

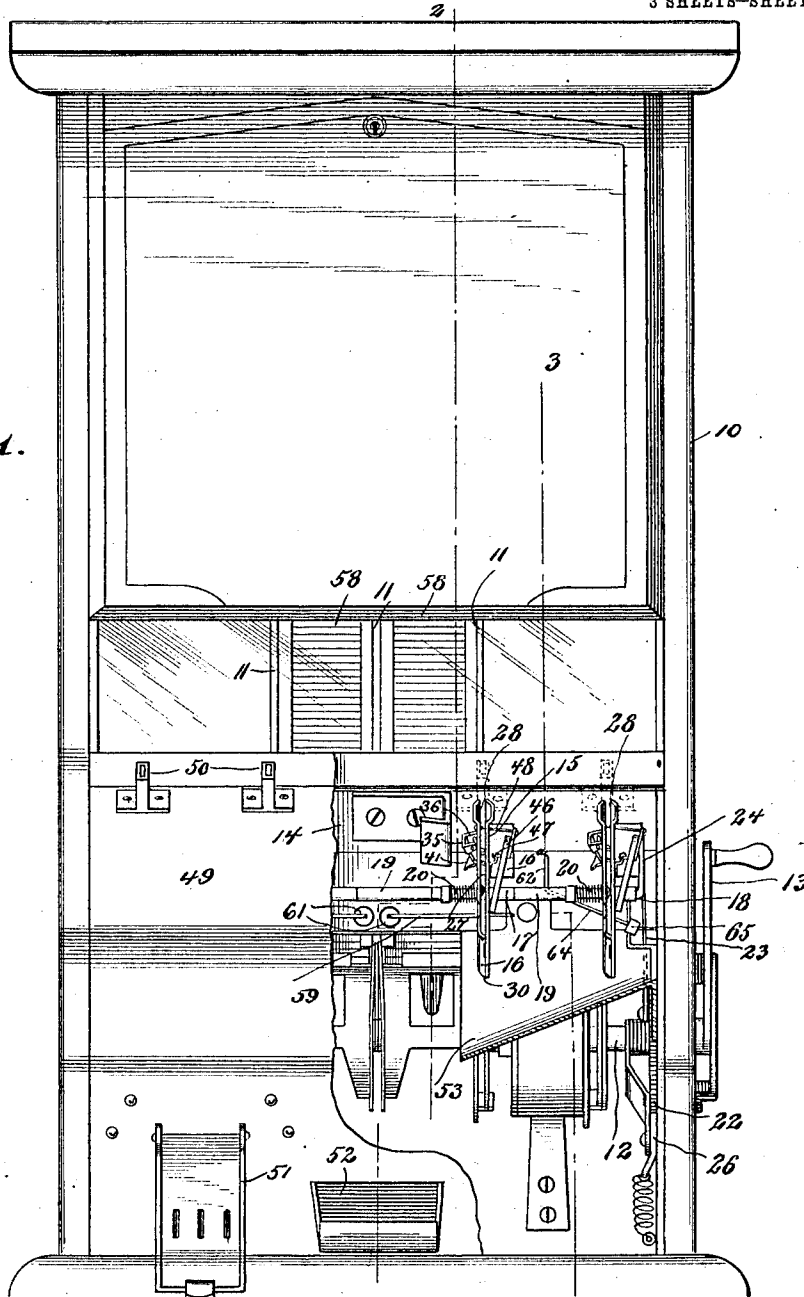
M. H. BROWN.
 COIN CONTROLLED APPARATUS.
 APPLICATION FILED MAR. 25, 1912.

1,048,490.

Patented Dec. 31, 1912.

3 SHEETS—SHEET 1.

Fig. 1.



