A. L. ZENT.

VENDING MACHINE.

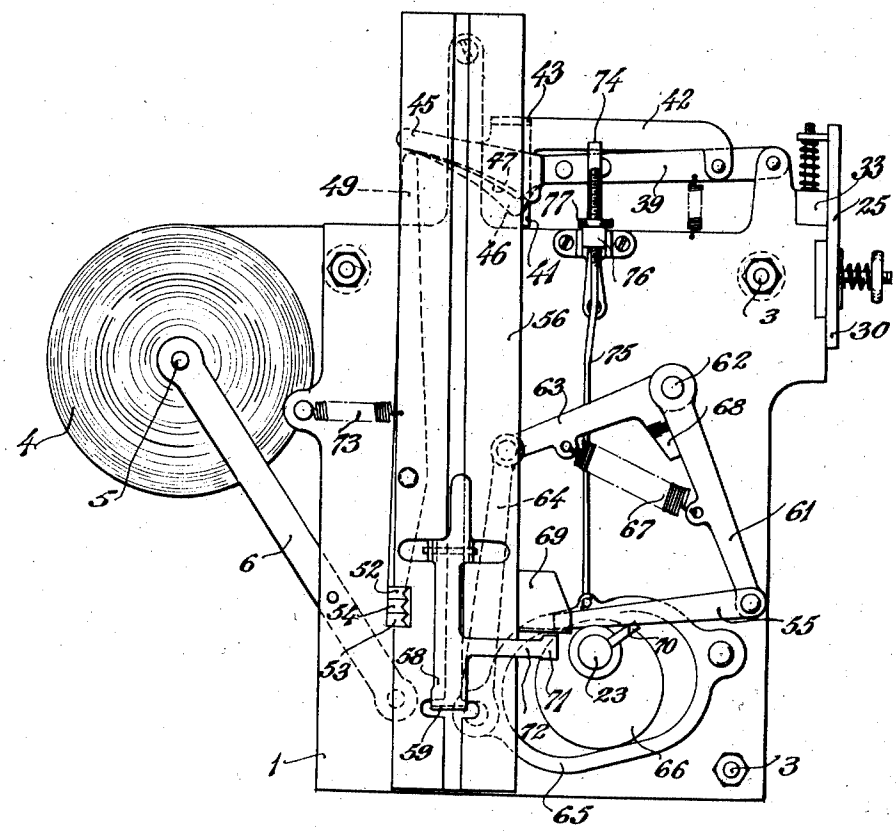
APPLICATION FILED AUG. 13, 1919.

1,388,627.

Patented Aug. 23, 1921.

3 SHEETS—SHEET 1.

Fig. 1



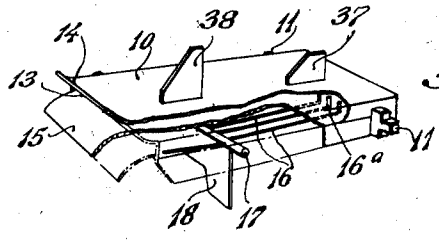


Fig. 6

INVENTOR.

A. L. Zent

BY Edward Reed

ATTORNEY.

A. L. ZENT.

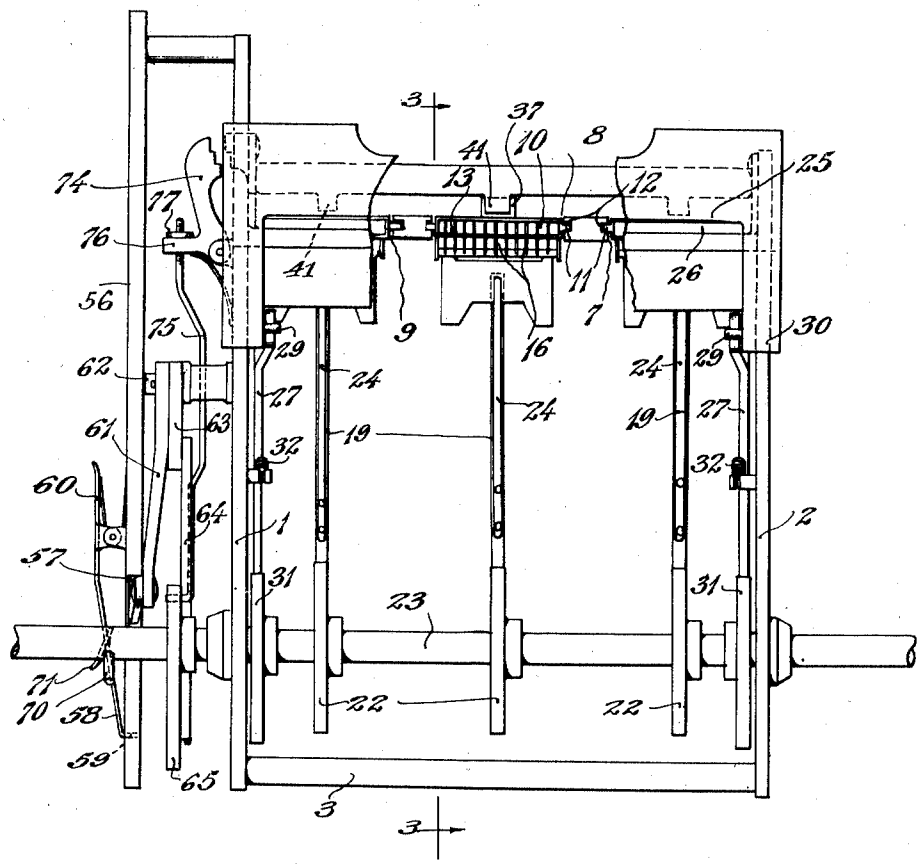
VENDING MACHINE.

APPLICATION FILED AUG. 13, 1919.

1,388,627. Patented Aug. 23, 1921.

3 SHEETS—SHEET 2.

Fig. 2



INVENTOR.

A. L. Zent

BY Edward F. Reed

ATTORNEY.

A. L. ZENT.

VENDING MACHINE.

APPLICATION FILED AUG. 13, 1919.

1,388,627.

Patented Aug. 23, 1921.

