in line with each other, means adjacent to said opening for arresting a proper coin in a plane with the coin-ejector, a spring yieldingly holding said hinged plate in its initial position, and a rod connected with said goods-ejector and extending along said vertical plate to a point in line with the coin held on said hinged-plate, so as to contact with said coin when said slide and vertical plate are started on their movement and thus be forced to elevate said goods-ejector to its operative position, said hinged plate initially being at an angle to the path of the coin-ejector so that as said ejector is, on the operation of said handle, moved against the arrested coin said plate will be thereby caused to turn on its hinge and carry the opening therein in line with said coin and permit the coin to escape through the same, combined with a latch connecting said vertical plate with said slide and means projecting in the path of the coin for freeing said latch by contact with anything occupying the path of the coin on the forward pull of the handle-bar thereby releasing said plate from said slide and allowing the latter to move forwardly without said plate; substantially as set forth.

4. In a coin-controlled vending machine having a coin-slot plate and a tray for the goods to be sold, a transverse slide below the tray, a handle-bar for operating the slide, a vertical plate connected with the slide and constituting at its lower portion a coin-ejector and at its upper portion carrying a movable goods-ejector, a hinged coin-plate on which a coin may descend from the coin-slot and having an opening therein of sufficient size to permit a coin to be forced through it when the said opening and coin are in line with each other, means adjacent to said opening for arresting a proper coin in a plane with the coin-ejector, a spring yieldingly holding said hinged plate in its initial position, and a rod connected with said goods-ejector and extending along said vertical plate to a point in line with the coin held on said hinged-plate, so as to contact with said coin when said slide and vertical plate are started on their movement and thus be forced to elevate said goods-ejector to its operative position, said hinged plate initially being at an angle to the path of the coin-ejector so that as said ejector is, on the operation of said handle, moved against the arrested coin said plate will be thereby caused to turn on its hinge and carry the opening therein in line with said coin and permit the coin to escape through the same, combined with a latch pivoted to said vertical plate and connecting the same with said slide, and an arm pivoted to said latch and supported on said plate and projecting in the path of the coin for freeing said latch by contact with anything occupying the path of the coin on the forward pull of the handle-bar, thereby releasing said plate from said slide and allowing the latter to move forwardly without said plate; substantially as set forth.

5. In a coin-controlled vending-machine having a coin-slot plate and a tray for the goods to be sold, a mechanism supporting plate below said tray, a transverse slide mounted on said plate, a handle-bar for operating said slide, a vertical slidable plate mounted in a slot in said supporting-plate and connected with said slide and constituting at its lower portion a coin-ejector and at its upper portion carrying a movable goods-ejector, a hinged coin-plate on which a coin may descend from the coin-slot and having an opening therein of sufficient size to permit a coin to be forced through it when the said opening and coin are in line with each other, means adjacent to said opening for arresting a proper coin in a plane with the coin-ejector, a spring yieldingly holding said hinged plate in its initial position, and a rod connected with said goods-ejector and extending along said vertical plate to a point in line with the coin held on said hinged-plate, so as to contact with said coin when said slide and vertical plate are started on their movement and thus be forced to elevate said goods-ejector to its operative position, said hinged plate initially being at an angle to the path of the coin-ejector so that as said ejector is, on the operation of said handle, moved against the arrested coin said plate will be thereby caused to turn on its hinge and carry the

opening therein in line with said coin and permit the coin to escape through the same; substantially as set forth.

6. In a coin-controlled vending machine having a coin-slot plate and a tray for the goods to be sold, a mechanism supporting plate below said tray, a transverse slide mounted on said plate, a handle-bar for operating said slide, a vertical slidable plate mounted in a slot in said supporting-plate and connected with said slide and constituting at its lower portion a coin-ejector and at its upper portion carrying a movable goods-ejector, a hinged coin-plate on which a coin may descend from the coin-slot and having an opening therein of sufficient size to permit a coin to be forced through it when the said opening and coin are in line with each other, means adjacent to said opening for arresting a proper coin in a plane with the coin-ejector, a spring yieldingly holding said hinged plate in its initial position, and a rod connected with said goods-ejector and extending along said vertical plate to a point in line with the coin held on said hinged-plate, so as to contact with said coin when said slide and vertical plate are started on their movement and thus be forced to elevate said goods-ejector to its operative position, said hinged plate initially being at an angle to the path of the coin-ejector so that as said ejector is, on the operation of said handle, moved against the arrested coin said plate will be thereby caused to turn on its hinge and carry the opening therein in line with said coin and permit the coin to escape through the same, combined with a shutter-plate mounted on said supporting plate for closing the entrance for coins when said goods-ejector is in its operative position, a spring normally acting against said shutter-plate to move it to its operative position, and means on the goods-ejector in advance of a shoulder on said shutter-plate for maintaining said plate in its inoperative position when said goods-ejector is in its inoperative position and in rear of the tray of confections; substantially as set forth.