WITNESSES
T. W. Fawcett
J. Miller

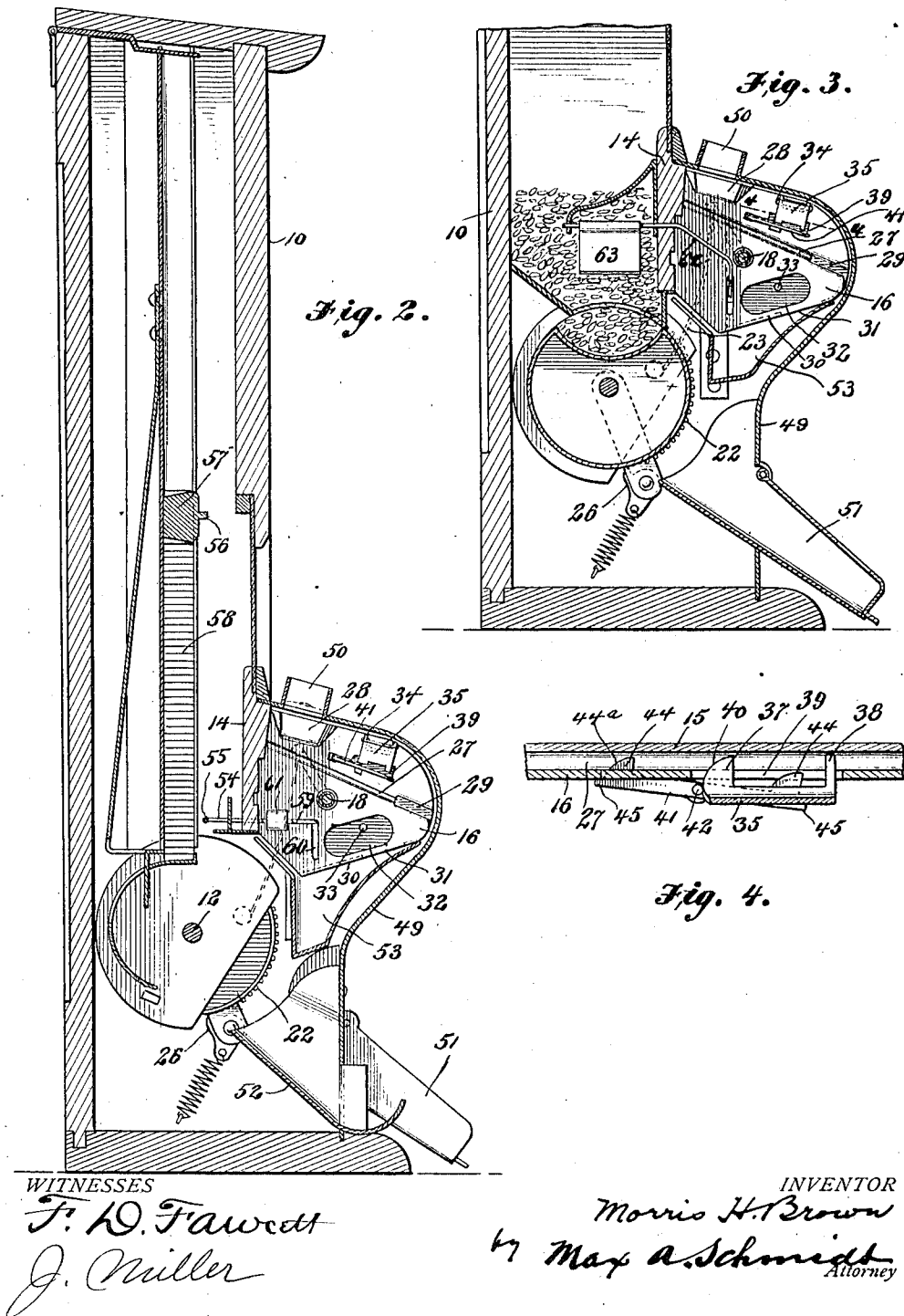
INVENTOR
Morris H. Brown
 by *Max A. Schmidt*
 Attorney

M. H. BROWN.
 COIN CONTROLLED APPARATUS.
 APPLICATION FILED MAR. 25, 1912.

1,048,490.

Patented Dec. 31, 1912.

3 SHEETS—SHEET 2.



M. H. BROWN.
 COIN CONTROLLED APPARATUS.
 APPLICATION FILED MAR. 25, 1912.

1,048,490.

Patented Dec. 31, 1912.

3 SHEETS—SHEET 3.

Fig. 5.

