

May 27, 1941.

C. E. ELLIOTT

2,243,335

VENDING MACHINE

Filed June 26, 1939

2 Sheets-Sheet 1

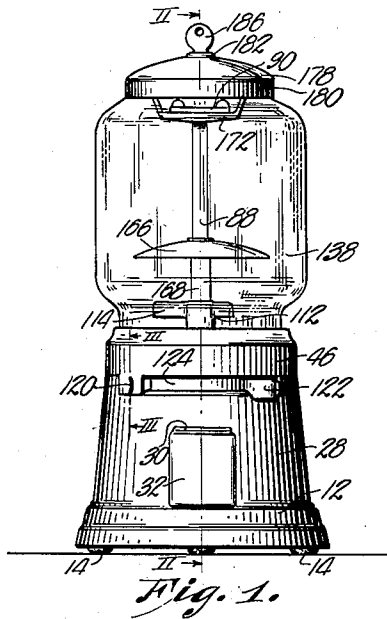


Fig. 1.

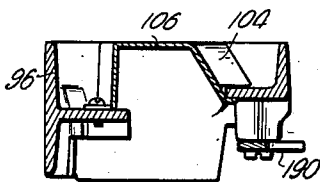


Fig. 8.

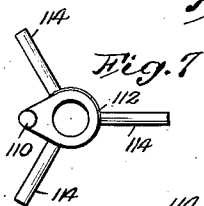


Fig. 7.

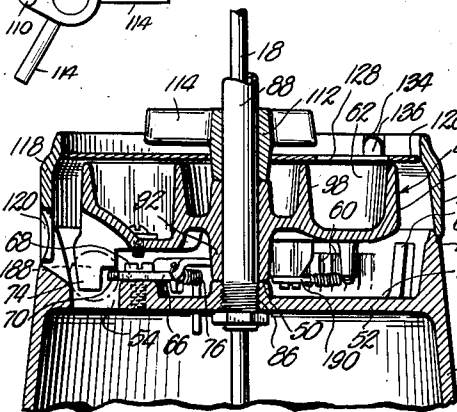


Fig. 3.

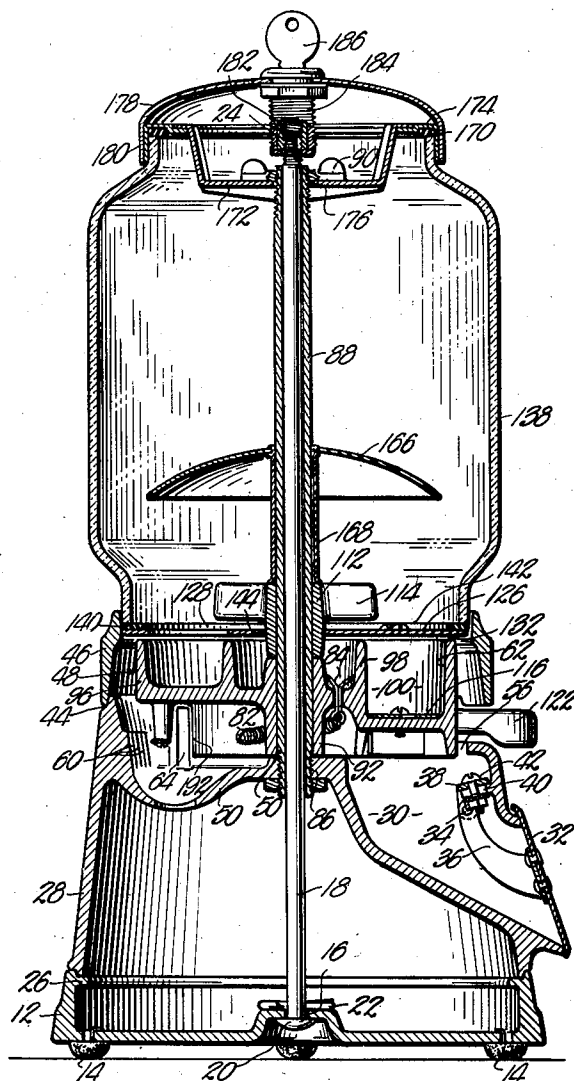


Fig. 2.

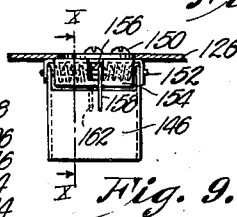


Fig. 9.

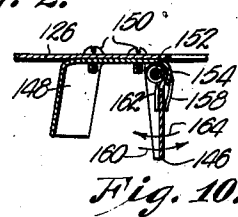


Fig. 10.

