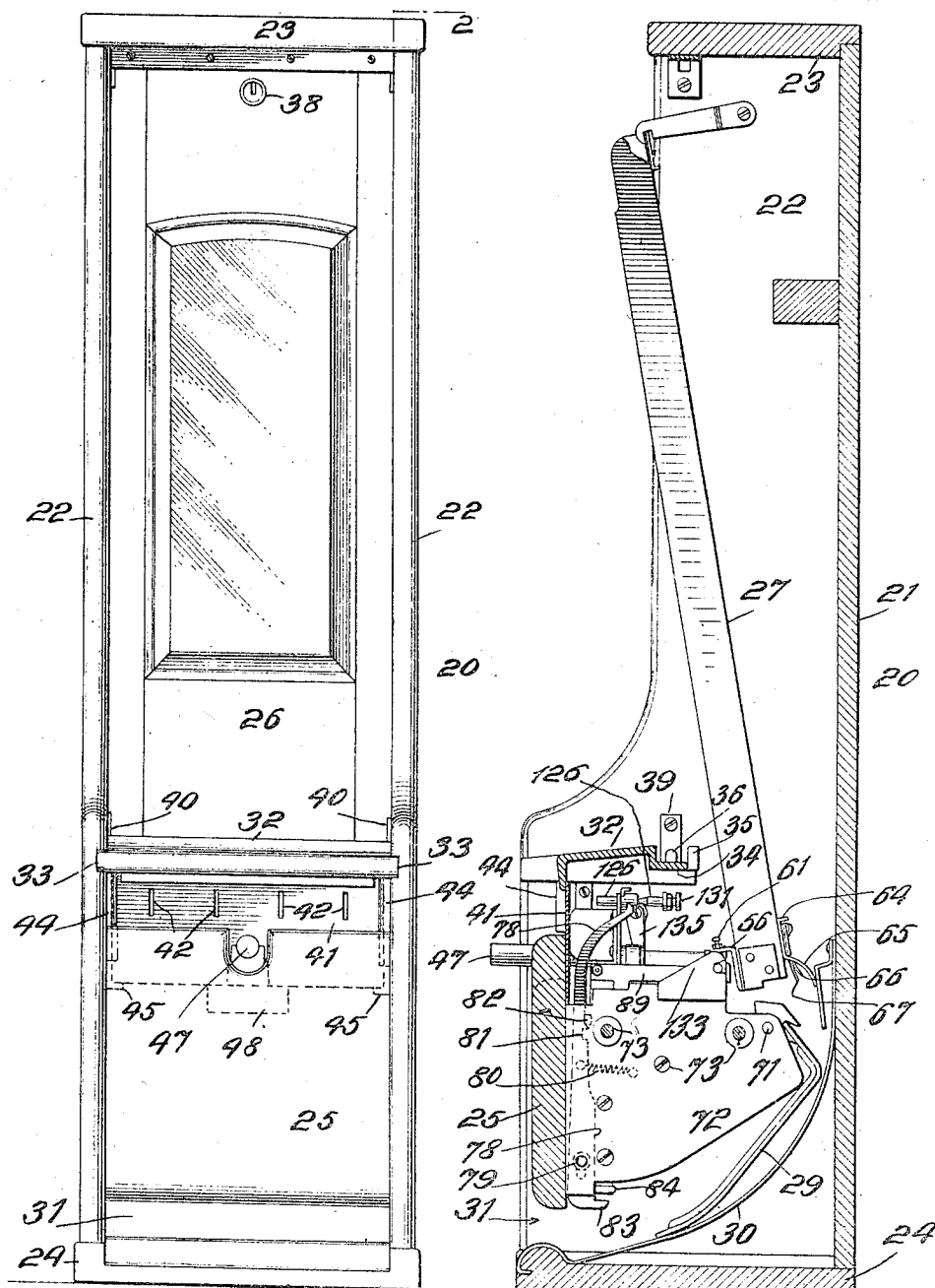


H. GILES.
COIN CONTROLLED VENDING MACHINE.
APPLICATION FILED AUG. 2, 1916.

1,247,664.

Patented Nov. 27, 1917.
8 SHEETS—SHEET 1.



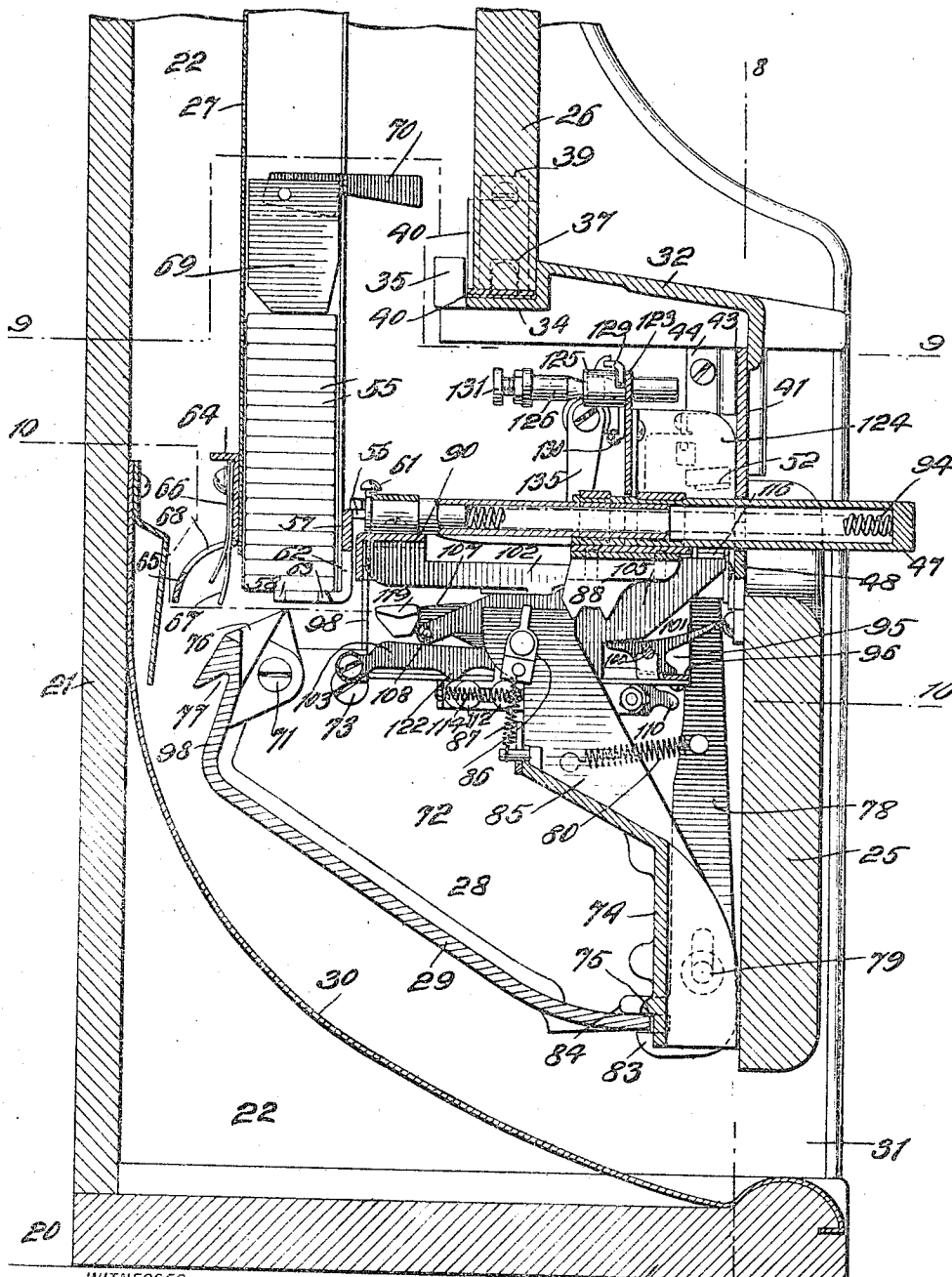
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Fig. 3.