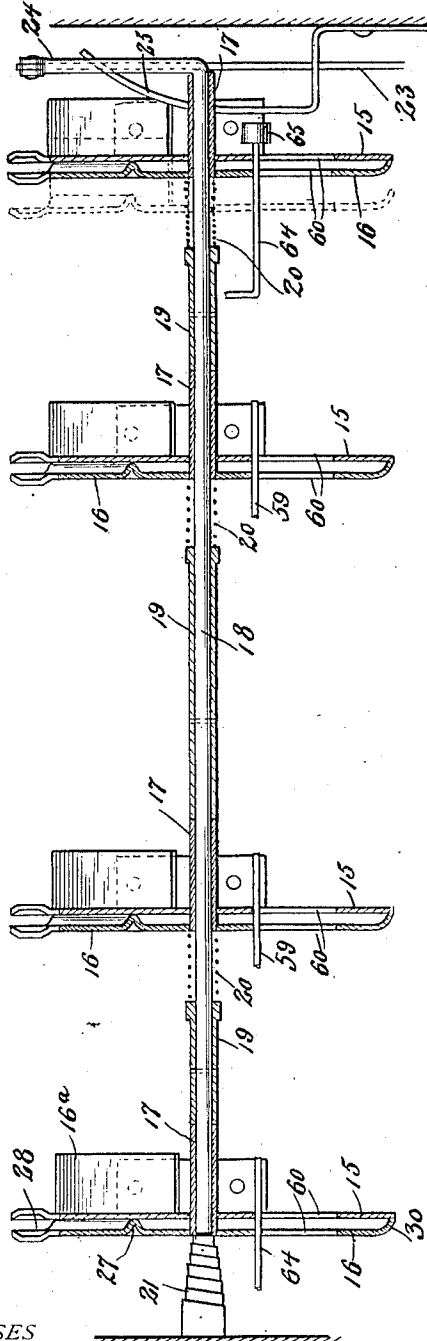


Fig. 7.

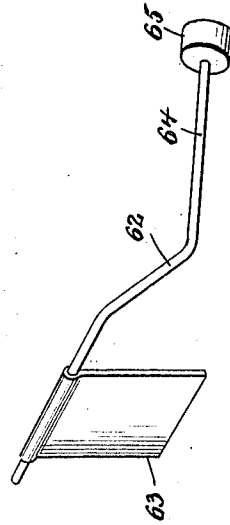
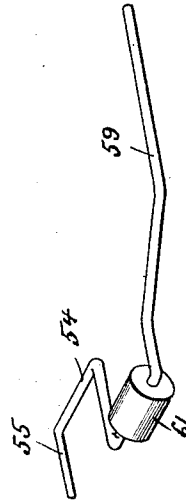


Fig. 6.



WITNESSES

F. D. Fawcett
J. Miller

INVENTOR

Morris H. Brown
 by *Max A. Schmidt*
 Attorney

UNITED STATES PATENT OFFICE.

MORRIS H. BROWN, OF PENN YAN, NEW YORK, ASSIGNOR TO JACOB DAVIS, OF PENN YAN, NEW YORK.

COIN-CONTROLLED APPARATUS.

1,048,490.

Specification of Letters Patent.

Patented Dec. 31, 1912.

Application filed March 25, 1912. Serial No. 686,013.

To all whom it may concern:

Be it known that I, MORRIS H. BROWN, a citizen of the United States, residing at Penn Yan, in the county of Yates and State of New York, have invented certain new and useful Improvements in Coin-Controlled Apparatus, of which the following is a specification.

This invention relates to that class of apparatus which is controlled by a coin of predetermined denomination.

It is the object of the invention to provide an improved mechanism which will eject all coins or other tokens except those for which the apparatus is designed, and also prevent clogging or choking of the coin-passage.

The invention is shown applied to a vending machine from which packages or other articles are delivered by a suitable ejector through the intervention of a coin of predetermined denomination, all other coins or tokens being ejected without effecting the delivery of the articles.

The invention is therefore designed to prevent fraud against the apparatus, to return to the patron a coin having a real value but which may have been inadvertently inserted.

With the herein stated objects in view, the invention consists in a novel combination and arrangement of parts to be hereinafter described and claimed.