7. In a coin-controlled vending machine having a coin-slot plate and a tray for the goods to be sold, a mechanism supporting plate below said tray, a transverse slide mounted on said plate, a handle-bar for operating said slide, a vertical slidable plate mounted in a slot in said supporting-plate and connected with said slide and constituting at its lower portion a coin-ejector and at its upper portion carrying a movable goods-ejector, a hinged coin-plate on which a coin may descend from the coin-slot and having an opening therein of sufficient size to permit a coin to be forced through it when the said opening and coin are in line with each other, means adjacent to said opening for arresting a proper coin in a plane with the coin-ejector, a spring yieldingly holding said hinged plate in its initial position, and a rod connected with said goods-ejector and extending along said vertical plate to a point in line with the coin held on said hinged-plate, so as to contact with said coin when said slide and vertical plate are started on their movement and thus be forced to elevate said goods-ejector to its operative position, said hinged plate initially being at an angle to the path of the coin-ejector so that as said ejector is, on the operation of said handle, moved against the arrested coin said plate will be thereby caused to turn on its hinge and carry the opening therein in line with said coin and permit the coin to escape through the same, combined with a shutter-plate mounted on said supporting plate for closing the entrance for coins when said goods-ejector is in its operative position, a spring normally acting against said shutter-plate to move it to its operative position, and a rod projecting downwardly from said goods ejector normally in advance of a shoulder on said shutter-plate for maintaining said plate in its inoperative position when said goods-ejector is in its inoperative position and in rear of the tray of confections and freeing said shutter-plate to be acted on by its spring when the goods-ejector is elevated to its operative position; substantially as set forth.

8. In a coin-controlled vending machine having a coin-slot plate and a tray for the goods to be sold, a mechanism supporting plate below said tray, a transverse slide mounted on said plate, a handle-bar for operating said slide, a vertical slidable plate mounted in a slot in said supporting-plate and connected with said slide and constituting at its lower portion a coin-ejector and at its upper portion carrying a movable goods-ejector, a hinged coin-plate on which a coin may descend from the coin-slot and having an opening therein of sufficient size to permit a coin to be forced through it when the said opening and coin are in line with each other, means adjacent to said opening for arresting a proper coin in a plane with the coin-ejector, a spring yieldingly holding said hinged plate in its initial position, a spring-latch yieldingly holding the goods-ejector in its inoperative position, and means connected with said goods-ejector and extending along said vertical plate to a point in line with the coin held on said hinged plate, so as to contact with said coin when said slide and vertical plate are started on their movement and thus be forced to elevate said goods-ejector to its operative position, said hinged plate initially being at an angle to the path of the coin-ejector so that as said ejector is, on the operation of said handle, moved against the arrested coin said plate will be thereby caused to turn on

its hinge and carry the opening therein in line with said coin and permit the coin to escape through the same; substantially as set forth.

9. In a coin-controlled vending machine having a coin-slot plate and a tray for the goods to be sold, a mechanism supporting plate below said tray, a transverse slide mounted on said plate, a handle-bar for operating said slide, a vertical slidable plate mounted in a slot in said supporting-plate and connected with said slide and constituting at its lower portion a coin-ejector and at its upper portion carrying a movable goods-ejector, a hinged coin-plate on which a coin may descend from the coin-slot and having an opening therein of sufficient size to permit a coin to be forced through it when the said opening and coin are in line with each other, means adjacent to said opening for arresting a proper coin in a plane with the coin-ejector, a spring yieldingly holding said hinged plate in its initial position, and a rod connected with said goods-ejector and extending along said vertical plate to a point in line with the coin held on said hinged-plate, so as to contact with said coin when said slide and vertical plate are started on their movement and thus be forced to elevate said goods-ejector to its operative position, said hinged plate initially being at an angle to the path of the coin-ejector so that as said ejector is, on the operation of said handle moved against the arrested coin said plate will be thereby caused to turn on its hinge and carry the opening therein in line with said coin and permit the coin to escape through the same, combined with a latch connecting said vertical plate with said slide and means projecting in the path of the coin for freeing said latch by contact with anything occupying the path of the coin on the forward pull of the handle-bar, thereby releasing said plate from said slide and allowing the latter to move forwardly without said plate; substantially as set forth.

10. In a coin-controlled vending machine having a coin-slot plate and a tray for the goods to be sold, a mechanism supporting plate below said tray, a transverse slide mounted on said plate, a handle-bar for operating said slide, a vertical slidable plate mounted in a slot in said supporting-plate and connected with said slide and constituting at its lower portion a coin-ejector and at its upper portion carrying a movable goods-ejector, a hinged coin-plate on which a coin may descend from the coin-slot and having an opening therein of sufficient size to permit a coin to be forced through it when the said opening and coin are in line with each other, means adjacent to said opening for arresting a proper coin in a plane with the coin-ejector, a spring yieldingly holding said hinged plate in its initial position, and a rod connected with said goods-ejector and extending along said vertical plate to a point in line with the coin held on said hinged-plate, so as to contact with said coin when said slide and vertical plate are started on their movement and thus be forced to elevate said goods-ejector to its operative position, said hinged plate initially being at an angle to the path of the coin-ejector so that as said ejector is, on the operation of said handle, moved against the arrested coin said plate will be thereby caused to turn on its hinge and carry the opening therein in line with said coin and permit the coin to escape through the same, combined with a latch pivoted to said vertical plate and connecting the same with said slide, and an arm pivoted to said latch and supported on said plate and projecting in the path of the coin for freeing said latch by contact with anything occupying the path of the coin on the forward pull of the handle-bar, thereby releasing said plate from said slide and allowing the latter to move forwardly without said plate; substantially as set forth.