3 SHEETS—SHEET 3.

Fig. 4

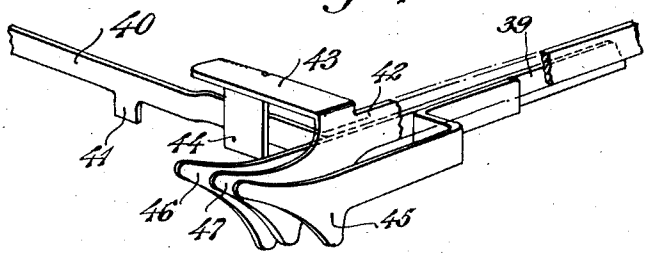
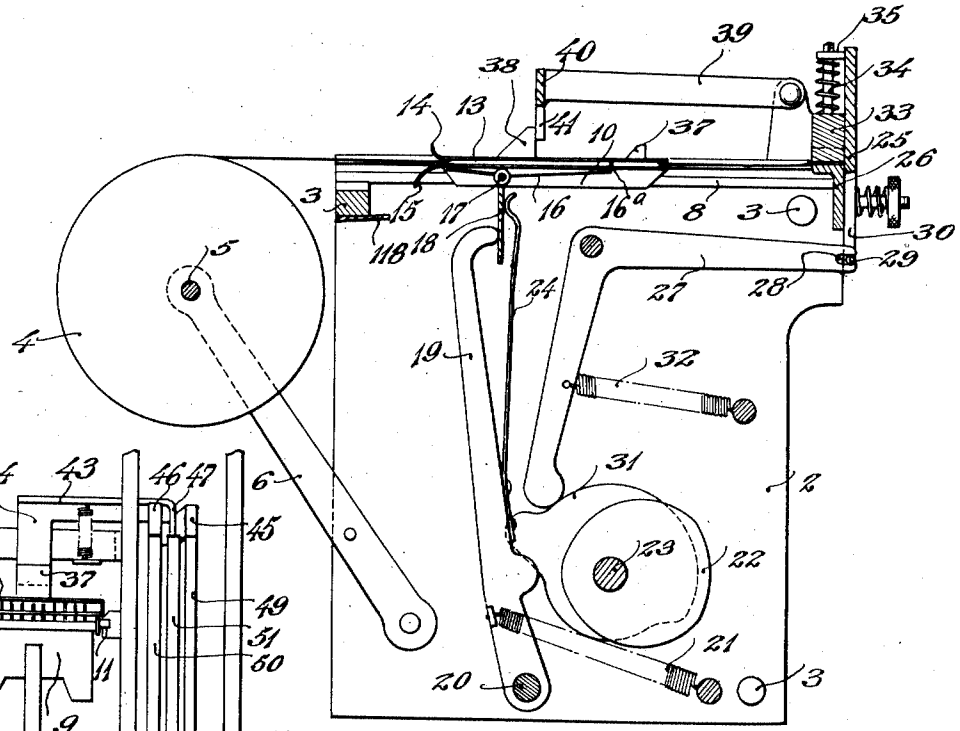


Fig. 3



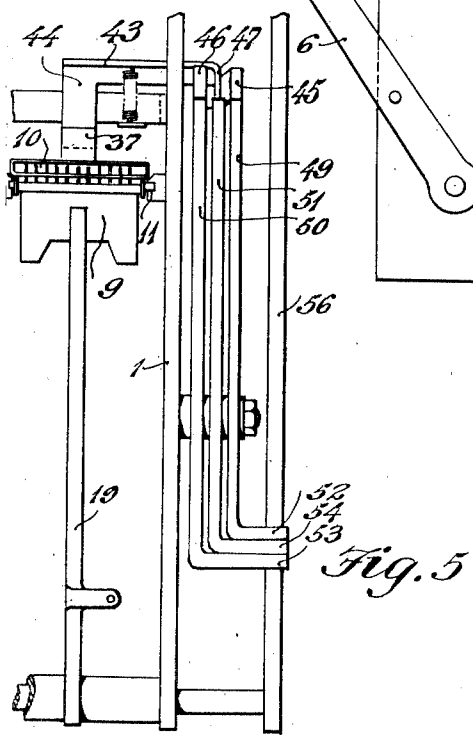


Fig. 5

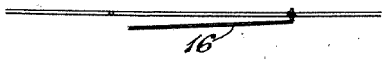


Fig. 7

INVENTOR.
A. L. Zent
BY Edward Reed
ATTORNEY.

UNITED STATES PATENT OFFICE.

ABRAM L. ZENT, OF DAYTON, OHIO, ASSIGNOR TO THE BUSHNELL MANUFACTURING COMPANY, OF KANSAS CITY, KANSAS, A CORPORATION OF KANSAS.

VENDING-MACHINE.

1,388,627. Specification of Letters Patent. Patented Aug. 23, 1921.

Application filed August 13, 1919. Serial No. 317,110.

To all whom it may concern:

Be it known that I, ABRAM L. ZENT, a citizen of the United States, residing at Dayton, in the county of Montgomery and State of Ohio, have invented certain new and useful Improvements in Vending-Machines, of which the following is a specification, reference being had therein to the accompanying drawing.

This invention relates to vending machines, and more particularly to a machine for vending articles which must be severed from a strip comprising a series of such articles attached one to the other, such as stamps, tickets and the like.

The main object of the invention is to provide a vending machine of this character which will be simple in construction, positive in operation and of such a strong and durable character that it will not be easily broken or rendered inoperative.

A further object of the invention is to provide in a machine of this kind, a feeding device having bodily movement to discharge the articles and capable of being moved different distances to discharge different numbers of articles upon each operation thereof; and further to provide coin controlled means for determining the amount of movement to be imparted to said feeding device.

Other objects of the invention will appear as the mechanism is described in detail.

In the accompanying drawings Figure 1 is a side elevation of a mechanism employing my invention; Fig. 2 is a front elevation of the same; Fig. 3 is a sectional view taken on line 3—3 of Fig. 2 looking in the direction of the arrows, showing the feeding device in its foremost position; Fig. 4 is a detail view of the stop mechanism; Fig. 5 is a rear elevation of a portion of the mechanism showing the stop operating levers; Fig. 6 is a detail view of one of the feeding devices; and Fig. 7 is a detail view of a portion of the lower wall of the shuttle and one of the feeding fingers.

In these drawings I have illustrated one embodiment of my invention and have shown same as applied to a machine for vending stamps, tickets or other articles which are attached one to the other in the form of strips. It will be understood, however, that this particular embodiment of the invention has been chosen for the purpose of illustration only and that the mechanism may take various forms without departing from the spirit of the invention. The invention is not limited to a device for vending articles which come in strips, but may be embodied, either in whole or in part, in a device for vending articles of various kinds, either attached or separated. The present device is designed for the use of coins to determine the number of articles to be discharged, but it will be obvious that checks or other similar devices may be used for this purpose. It will further be understood, therefore, that the words "stamp" and "coin" are herein used as terms of definition and not as terms of limitation.