In order that the invention may be better understood, reference is had to the accompanying drawings in which—

Figure 1 is a front elevation of the apparatus, partly broken away. Fig. 2 is a vertical section on the line 2—2 of Fig. 1. Fig. 3 is a vertical section on the line 3—3 of Fig. 1. Fig. 4 is an enlarged section on the line 4—4 of Fig. 3. Fig. 5 is a longitudinal section of the fraud-preventing mechanism. Figs. 6 and 7 are perspective views of the devices for locking the coin chute when the machine is empty.

Referring specifically to the drawings, 10 denotes a cabinet which incloses the delivery and coin mechanism, and the articles to be delivered. The delivery and coin mechanism is located in the lower portion of the cabinet, and the upper portion thereof is divided by vertical partitions 11 into four compartments, two of which are designed to hold package goods, such as chewing gum, etc. The other two compartments are de-

signed to hold loose goods such as candy, nuts, etc., the same being delivered in measured quantities. Inasmuch as the delivery mechanism forms no part of the present invention it need not be illustrated nor described in detail. The delivery mechanism is operated by a shaft 12 extending at one end through the corresponding end wall of the cabinet, and fitted on the outside of the latter with an operating handle 13. The delivery mechanism is controlled by a coin, which latter, when introduced into the machine, coöperates with said mechanism to actuate the same upon rotating the shaft 12 by means of the handle 13.

With the delivery mechanism is associated a device for preventing fraud against the machine, said device being arranged so as to eject slugs, washers, and other spurious checks and return the same to the outside of the machine. The device is also designed to eject coins of the proper denomination but imperfect, as well as coins of different denominations than those for which the apparatus is designed.

Inasmuch as the cabinet is designed to deliver different goods, a delivery mechanism and fraud preventer is provided for each compartment. The several fraud-preventing devices are alike, in view of which a description of one suffices for all.

Within the cabinet, near the bottom thereof, is mounted a transverse wall 14, said wall extending between the end walls of the cabinet. To this wall 14 is rigidly secured a plate 15 which extends forward therefrom and forms one of the walls of a coin chute, the other wall of said chute being a plate 16 having the same general outline as the plate 15 and arranged alongside the same. The plate 15 is stationary and the plate 16 is movable toward and from the same for a purpose to be presently described. The plate 16 is carried by a sleeve 17 which extends loosely through an aperture in the plate 15. The sleeve 17 is supported on a shaft 18, it being free to slide thereon. On the shaft 18 are mounted abutments 19 which latter may be in the form of sleeves, said sleeves being made fast to the shaft by a pin or other suitable means. The sleeves 19 are located between the several coin chutes formed by the plates 15 and 16 and they are spaced at one of their ends from the plates 16 and between said plates

and the ends of the sleeves are interposed coiled springs 20 abutting at one end against the end of the sleeve and at their other end against the plate. The sleeves 17 abut at one of their ends against the other ends of the sleeves 19, the latter therefore serving as stops to limit the movement of the plates 16 toward the plates 15, and also as abutments for one end of the springs. The shaft 18 is movable in the direction of its length whereby the plates 16 are carried away from and toward the plates 15, the sliding movement of the shaft in one direction being communicated to the plates 16 by the engagement of the sleeves 19 with the sleeves 17. The sleeves 17 are also free to slide on the shaft 18, independent thereof, and they are normally held in contact with the sleeves 19 by the springs 20. When the shaft 18 is moved lengthwise in one direction the plates 16 move away from the plates 15, thus opening up the coin chutes and allowing the coin, slug, or other token to drop down therefrom. When the shaft moves in the opposite direction, the plates 16 travel toward the plates 15 and close up the coin chute. If anything should stick between the two plates as the coin chute is closing, the plate 16 remains stationary until the obstruction is removed. The other coin chutes, however, close up. The coin chute which remains open will reject all coins which may be thereafter dropped thereinto, said coins being returned to the outside of the machine, as will be hereinafter described, without actuating the delivery mechanism. The plate 16, at one end of the cabinet, is engaged by a spring 21 anchored to the corresponding end wall of the cabinet.