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2 Sheets-Sheet 2

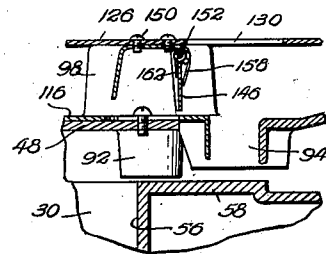
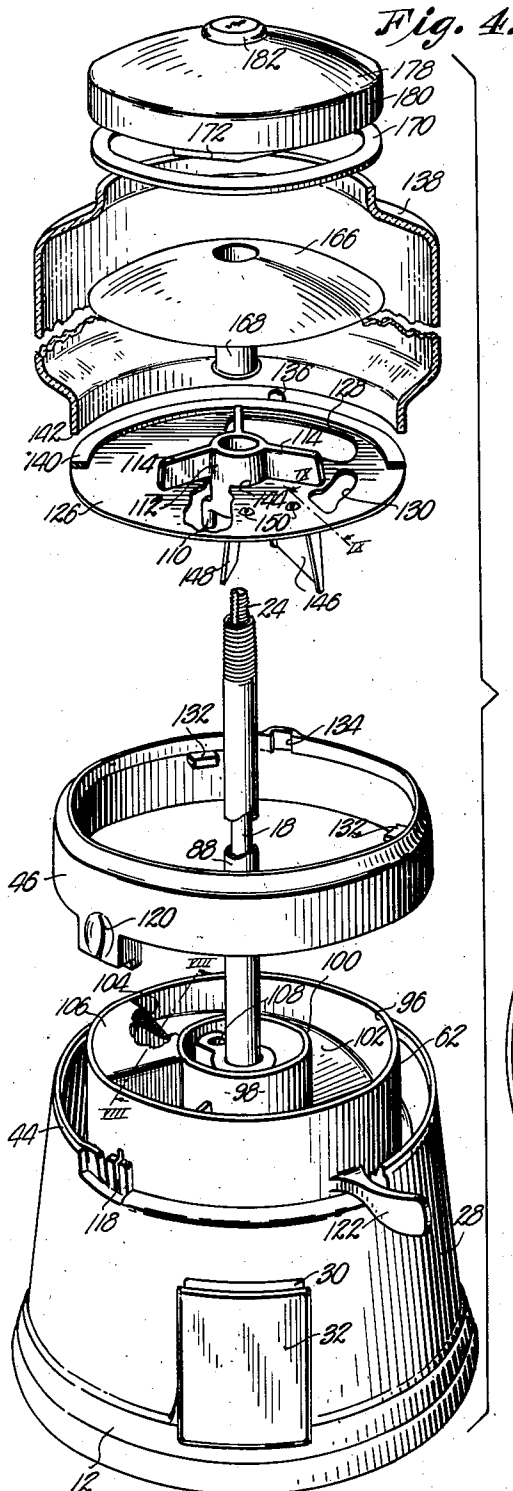


Fig. 11

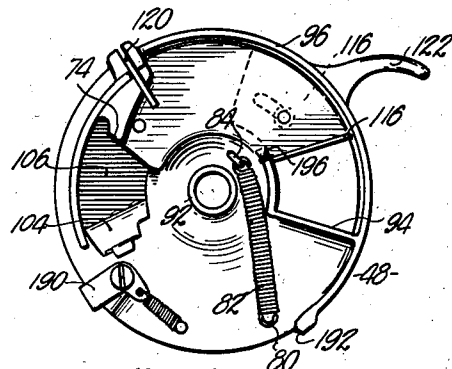


Fig. 6.

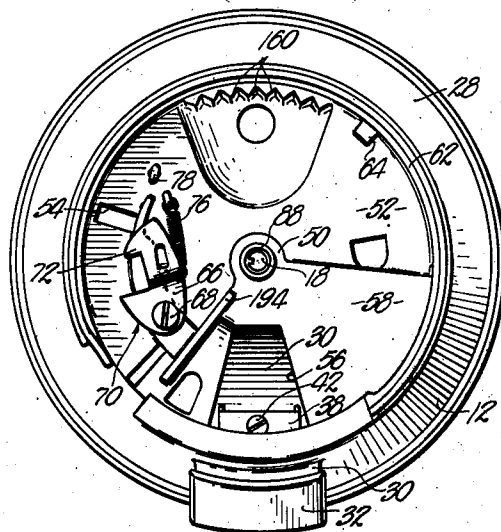


Fig. 5.