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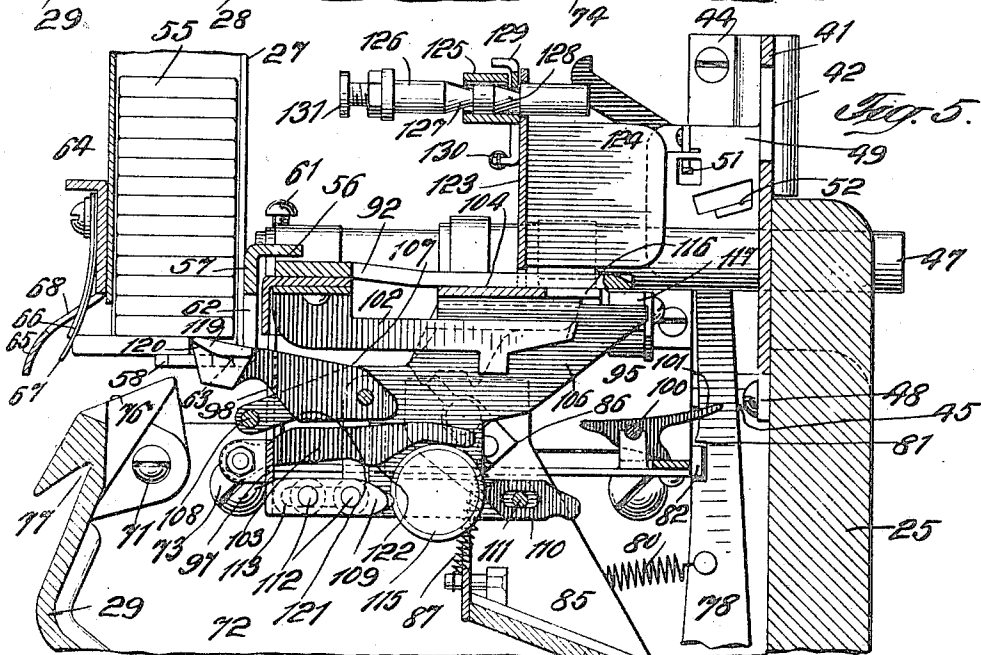
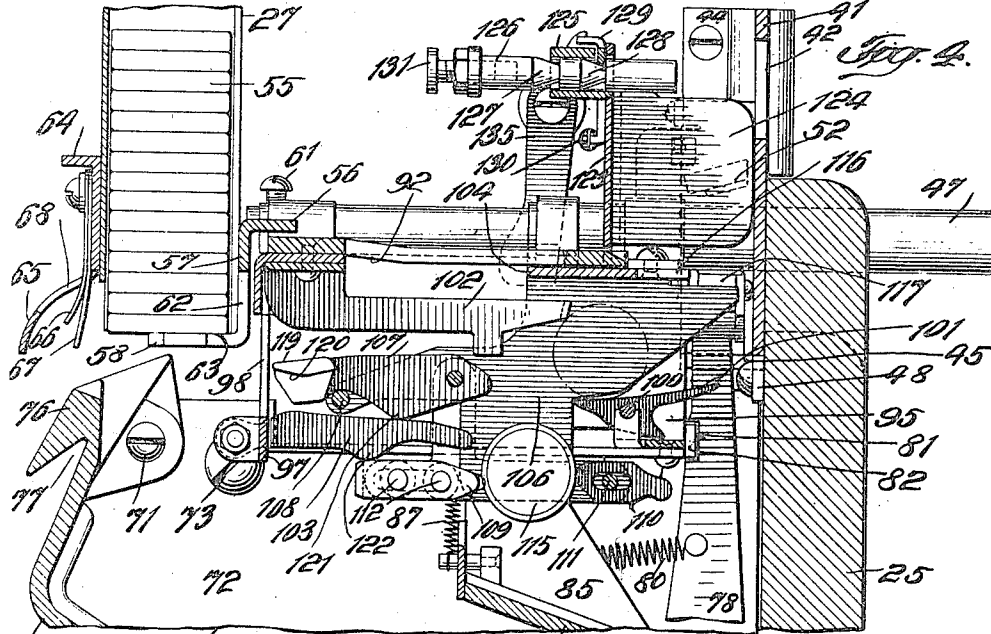
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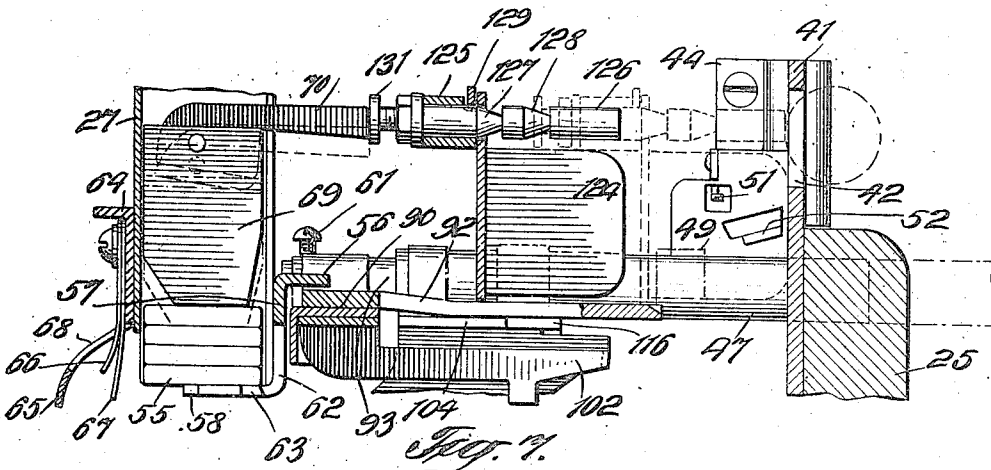
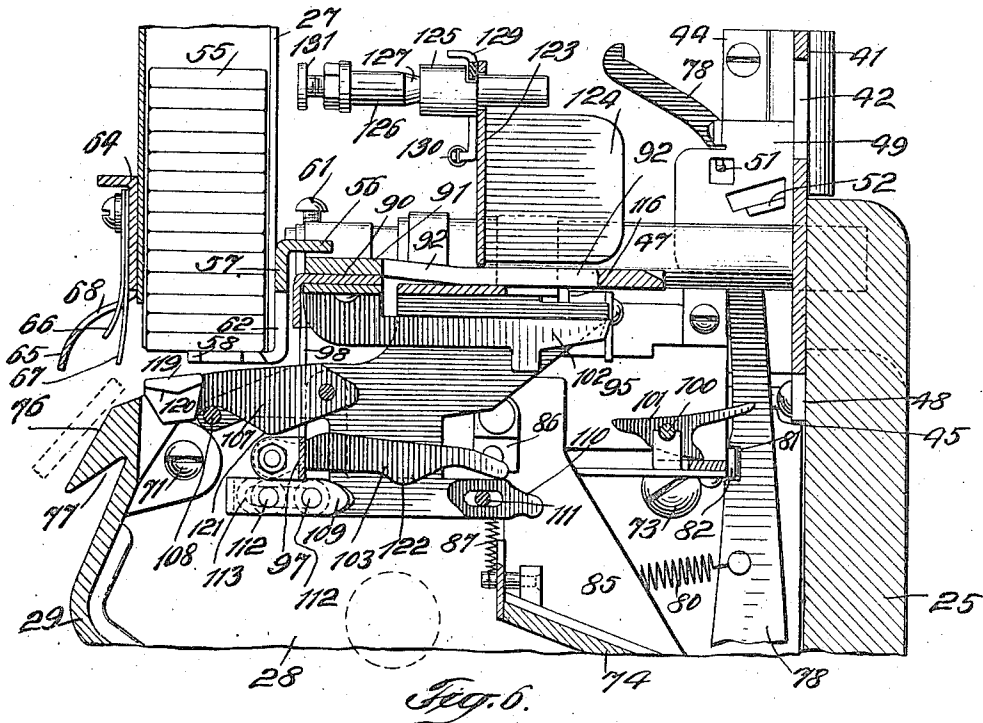
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8 SHEETS—SHEET 4.