In the particular embodiment of the invention here shown the several operating parts are carried by a single frame, which consists of side members 1 and 2 connected one to the other by tie rods 3. Arranged to the rear of this frame are suitable means for supporting the articles which are to be vended. In the present instance, where the machine is designed for stamps or other articles connected in strips, the articles are supported in the form of rolls 4, mounted on a shaft 5, carried by suitable brackets 6, which, in turn, are supported by the main frame. There may be any suitable number of these rolls, the number depending upon the scope of the machine. In the present instance I utilize three rolls of stamps because the machine is designed for coins of three denominations and utilizes three feeding devices for discharging the stamps. In this machine coins of three denominations may be used as follows: One cent deposited in the machine will cause a one-cent stamp to be delivered; a five-cent piece deposited in the machine will cause two two-cent stamps and one one-cent stamp to be delivered; and a ten-cent piece deposited in the machine will cause four two-cent stamps and two one-cent stamps to be delivered. Obviously the number of stamps discharged for each coin may be varied if desired to provide for a profit on the transaction, or checks, representing values different from the coins named, may be utilized, and the number of stamps discharged for each check controlled as may be desired. Separate means are provided for delivering stamps from each roll. As here shown, the machine is provided with three guideways, one for each roll, through which the strips of stamps

are carried from the rolls, these guideways being here indicated by reference numerals 7, 8 and 9. Mounted for movement along each guideway is a feeding device which is preferably in the form of a reciprocatory carriage or shuttle 10. Each feeding device is slidably mounted in the corresponding guideway, preferably by providing the same with laterally projecting ribs 11, adapted to travel in slots 12 formed along the edges of the guideway. The feeding device has a horizontal slot 13 through which the strip of stamps passes, and to facilitate the threading of the strip through this slot, it may be provided at its rear end with flared fingers 14 and 15 to guide the end of the strip into the slot. Suitable means are provided for connecting the strip of stamps with the feeding device during the forward or feeding movement of the same and for disconnecting the strip therefrom during the return movement of the feeding device. Preferably this connecting means is actuated by the operating mechanism for the feeding device in such a manner that the strip will be connected with the feeding device before the latter begins its feeding movement, and will be disconnected therefrom before it begins its return movement. Any suitable means may be provided for so connecting the stamps with the feeding device, and, as here shown, this means comprises a plurality of gripping fingers 16, mounted on the feeding device and having upturned ends adapted to enter the slot 13 and engage the strip of stamps therein. Where, as in the case of stamps, the several articles forming a strip are separated by rows of perforations, I prefer that the ends of the fingers should enter these perforations, thus forming a positive connection between the strip and the feeding device. The fingers may be guided into the perforations by extending the upturned ends of the respective fingers through apertures 16ª formed in the bottom wall of the slot 13. In the present instance these fingers are pivotally mounted on the feeding device by securing them at their rear ends to a transversely extending shaft 17 and are actuated by means of a depending arm or plate 18, which is also secured to the shaft, and which is engaged by the operating mechanism to impart movement to the feeding device. The operating mechanism may take various forms and in the present machine it is illustrated in the form of a lever 19, there being one of these levers for each feeding device. The levers are mounted at their lower ends on a shaft 20, mounted in frame members 1 and 2, and have their upper ends arranged to engage the plates 18 of the respective feeding devices. I prefer that the operating levers should be actuated by a yieldable device which will permit the feeding movement of the feeding device to be interrupted at different points in its travel without interfering with the movement of the operating mechanism of the machine as a whole. To this end each lever is actuated by a spring 21 which tends to move the lever in a direction to impart feeding movement to the feeding device. The lever is moved to its normal or retracted position and retained in that position by means of a cam 22, mounted upon an operating shaft 23, which is journaled in the main frame and may be provided with any suitable means for rotating the same, such as a crank, which is not here shown. When the operating shaft 23 is rotated the lever is released for operation by the spring 21, and if the fingers are not already in engagement with the strip of stamps the first movement of the lever will rock the plate 18 about its axis and thus move the fingers 16 into contact with the strip of stamps. When the fingers are in operative engagement with the strip of stamps they will prevent the further movement of the plate 18, and the continued movement of the operating lever will impart bodily movement to the feeding device, thus causing the strip of stamps to be advanced. After the stamps thus advanced to a discharge position have been severed from the strip, the cam 22 will act upon the lever 19 to retract the same and the feeding device will be retracted to its normal position. Preferably the lever is so connected with the plate 18 that it will impart the retracting movement directly to the feeding device. To this end, a resilient finger 24 is mounted on the lever and bears against the forward surface of the plate 18. Consequently the first rearward movement of the lever will actuate the plate 18 to move the gripping fingers 16 to their inoperative positions and will then impart bodily movement to the feeding device in a rearward direction.

In the present construction I have provided means for causing the fingers to engage the strip of stamps at the end of the rearward movement of the feeding device, but this is not essential to the proper operation of the mechanism and if desired may be omitted and the operating levers alone relied upon to control the movement of the fingers, as here shown. A stop 118 is mounted on the frame of the machine near the rear end of the guideway and projects forwardly into the path of the plate 18. The stop is so shaped and arranged that it will not engage the lever, but will engage the plate 18 just before the feeding device completes its rearward movement, thus causing the fingers to be moved into their operative positions and to be retained in these positions until forward movement is imparted to the feeding device. The yieldable finger 24 engages the plate at a point between the stop 118 and the

axis of the plate and, consequently, the continued movement of the operating lever will complete the rearward movement of the feeding device, and the plate will rock about its axis to actuate the gripping fingers. The stop engages the plate just prior to the completion of the rearward movement of the feeding device and the gripping fingers are caused to engage the strip of stamps in advance of the row of perforations, and as the feeding device continues its movement, to enter said porforations. Should there be a further movement of the operating lever after the fingers have entered the perforations the finger 24 on the operating lever will yield to permit the lever to move relatively to the feeding device.