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2,243,335

VENDING MACHINE

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Application June 26, 1939, Serial No. 281,181

17 Claims. (Cl. 221-108)

This invention relates to vending machines of the character which are rendered operable by the insertion of a coin after which one or a small number of articles to be vended may be delivered to a chute available to the operator by manually manipulating the uniquely formed and positioned feeder.

One of the important aims of this invention is to provide a vending machine having a commodity feeder which is provided with means for acting upon the vendible articles in the magazine of the machine so as to preclude jamming, solidifying, or bridging the outlet holes in the bottom of the magazine.

This invention has for a further object, the provision of a vending machine wherein is included a feeder which forms a way, the floor of which is inclined to present portions having different angles of inclination to the end that when the feeder is manually manipulated, the supply of articles in the magazine of the machine will be acted upon to maintain them in a loose condition so that feeding through the holes in the bottom of the magazine will be constant and positive.

A further object of this invention is to provide a vending machine having a feeder of the aforementioned character, with which is associated a specially disposed flap, which flap travels in the way of the feeder above the outlet port formed in the latter, so that the articles being vended are forced along the inclined floor of the way and back into the magazine of the machine through at least one hole in the plate at the bottom of the magazine, to the end that a given number or amount of articles are vended, and the remaining articles in the machine are moved to insure free flowing.

Other objects of the invention will appear during the course of the following specification and become obvious to one skilled in the art. The accompanying drawings illustrate what is believed to be the preferred embodiment of the invention, and in said drawings:

Figure 1 is a side elevation of a vending machine made to embody the present invention.

Fig. 2 is an enlarged vertical central section through the machine, taken on line II-II of Fig. 1.

Fig. 3 is a detailed fragmentary sectional view through a portion of the machine, taken on line III-III of Fig. 1.

Fig. 4 is a stretch-out view of the vending machine, illustrating the component elements

thereof slightly separated, parts being broken away for clearness.

Fig. 5 is a top plan view of the pedestal with all overlying parts removed.

Fig. 6 is an inverted plan view of the feeder entirely removed from the machine.

Fig. 7 is an inverted plan view of the agitator removed from the machine.

Fig. 8 is a fragmentary detailed sectional view taken on line VIII-VIII of Fig. 4.

Fig. 9 is a fragmentary detailed sectional view taken on line IX-IX of Fig. 4; and

Fig. 10 is a sectional view through the depending flap, taken on line X-X of Fig. 9.

When completely assembled, the parts of the vending machine embodying the concepts of this invention, will present an appearance such as illustrated in Fig. 1. All of the elements of the machine are held together in a novel manner and no special tools are required to assemble the device or to replace any broken part after the machine has left the factory. In describing the different members of the machine, this unique quality should be borne in mind.

The base 12 has feet 14 thereon and is provided with a central hole 16, through which passes tie-rod 18, the head 20 of which bears against the outer face of base 12. A cotter key 22 is passed transversely through tie-rod 18 at a point spaced inwardly from head 20 to preclude outward longitudinal movement of the rod, the upper end of which is threaded as at 24.

The upper rim of base 12 has an annular internal shoulder 26 upon which rests pedestal 28, the lower rim of which is formed to complement shoulder 26 in order to form a joint that will hold base and pedestal 12 and 28 respectively against relative movement in any direction after the machine is assembled.

Pedestal 28 has a delivery chute 30 formed thereby, the outer end of which is covered by a door 32 swingably mounted about the axis of pin 34, which passes through one end of arm 36, the other end of which is secured to one side of door 32. Pin 34 is carried by yoke 38 mounted on ear 40 by bolt 42.

The upper annular edge of pedestal 28 is shouldered as at 44 for the purpose of receiving ring 46, the lower edge of which rests on shoulder 44, as illustrated in Fig. 2. This ring 46 circumscribes feeder 48 rotatably carried on bearing face 50 which is a part of the transverse wall 52 cast within pedestal 28.

A coin escape opening 54 is formed through wall 52 and the upper end of chute 30 is in com-

munication with opening 56. A normally flat, horizontal portion 58 on wall 52 of pedestal 28 is adjacent to opening 56 and serves an important part as will hereinafter be set down.

A series of ratchet teeth 60 projecting inwardly from the face of the annular side wall 62 of pedestal 28, like portion 58, cooperates with feeder 48. Shoulder 64 serves as a stop for feeder 48 when the same is at the end of its path of travel where the machine is ready to receive a coin and be manually manipulated.