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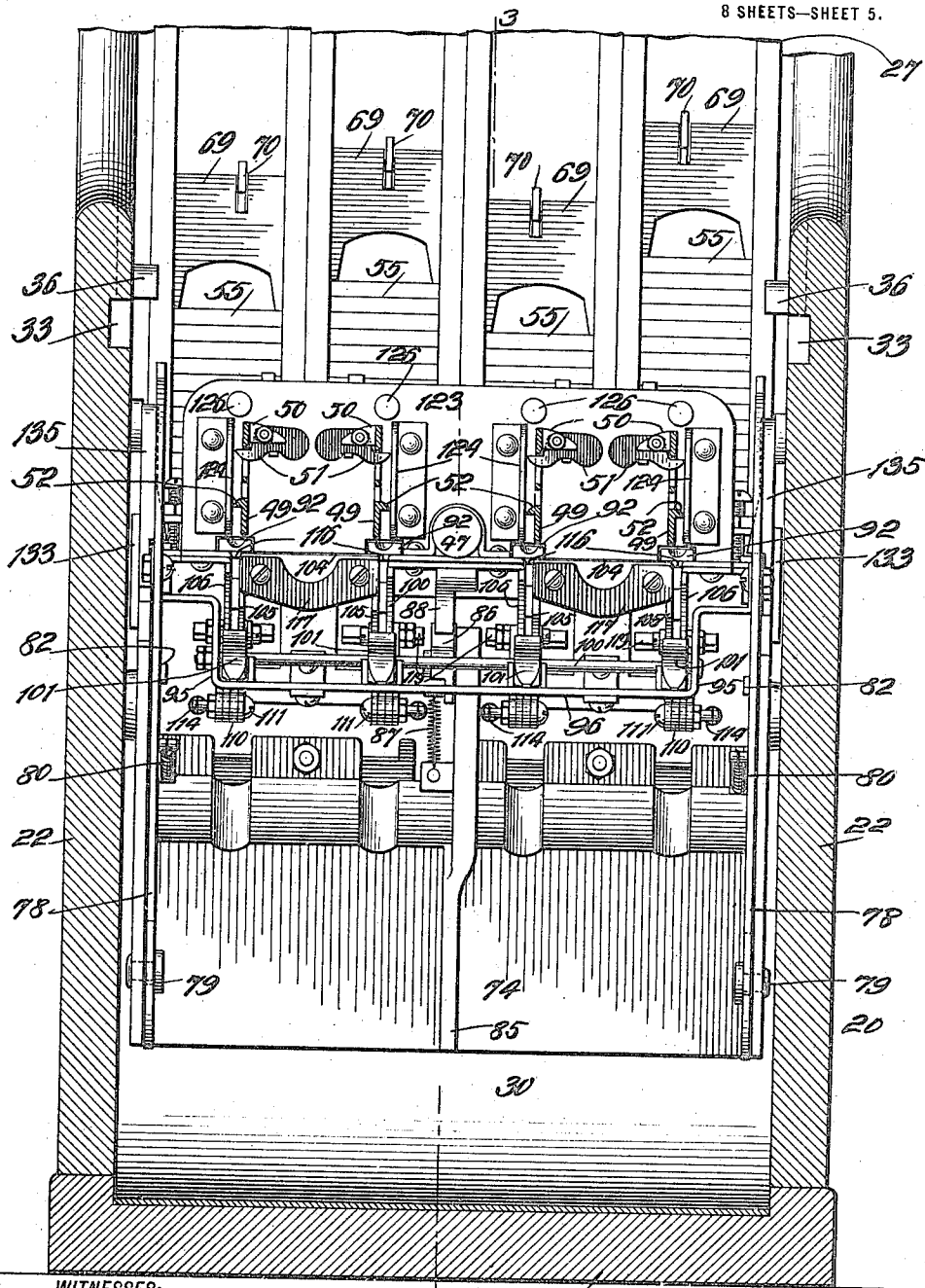
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Fig. 8. 24

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Patented Nov. 27, 1917.
 8 SHEETS—SHEET 7.

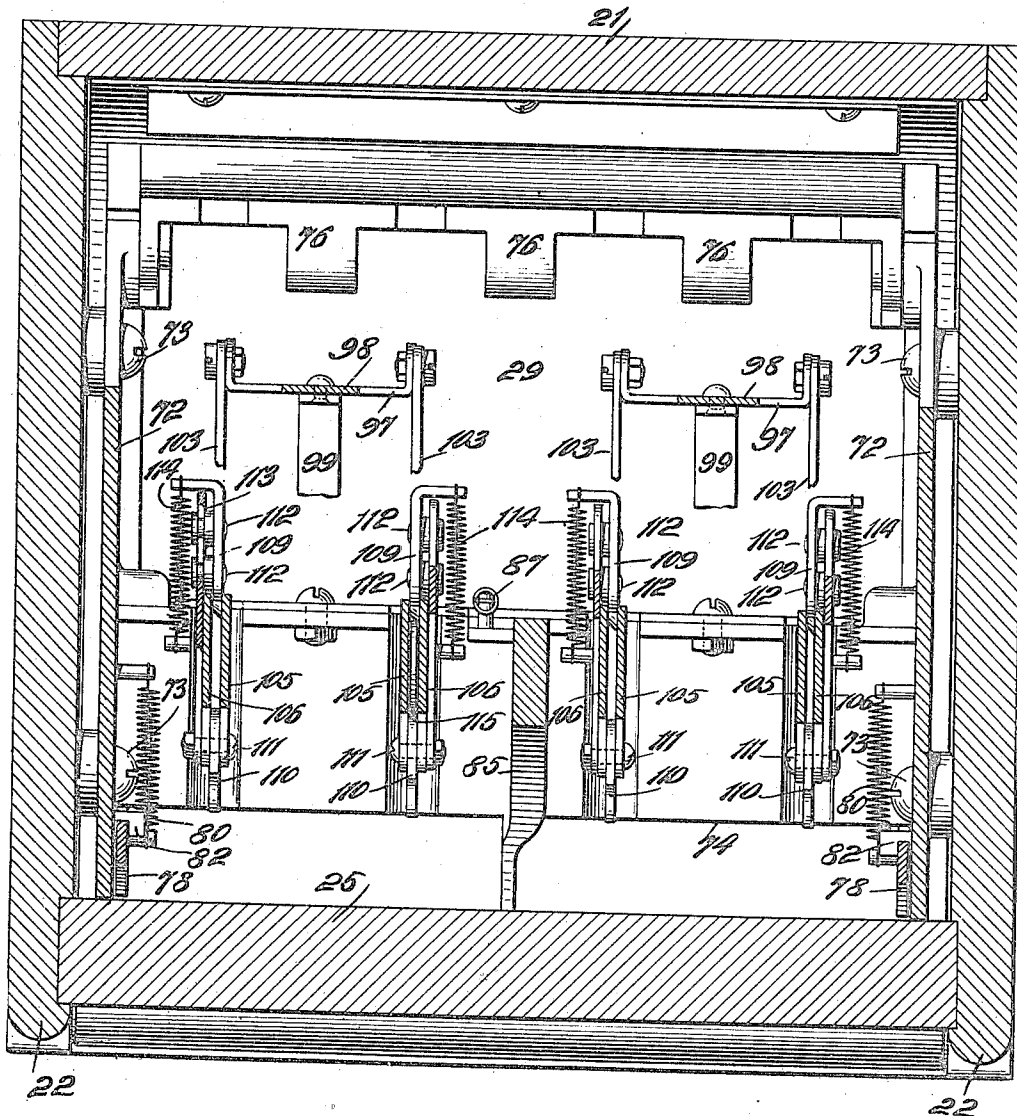


Fig. 10.