The stamps, which have been moved to a discharge position, may be severed from the strip in any suitable manner. As here shown, a single cutter 25 extends transversely of the several guideways at their discharge ends and coöperates with the corresponding cutter bar 26 to sever the stamps. This cutter is mounted for sliding movement on the main frame and is actuated from the main operating shaft 23 by means of two bell-crank levers 27, which are mounted on the respective side members of the frame and have at their forward ends slots 28 to receive pins 29, carried by downwardly extending projections 30, secured to, and in the present instance forming part of, the cutter blade 25, the other arms of the levers 27 extending downwardly and engaging cams 31 mounted on the operating shaft 23. Springs 32 act upon the respective levers to move the cutter blade to its normal or elevated position and retain the same in that position, and the cams 31 are so shaped and so positioned on the shaft with relation to the cams 22, that they will act upon the levers to impart quick operating movement to the cutter blade at the end of the feeding movement of the feeding devices. A suitable detent is provided to hold the strips of stamps during the cutting operation and during the return movement of the feeding device, and, in the present construction, this detent is in the form of a pressure bar 33, yieldably mounted upon the rear surface of the cutter blade 25, and so arranged that it will engage the several strips of stamps which project across the cutter bar 26 when the cutter blade is operated. In the present instance the pressure bar is provided with upwardly extending pins 34, which project through guide lugs 35 carried by the cutter blade and springs 36 are confined between the lugs 35 and the pressure bar to force the latter downwardly. The cams 31 are so shaped that after the cutting operation is completed the cutter blade will be elevated a distance sufficient to enable it to clear the edge of the cutter bar, but not sufficient to move the pressure bar out of engagement with the strips of stamps. When the feeding devices have been fully retracted, the cam will further release the cutter operating levers 27 and permit the latter to move the cutter blade a distance sufficient to carry the pressure bar out of contact with the strips of stamps, thus releasing the latter for a subsequent feeding operation.

Suitable stop mechanism is provided to limit the feeding movement of the several feeding devices and this stop mechanism is coin controlled to cause it to permit one or all of the feeding devices to be moved a distance sufficient to move the required number of stamps to a discharge position. As here shown, each feeding device has secured thereto two upwardly extending projections or stops 37 and 38, arranged one in the rear of the other, and the rear stop 38 being of greater heighth than the forward stop 37. Pivotally mounted upon the main frame is a stop frame, comprising side members 39 connected by a transverse bar 40, which is provided with two projections, or stops 41, which lie normally in the paths of the stops 37 of the feeding devices in guideways 7 and 8, both of which feeding devices act upon strips of two-cent stamps.

Pivotally mounted upon the stop frame 39 is an arm 42 having a transversely extending portion 43, provided with a downwardly projecting stop 44 which normally extends into the path of the stop 37 of the feeding device in guideway 9, which feeding device acts upon the strip of one-cent stamps. The stop carrying arm 42 is capable of movement relatively to the main stop frame 39, but will be moved therewith when the latter is actuated. With the stops 41 and 44 in their normal positions, the several feeding devices are locked against all movement and the manipulation of the operating device will not cause any stamp to be moved to a discharge position, but because of the yieldable means for actuating the operating levers the other operating mechanism may be actuated without breakage of the parts. The connection between the main operating shaft 23 and the movable stops is coin controlled to cause the stops to be adjusted according to the denomination of the coin deposited in the machine, that is, if a penny is deposited the stop 44 will be moved out of the path of the stop 37 of the feeding device in the guideway 9, thus permitting that feeding device to move a distance sufficient to move one stamp to a discharge position, at the end of which movement the stop 38 will engage the movable stop 44 and prevent the further movement of the feeding device. If a five-cent piece is deposited the main stop frame 39 will be elevated sufficiently to cause both the stops 41 and 44 to clear the stops 37 of all the feeding devices, thus permitting each feeding device to move one stamp to a discharge position. If a

ten-cent piece is deposited, the main stop frame 39 will be elevated sufficiently to clear both the stops 37 and the stops 38 of the several feeding devices, thus permitting each feeding device to be moved a distance sufficient to discharge two stamps. The main stop frame is provided with two rearwardly projecting arms 45 and 46, each arm having its lower edge inclined and the edges of the two arms having different degrees of inclination. The movable stop arm 42 is provided with a forwardly projecting portion 47, having its lower edge inclined. Coöperating with the inclined surfaces of the several arms are three stop operating levers 49, 50 and 51 pivotally mounted between their ends and having their upper ends arranged to engage, respectively, the inclined surfaces of the arms 45, 46 and 47, the inclination of these surfaces being such that the rocking movement of the levers will cause the respective arms to be elevated. Each lever is provided at its lower end with a laterally offset portion 52, 53 and 54 adapted to be engaged by an actuating member, which, in turn, is operated from the main operating shaft 23.

The actuating member for levers 49, 50 and 51 may take various forms, but, as here shown, it comprises an arm 55 adapted to be moved by the rotation of the shaft 23 into engagement with the offset portion of one of the stop operating levers, the particular lever engaged being determined by the denomination of the coin deposited in the machine. The coins are deposited in the machine through a coin chute 56, vertically arranged and having openings in the edges thereof, as shown at 57, that edge of the chute adjacent to the offset portions of the levers being preferably recessed to permit the levers to extend into the same. The coin chute is provided, at a point below the opening therein, with a stop to support the coins with their upper edges projecting into alinement with said opening. As here shown this stop is in the form of a finger 58, pivotally mounted on the side wall of the chute and having a part 59 extending into the chute in the path of the coins. A spring 60 holds the stop finger normally in its operative position, but permits it to be retracted to release the coin. The actuating member 55 is supported in alinement with the opening in the coin chute and is adapted to be projected through the same, and if there is a coin in the chute the actuating member will be guided thereby into operative engagement with one of the stop operating levers and will cause that lever to be rocked about its axis. If there is no coin in the chute the lever will pass beneath the lowermost lever without affecting the position of the stops. In the present construction the actuating member, or arm 55 is pivotally connected at its outer ends with an arm 61, which is mounted on a stud 62 and is connected with a second arm 63 also mounted on the stud 62 and connected by a link 64 with a cam yoke 65, within which rotates a cam 66 carried by the main operating shaft 23. The connection between the arms 61 and 63 may be of any suitable character, but I prefer that it should be yieldable to prevent breakage in case the movement of the actuating arm 55 is obstructed, and I have therefore loosely mounted both arms on the stud 62 and have connected them by a spring 67. The arm 63 is provided with a finger 68 to limit the relative movement of the arms by the action of the spring. The end of the actuating arm 55 preferably rests normally in a guideway 69, which guides the same into the opening in the coin chute. It will be obvious, therefore, that the first portion of the movement of the operating shaft 23 will impart movement to the actuating arm and cause the same to be projected through the opening in the coin chute into engagement with one of the stop operating levers and to actuate that lever to move the proper stop, or stops, into their adjusted positions, thus determining the amount of movement which is imparted to the feeding devices by the cams 22, which are operated simultaneously with the operation of the cam 66. After the actuating arm 55 has been moved into engagement with a selected stop operating lever, the coin stop 59 will be moved out of the path of the coin to permit the latter to pass through the chute and to be discharged into a suitable receptacle. Therefore, the coin stop is automatically actuated by means of a pin 70, mounted in the operating shaft 23 and arranged to engage the inclined end portion 71 of an arm 72, rigidly secured to and extending laterally from the stop arm 58. As soon as the pin has passed the end of the arm the spring 60 will return the coin stop to its normal position.