Latch 66 pivotally mounted as at 68 on wall 52 of pedestal 28, has a cam face 70 created along a portion of one edge thereof which is engaged by the coin. The nose 72 of latch 66 engages a shoulder 74 on feeder 48.

Spring 76 yieldably maintains latch 66 so that nose 72 will engage shoulder 74 as later described.

Hook 78, rigid with wall 52, is for the purpose of receiving eye 80, on one end of retrieving spring 82, the other end of which spring is fastened to feeder 48 by a cotter key 84.

An internally screw-threaded opening 86 in wall 52 receives the threaded end of tube 88 which is telescoped over a portion of the length of tie-rod 18, the upper screw-threaded end of which receives wing nut 90.

Feeder 48 has a central boss 92, the bore of which circumscribes the part of tube 88 immediately above bearing face 50 on wall 52. An outlet port 94 formed through the bottom of feeder 48 is between outer annular wall 96 and inner annular wall 98, between which walls a way 100 is created. This way has an inclined floor, the inclined portion 102 of which extends upwardly and outwardly in an arcuate path from one end of port 94. Another portion 104 of the floor of way 100, extends upwardly and outwardly at a greater angle of inclination but merges with portion 102 of the floor for a special reason. This floor continues from the last mentioned portion 104 into part 106 thereof, which is flat and horizontal, yet lies between walls 96 and 98 of pedestal 48.

The central boss 92 of pedestal 48 has a radially extending part in which socket 108 is created for the reception of pin 110 integral with agitator 112, the arms 114 of which are spaced apart a sufficient distance so that the articles being vended will be engaged by the sides thereof.

The outlet port 94 may be varied in size by adjusting plate 116. This plate is slotted and secured to floor of feeder 48 on the opposite side of port 94 from inclined portion 102.

Coin slot 118 formed in the outer annular wall 96, is in register with a similar slot 120 provided in ring 46 when feeder 48 is in the normal position ready to receive the coin. A handle 122 on feeder 48 rides in a slot 124 formed between the upper annular edge of pedestal 28 and the lower annular edge of ring 46.

A stationary plate 126 having holes 128 and 130 therein, rests upon internal lugs 132 of ring 46. A notch 134 is engaged by ear 136 integral with plate 126 when the latter is in the operative position to form a floor for the magazine 138, which contains the articles to be vended. Plate 126 rests below the upper annular edge of ring 46 and a gasket 140 on the upper face of plate 126 is engaged by the lower edge 142 of magazine 138 when that edge is circumscribed by the upper portion of ring 46.

A central opening 144 through plate 126 is sufficiently large to permit the passage of tie-rod 18, tube 88, and the lower portion of agitator 112.

The distance between plate 126 and socket 108 is great enough to allow freedom of movement of agitator 112 and feeder 48 respectively as the machine is operated.

Plate 126 carries a depending flap 146 which is specially mounted as detailed in Figs. 9 and 10. This flap is so disposed as to overlie one edge of outlet port 94 and to travel thereacross as the machine is operated. Since the vending machine may be used to dispense ball gum, all of the pieces of which are of uniform diameter and also smaller pieces of gum, candy or nuts, and since the human element enters into the problem of maintaining the machine operative regardless of the position of agitator plate 116, flap 146 must be mounted to swing to either side of a vertical position.

Fixture 148 secured to plate 126 by screws or analogous means 150, forms a bearing for pintle 152 about which flap 146 may turn. An arcuate apron 154 formed by fixture 148 has an opening 156 therein so that spring 158 may have one of its ends positioned against one side of flap 146. The other end of this spring 158 bears against the underside of fixture 148 and therefore yields to allow flap 146 to move in the direction of arrow 160 when force having a tendency to move the flap in that direction is applied. Another spring 162 has one end thereof bearing against the other side of flap 146 while its opposite end is against a portion of fixture 148. This spring 162 permits the movement of flap 146 in the direction of arrow 164 when sufficient force is exerted.

The two springs just described should be of equal strength so that flap 146 will remain in the normal position.

Hole 128 is elongated and its major axis is arched so as to overlie inclined portion 102 when the parts of the machine are in the normal position.

Deflector dome 166 having a neck 168 through which passes tube 88, rests upon the upper face of agitator 112 so that dome 166 will be maintained within magazine 138 at a position slightly above the bottom thereof and overlying the said agitator. This deflector dome supports the weight of the major part of the mass of vendible articles within magazine 138 so that an objectionable pressure upon the articles passing through holes 128 and 130 will not be present.