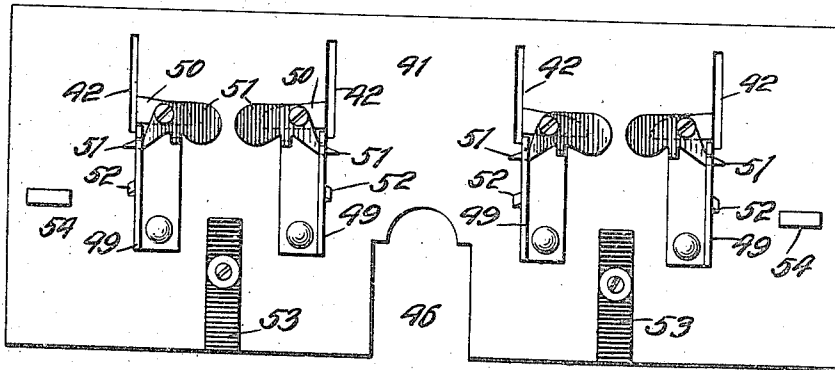
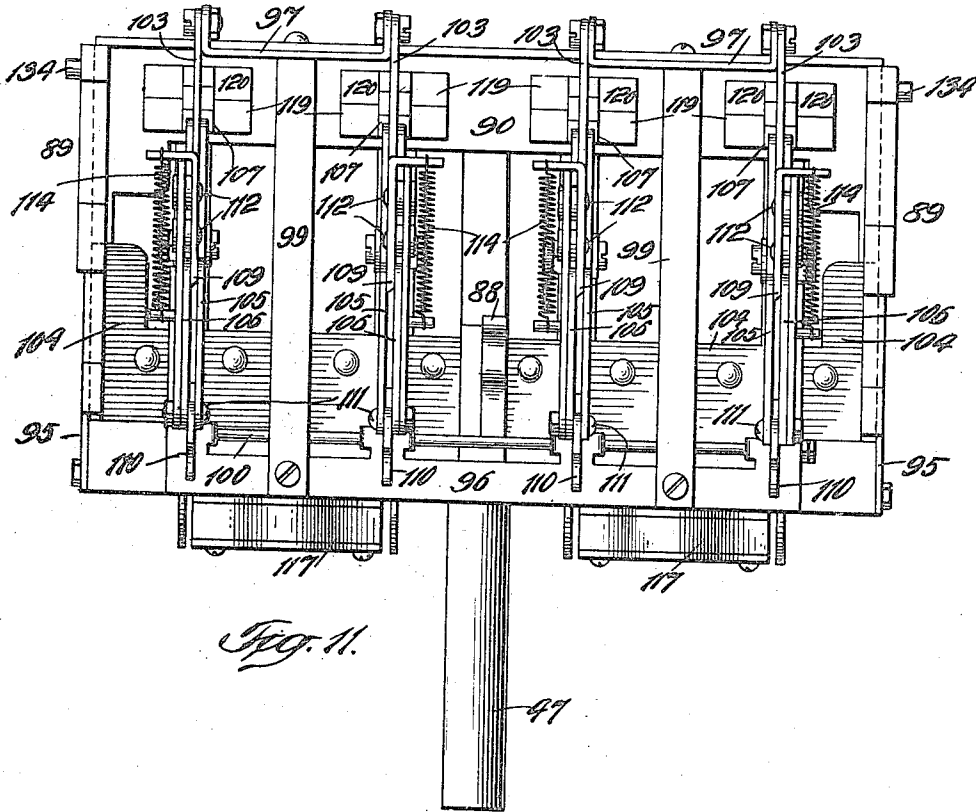
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Patented Nov. 27, 1917.
 8 SHEETS—SHEET 8.



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UNITED STATES PATENT OFFICE.

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NEW YORK, N. Y.

COIN-CONTROLLED VENDING-MACHINE.

1,247,664.

Specification of Letters Patent.

Patented Nov. 27, 1917.

Application filed August 2, 1916. Serial No. 112,652.

To all whom it may concern:

Be it known that I, HARVEY GILES, 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 pertains more particularly to coin-controlled vending machines for the sale of confections and resides in the novel features, structure and combinations of parts hereinafter described and particularly pointed out in the claims.

I present my invention herein as embodied in a four column machine or one having a tray adapted to receive four vertical columns or stacks of the pieces of confection or the like to be sold. The invention relates more particularly to the operative mechanism for effecting, after the introduction of the proper coin to the machine, the sale of the confections. The mechanism shown is duplicated for each column of the tray, and the entire mechanism for all the trays is operable from a single operating rod. The mechanism for each column comprises two vertical plates which receive and carry the coin, a coin-gage carried by said plates for retaining therebetween in proper position a coin of the proper diameter, a pivoted goods-ejector carried by said plates and a pivoted lever fastened to a stationary part of the machine and serving in cooperation with the introduced coin, to position the goods-ejector and finally eject or dislodge the coin from the coin-gage after the coin has traveled inwardly to the proper position for its discharge into the coin receptacle located below the operative mechanism of the machine. I also provide novel means for closing a coin-slot against the entrance of coins after the goods in the tray pertaining to said slot have been sold and the tray requires replenishing. I also provide other novel features of construction and arrangement, all of which will be referred to in detail hereinafter.

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 of a vending machine constructed in accordance with and embodying the invention;

Fig. 2 is a vertical section through the same, taken on the dotted line 2—2 of Fig. 1; Fig. 2 illustrates the machine as having had its front door and covering plate for the mechanism removed, and the tray as having been tilted to convenient position to be replenished with goods;

Fig. 3 is a substantially central vertical section, on a larger scale, through the lower portion of the machine and taken on the dotted line 3—3 of Fig. 8, the mechanism being shown in normal inoperated position;

Fig. 4 is a vertical section through a portion of the machine, taken on the dotted line 4—4 of Fig. 9, the mechanism being shown in its normal inoperated position and a coin being illustrated as having been introduced to the machine and taken its position in the sliding member of the mechanism and between the two members of the coin gage;

Fig. 5 is a substantially corresponding view, but showing the mechanism as having been partly operated, the goods ejector being shown as having partially dislodged the lower piece of confection in the tray;

Fig. 6 is a corresponding section illustrating the mechanism as having been completely operated, the sliding features being at their extreme inward position and the lower piece of goods having been dislodged and the ejector having turned downwardly below the tray; the coin is also indicated as having been ejected from the coin gage;

Fig. 7 is a vertical section through a portion of the machine on the vertical line of any one of the coin receiving slots and illustrates more particularly the means for and method of closing the coin slot against the entrance of coins after the tray has been substantially emptied, the illustration indicating that on the sale of the fourth piece of goods from the bottom of the column the coin slot will be closed against the entrance of further coins until the tray has been replenished and the slot closing mechanism reset or set inwardly to its normal position shown by full lines in Fig. 7, the dotted lines indicating the position of the slot closing device when in position to close said slot;

Fig. 8 is a vertical transverse section through the lower front portion of the machine, the front door and the front framing of the machine being cut away and the sec-

tion being about on the dotted line 8—8 of Fig. 3;

Fig. 9 is a horizontal section through the machine, taken on the dotted line 9—9 of Fig. 3;

Fig. 10 is a corresponding section, taken on the dotted line 10—10 of Fig. 3;

Fig. 11 is a top view of the operative mechanism detached from the machine, and

Fig. 12 is a detached inner face view of the vertical coin slot plate, some of whose parts are employed in cooperation with the mechanism shown in Fig. 11.

In the drawings 20 designates the exterior casing of the machine as a whole, said casing comprising a back 21, sides 22, a top 23, a bottom 24, a lower front portion 25, and a removable front or door 26. In the rear of the door 26 is formed a chamber for the tray 27 for holding the stacks or columns of confectons, and in the rear of the lower front section 25 of the casing is formed a chamber for the operative mechanism of the machine and also for a coin receptacle 28 which receives the coins after they have left the operative mechanism and from which the coins may be removed when desired and after the hinged back and bottom 29 of the receptacle has been unlocked to swing rearwardly. At the rear of the coin receptacle or box 28 is provided a chute 30 down which the pieces dislodged from the tray may slide to an opening 31 below the front section 25 of the casing and from which opening said pieces may be removed by hand.