In the operation of the machine the cam yoke 65 begins its downward movement immediately after it reaches the upper limit of its movement, thereby retracting the actuating finger 55 and the stop operating levers 49, 50 and 51, these latter levers being withdrawn by springs 73. It is desirable, however, that the stops should be retained in their operative positions until the operation of the machine as a whole has been completed, and I have, therefore, provided means to retain the stop frame 39 and the stop arm 42 in their elevated positions until the cam yoke 65 has practically completed its downward movement. This means comprises a spring pressed dog 74 having on its operative face three shoulders, the uppermost of which, constituting the end of the dog, is adapted to be projected beneath the stop cam 42 when the latter is actuated independently of the stop frame 39, and the

other two of which are adapted to respectively engage the stop frame 39 when the latter is in one of its two adjusted positions. This dog is connected to the cam yoke by means of a rod 75, which is connected at its lower end with the yoke and has its upper end slidably mounted in a projection 76 carried by the dog 74. A stop 77, which is preferably adjustably mounted on the rod, is so arranged that it will be brought into engagement with the projection and the dog moved into its inoperative position just prior to the completion of the downward movement of the cam yoke.

The operation of the mechanism will be readily understood from the foregoing description of the several parts thereof, and it will be apparent that I have provided a device for vending articles of the kind stated, which is simple in its construction and operation and which will be positively controlled to cause the proper number of articles to be discharged, upon each operation thereof; and which will not be easily damaged in such a manner as to render it inoperative. It will be understood, however, that the mechanism is to be inclosed in a casing, but as the casing may be of any suitable kind and forms no part of the invention, I have not illustrated the same in the present drawings.

While I have shown one embodiment of my invention I wish it to be understood that I do not desire to be limited to the details thereof, as various modifications may occur to a person skilled in the art.

Having thus fully described my invention, what I claim as new and desire to secure by Letters Patent, is:

1. In a mechanism of the character described, a feeding device for a series of connected articles having bodily movement to advance one or more of said articles to a discharge position, means for moving said device to its fully retracted position upon each operation of said mechanism and for advancing the same different distances to move different numbers of said articles to discharge position, and coin controlled means for controlling the distance said device is advanced.

2. In a mechanism of the character described, a reciprocatory feeding device having forward movement to advance one or more of a series of articles to a discharge position upon each operation of said mechanism, means for advancing said device different distances to cause different numbers of articles to be moved to discharge position and for retracting said device, and coin controlled means to control the distance said feeding device is advanced.

3. In a mechanism of the character described, a reciprocatory feeding device having forward movement to advance one or more of a series of articles to a discharge position upon each operation of said mechanism and to move other articles into the positions from which the first mentioned articles were advanced, means for advancing said device different distances to cause different numbers of articles to be moved into discharge position and for retracting said device, and coin controlled means to control the distance said feeding device is advanced.

4. In a mechanism of the character described, a guideway, a feeding device supported normally in a retracted position and having forward movement along said guideway to cause one or more articles to be moved along the same to a discharge position, said feeding device being of such a character that the number of articles moved to discharge position will depend upon the amount of movement imparted to said feeding device, means to actuate said feeding device, means to impart forward movement to said feeding device and to retract the same, and coin controlled means to control the amount of feeding movement imparted to said feeding device.

5. In a mechanism of the character described, a guideway along which articles are moved to a discharge position, a feeding device slidably mounted in said guideway to move said articles to a discharge position and supported normally in a retracted position, said feeding device being so arranged that the amount of movement imparted thereto will determine the number of articles which will be moved into discharge position, means to impart forward movement to said feeding device to move one or more of said articles to discharge position and to retract said feeding device, and coin controlled means to control the amount of feeding movement imparted to said feeding device.

6. In a mechanism of the character described, a feeding device having bodily movement to advance one or more articles to a discharge position, said device being supported normally in a retracted position and being movable different distances to advance different numbers of articles to discharge positions, means to impart forward movement to said feeding device to move one or more articles to discharge position and to restore said feeding device to its normal position, stop mechanism to control the amount of feeding movement imparted to said feeding device, and coin controlled means to adjust said stop mechanism to different positions.

7. In a mechanism of the character described, a feeding device having bodily movement to advance one or more articles to a discharge position, said device being supported normally in a retracted position and being movable different distances to ad-

vance different numbers of articles to discharge positions, means to impart forward movement to said feeding device to move one or more articles to discharge position and to restore said feeding device to its normal position, a plurality of stops connected with said feeding device, another stop adapted to be moved into the path of a selected one of the first mentioned stops, and coin controlled means for adjusting the last mentioned stop.

8. In a mechanism of the character described, a guideway, a feeding device having movement along said guideway to cause articles to be moved along the same to a discharge position, said feeding device being of such a character that the number of articles moved to discharge position will depend upon the amount of movement imparted to said feeding device, said feeding device having a plurality of stops, yieldable means for actuating said feeding device, an adjustable stop adapted to be moved into the path of a selected one of the first mentioned stops, and coin controlled means for controlling the position of said adjustable stop.

9. In a mechanism of the character described, a feeding device having bodily movement to advance articles to a discharge position, said device being movable different distances to advance different numbers of articles, a yieldable device to actuate said feeding device and coin controlled means to interrupt the movement of said feeding device in predetermined positions.

10. In a mechanism of the character described, a feeding device having bodily movement to advance articles to a discharge position, said device being movable different distances to advance different numbers of articles, a spring to impart forward movement to said feeding device, a stop mechanism to interrupt the movement of said feeding device in different positions, and coin controlled means to determine the position in which the movement of said feeding device shall be interrupted.

11. In a mechanism of the character described, a feeding device having bodily movement to advance articles to a discharge position, said device being movable different distances to advance different numbers of articles, a lever to actuate said feeding device, a spring to actuate said lever and coin controlled stop mechanism to interrupt the movement of said feeding device in predetermined positions.