A gasket 170 rests upon the upper edge of magazine 138 and yoke 172 having an annulus 174 is mounted upon this gasket as shown in Fig. 2. Yoke 172 extends diametrically across the upper part of magazine 138 and a central opening 176 in yoke 172 permits the passage of the upper threaded end of tube 88. When wing nut 90 is in place it bears against the upper face of yoke 172.

A cap 178 closes the open upper end of magazine 138 and houses annulus 174. The depending annular wall 180 of cap 178 circumscribes the upper part of magazine 138 and a lock 182 enters socket of boss 184 to engage the upper screw-threaded end 24 of tie-rod 18. When key 186 is in place, lock 182 is free to turn in boss 184 so that cap 178 is drawn to place. When key 186 is removed, the bolts of lock 182 extend outwardly to engage the inner face of boss 184 and preclude movement of lock 182.

The manner in which the various parts of the machine are drawn together and held in place by each other and by tie-rod 18, is obvious to one skilled in the art after an understanding of the foregoing description.

The relation between feeder 48 and parts directly associated therewith is important and when the machine is brought into use by the insertion of a coin 188 through registered slots 118 and 120, it is in place to engage cam face 70 of latch 66 and to move along said face as force is applied to handle 122 by the operator. When feeder 48 is rotated about the axis of tube and rod 88 and 18 respectively, the coin will force nose 72 out of engagement with shoulder 74 in order that outlet port 94 may be moved to register with opening 56. As this movement continues, dog 190 ratchets past teeth 60. The reason for providing dog 190 is to prevent reversal of movement on the part of feeder 48 before the articles have been fed through chute 30. Retrieving spring 82 is extended and the operator must apply sufficient pressure upon handle 122 to overcome the action of said spring. This spring yieldably maintains shoulder 192 against shoulder 64 when the machine is not in operation. Thus, shoulders 74 and 192 become stops to limit the movement of feeder 48 in one direction, while the interengagement of fin 194 integral with wall 52 and the face of projection 196 integral with feeder 48 about to limit the movement in the other direction.

When feeder 48 is in the normal condition prior to introducing coin 188, its outlet port 94 overlies portion 58 to form a cavity into which passes the articles to be vended. The articles enter way 100 through openings 128 and 130 and in the case of ball gum, roll along inclined floor 102 into the cavity so formed.

Flap 146 is positioned above the edge of outlet port 94 opposite to floor 102 and precludes passage of the articles beyond that point. Movement of feeder 48 to one end of its path of travel will bring outlet port 94 into register with opening 56 and the article or articles within port 94 which have rested upon portion 58, will empty into chute 30. As the feeder is moved to this said one end of its path of travel, the lower edge of flap 146 will wipe across the top of the articles contained within outlet port 94 and will further force articles resting upon floor 102 of way 100, upwardly and outwardly from port 94 along this inclined portion 102 of the floor. Such movement will lift the articles in way 100 upwardly through opening 128, and as the feeder approaches this said one end of its path of travel, portion 104 of the floor of the way which has a greater angle of inclination will move into position beneath hole 128 to cause a greater lifting action.

Part 106 of the floor is directly beneath plate 126 and partially closes hole 128. Upon release of handle 122 by the operator, spring 82 will draw feeder 48 back to the other end of its path of travel, where the articles may again fall into outlet port 94, rest upon portion 58 of pedestal 28 and be ready for transportation to chute 30.

Since agitator 12 is directly connected to feeder 48, it will move therewith and act upon the articles contained within the lower part of magazine 138. The presence of agitator 112 close to hole 128 supplements the upward force exerted on the articles by the two inclined portions 102 and 106 of the floor of way 100.

When ball gum is being dispensed through the machine, the free edge of flap 146 will drag over the upper surface of a ball which has dropped into the cavity formed by outlet port 94. Any balls of gum other than the one within port 94, will be forced upwardly and from port 94 as heretofore described.

When articles much smaller than ball gum are being vended, the free edge of flap 146 will smooth off the charge which has entered port 94 and likewise force surplus articles back along the inclined floor of way 100. Plate 116 may be adjusted to vary the size of port 94 and therefore alter the charge of articles that are vended each time the machine is operated. If plate 116 is not in the proper position when the machine is filled with ball gum, after it has been vending articles of smaller sizes, and vice versa, flap 146 would be damaged if it were not mounted to swing to either side of its normal position, shown in Figs. 9 and 10. This peculiar type of mounting therefore is important and the presence of apron 154 is vital because it protects springs 158 and 162 and the parts related thereto against clogging when smaller articles such as salted peanuts, or the like are vended in the machine.