Above the chamber inclosing the operative mechanism is a substantially horizontal covering plate or frame 32 whose edges are adapted to guide-slots 33 (Fig. 9) formed in the sides 22 of the main casing. The rear portion of the plate or frame 32 is formed with a depressed seat 34 for the lower edge of the front door 26, and rearwardly of said seat 34 and adjacent to the ends thereof the plate or frame 32 is formed with upwardly extending projections 35 which aid in locating the lower edge of the door 26 upon said seat. The sides 22 of the main casing are provided in line with the seat 34 with inwardly projecting pins 36 adapted to recesses 37 formed in the lower outer edges of the door 26. When the covering plate or frame 32 is slid to position along the slots 33, the door 26 is placed upon the seat 34 and the recesses 37 in said door are lowered downwardly upon the pins 36 and thereupon the upper end of the door 26 is secured to the top 23 of the casing by means of a suitable lock 38. When the door 26 is locked in position it prevents the withdrawal of the covering plate or frame 32 and at the same time said covering plate or frame 32 prevents the lower end of the door 26 from being pulled outwardly. The pins 36 are carried by small

metal plates 39 fastened to the sides 22, and preferably the lower edges of the door 26 are reinforced by a metal strip 40 extending along the bottom of the door and to a slight extent up the vertical side edges of the same, and the recesses 37 are cut in said strip. The strip 40 adds materially to the strength of the lower end of the door and co-operates with the pins 36 in resisting outward movement of the door and also of the covering plate or frame 32. When the door 26 is unlocked and lifted outwardly at its upper end and becomes released from the pins 36, the covering plate or frame 32 may be slid outwardly from the grooves 33.

The space between the forward lower portion of the covering plate or frame 32 and the upper edge of the front section 25 of the main casing is covered by a vertical coin slot plate 41 having a series of coin slots 42 and at its upper edge being behind and protected by a flange on said plate 32, as clearly shown in Figs. 2 and 3. The lower portion of the plate 41 is behind the upper portion of the front casing section 25, and at its side edges said plate is held within grooves 43 (Fig. 9) formed in vertical plates 44 secured to the sides of the machine. At their lower ends the plates 44 turn inwardly, as shown by dotted lines in Fig. 1, thereby forming rests 45 upon which the plate 41 is supported. The plate 41 is removable after the covering plate or frame 32 has been detached from the machine. The plate 41 is formed with a central vertical slot 46 to pass downwardly over the operating rod 47 for the mechanism of the machine, said slot 46 being semi-circular at its upper end, as shown in Fig. 12, and matching a recess of corresponding semi-circular outline formed in the upper end of a plate 48 secured against the inner face of the front section 25 of the main casing and shown in Fig. 1. The upper portions of the plate 48 fit within the slot 46 up to the semi-circular recess at the upper end of said slot, and said plates taken together leave a circular opening through which the operating rod 47 projects and within which said rod may have its movements. I recess out the central portion of the upper edge of the front casing section 25, as shown in Fig. 1, so as to provide accommodation for the rod 47 and at the same time have said section 25 extend upwardly about as far as possible.

The coin slot plate 41 is shown separately in Fig. 12, and the said plate, in addition to possessing the coin slots 42, has secured thereon four rearwardly extending plates 49, said plates being on a vertical plane with one side edge of the coin slots and being partly above and extending considerably below the lower ends of said slots. The plates 49 cooperate with other plates hereinafter described for guiding the coins

down into the operative mechanism of the machine. The plates 41 have at their upper ends laterally turned lips 50 cut out from the metal of the plates, and upon these lips 50 are mounted pivoted washer-catchers 51 whose pointed ends extend through openings in the plates 49 and normally lie in the path of the coins introduced to the machine, the pointed ends of said washer-catchers extending across the path normally taken by an introduced coin and receding from such coin under the weight of the same. The washer-catchers 51 operate in the usual way and are not separately claimed herein. The plates 49 also have lips 52 cut and bent laterally therefrom and said lips incline downwardly and inwardly and form a shelf upon which coins introduced through the coin-slots may roll. The coin slot plate 41 is preferably provided with buffers 53 against which the sliding mechanism of the machine may strike on the outward movement of said mechanism, and said plate 41 is also formed with rearwardly projecting lugs 54 which cooperate with the coin receptacle locking mechanism to be hereinafter described.

The tray 27 is formed of sheet metal and adapted to hold four columns of confections 55, and above its lower end said tray 27 is of ordinary construction. At its lower end the tray has secured thereto an angle plate affording an upper forwardly extending flange 56, a vertical member 57, and horizontal members 58. The flange 56 contains slots 59 which pass upon stationary upwardly projecting flanges 60, and said flange 56 is also provided with said screws 61 which rest upon a stationary portion of the operative mechanism of the machine. The flanges 60 and screws 61 serve with a stationary part of the operative mechanism as securing and supporting means for the lower end of the tray 27. The vertical member 57 of the angle plate secured to the tray 27 is cut out at the front of each column space of the tray, as at 62, for the purpose of permitting the goods ejector, hereinafter described, to enter the lower end of said column space and engage the lower piece of goods in the column or stack so as to eject the same rearwardly. The opening 62 in the aforesaid angle plate extends below the column space of the tray thereby forming the members 58 which are at the edge portions of said column spaces and at their edges serve to support the goods within the tray. The members 58 have laterally projecting fingers 63 which are inclined upwardly and rearwardly at their front edges, as shown in Figs. 3 and 4, and these upwardly inclined edges co-act with inclined surfaces on the goods ejectors to effect, when the ejectors engage the same, a slightly further upward movement of the

ejectors so as to effectually aline the same with the lower pieces of goods in the trays, as will be hereinafter more fully explained.

The column spaces in the tray 27 are open at their lower rear portions so as to permit the goods to be dislodged rearwardly. Upon the lower back portion of the tray 27 is secured a plate 64 having a lower rearwardly and downwardly curved member 65 which aids in directing the pieces of goods dislodged from the tray downwardly to the discharge chute 30. Upon the plate 64 opposite to each column space of the tray and at the rear of said space, I secure two springs 66, 67 which project downwardly along the open rear side of the column spaces of the tray, the spring 67 being a light leaf-spring extending downwardly below the spring 66, whose lower portion is deflected rearwardly, leaving a space between such portion of the spring 66 and the adjacent portion of the spring 67. The pieces of goods 55 dislodged from the tray pass against and flex the springs 67, 66 rearwardly, and said springs on the discharge of a piece of goods, aid materially in quickly turning the piece of goods downwardly at its rear edge and accelerate the movement of the goods to the chute 30. I use a light spring 67 to take the first pressure of the goods being dislodged so that only slight resistance may be offered to the rearwardly moving mechanism of the machine, and thereafter and about the time the goods are almost dislodged, the spring 67 is forced against the spring 66 and the spring tension is thereby increased, but this takes place at a time when the goods have nearly been dislodged and therefore the resistance offered by the springs is not prejudicial but on the contrary the increased resistance afforded by the spring 66 is beneficial in accelerating the downward movement of the dislodged piece of goods. The purpose of the springs 67, 66 would be accomplished if I put all the tension in the spring 67, but if I do this the detrimental effect would follow of the machine having too much resistance to the discharge movement of the operative mechanism and in the machine working a little hard or stiff. I therefore prefer to use the two springs 67, 66 and bring one spring into action in advance of the other. The springs 67 serve the further purpose of preventing the goods being shaken from the trays by a person who might shake the machine in an attempt to accomplish that purpose.

In the event that the wrapping on a piece of goods should become torn, or if anything else should happen to prevent the springs 67, 66 from deflecting a piece of goods downwardly, the piece would finally be pressed against the curved member 65 of the plate 64 and said member would direct the said

piece downwardly so that it may fall upon the chute 30. The springs 67, 66 extend downwardly through openings 68 formed in the member 65 of the plate 64.

5 Upon the stacks of goods 55 in the column spaces of the tray 27 I place weights 69 which have pivotally secured at their upper end portions weighted forwardly projecting arms 70 which coöperate with other features, 10 to be hereinafter described, in closing the coin slots in the plate 41 when the tray columns require replenishing. The only novel feature connected with the weights 69 resides in the presence of the pivoted 15 arms 70.

