To all whom it may concern:

Be it known that I, Daniel L. Chandler, a citizen of the United States, residing at Fitchburg, in the county of Worcester and State of Massachusetts, have invented new and useful Improvements in Vending Machines with Return-Coin Mechanism, of which the following is a specification.

This invention relates to a machine for vending articles and is of a character in which manually operable mechanism is provided which is rendered operable by means of a coin inserted in the casing of the machine.

The object of the invention is to provide a simple and effective slot machine for vending articles which will operate when a coin is deposited therein to deliver one of the articles to the party depositing the coin, but which, in case there are none of such articles in the machine, or in the event that any of said articles are not of a predetermined size or diameter, will eject the coin from the machine so that the party who has deposited the coin may obtain possession thereof. In the event that there are no articles in the machine, the party receives back his coin. In the event that the article or articles are not of a predetermined size or diameter, the party who deposits the coin will receive the undersized article and also his coin, but if the articles are of the proper diameter or size, the coin will be retained by the machine and the article delivered to the depositor of the coin.

The machine of this invention also has an attachment for operating an advertising device which will display a different card or plurality of cards for each time that the machine is operated.

Another object of the invention is to provide a construction whereby the coin controlling and article feeding mechanism may all be mounted upon a plate constituting the top of the casing of the machine for convenience in manufacture and repairs.

In the device of this invention the article which is to be vended if it is of a predetermined size or diameter renders the mechanism for ejecting the coin from the machine inoperative for that purpose and the coin is deposited in a receptacle provided for that purpose in the machine, but when the articles are exhausted from the machine or for any reason do not feed to the delivery mechanism so as to be ejected from the machine, or if they are below a predetermined diameter, then the mechanism for ejecting the coin from the machine becomes operative.

If no coin is placed in the machine, then the manipulation of the crank whereby the article is ejected from the machine and the coin deposited in the coin receptacle becomes inoperative.

The invention consists in a machine of the character set forth of mechanism which upon the deposit of a coin in the machine is operable to eject the coin from the machine when the article to be vended is not ejected therefrom, or when the article which is ejected therefrom is of less than a predetermined diameter or size, but which, when a coin is deposited in the machine and the machine ejects an article of predetermined size therefrom will deposit the coin in a coin receptacle within said machine.

The invention further consists in certain improved mechanism for operating the advertising medium so as to display different advertising cards each time that the crank handle of the machine operates the mechanism for vending an article.

The invention further consists in the combination and arrangement of parts set forth in the following specification and particularly pointed out in the claims.

Referring to the drawings:
Figure 1 is a front elevation of the machine of my invention.
Figure 2 is an underneath plan view of the coin controlling and article feeding mechanism.
Figure 3 is an underneath plan view of a portion of the coin controlling mechanism.
Figure 4 is an underneath plan view similar to Figure 3 illustrating the parts in a different position relatively to each other.
Figure 5 is a sectional elevation taken on the line 5—5 of Figure 1.
Figure 6 is a detail sectional underneath plan taken on line 6—6, Figure 5.
Figure 7 is an underneath plan of a cam plate.
Figure 8 is a perspective view of a two-way auxiliary coin chute.
Figure 9 is a plan view of the top of the magazine for articles.
Figure 10 is a sectional plan taken on line 10—10, Figure 1.
Figure 11 is a sectional elevation through
the lower portion of the magazine and through the carrier slide taken on line 11-11, Fig. 2.

Fig. 12 is a perspective view of a cam lever.

Like numerals refer to like parts throughout the several views of the drawings.

In the drawings, 10 is the casing of the machine and 11 the top of said casing, which is rigidly and detachably fastened to the casing and has mounted thereon upon the underside the coin controlling and article feeding mechanism and upon the upper side, the magazine 12 for holding the articles to be fed and also the movable advertising device 13. The magazine 12 consists of a cylindrical glass container 14 which rests upon the top 11, its lower edge being encircled by a ring 15 forming a part of the top 11.