12. In a mechanism of the character described, a feeding device having bodily movement to advance articles to a discharge position, a device to connect said feeding device with and disconnect the same from the articles to be discharged, actuating means for advancing said feeding device different distances to cause different numbers of articles to be moved to discharge position and for retracting said device at the end of said feeding movement, and an operative connection between said actuating device and said connecting device to cause said feeding device to be connected with said article prior to the forward movement thereof and to be disconnected therefrom prior to the return movement thereof.

13. In a mechanism of the character described, a feeding device supported normally in a retracted position having bodily movement to advance one or more articles to a discharge position, a device to connect said feeding device with the article to be discharged, a movable member carried by said feeding device and arranged to actuate said connecting device, actuating means arranged to act upon said movable member to first cause said feeding device to be connected with said articles to be discharged, to then cause said feeding device to be advanced and to then restore the same to its normal position, and means to control the distance said feeding device is advanced.

14. In a mechanism of the character described, a feeding device supported normally in a retracted position and having bodily movement to advance one or more articles to a discharge position, a device to connect said feeding device with the articles to be discharged, a movable member carried by said feeding device and arranged to actuate said connecting device, actuating means arranged to act upon said movable member to first cause said feeding device to be connected with said articles to be discharged, to then cause said feeding device to be advanced and to then restore the same to its normal position, and coin controlled means to determine the amount of movement imparted to said feeding device.

15. In a mechanism of the character described, a feeding device supported normally in a retracted position and having bodily movement to advance one or more articles to a discharge position, a member pivotally connected with said feeding device, a device operatively connected with said member and adapted to be actuated thereby to connect said feeding device with and disconnect the same from the articles to be discharged, an actuating device arranged to act on said pivoted member to first actuate said connecting device and then impart movement to said feeding device, and means to interrupt the feeding movement of said feeding device in different positions without interrupting the operation of said mechanism as a whole.

16. In a mechanism of the character described, a feeding device having bodily movement to advance one or more articles to a discharge position, a member pivotally

connected with said feeding device, a device operatively connected with said member and adapted to be actuated thereby to connect said feeding device with and disconnect the same from the article to be discharged, and an actuating device connected with said pivoted member to first actuate said connecting device and then impart movement to said feeding device, said actuating device being yieldable to permit the movement of said feeding device to be interrupted in different positions without interrupting the operation of said mechanism as a whole.

17. In a mechanism of the character described, a guideway for a strip of material having a plurality of transverse series of perforations dividing the same into sections, a feeding device movable along said guideway, a series of fingers connected with said feeding device and movable into and out of the perforations between two sections of said strip of material, an actuating mechanism for said feeding device, an operative connection between said actuating mechanism and said fingers, and coin controlled means to control the amount of movement imparted to said feeding device.

18. In a mechanism of the character described, a guideway for a strip of material having a plurality of transverse series of perforations to divide the same into sections, a feeding device comprising a part mounted for reciprocatory movement along said guideway, a series of fingers pivotally mounted on said part of said feeding device and adapted to be moved into and out of a series of perforations between two of said sections, a member pivotally mounted on said part of said feeding device and connecting with said fingers to move them about their pivotal support, actuating mechanism arranged to act on the pivoted member to actuate said fingers and to impart reciprocatory movement to said feeding device, and coin controlled means to control the amount of movement imparted to said feeding device.

19. In a mechanism of the character described, a guideway for a strip of material having a plurality of transverse series of perforations to divide the same into sections, a feeding device comprising a part mounted for reciprocatory movement along said guideway, a series of fingers pivotally mounted on said part of said feeding device and adapted to be moved into and out of a series of perforations between two of said sections, a member pivotally mounted on said part of said feeding device and connected with said fingers to move them about their pivotal support, an actuating lever having one end connected with said pivoted member, a spring for actuating said lever, and coin controlled means to control the amount of movement imparted to said feeding device.

20. In a mechanism of the character described, a guideway for a strip of material having a plurality of transverse series of perforations to divide the same into sections, a feeding device comprising a part mounted for reciprocatory movement along said guideway, a series of fingers pivotally mounted on said part of said feeding device and adapted to be moved into and out of a series of perforations between two of said sections, a member pivotally mounted on said part of said feeding device and connected with said fingers to move them about their pivotal support, an actuating lever having one end connected with said pivoted member, a spring to impart forward movement to said lever, a cam to retract said lever, and coin controlled means to control the amount of movement imparted to said feeding device.

21. In a mechanism of the character described, a feeding device having bodily movement to advance one or more articles to a discharge position, said device being supported normally in a retracted position and being movable different distances to advance different numbers of articles to discharge position, means to impart feeding movement to said feeding device and to retract the same to its normal position, a stop movable into different positions with relation to said feeding device to determine the amount of movement imparted thereto, and coin controlled means to move said stops into a selected position.

22. In a mechanism of the character described, a feeding device having bodily movement to advance articles to a discharge position, said device being movable different distances to advance different numbers of articles, a stop movable into different positions with relation to said feeding device to determine the amount of movement imparted thereto, a plurality of actuating devices for said stop, each of said devices being adapted to move said stop into a different position, and coin controlled means for operating said actuating devices.

23. In a mechanism of the character described, a feeding device having bodily movement to advance articles to a discharge position, said device being movable different distances to advance different numbers of articles, a stop movable into different positions with relation to said feeding device to determine the amount of movement imparted thereto, a plurality of actuating levers, each adapted to move said stop into a different position, and coin controlled means to cause a selected lever to be actuated.

24. In a mechanism of the character described, a feeding device having bodily movement to advance articles to a discharge

position, said device being movable different distances to advance different numbers of articles, a stop movable into different positions with relation to said feeding device to determine the amount of movement imparted thereto, a plurality of actuating levers, each adapted to move said stop into a different position, each of said levers having a laterally extending finger, the fingers of the several levers being arranged one above the other, an operating member adapted to be moved into operative relation to any one of said fingers, and means for supporting a coin in position to guide said operating member into engagement with the finger of a selected lever.

25. In a mechanism of the character described, a feeding device having bodily movement to advance articles to a discharge position, said device being movable different distances to advance different numbers of articles, a stop movable into different positions with relation to said feeding device to determine the amount of movement imparted thereto, a plurality of actuating levers, each adapted to move said stop into a different position, each of said levers having a laterally extending finger and the fingers of the several levers being arranged one above the other, a coin chute having an opening therein adjacent to said fingers, means to support a coin in said chute with its edge in alinement with said opening and an operating member adapted to be moved through said opening and to be guided by said coin into engagement with the finger of a selected lever.