The coin receptacle 28 consists of the section 29 hingedly secured by screws 71 to stationary side plates 72 which are fastened by screws 73 to the sides 22 of the casing, 20 and the front portion of the coin receptacle is closed by a stationary plate 74 whose upper portion inclines downwardly and outwardly and whose lower portion is vertical, as shown in Fig. 3, and formed with an inwardly extending projection 75 against 25 which the lower front edge of the hinged section 29 may abut when said section is moved to its closed position, or from the position shown in Fig. 2 to that illustrated in Fig. 3. The upper inclined portion of 30 the frame 74 may serve, as a chute for directing slugs, washers and the like downwardly to the discharge opening 31. The upper end of the hinged section 29 of the coin receptacle is formed with downwardly 35 and rearwardly inclined members 76 to aid in deflecting discharged pieces of confection to the chute 30. At its upper rear portion the hinged section 29 is formed with the undercut recess 77 to aid in preventing a 40 wire or the like inserted through the opening 30 from reaching the goods in the tray. The hinged section or door member 29 of the coin receptacle is locked in its closed 45 position by means of two latch bars 78 which are slidably mounted at their lower ends by screws 79 and at their upper portions are normally pulled toward the coin receptacle by means of coiled springs 80. The latch 50 bars 78 are each formed with a recess 81 (Fig. 2) adapted in the upper position of the bars to lock upon a stud 82 extending inwardly from the rigid side plates 72. At their lower ends the bars 78 are each formed with rearwardly projecting lips 83, 84 (Fig. 55 2), the lip 83 being shorter than the lip 84. When the hinged section 29 of the coin receptacle is turned upwardly from its open position shown in Fig. 2, its edge will slide 60 by the lips 83 and engage the lips 84 and pressing against the lips 84 will move the bars 78 upwardly to the position shown in Fig. 3, and said edge of the section 29 on such upward movement will enter the recess 65 between the lips 83, 84 and be caught there-

in. The upward movement of the bars 78 also carries the recesses 81 to the studs 82 and thereupon the springs 80 snap said recesses upon said studs, thereby locking the bars 78 in their upper position and enabling 70 said bars to lock the door section 29 in closed position. Thereafter when the coin slot plate 41 is placed in position, the studs 54 thereon will stand in front of the upper portions of the bars 78 and prevent 75 said bars from being moved frontwardly to release the recesses 81 from the studs 82, said studs 54 serving to safeguard the latch bars 78 from being tampered with. When it is desired to open the coin receptacle the upper 80 covering portions of the machine will be removed and the upper portions of the bars 78 will first be pressed frontwardly to relieve the recesses 81 from the studs 82 and then said bars will be pressed downwardly 85 so that the front edge of the door section 29 may automatically fall from between the lips 83, 84 and take the position shown in Fig. 2, said section 29 then serving as a chute down which the coins may slide to 90 the discharge opening 31. Upon the front plate or frame 74 of the coin receptacle is cast a substantial central arm 85 upon the side of whose upper portion is pivotally secured a dog 86 which is connected with a 95 spring 87 and coöperates with a projection 88 on the sliding member of the operative mechanism for compelling a full inward and a full outward stroke of said sliding member. 100

That portion of the machine which may be designated as the mechanism and which is located above the coin receptacle, may be handled as a unit and is shown in bottom 105 view in Fig. 11 and in top view in Fig. 9, and said mechanism comprises a stationary frame and a movable frame, the latter being guided by the stationary frame and having the operating rod or handle 47 connected with it. The aforesaid stationary frame 110 comprises two side bars 89, a rear bar 90 connecting said side bars, plates 91 secured upon said rear bar 90 and having forwardly projecting flat bars or strippers 92 whose front ends normally stand just in the rear 115 of the path to be taken by the introduced coins, flanges or lips 60 hereinbefore referred to and which aid in supporting the tray 27, a hollow rod 93 upon which the operating rod 47 has its movement and within 120 which rod is confined a coiled spring 94, depending side plates 95, a lower front bar 96 (Fig. 11) connecting said side plates, rear lower transverse bars 97 having rearwardly turned ends and connected with the upper 125 rear bar 90 by means of vertical bars 98, bars 99 connecting the transverse bars 97 with the lower front bar 96, a transverse rod 100 extending between the side plates 95 and upon which is pivotally mounted a series of coin 130

weight-testers 101, one weight tester being provided for each coin-slot and to be tilted by a coin of proper weight preparatory to said coin passing to the coin-gage hereinafter referred to, and a series of stripper plates 102 which are secured at their rear ends to the upper rear transverse bar 90 and extend forwardly between the pairs of coin plates, hereinafter referred to, connected with the movable member or frame of said mechanism. The stationary member or frame of the operative mechanism has pivotally secured to the rearwardly extended ends of the lower rear bars 97 a series of levers 103 against which the introduced coins are carried and which are utilized as means for positioning the goods ejectors and finally for dislodging the coins from the coin gages and causing them to fall into the coin receptacle 28. The operative features of the stationary frame or member of the mechanism reside more particularly in the top stripper bars 92, intermediate stripper plates 102 and lower pivoted levers 103, and the functions of these several features will be fully described hereinafter. The weight testers 101 mounted on the stationary frame or member of the mechanism are not in themselves novel.

The movable frame or member of the mechanism comprises a top plate 104 mounted to slide in the side bars 89 of the stationary frame, the rod 47 secured to said top plate, pairs of depending parallel spaced apart coin receiving plates 105, 106, there being one pair of these plates for each coin slot, goods ejectors 107 pivoted between the pairs of plates 105, 106; stop pins 108 on which the rear portions of said goods-ejectors may rest when the ejectors are in their lower normal position, and coin gage-members 109, 110 secured between the pairs of plates 105, 106 in position to receive an introduced coin. The coin gage member 110 is adjustable by means of a screw 111, and the coin-gage member 109 normally has a fixed position and is slidably mounted in an extension of one of the plates of each pair by means of transverse pins 112 carried by the gage member within an elongated slot 113 of said extension. The rear ends of the coin gage members 109 are turned laterally, as shown in Fig. 11, and have connected with them coiled springs 114 whose tension acts to hold the gage members 109 in their initial normal position shown in Figs. 4 and 5, the two gage members then being properly spaced apart to receive and retain a coin of proper diameter, as a one cent piece, 115. The gage member 109 is made yielding so that at the proper time the coin 115 may be forced downwardly between the members 109, 110 and enter the coin receptacle. When the coin 115 is forced downwardly, the coin gage member 109 will slide

rearwardly under the pressure of the coin and permit the coin to descend to the coin receptacle. The plates 105, 106 form between them spaces to receive the coins, coin gage members 109, 110, the body portions of the goods-ejectors 107 and the free end portions of the levers 103 secured to the stationary member or frame of the mechanism. The pairs of plates 105, 106 also receive a portion of the stripper plates 102, and the forward ends of these plates serve to aid in directing a proper coin to the coin gages, as shown in Fig. 4. The plates 105, 106 with the coin gages and goods ejector are duplicated for each coin slot of the machine. The top plate 104 of the sliding or movable member of the mechanism is recessed or slotted in its front edge portion, as at 116, so as to facilitate the entrance of coins to the space between the plates 105, 106. The top plate 104 has secured on its front edge magnets 117, one magnet serving for two pairs of the plates 105, 106 and two coin slots 42, and on its rear portion the top plate 104 is provided with buffers 118 (Fig. 9) to cushion the sliding frame when the same is pushed rearwardly against the top bars 90, 91 of the stationary frame. When the movable frame is pushed rearwardly in effecting a sale, the spring 94 automatically returns the frame to its outer normal position, shown in Figs. 3 and 4, and said frame is cushioned on its outward movement by the buffers 53 connected with the coin slot plate 41. The slots 116 in the forward portion of the top plate 104 are directly in line with the strippers 92 so that when the sliding frame is pushed inwardly, its top plate will slide under the strippers 92 and said strippers will be able at such time to dislodge any paper or the like that might become clogged at the said slots 116 or at the entrance between the pairs of plates 105, 106.