When feeder 48 is at the said one end of its path of travel where outlet port 94 is in register with delivery chute 30, coin 188 will drop out of coin slot 120 of feeder 48 and into the cavity below wall 52 through coin escape 54.

Regardless of the nature of the articles being vended, feeder 48 will move those in way 100 and adjacent to hole 128 in an upward direction. No element of the machine is an obstruction to the articles so lifted and if the upward movement reaches deflector 166, it is free to move. Neck 168 circumscribes a part of the length of tube 88 and the relation at the point of contact is such as to permit freedom of movement about the axis of said tube or longitudinally therealong.

The concepts of this invention and the scope of the appended claims permit constructing machines having physical characteristics different than those exemplified in the illustrated embodiment herewith and it is therefore desired to be limited only by the scope of the following claims.

Having thus described the invention, what is claimed as new and desired to be secured by Letters Patent is:

1. In a vending machine of the character described, a pedestal having a delivery chute formed thereby; a feeder having an outlet port therein rotatably mounted on the pedestal for movement to and from a position where the outlet port is in communication with the said delivery chute; a magazine for articles being vended; a stationary plate between the feeder and said magazine, said plate having holes therethrough for the passage of said articles; and an inclined floor in the feeder positioned to travel beneath the hole in said plate as the feeder is rotated, said floor having its highest portion in register with the hole when the outlet port of said feeder is in communication with the said delivery chute.

2. In a vending machine of the character described, a pedestal having a delivery chute formed thereby; a feeder having an outlet port therein rotatably mounted on the pedestal for movement to and from a position where the outlet port is in communication with the said delivery chute; a magazine for articles being vended; a stationary plate between the feeder and said magazine, said plate having holes therethrough for the passage of said articles; and an inclined floor in the feeder positioned to travel beneath the hole in said plate as the feeder is rotated, said floor having a part disposed to cover a portion of the hole when the feeder is at one end of its path of travel.

3. In a vending machine of the character described, a pedestal having a delivery chute formed thereby; a feeder having an outlet port

therein rotatably mounted on the pedestal for movement to and from a position where the outlet port is in communication with the said delivery chute; a magazine for articles being vended; a stationary plate between the feeder and said magazine, said plate having holes therethrough for the passage of said articles; and an inclined floor in the feeder positioned to travel beneath the hole in said plate as the feeder is rotated, said floor having a portion at one end thereof disposed at a greater angle of inclination than the remaining portion of said floor and merging therewith at one of its ends.

4. In a vending machine of the character described, a pedestal having a delivery chute formed thereby; a feeder having an outlet port therein rotatably mounted on the pedestal for movement to and from a position where the outlet port is in communication with the said delivery chute; a magazine for articles being vended; a stationary plate between the feeder and said magazine, said plate having holes therethrough for the passage of said articles; and an inclined floor in the feeder positioned to travel beneath the hole in said plate as the feeder is rotated, said floor having a part disposed to close a portion of the hole when the feeder is at one end of its path of travel, and a portion joining the hole-closing part and the remaining portion of the floor having a relatively great angle of inclination for the purpose specified.

5. In a vending machine of the character described, a pedestal having a delivery chute formed thereby; a feeder having an outlet port therein rotatably mounted on the pedestal for movement to and from a position where the outlet port is in communication with the said delivery chute; a magazine for articles being vended; a stationary plate between the feeder and said magazine, said plate having holes therethrough for the passage of said articles; and a curved way formed by the feeder extending from a point beneath the said hole to the delivery chute when the feeder is at one end of its path of travel, said way being concentric with the axis of rotation of the feeder and provided with an inclined floor, one end of which floor is directly beneath the stationary plate, the other end of said floor being spaced below the said plate, the stretch of said floor between the ends thereof being formed to present two portions, one of said portions having a greater angle of inclination than the other.

6. In a vending machine of the character described, a pedestal having a delivery chute formed thereby; a feeder having an outlet port therein rotatably mounted on the pedestal for movement to and from a position where the outlet port is in communication with said delivery chute when the feeder is at one end of its path of travel, said outlet port being closed by a portion of the pedestal when at the other end of its path of travel whereby to form an open-top cavity; a magazine above the feeder; a plate between the magazine and the feeder having holes therethrough for the passage of articles being vended, said holes being positioned to cause said articles to enter the cavity when the feeder is at said other end of its path of travel; and a depending flap on the plate in a position to move across the outlet port of the feeder as the latter is moved toward its first mentioned path of travel.