11. In a coin-controlled vending machine having a coin-slot plate and a tray for the goods to be sold, a transverse slide below the tray, a handle-bar for operating the slide, a vertical plate connected with the slide and constituting at its lower portion a coin-ejector and at its upper portion carrying a movable goods-ejector, a hinged coin-plate on which a coin may descend from the coin-slot and having an opening therein of sufficient size to permit a coin to be forced through it when the said opening and coin are in line with each other, means adjacent to said opening for arresting a proper coin in a plane with the coin-ejector, a spring yieldingly holding said hinged plate in its initial position, and a rod connected with said goods-ejector and extending along said vertical plate to a point in line with the coin held on said hinged-plate, so as to contact with said coin when said slide and vertical plate are started on their movement and thus be forced to elevate said goods-ejector to its operative position, said hinged plate initially being at an angle to the path of the coin-ejector so that as said ejector is, on the operation of said handle, moved against the arrested coin said plate will be thereby caused to turn on its hinge and carry the opening therein in line with said coin and permit the coin to escape through the same, combined with a weighted pivoted deflector 89 carried by said hinged plate and having a lower arm extending through the same in the path of the coin to its arresting means; substantially as set forth.

12. In a coin-controlled vending machine having a coin-slot plate and a tray for the goods to be sold, a slide mounted below the

tray, a handle for operating the slide, a goods-ejector carried by the slide, means for positioning the said ejector, on the operation of said handle, to dislodge a piece of goods from said tray, a coin-ejector also carried by the slide, a hinged coin-plate on which a coin may descend from the coin slot and having an opening therein of sufficient size to permit a coin to be forced through it when said opening and coin are in line with each other, means adjacent to said opening for arresting a proper coin in line with said coin-ejector, and a spring yieldingly holding said hinged plate in its initial position with the coin in the path of the coin-ejector, said hinged plate initially being at an angle to the path of the coin-ejector so that as said ejector is on the operation of said handle moved against the arrested coin said plate will be thereby caused to turn on its hinge and carry the opening therein in line with said coin and permit the coin to escape through the same; substantially as set forth.

13. In a coin-controlled vending machine having a coin-slot plate and a tray for the goods to be sold, a slide mounted below the tray, a handle for operating the slide, a goods-ejector carried by the slide, means for positioning the said ejector, on the operation of said handle, to dislodge a piece of goods from said tray, a coin-ejector also carried by the slide, a hinged coin-plate on which a coin may descend from the coin slot and having an opening therein of sufficient size to permit a coin to be forced through it when said opening and coin are in line with each other, means adjacent to said opening for arresting a proper coin in line with said coin-ejector, a stationary plate close to said hinged coin-plate for confining the coin to said hinged plate and coin-arresting means located between said plates, and a spring yieldingly holding said hinged plate in its initial position with the coin in the path of the coin-ejector, said hinged plate initially being at an angle to the path of the coin-ejector so that as said ejector is on the operation of said handle moved against the arrested coin said plate will be thereby caused to turn on its hinge and carry the opening therein in line with said coin and permit the coin to escape through the same; substantially as set forth.

14. In a coin-controlled vending machine having a coin-slot plate and a tray for the goods to be sold, a transverse slide below the tray, a handle-bar for operating the slide, a vertical plate connected with the slide and constituting at its lower portion a coin-ejector and at its upper portion carrying a movable goods-ejector, a hinged coin-plate on which a coin may descend from the coin-slot and having an opening therein of sufficient size to permit a coin to be forced through it when the said opening and coin are in line with each other, means adjacent to said opening for arresting a proper coin in a plane with the coin-ejector, a stationary plate 35 close to said hinged coin-plate for confining the coin against said hinged-plate, a spring yieldingly holding said hinged plate in its initial position, and a rod connected with said goods-ejector and extending along said vertical plate to a point in line with the coin held on said hinged-plate, so as to contact with said coin when said slide and vertical plate are started on their movement and thus be forced to elevate said goods-ejector to its operative position, said hinged plate initially being at an angle to the path of the coin-ejector so that as said ejector is, on the operation of said handle, moved against the arrested coin said plate will be thereby caused to turn on its hinge and carry the opening therein in line with said coin and permit the coin to escape through the same; substantially as set forth.

Signed at New York city, in the county of New York and State of New York, this 16th day of August A. D. 1910.

ELIJAH F. SPAULDING.

Witnesses:
CHAS. C. GILL,
ARTHUR MARION.