The following means are provided for operating the shaft 18: On the shaft 12, inside the cabinet, is fixed a toothed sector 22 which is connected by a rod 23 to a crank arm 24 on one end of the shaft 18. To the end wall of the cabinet is secured an inclined plate 25 which is in the path of the crank-arm so that when the latter swings it slides over the incline and the shaft 18 is pushed in the direction of its length. As the sector 22 is fixed to the shaft 12 it will be evident that the actuation of the delivery mechanism occurs simultaneous with the opening up of the coin chutes. Upon releasing the handle 13, the shaft 12 is given a reverse rotation by a spring, and the parts are restored to their normal position, the coin chutes closing up. The sector 22 is engaged by a spring pawl 26 which prevents a return stroke until a full stroke to actuate the delivery mechanism and the coin chutes has been made.

The plate 16 is formed with a rib 27 extending at an inclination from the rear toward the front end of the plate and terminating a suitable distance from the last-

mentioned end. This rib is on that side of the plate 16 which is opposite the plate 15 and is in contact with said plate 16 to form the floor of the coin chute when said chute is closed, in which position the plates are spaced apart a distance conforming to the thickness of a coin of the predetermined denomination. The top edges of the plates, at their rear ends, are flared as indicated at 28 which is the entrance of the coin chute. The rib 27 terminates near the front end of the plate, it being cut away at this point whereby a slot 29 is formed in the plate 16. The bottom edge of the plate 16 is inclined rearward and turned inward toward the plate 15, as indicated at 30, forming a ledge which is a continuation of the floor of the coin chute. This ledge extends to the front edge of the plate 16, so that a coin rolling down the rib 27 will drop down upon reaching the lower end thereof and fall on the ledge 30 and roll down the same rearward to the actuating device of the delivery mechanism. It will be noted that the parts 27 and 30 are inclined transversely toward the plate 15. The purpose of this is to eject coins having imperfections, such as bends and uneven edges. Such coins lodge in the chute and are ejected upon opening up the same as already described, and they are thus returned to the patron. If the parts were not inclined, the imperfect coins would not be prevented from passing through the chute to the delivery mechanism, but would roll uninterruptedly to the latter.

In the ledge 30 is a slot 31 through which drop coins or slugs and the like which are thinner than the proper coin for which the apparatus is designed. Such coins, etc., which have a smaller diameter than the proper coins drop sidewise through a slot 32 in the plate 16 above the ledge 30. In order to throw the coins sidewise through the slot 32, the plate 15, opposite said slot, has a small lug 33 projecting into the path of the coin and when struck by the latter tilts it sidewise so that it drops through the slot. A coin, check, slug, etc., which is too thick to pass freely down the chute sticks therein and drops down when the chute is opened up.

In the plate 15 is a slot which works a shelf 16^a extending from the plate 16 below the floor 27 at the entrance end of the coin chute. If a coin should happen to stick in the upper part of the coin chute, it will drop down on the shelf when the chute is opened, and as the shelf is inclined, the coin rolls down the same and drops from the chute, it being thus prevented from accidentally getting to the delivery mechanism.

As attempts are sometimes made to operate the apparatus by means of a perforated check, such as a washer, means are

provided for ejecting the same also. These means comprise the following instrumentalities: To a suitable support 34 on the outside of the plate 16 is hinged a leaf 35 having ears 36 whereby the hinge connection with the support is made. The free edge of the leaf has outstanding fingers 37 and 38, respectively, which are adapted to pass through a slot 39 in the plate 16, and thus extend into the coin chute above the floor 27 so as to lie in the path of the coin, check or other token passing down the chute. The edge of the finger 37 is beveled as indicated at 40 so that when it is struck by the coin or the like it is wedged sidewise and the leaf therefore swings outward from the plate 16 and the two fingers are withdrawn from the coin chute to permit the coin to pass. A perforated check, such as a washer, is caught by the finger 38 and held thereby until the chute is opened up, whereupon said check is ejected. The leaf swings back toward the plate 15 by gravity after the check has passed the finger 37, and when the perforation in the check comes opposite the finger 38, the latter advances and passes into the perforation and thus holds the check. If a second check is inserted into the coin chute before the first one is released, the finger 38 would release the first check and it might then pass to the delivery mechanism. In order to prevent this, an additional safeguard is provided. This device is a lever 41 which is pivoted intermediate its ends as indicated at 42 to the outside of the plate 16 in line with the slot 39 in the latter, so that the ends of the lever may alternately swing into the slot and out of the same. Each end of the lever has a finger 44 which extends across the chute when the corresponding end of the lever swings into the slot 39. The finger at the upper end of the lever is located in advance of the finger 37 and has a beveled edge 44^a so that it will be forced back out of the chute when the coin strikes said edge. The finger 44 at the lower end of the lever is located slightly in advance of the finger 38. Assuming now that a perforated check is being held by the finger 38, and another check is passed into the coin chute: The second check strikes the finger 44 at the upper end of the lever whereupon said lever is swung in a direction to engage the finger 44 at the lower end thereof with the first coin. The first coin is now held in the chute and the passage of the second coin is also blocked. When the first coin passed the finger 44 at the lower end of the lever, it swung the latter in a direction to place the upper finger of said lever across the chute. It will therefore be evident that the last-mentioned finger is always in position to effect the herein-described operation. Both checks are ejected by opening up the coin chute. The