26. In a mechanism of the character described, a feeding device having bodily movement to advance articles to a discharge position, said device being movable different distances to advance different numbers of articles, a stop movable into different positions with relation to said feeding device to determine the amount of movement imparted thereto, a plurality of actuating levers, each adapted to move said stop into a different position, each of said levers having a laterally extending finger and the fingers of the several levers being arranged one above the other, a coin chute having an opening therein adjacent to said fingers, a means to support a coin in said chute with its edge in alinement with said opening, an operating member adapted to be moved through said opening and to be guided by said coin into engagement with the finger of a selected lever, and means for actuating said operating member and for releasing said coin after said operating member has completed its movement.

27. In a mechanism of the character described, a plurality of feeding devices, each having bodily feeding movement to cause articles to be moved to discharge position, separate means to actuate the respective feeding devices, and coin controlled means to cause said feeding devices to be actuated either individually or in groups.

28. In a mechanism of the character described, a plurality of feeding devices, each having bodily feeding movement to cause articles to be advanced to a discharge position, separate means for actuating the respective feeding devices, and coin controlled means to cause said feeding devices to be actuated either individually or in groups, and to determine the amount of movement imparted to each feeding device.

29. In a mechanism of the character described, a plurality of feeding devices, each having bodily feeding movement to advance articles to a discharge position, said feeding devices being of such a character that the number of articles moved to a discharge position depends upon the amount of movement imparted to the respective feeding devices, separate means for actuating the respective feeding devices, stop mechanism to control the movement imparted to each of said feeding devices, and coin controlled means for actuating said stop mechanism to cause said feeding devices to be actuated either individually or in groups and to determine the amount of movement imparted to each feeding device.

30. In a mechanism of the character described, a plurality of feeding devices each having bodily movement to advance articles to a discharge position, said feeding devices being of such a character that the number of articles moved to a discharge position depends upon the amount of movement imparted to the respective feeding devices, means for actuating said feeding devices, and means controlled by a single coin to cause a plurality of said feeding devices to be actuated upon a given operation of said mechanism or to cause a single feeding device to be actuated upon a given operation of said mechanism.

31. In a mechanism of the character described, a plurality of feeding devices each having bodily movement to advance articles to a discharge position, the number of articles moved to discharge position depending on the amount of movement imparted to the respective feeding devices, means for actuating said feeding devices, a stop movable into and out of position to control the movement of a part of said feeding devices, a second stop movable into and out of a position to control the amount of movement imparted to another part of said feeding devices, the last mentioned stop being mounted on and movable with the first mentioned stop, and means for causing the said last mentioned stop to be actuated independently of the first mentioned stop.

32. In a mechanism of the character de-

scribed, a plurality of feeding devices each having bodily movement to advance articles to a discharge position, the number of articles so advanced depending upon the amount of movement imparted to the respective feeding devices, a stop pivotally mounted for movement into and out of the path of one of said feeding devices, a second stop pivotally mounted on the first stop and movable into and out of the path of another of said feeding devices, and coin controlled means to cause the first stop to be moved about its pivotal support or to cause the second stop to be moved relatively to the first stop.

33. In a mechanism of the character described, a feeding device having bodily movement to advance articles to a discharge position, the number of articles so advanced depending upon the amount of movement imparted to said feeding devices, means for actuating said feeding devices, a pivoted stop movable into different positions relatively to said feeding devices to determine the amount of movement imparted thereto, a plurality of projections connected with said stop, each having an inclined surface, a plurality of actuating levers arranged to engage the respective projections of said stop, the inclined surfaces of said projections being so related to the respective levers that the respective levers will cause said stop to be moved different distances, and coin controlled means for actuating a selected one of said levers.

34. In a mechanism of the character described, a plurality of feeding devices having bodily movement to advance articles to a discharge position, means for actuating said feeding devices, stops to control the movement of said feeding devices, each of said stops being provided with a projection having an inclined surface, levers arranged to engage the inclined surfaces of said stops to actuate the latter, and coin controlled means for causing one of said levers to be operated to actuate a selected stop.

35. In a mechanism of the character described, a feeding device having bodily movement to advance articles to a discharge position, a device to connect said feeding device with and to disconnect the same from the articles to be advanced, actuating means for moving said feeding device in both directions, an operative connection between said actuating device and said connecting device, and means to move said connecting device into its operative position just prior to the completion of the rearward movement of said feeding device.

36. In a mechanism of the character described, a feeding device having bodily movement to advance articles to a discharge position, a device to connect said feeding device with, and to disconnect the same from, the articles to be advanced, actuating means for moving said feeding device in both directions, an operative connection between said actuating device and said connecting device, and a stop to engage said connecting means and move same into its operative position as said feeding device approaches its fully retracted position.

37. In a mechanism of the character described, a feeding device having bodily movement to advance articles to a discharge position, a device to connect said feeding device with, and to disconnect the same from, the articles to be advanced, actuating means for moving said feeding device in both directions, coin controlled means to limit the movement of said feeding device in one direction, an operative connection between said actuating device and said connecting device, and means coöperating with said actuating means for moving said connecting means into its operative position.

38. In a mechanism of the character described, a feeding device having bodily movement to advance articles to a discharge position, a member pivotally connected with said feeding device, a device operatively connected with said member and adapted to be actuated thereby to connect said feeding device with, and disconnect the same from, the article to be discharged, an actuating device connected with said pivoted member to actuate said connecting device and said feeding device, coin controlled means to limit the movement of said feeding device in one direction, and a part coöperating with said actuating device to engage said pivoted member upon the rearward movement of said feeding device and actuate said connecting device.

39. In a mechanism of the character described, a feeding device having bodily movement to advance articles to a discharge position, a member pivotally connected with said feeding device, a device operatively connected with said member and adapted to be actuated thereby to connect said feeding device with, and disconnect the same from, the article to be discharged, an actuating device connected with said pivoted member to actuate said connecting device and said feeding device, coin controlled means to limit the movement of said feeding device in one direction, and a fixed stop arranged in the path of said pivoted member and adapted to engage the same and operate said connecting device upon rearward movement of said feeding device.

40. In a mechanism of the character described, a feeding device having bodily movement to advance articles to a discharge position, a member pivotally connected with said feeding device, a device operatively connected with said member and adapted to be actuated thereby to connect said feeding

device with, and disconnect the same from, the article to be discharged, an operating lever to engage said pivoted member to impart forward movement to said feeding device, coin controlled means to limit the forward movement of said feeding device, a yieldable connection between said lever and said feeding device to cause the latter to be retracted upon the return movement of the lever, and a fixed stop to engage said pivoted member prior to the completion of the movement of said lever and cause said connecting device to be actuated.