The goods ejectors 107 comprise a flat body portion set on edge and pivotally secured between the plates 105, 106, and said ejectors each have on its rear end a head 119 whose edge formation is shown in Figs. 3, 4 and 5 and whose bottom formation is shown in Fig. 11. The heads have a lower portion adapted to pass between the supporting flanges at the bottom of each column of the tray 27, and said heads have upper laterally broadened portions provided at their lower rear edges with inclined or cam surfaces 120 which, when the ejector is positioned for that purpose and the sliding member of the mechanism is pushed inwardly, engage and ride up the forward curved edge of the lugs 63, this action causing a further upward movement of the head of the goods-ejector and in said ejector becoming positioned squarely behind the bottom piece of goods in a stack and in the ejector effectually dislodging such piece

upon the continued inward movement of the sliding frame carrying the ejector. The body portion of each ejector 107 is formed with a depending cam section 121 which normally is against the upper edge of one of the levers 103 secured to the stationary member of the frame of the mechanism. The levers 103 are elongated and project frontwardly between the pairs of plates 105, 106 and above the coin gage member 109, so that said levers stand in the path of the coins carried rearwardly by said plates. The levers 103 each have a depending cam portion 122. When a coin 115 is in position on the coin gage members and the sliding member of the mechanism is pushed inwardly, the coin is carried below the forward end of the lever 103 and serves to elevate said lever, and said lever on being turned upwardly engages the cam section 121 of the goods ejector 107 and elevates the ejector to such position that on the continued rearward movement of the sliding frame, the head on the ejector may engage the lug 63 and become elevated thereby to its final goods ejecting position, shown in Fig. 5. The continued rearward movement of the sliding mechanism carries the coin against the cam or projection 122 on the lever 103, and said lever having a limited upward movement acts to force the coin 115 downwardly from the coin gage members 109, 110, the member 109 yielding rearwardly under the wedging force exerted by the lever 103 against the coin. The pivot of the goods ejector 107 is above the lever 103 and hence said lever can only have a limited upward movement. Upon the top plate 104 of the sliding frame is secured a vertical plate 123, and projecting forwardly from the front face of this plate 123 is a series of vertical plates 124, there being one plate 124 parallel with and spaced apart from a plate 49 carried by the coin slot plate 41, and the coins fed through a coin slot 42 will pass between a pair of the plates 124, 49 and descending on the inclined shelf 52 of the plate 49 will enter the recess or slot 116 in the plate 104 and descend between a pair of plates 105, 106, first meeting the weight tester 101 and the forward end of the stripper 102, as shown in Fig. 4 by dotted lines, and then continuing downwardly between the plates 105, 106 until arrested on edge by the coin gage members 109, 110, as shown by solid lines in Fig. 4. A coin introduced through a coin slot 42 is therefore received between a pair of plates 124, 49 and is by these plates directed and guided to the entrance slot 116 in the plate 104 and to the coin space between a pair of plates 105, 106.

The vertical plate 123 secured to the top plate 104 of the slide is equipped with sleeves 125 in which are mounted slidable

rods 126 adapted when in their front position, shown by dotted lines in Fig. 7, to close the coin slots against the entrance of coins. The rods 126 contain two grooves 127, 128, and normally the grooves 128 are within the sleeves 125, with the rods 126 locked in that position by means of pivoted latches 129, each of which has a portion within a slot in a sleeve 125 and within the groove 128. The latches 129 are normally held in their locking position, shown in Figs. 3 and 4, by means of coiled springs 130. The rods 126 may be adjusted as to length by the presence of a screw 131 at their rear ends. The grooves 127, 128 have downwardly and frontwardly inclined surfaces, and these are for the purpose of permitting the rods to be pushed forwardly through the sleeves 125 and in opposition to the stress of the springs 130. When pressure is applied to the rear end of a rod 126 said rod will slide frontwardly and the latch 129 will then automatically enter the groove 127 of said rod. The rods 126 perform no duty except when a column in the tray 27 requires replenishing. When goods have been sold to such an extent that the weight 69 thereon descends to a predetermined extent, say, upon the fourth piece of goods from the bottom, as shown by solid lines in Fig. 7, the pivoted arm 70 will then reach a position in line with a rod 126 and then upon a sale of the bottom piece of the four remaining in the column, the inward movement of the slide accomplishing such sale will carry the rod 126 against the end of the arm 70 with the result that said rod 126 meeting the obstruction created by the arm 70, will be pushed forwardly through the sleeve 125 to such extent that its front end will close the coin slot in line with it. The arm 70 is pivotally mounted so that it may turn upwardly when it descends upon a rod 126 prior to the exact time when the weight has arrived at such position that the arm 70 properly stands in the path of the rod 126. During the forward movement of a rod 126 to close a coin slot, the inclined surfaces of the grooves 127, 128 ride against the spring latch 129 and force the latch outwardly. Should an effort be made to force a coin through a coin slot when the rod 126 is in the position shown in dotted lines in Fig. 7, the rod would yield and move inwardly until the groove 127 reached the latch 129, and thereupon the latch would snap into the groove and then by its engagement with the forward flat face of said groove resist any further inward movement of the rod 126, the rod 126 that time not having moved inwardly far enough to admit a coin to the coin slot. After the tray has been replenished with the goods the rods 126 must be reset to normal position, so as to free the coin slots, and this is done manually by lift-

ing the latches 129 from the rods 126 and manually sliding said rods rearwardly until the grooves 128 thereof are within the sleeves 125, and then upon the release of the latches 129 said rods become locked or latched in normal position.

The mechanism composed of the stationary and sliding frames and parts connected therewith and shown as a unit in Fig. 11 when placed within the casing of the machine rests upon the side plates 72 of the coin receptacle and is hooked upon auxiliary plates 133 (Figs. 2 and 9) cast with said side plates 72. The stationary frame of the operative mechanism is provided, at its rear side portions (Fig. 11), with pins 134 which engage notches cut in the plates 133. After the operative mechanism, shown in Fig. 11, has been introduced to position, it is there clamped down by means of pivoted bars 135 which are turned downwardly to engage the upper side edges of the stationary frame member and thereby bind the mechanism in firm position.

The operation of the several features of the machine has been pointed out hereinbefore to a sufficient extent to render a further detailed description of the operation of the entire machine unnecessary. The single operating plunger or rod 47 serves to operate the sliding member of the mechanism, and should four coins be introduced to the machine, one through each coin slot 42, and the plunger or operating rod 47 pressed inwardly, the four coins would act against the four levers 103 to position the goods ejectors 107 and finally on the completion of the inward movement of the goods ejectors, four pieces of the confection, one from each stack, would be dislodged and descend upon the chute or slide 30 to the discharge opening 31. Should only one coin be introduced through a coin slot, it would take its position between the appropriate plates 105, 106 and land upon the proper coin gages 109, 110, and thereupon on the inward pushing of the operating rod 47 the coin will engage a lever 103 and actuate said lever to so position the goods ejector 107 that upon the continued inward movement of the slide, the head on the goods ejector will engage the lug 63 and be further elevated thereby to effectually, on the continued inward movement of the slide, dislodge the bottom piece of confection from the stack. During the continued inward movement of the slide the coin becomes forced downwardly by the lever 103 from between the coin gage members 109, 110, and falls into the coin receptacle. A coin deficient in diameter, such for instance as a ten cent piece when a one cent piece is the predetermined coin for the machine, will pass between the coin gage members 109, 110 and slide down the inclined upper sur-

face of the frame 74 and return to the purchaser. After the slidable frame carrying the coin has reached its full inward movement to dislodge the bottom piece of confection, as shown in Fig. 6, the goods ejector 70 will descend by gravity from the tray 27 and fall upon the stop pin 108, and by this time the coin has already been ejected from the coin gage members by the lever or coin ejector 103. In Fig. 3 I illustrate the operating rod 47 and sliding portion of the frame of the mechanism as at its extreme inward movement and as having dislodged one piece of confection and ejected the coin, and thereupon upon the release of pressure 80 from the rod 47, the spring 94 will restore said rod and the sliding members connected with it to their outer normal initial position shown in Fig. 4.