lever 41 also serves to block the passage of light-weight coins or checks, such devices not having sufficient force to crowd the upper finger 44 back out of the chute by their impact therewith. The lever will be designed so that any coin or other device lighter than the proper coin will be blocked, and upon opening the chute, said device is ejected.

In order to prevent the lever 41 from swinging over too far into the slot 43, it is provided with lugs 45 which come against the plate 16 and serve to stop the lever. A device is also provided for rejecting checks which are susceptible to magnetic attraction, said device comprising an ordinary horseshoe magnet 46 which is pivoted at 47 on the outside of the plate 15 so that its poles may swing into and out of contact with said plate. The magnet poles are located near the bottom of the plate 15 and engage the same above the ledge 30. The magnet does not come in direct contact with the coin, check or other token, but acts thereon through the plate 15, which will be made of some non-magnetic material. A loose connection, by means of a rod 48, is made between the magnet and the plate 16, so that every time said plate moves away from the plate 15, to open the coin chute, the magnet poles swing away from the plate 15, and when the plate 16 returns to close the coin chute, the magnet poles again come in contact with said plate. It will therefore be seen that a coin held by the magnetic attraction drops down out of the coin chute when the latter opens.

The lower front portion of the machine has a removable cover 49 provided with coin slots 50 which register with the coin chutes hereinbefore described. The cover also has chutes 51 to receive the loose material delivered, and a chute 52 to receive the package material. Beneath the several coin devices are located chutes 53 which are arranged to discharge into the chute 52 so that the rejected coins, checks, or other tokens, are delivered in the place where otherwise the package would have been delivered.

The mechanism is devoid of complicated parts to get out of order, and it effectually serves the purpose for which it is designed. If the coin or other token is too light, it will be rejected, as well as if it has the proper weight and is perforated, or is too thick or too thin, or is susceptible to magnetic attraction, or has a diameter smaller than that of the proper coin. It will therefore be evident that every contingency is provided for and the machine will not deliver unless a proper coin is employed; and on the other hand a coin which has any imperfections is returned to the patron.

In order to return a coin to the patron if the supply of material to be delivered is ex-

hausted, the following mechanism is provided: In an opening in the wall 14 is mounted for rocking movement a rod 54 having a crank bend 55 at one of its ends which extends into the path of a lug 56 on a weight or follower 57 mounted on top of the stack of packages 58. The other end of the rod has a bend 59 which extends through registering slots 60 in the plates 15 and 16 above the ledge 30. The bend 59 carries a weight 61 which normally holds the rod in such a position that the bend extends a sufficient distance above the path of the coin traveling down the coin chute that it offers no obstruction to the free passage of the coin. However, when the last package has been delivered and the lug 56 reaches the bend 55, it trips the rod 54, and lowers the bend 59 so that it now extends across the coin chute in a position to block the passage of the coin, and when the coin chute is opened, the coin is returned to the patron.

For loose goods, a rocking rod 62 is provided, said rod being fitted with a shelf 63 at its end which extends into the compartment containing the goods. The other end of the rod has a bend 64 extending across the coin chute in the same manner as the bend 59 already described.