The container 14 is provided with a top 16 which consists of an annular flange 17 into which the upper edge of the container projects and of a detachable cover 18 which is fastened to the flange 17 by a staple 19 and padlock 20, the hasp of the padlock extending through a hole provided in an ear 21 which projects upwardly from and is fastened to the flange 17. The flange 17 acts as a clamp to secure the container 14 to the top 11 and is fastened to the top 11 by a plurality of vertical rods 22 which project through the flange 17 and have screw-threaded engagement at their lower ends with the top 11 as illustrated in Fig. 5.

The cover 18 is slotted at 23 and the legs of the staple 19 project through said slots so that when the padlock 20 is locked, the cover will be secured to the flange on one side thereof by said padlock and on the other side thereof by a tongue 24 forming that portion of the cover lying between the slots 25. A guide member 26 is provided in the magazine 12 which is cylindrical and has a conical top 26. Said guide member 25 is provided with ears 27 slotted at 28 and through these slots the rods 22 project. The ears 27 rest upon spiral springs 28 which, in turn, rest upon a guide plate 29 fast to the cover 11. The guide plate 29 is bevelled inwardly at 30 to guide the articles from the container through a hole 31 provided in the cover 11. The guide member 26 is provided with a recessed portion 32, the object of the guide member being to guide the articles to be vended in such a manner that they will not become blocked, but will feed freely downwardly through the opening 31 and into a tubular holder 33 which extends downwardly from the underside of a carrier slide 34.

The carrier slide 34 is arranged to slide in ways 35 formed upon the underside of the top 11 and a reciprocatory motion is imparted to said slide to feed the article from the magazine out of the machine by a rod 36 constituting an actuating member which is slidably mounted in a bearing 37 forming a part of the slide 34. The front end of the rod 36 is provided with a head 38 which has a vertical slot 39 therein in which is slidably located a crank pin 40 fastened to a crank 41 on a shaft 42. The crank shaft 42 is rotatably mounted in bearings 43 and 44 fast to the underside of the top 11, and is prevented from moving longitudinally thereof by said crank and by a collar 45 fast thereto and contacting with the end of the bearing 44. The collar 45 has one end of a spring 46 attached thereto by means of a screw 47, the other end of the spring being attached to the top 11 by a screw 48. A crank handle 49 is fastened to the outer end of the shaft 42 so that by rotating the crank shaft 42 by means of the crank handle 49 a reciprocatory motion will be imparted to the rod 36 by the crank pin 40. The spring 46 acts to rotate the shaft 42 in the direction of the arrow a, Fig. 2, and a pin 50 strikes against the upper surface of the top 11 and limits the distance to which the crank shaft 42 can be rotated by the spring 46. The rod 36 is locked to the slide 34 by a coin, when it is dropped into the machine in the following manner: A coin chute 51 is fastened to the top 11 and projects upwardly therefrom, being provided with a reverse curved slot 52 which extends through the top 11 and terminates at its lower end in line with a vertical coin slot 53 in the carrier slide 34. The coin 54 when dropped into the chute 51 descends through the slot 52 and passes into the slot 53 in the carrier slide 34 and rests upon a stop plate 55 as illustrated in Fig. 3. The stop plate 55 is pivoted at 56 to the carrier slide 34 and is adapted to alternately engage ears 57 and 58 on a stop plate 59 which is fast to the top 11 whereby the lever 55 will be moved to close the lower end of the passage 53 and hold the coin 54 therein or will be moved to open the lower end of said passage 53 and allow the coin to pass downwardly and out of said passage.