7. In a vending machine of the character

described, a pedestal having a delivery chute formed thereby; a feeder having an outlet port therein rotatably mounted on the pedestal for movement to and from a position where the outlet port is in communication with said delivery chute when the feeder is at one end of its path of travel, said outlet port being closed by a portion of the pedestal when at the other end of its path of travel whereby to form an open-top cavity; a magazine above the feeder; a plate between the magazine and the feeder having holes therethrough for the passage of articles being vended, said holes being positioned to cause said articles to enter the cavity when the feeder is at said other end of its path of travel; and a depending flap on the plate in a position to move across the outlet port of the feeder as the latter is moved toward its first mentioned path of travel, said flap being swingably secured to the plate and having springs in connection therewith for yieldably maintaining the flap in substantially a vertical position.

8. In a vending machine of the character described, a pedestal having a delivery chute formed thereby; a feeder having an outlet port therein rotatably mounted on the pedestal for movement to and from a position where the outlet port is in communication with said delivery chute when the feeder is at one end of its path of travel, said outlet port being closed by a portion of the pedestal when at the other end of its path of travel whereby to form an open-top cavity; a magazine above the feeder; a plate between the magazine and the feeder having holes therethrough for the passage of articles being vended, said holes being positioned to cause said articles to enter the cavity when the feeder is at said other end of its path of travel; and a depending flap on the plate in a position to move across the outlet port of the feeder as the latter is moved toward its first mentioned path of travel, said flap being swingably secured to the plate and having springs in connection therewith for yieldably maintaining the flap in substantially a vertical position, said springs being arranged to exert yieldable pressure on each side of the flap to permit movement from the normal vertical position to each side thereof.

9. In a vending machine of the character described, a pedestal having a delivery chute formed thereby; a feeder having an outlet port therein rotatably mounted on the pedestal for movement to and from a position where the outlet port is in communication with said delivery chute when the feeder is at one end of its path of travel, said outlet port being closed by a portion of the pedestal when at the other end of its path of travel whereby to form an open-top cavity; a magazine above the feeder; a plate between the magazine and the feeder having holes therethrough for the passage of articles being vended, said holes being positioned to cause said articles to enter the cavity when the feeder is at said other end of its path of travel; and a depending flap on the plate in a position to move across the outlet port of the feeder as the latter is moved toward its first mentioned path of travel, the full edge of said flap being immediately above the face of the wall of said feeder wherein the outlet port is formed whereby to remove articles from the cavity as the feeder travels toward the said chute.

10. In a vending machine of the character described, a pedestal having a delivery chute formed thereby; a feeder having an outlet port

therein rotatably mounted on the pedestal for movement to and from a position where the outlet port is in communication with said delivery chute when the feeder is at one end of its path of travel, said outlet port being closed by a portion of the pedestal when at the other end of its path of travel whereby to form an open-top cavity; a magazine above the feeder; a plate between the magazine and the feeder having holes therethrough for the passage of articles being vended, said holes being positioned to cause said articles to enter the cavity when the feeder is at said other end of its path of travel; and a depending flap on the plate in a position to move across the outlet port of the feeder as the latter is moved toward its first mentioned path of travel, the full edge of said flap being immediately above the face of the wall of said feeder wherein the outlet port is formed whereby to remove articles from the cavity as the feeder travels toward the said chute, said flap being in a position to segregate the holes in the plate from the outlet port when the feeder is at the end of its first mentioned path of travel.

11. In a vending machine of the character described, a pedestal having a delivery chute formed thereby; a feeder having an outlet port therein rotatably mounted on the pedestal for movement to and from a position where the outlet port is in communication with said delivery chute when the feeder is at one end of its path of travel, said outlet port being closed by a portion of the pedestal when at the other end of its path of travel whereby to form an open-top cavity; a magazine above the feeder; a plate between the magazine and the feeder having holes therethrough for the passage of articles being vended; a way having an inclined floor formed by the feeder, said floor extending upwardly and outwardly from one side of the outlet port to a point below one of the holes in the plate; and a depending flap on the plate closing the space between said plate and the feeder at the opposite side of the outlet port, said flap serving to force surplus articles being vended from the outlet port and along the inclined floor of the way as the feeder is moved toward the end of its first mentioned path of travel.