41. In a mechanism of the character described, a reciprocatory feeding device having a longitudinal slot to receive a strip of articles to be discharged, a connecting member pivotally mounted on said feeding device and adapted to enter said slot to connect said strip of articles with said feeding device, a part movably mounted on said feeding device and operatively connected with said pivoted member, and coin controlled means to control the reciprocatory movement of said feeding device.

42. In a mechanism of the character described, a reciprocatory feeding device having a longitudinal slot to receive a strip of articles to be advanced, one wall of said feeding device having a transverse series of perforations, a series of fingers pivotally mounted on said feeding device and having their end portions turned and slidably mounted in the respective perforations, a part pivotally mounted on said feeding device and operatively connected with said fingers, and coin controlled means to control the reciprocatory movement of said feeding device.

43. In a mechanism of the character described, a feeding device having bodily movement to advance articles to a discharge position, means for moving said feeding device different distances to advance different numbers of articles to discharge positions, a stop movable into the path of a selected one of a plurality of parts carried by said feeding device to control the amount of movement imparted thereto, levers to move the stop into adjusted positions, and coin controlled means to actuate a selected lever.

44. In a mechanism of the character described, a feeding device having bodily movement to advance articles to a discharge position, means for moving said feeding devices different distances to advance different numbers of articles to discharge positions, a stop to control the movement of said feeding device, levers to move the stop into adjusted positions, a single coin support, and lever actuated means comprising a part controlled by a coin on said support to cause a selected lever to be actuated.

45. In a mechanism of the character described, a feeding device having bodily movement to advance articles to a discharge position, means for actuating said feeding device, a stop to control the movement of said feeding device, levers to actuate said stop, said levers having projections arranged one above the other, a member adapted to engage one of said levers, and means for supporting a coin in a position to guide said member into engagement with a selected lever.

46. In a mechanism of the character described, a feeding device having bodily movement to advance articles to a discharge position, means for actuating said feeding device, a stop to control the movement of said feeding device, a plurality of levers to move said stop into adjusted positions, said levers having parts arranged one above the other, a coin chute having an opening arranged in alinement with said parts of said levers, a member adapted to be moved through said opening, and a stop to support a coin in said chute with its edge in alinement with said opening whereby different coins will guide said member into engagement with different levers.

47. In a mechanism of the character described, a feeding device having bodily movement to advance articles to a discharge position, means for actuating said feeding device, a stop to control the movement of said feeding device, a plurality of levers to move said stop into adjusted positions, said levers having parts arranged one above the other, a coin chute having an opening arranged in alinement with said parts of said levers, a member adapted to be moved through said opening, and a stop to support a coin in said chute with its edge in alinement with said opening whereby different coins will guide said member into engagement with different levers, and means for automatically actuating said coin supporting stop to release the coin after said member has completed its movement.

48. In a mechanism of the character described, a plurality of feeding devices having bodily movement to advance articles to a discharge position, means for actuating said feeding devices, stops to control the movement of the respective feeding devices, levers for actuating said stops, a member arranged to operatively engage a selected lever, and means for supporting a coin in the path of said member to guide it into engagement with said selected lever.

49. In a mechanism of the character described, a feeding device having bodily movement to advance articles to a discharge position, means for actuating said feeding device, a stop to control the movement of said feeding device, a plurality of levers to move said stop into adjusted positions, said levers having parts arranged one above the other, a coin chute having an opening arranged in alinement with said parts of said

levers, a member adapted to be moved through said opening, and a stop to support a coin in said chute with its edge in alinement with said opening whereby different coins will guide said member into engagement with different levers, and automatically controlled means for retaining the first mentioned stop in its adjusted positions.

50. In a mechanism of the character described, feeding devices having bodily movement to advance articles to a discharge position, stops to control the movement of said feeding devices, levers to move said stops into different positions, a single coin support, and means controlled by a coin on said support to cause a selected lever to be actuated, and automatically controlled means for retaining said stops in their adjusted positions independently of said levers.

51. In a mechanism of the character described, a feeding device having bodily movement to advance a strip of articles to a discharge position, means for actuating said feeding device, coin controlled means to control the amount of movement imparted to said feeding device, a device to sever the articles advanced to delivery position from said strip of articles, a pressure member movably mounted on said severing device to hold said strip of articles during said severing operation, and means to retain said pressure member in engagement with said strip of articles during the return movement of said feeding device and after said severing device has been moved to an inoperative position.

52. In a mechanism of the character described, a feeding device having bodily movement to advance articles to a discharge position, an operating lever to actuate said feeding device, an adjustable stop to control the movement of said feeding device, an operating shaft, and cams mounted on said shaft to control the operation of said lever and said stop.

53. In a mechanism of the character described, a feeding device having bodily movement to advance articles to a discharge position, a lever for actuating said feeding device, an operating shaft, a cam mounted on said operating shaft to control the movement of said lever, a stop movable into different positions to control the movement of said actuating device by said lever, a plurality of levers to actuate said stop, a coin controlled member to operate a selected lever, and a cam mounted on said operating shaft to operate said coin controlled member.

54. In a mechanism of the character described, a feeding device having bodily movement to advance articles to a discharge position, a lever for actuating said feeding device, an operating shaft, a cam mounted on said operating shaft to control the movement of said lever, a stop movable into different positions to control the movement of said actuating device by said lever, a plurality of levers to actuate said stop; a coin controlled member to operate a selected lever, a cam mounted on said operating shaft to operate said coin controlled member, and a device controlled by the last mentioned cam to retain said stop in its adjusted position independently of said levers.

55. In a mechanism of the character described, a feeding device having bodily movement to advance articles to a discharge position, an operating lever for actuating said feeding device, a stop movable into different positions to control the movement imparted to said feeding device by said lever, other levers to actuate said stop, a coin chute having an opening therein, the last mentioned levers having parts arranged in alinement with said opening, a movable stop to support a coin with its edge in alinement with said opening, a member adapted to move through the opening in said coin chute and to be guided by the coin therein into engagement with a selected lever, an operating shaft, cams mounted on said operating shaft for actuating said operating lever and said member, and means actuated by said operating shaft to release said coin after said member has engaged said selected lever.

In testimony whereof, I affix my signature hereto.

ABRAM L. ZENT.