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

1. In a coin-controlled vending machine, in combination, a general casing, a vertical tray therein for holding a stack of confections, a manually operative rod for effecting a sale on the introduction of a proper coin to the machine, a slide to receive the introduced coin on edge and operable from said rod, a goods ejector carried by said slide, a lever pivoted to a stationary part of the machine, in the path of the coin carried by said slide and in position when the coin is carried against the same to position said goods ejector, and a coin-gage connected with said slide for receiving and supporting the coin during its travel with the slide to the discharge position of the coin, one member of said gage being yieldable, and said pivoted lever being adapted at the end of the proper travel of the coin to eject the same from said gage.

2. In a coin-controlled vending machine, in combination, a general casing, a vertical tray therein for holding a stack of confections, a manually operative rod for effecting a sale on the introduction of a proper coin to the machine, a slide to receive the introduced coin on edge and operable from said rod and comprising depending plates forming between them a space for the coin, a goods ejector pivoted to and carried by said slide, a lever pivoted to a stationary part of the machine in the path of the coin carried by said slide and in position when the coin is carried against the same to position said goods ejector, and means connected with said slide for receiving and supporting the coin during its travel with the slide to the discharging position of the coin.

3. In a coin-controlled vending machine, in combination, a general casing, a vertical tray therein for holding a stack of confections, a manually operative rod for effecting a sale on the introduction of a proper coin to the machine, a slide to receive the introduced

coin on edge and operable from said rod and comprising depending plates forming between them a space for the coin, a goods ejector pivoted to and carried by said slide, 5 a lever pivoted to a stationary part of the machine in the path of the coin carried by said slide and in position when the coin is carried against the same to position said goods ejector, and a coin-gage connected 10 with said slide for receiving and supporting the coin during its travel with the slide to the discharge position of the coin, one member of said gage being yieldable, and said pivoted lever being adapted at the end of 15 the proper travel of the coin to eject the same from said gage.

4. In a coin-controlled vending machine, in combination, a general casing, a vertical tray therein for holding a stack of confec- 20 tions, a manually operative rod for effecting a sale on the introduction of a proper coin to the machine, a slide to receive the introduced coin on edge and operable from said rod and comprising depending plates form- 25 ing between them a space for the coin, a goods ejector pivoted to and carried by said slide, a lever pivoted to a stationary part of the machine in the path of the coin carried by said slide and in position when the coin 30 is carried against the same to position said goods ejector, means connected with said slide for receiving and supporting the coin during its travel with the slide to the discharge position of the coin, and a stationary 35 stripper between and along which said plates move when the slide is operated for keeping the slide clear to receive coins.

5. In a coin-controlled vending machine, in combination, a general casing, a vertical 40 tray therein for holding a stack of confect- ions, a manually operative rod for effecting a sale on the introduction of a proper coin to the machine, a slide to receive the intro- 45 duced coin on edge and operable from said rod and comprising depending plates forming between them a space for the coin, a goods ejector pivotally secured at its forward end between said plates and having at 50 its rear end a head adapted to engage the lower piece of confection in said stack for dislodging the same, a lever pivoted at its rear end to a stationary part of the machine and thence extending forwardly between 55 said depending plates in the path of the coin carried by said slide and in position when the coin is carried against the same to position said goods ejector, and means connected with said slide for receiving and supporting the coin during its travel with 60 the slide to the discharge position of the coin.

6. In a coin-controlled vending machine, in combination, a general casing, a vertical 65 tray therein for holding a stack of confec-

tion, a weight on said stack having a piv- 70 oted forwardly projecting arm, a manually operative rod for effecting a sale on an introduc- tion of a proper coin to the machine, a slide to receive the introduced coin and operable from said rod, a coin slot plate having a 75 slot for the introduction of the coin, a goods ejector carried by said slide, means for position- ing said goods ejector on the introduc- tion of the coin and the movement of said slide, and means for closing the said coin 80 slot when said tray requires replenishing, said means comprising a vertical support connected with said slide, a tubular bearing at the upper end thereof, a slidable rod mounted in said bearing and normally ex- 85 tending rearwardly so as to be engaged at the proper time by the aforesaid rod connected with the weight, and a spring latch to engage said rod, said rod having two grooves therein which incline forwardly and 90 inwardly and are adapted to said latch.

7. In a coin-controlled vending machine, in combination, a general casing, a vertical tray therein for holding a stack of confec- 95 tions, a weight on said stack having a piv- oted forwardly projecting arm, a manually operative rod for effecting a sale on an intro- duction of a proper coin to the machine, a slide to receive the introduced coin and operable from said rod, a coin slot plate hav- 100 ing a slot for the introduction of the coin, a goods ejector carried by said slide, means for positioning said goods ejector on the introduc- tion of the coin and the movement of said slide, and means for closing the said 105 coin slot when said tray requires replenish- ing, said means comprising a vertical sup- port connected with said slide, a tubular bearing at the upper end thereof, a slidable rod mounted in said bearing and normally 110 extending rearwardly so as to be engaged at the proper time by the aforesaid rod connected with the weight, and a spring latch to engage said rod, said rod having a recess therein with a base which inclines 115 forwardly and inwardly and is adapted to said latch, and a shoulder being formed at the forward end of said recess for coopera- tion with said latch in preventing said rod from being unduly pushed rearwardly in an attempt to introduce a coin through the coin slot.

8. In a coin-controlled vending machine, in combination, a general casing, a vertical 120 tray therein for holding a stack of confec- tions, a manually operative rod for effecting a sale on the introduction of a proper coin to the machine, a slide to receive the intro- duced coin on edge and operable from said rod and comprising depending plates form- 125 ing between them a space for the coin, a goods ejector pivotally secured at its forward end between said plates and having at its rear end a head adapted to engage the lower piece of confection in said stack 130

for dislodging the same, a lever pivoted at its rear end to a stationary part of the machine and thence extending forwardly between said depending plates in the path of the coin carried by said slide and in position when the coin is carried against the same to position said goods-ejector, and means connected with said slide for receiving and supporting the coin during its travel with the slide to the discharge position of the coin, said lever being directly below said goods-ejector and having a limited upward movement whereby said lever may effect the discharge of the coin from the coin supporting means at the proper time and also actuate the goods-ejector to the proper predetermined extent.

9. In a coin-controlled vending machine, in combination, a general casing, a vertical tray therein for holding a stack of confections, a manually operative rod for effecting a sale on the introduction of a proper coin to the machine, a slide to receive the introduced coin on edge and operable from said rod and comprising depending plates forming between them a space for the coin, a goods-ejector pivoted to and carried by said slide, a lever pivoted to a stationary part of the machine in the path of the coin carried by said slide and in position when the coin is carried against the same to position said goods-ejector, means connected with said slide for receiving and supporting the coin during its travel with the slide to the discharge position of the coin, and means for directing the introduced coin to the space between said depending plates, said means comprising a plate (49) extending rearwardly from the coin slot and at one edge thereof and a plate (124) carried by said

slide and extending forwardly parallel with the aforesaid rearwardly extending plate, one of said plates being formed with a lip (52) for directing the introduced coin downwardly and inwardly.

10. In a coin-controlled vending machine, in combination, a general casing, a vertical tray therein for holding a stack of confections, a manually operative rod for effecting a sale on the introduction of a proper coin to the machine, a slide to receive the introduced coin on edge and operable from said rod and comprising depending plates forming between them a space for the coin, a goods-ejector pivoted to and carried by said slide and having a projecting or cam lower portion, a lever pivoted to a stationary part of the machine in the path of the coin carried by said slide and at its upper edge being adapted to engage the cam portion of said goods-ejector for positioning said ejector when the coin is carried against said lever during the movement of the slide and said lever having a cam or downwardly projecting lower portion, and a coin gage connected with said slide for receiving and supporting the coin during its travel with the slide to the discharge position of the coin, one member of said gage being yieldable and said pivoted lever being adapted on the passage of the coin against the downwardly projecting portion thereof to eject the coin from said gage.

Signed at New York city, in the county of New York and State of New York, this 1st day of August, A. D. 1916.

HARVEY GILES.

Witnesses:

CHAS. C. GILL,
ARTHUR MARION.