12. In a vending machine of the character described, a pedestal having a delivery chute formed thereby; a feeder having an outlet port therein rotatably mounted on the pedestal for movement to and from a position where the outlet port is in communication with said delivery chute when the feeder is at one end of its path of travel, said outlet port being closed by a portion of the pedestal when at the other end of its path of travel whereby to form an open-top cavity; a magazine above the feeder; a plate between the magazine and the feeder having holes therethrough for the passage of articles being vended; a way having an inclined floor formed by the feeder, said floor extending upwardly and outwardly from one side of the outlet port to a point below one of the holes in the plate; and a depending flap on the plate closing the space between said plate and the feeder at the opposite side of the outlet port, said flap serving to force surplus articles being vended from the outlet port and along the inclined floor of the way as the feeder is moved toward the end of its first mentioned path of travel, said flap being swingably secured to the plate and having springs in connection therewith for yieldably maintaining the flap in substantially a vertical position.

13. In a vending machine of the character described, a pedestal having a delivery chute formed thereby; a feeder having an outlet port therein rotatably mounted on the pedestal for movement to and from a position where the outlet port is in communication with said delivery chute when the feeder is at one end of its path of travel, said outlet port being closed by a portion of the pedestal when at the other end of its path of travel whereby to form an open-top cavity; a magazine above the feeder; a plate between the magazine and the feeder having holes therethrough for the passage of articles being vended; a way having an inclined floor formed by the feeder, said floor extending upwardly and outwardly from one side of the outlet port to a point below one of the holes in the plate; and a depending flap on the plate closing the space between said plate and the feeder at the opposite side of the outlet port, said flap serving to force surplus articles being vended from the outlet port and along the inclined floor of the way as the feeder is moved toward the end of its first mentioned path of travel, said floor of the way having a portion near the end thereof remote from the outlet port which has a greater angle of inclination than the remaining portion of the floor.

14. In a vending machine of the character described, a pedestal having a delivery chute formed thereby; a feeder having an outlet port therein rotatably mounted on the pedestal for movement to and from a position where the outlet port is in communication with said delivery chute when the feeder is at one end of its path of travel, said outlet port being closed by a portion of the pedestal when at the other end of its path of travel whereby to form an open-top cavity; a magazine above the feeder; a plate between the magazine and the feeder having holes therethrough for the passage of articles being vended; a way having an inclined floor formed by the feeder, said floor extending upwardly and outwardly from one side of the outlet port to a point below one of the holes in the plate; and a depending flap on the plate closing the space between said plate and the feeder at the opposite side of the outlet port, said flap serving to force surplus articles being vended from the outlet port and along the inclined floor of the way as the feeder is moved toward the end of its first mentioned path of travel, said floor of the way having a portion near the end thereof remote from the outlet port which has a greater angle of inclination than the remaining portion of the floor, the said one hole in the plate being elongated to overlie the major part of the said remaining portion of the floor when the feeder is at the said one end of its path of travel.

15. In a vending machine of the character described, a pedestal having a delivery chute formed thereby; a feeder having an outlet port therein rotatably mounted on the pedestal for movement to and from a position where the outlet port is in communication with said delivery chute when the feeder is at one end of its path of travel, said outlet port being closed by a portion of the pedestal when at the other end of its path of travel whereby to form an open-top cavity; a magazine above the feeder; a plate between the magazine and the feeder having holes therethrough for the passage of articles being vended; a way having an inclined floor formed by the feeder, said floor extending upwardly and outwardly from one side of the outlet port to a point below one of the holes in the plate; and a

depending flap on the plate closing the space between said plate and the feeder at the opposite side of the outlet port, said flap serving to force surplus articles being vended from the outlet port and along the inclined floor of the way as the feeder is moved toward the end of its first mentioned path of travel, said floor of the way having a portion near the end thereof remote from the outlet port which has a greater angle of inclination than the remaining portion of the floor, the said one hole in the plate being elongated to overlie the major part of the said remaining portion of the floor when the feeder is at the said one end of its path of travel, the portion of said floor having the greater angle of inclination being below said elongated hole when the feeder is at said other end of its path of travel.

16. In a vending machine of the character described having a magazine provided with an outlet hole in the bottom thereof, a movable feeder below the hole to eject given amounts of the articles being vended; an inclined floor on the feed-

er movable beneath the hole to lift the articles upwardly through the hole as the feeder is being moved; and a deflector dome within the magazine to support part of the mass of the articles in said magazine, said dome being mounted for free vertical movement to and from its normal position.

17. In a vending machine of the character described having a magazine provided with an outlet hole in the bottom thereof, a movable feeder below the hole to eject given amounts of the articles being vended; an inclined floor on the feeder movable beneath the hole to lift the articles upwardly through the hole as the feeder is being moved; and a deflector dome within the magazine to support part of the mass of the articles in said magazine, said dome being formed to direct the articles outwardly and downwardly toward the wall of the magazine above the hole in the bottom thereof, said dome being mounted for free vertical and rotary movement.

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