The weight of the loose goods swings the shelf 63 down and the bend 64 therefore swings upward in the coin chute to allow the coins to pass. After all the goods have been delivered, the shelf rises and the bend lowers in the coin chute so as to block the passage of the coin to the delivery mechanism. The last-described movement of the bend 64 is effected by means of a weight 65 carried thereby.

I claim:

1. In a coin-controlled mechanism, a coin chute having separable walls, means in the chute for catching a perforated token, means operated by a second token to prevent release of the first token caught, and means for separating the walls.

2. In a coin-controlled mechanism, a coin chute having separable walls, a leaf hinged to one of the walls and having fingers extending across the chute, one of said fingers having a beveled edge adapted to be engaged by a token passing through the chute to swing the leaf on its hinge and withdraw both fingers from the chute, barriers swinging alternately into and out of the chute, one of said barriers being located in front of the beveled finger, and the other barrier adjacent to the other finger, and means for separating the aforesaid walls.

3. In a coin-controlled mechanism, a coin chute having separable walls, a leaf hinged to one of the walls and having fingers extending across the chute, one of said fingers having a beveled edge adapted to be engaged by a token passing through the chute

to swing the leaf on its hinge and withdraw both fingers from the chute, a lever pivoted to the chute and having fingers extending alternately thereinto when the lever is swung, one of said fingers being located in advance of the aforesaid beveled finger and being engageable by a token to swing the lever and extend the other finger of said lever into the chute, said last-mentioned finger being located adjacent to the other finger of the hinged leaf, and means for separating the aforesaid walls.

4. In a coin-controlled mechanism, a coin chute having separable walls, a leaf hinged to one of the walls and having fingers extending across the chute, one of said fingers having a beveled edge adapted to be engaged by a token passing through the chute to swing the leaf on its hinge and withdraw both fingers from the chute, a lever pivoted to the chute and having fingers extending alternately thereinto when the lever is swung, one of said fingers being located in advance of the aforesaid beveled finger and being engageable by a token to swing the lever and extend the other finger of said lever into the chute, said last-mentioned finger being located adjacent to the other finger of the hinged leaf, stops on the lever to limit the swing thereof, and means for separating the aforesaid walls.

5. In a coin-controlled mechanism, a coin chute having a movable wall, means for blocking the passage through the chute of a token other than a coin of predetermined denomination, a support for said wall, a yielding connection between the support and the wall, and means for actuating the support to effect the movement of the wall.

6. In a coin-controlled mechanism, a coin chute having a movable wall, means for blocking the passage through the chute of a token other than a coin of predetermined denomination, a sleeve carrying said wall, a rod on which the sleeve is slidable, an abutment on the rod engaging one end of the sleeve, a second abutment on the rod, a spring between the second abutment and the aforesaid wall, and means for moving the rod in the direction of its length.

7. In a coin-controlled mechanism, a coin chute having a stationary and a movable wall, a support for the stationary wall, said wall having an opening, means for blocking the passage through the chute of a token other than a coin of predetermined denomination, a sleeve carrying the movable wall, said sleeve working in the opening of the stationary wall, a rod on which the sleeve is slidable, an abutment on the rod engaging one end of the sleeve, a second abutment on the rod, a spring between the second abutment and the aforesaid wall, and means for moving the rod in the direction of its length.

8. In a coin-controlled mechanism, a coin chute having a movable wall, means for blocking the passage through the chute of a token other than a coin of predetermined denomination, a sleeve carrying said wall, a rod on which the sleeve is slidable, an abutment on the rod engaging one end of the sleeve, a second abutment on the rod, a spring between the second abutment and the aforesaid wall, a crank arm on the rod, an incline in the path of said arm, a swinging member, a connection between said member and the crank arm, and means for actuating the swinging member.

9. In a coin-controlled mechanism, a coin chute having separable side walls, means for separating said walls, and a shelf carried by one of the walls beneath the floor of the chute at the entrance end thereof, said shelf bridging the space between the side walls when they are separated.

In testimony whereof I affix my signature in presence of two witnesses.

MORRIS H. BROWN.

Witnesses:

MAX A. SCHMIDT,
MARGERY C. LUCAS.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."