When the coin 54 is in the position illustrated in Fig. 5 it projects into a notch 60 provided in the actuating member 36. The notch 60 has a shoulder 61 substantially at right angles to the median longitudinal line of said actuating member. An auxiliary coin chute 63 is provided upon the carrier slide 34 which has two vertical passages 64 and 65 provided therein. The passage 64 guides the coin to a coin receptacle 66, and the passage 65 guides the coin into a chute 67 which empties onto a shelf 68 on the front of the machine outside the casing. The auxiliary chute is positioned with the passage 64 in line with the coin slot 53 when
there is an article of the proper size about to be delivered from the machine, and the passage 65 is in alignment with the coin chute 55 when there is no article delivered from the machine, or when the article which is delivered is of smaller diameter than the standard. To accomplish this result, the auxiliary chute is moved longitudinally of the slide 54 to bring the passage 64 or the passage 65 into alignment with the lower end of the coin slot 58 and this is accomplished in the following manner.—The auxiliary chute 63 has an arm 60 extending upwardly therefrom and fast to the front end of a sleeve 70 which is slidably mounted upon a pin 71 fast to the bearing 37 on the slide 54 and extending rearwardly from said bearing plate. The sleeve 70 is provided with a pair of laterally extending ears 72 and 73 and between these ears a pin 74 projects, which pin is fastened to an arm 75 fast to a cam lever 76 by means of a sleeve 77 which is mounted to rock upon a pin 78 fast to the slide 94. The arm 75 and cam lever 76 are thus adapted to rock as one piece upon the pin 78 as a center or pivot. A spring 79 is fastened to the cam lever 76 and tends to move said cam lever toward the right, Fig. 2, in order to move a laterally extending finger 80 on the outer end of said cam lever 76 toward the center of the article holder 39, and through a slot 81 in the side of said article holder. A bracket 82 is fastened to the underside of the top 11 and has fixed thereto a pair of plates 83 and 84. When the slide 34 is in its rearward position as in Fig. 2, the plate 83 projects across the tubular article holder 33 and the plate 84 rests upon said plate 83, the holder tube 38 being slotted at 86 to allow the same to slide forward away from the plate 83 and backward into alignment therewith. The plate 84 is located beneath the tubular holder 33 so that when the carrier slide 34 is in its forward position, the article 85 will drop to the position illustrated in Fig. 5 in dotted lines. Then when the slide is pushed back from its forward to its rearward position, the article 85 will be carried by the holder 33 backwardly and off of the plate 84 and will drop out of the tubular holder on to the chute 67 and will roll down said chute and on to the shelf 68.

The device which determines whether the coin is to be deposited in the receptacle 66 or whether it is to be ejected from the machine consists of a cam plate 87 illustrated in detail in Fig. 7. This plate is fastened to the underside of the top 11 and is provided with a plurality of cam paths. When the slide 34 is in its rearward position, a pin 88 fast to the cam lever 76 is located relatively to said cam plate in the position illustrated in Fig. 7. Assuming that there is an article of the standard size or diameter which is being fed, then the lever 76 will be held in the position illustrated in Fig. 2 by the finger 80 resting against the periphery of the article 85 with a spring tension caused by the spring 79, and as the slide moves forward, the pin 88 will move with the lever 76 and pass to the left of the cam finger 89 on the cam plate 87 Fig. 3 and during the latter part of the forward motion of said slide, the pin 88 will ride up on the side 90 of the finger 89 and the lever 76 will be moved toward the left, Fig. 3, to release the article 85 and allow it to drop downwardly in the holder 33 onto the plate 84. Then as the slide 34 moves backwardly, the article 85 will be pushed off of the plate 84 and will drop into the receptacle 67, while the pin 88 upon the lever 76 will return to the position illustrated in Fig. 2.

Assume now that there is no article in the article holder when the slide 34 is moved forward. In that case or in the event that the article is of a smaller diameter than standard, the pin 88 will move along the path 81 of the cam plate 87 being caused so to do by the spring 79 and by the forward motion of the slide 34 and this will cause the cam lever to rock toward the right as illustrated in Fig. 4, thus rocking the arm 75 toward the front of the machine and this will move the sleeve 70 forwardly carrying the auxiliary chute 63 forwardly and bringing the passage 65 therein into alignment with the coin chute slot 58 so that the coin will then be delivered down the passage 65 onto the chute 67 and will roll out onto the shelf 68, but when the article 85 is of the right size, then the cam lever 76 will remain substantially in the position illustrated in Fig. 2 until the pin contacts with the side 90 of the cam finger 89 whenupon the finger 80 will be moved slightly to release the article, and the passage 64 of the auxiliary chute will remain in alignment with the coin slot 58 so that as the coin is dropped, it will pass down the passage 64 and into the receptacle 66.

When a coin has been deposited in the machine as illustrated in Fig. 5, and it rests in the position therein shown and the operator moves the crank handle 49 to bring the slide 34 forwardly, it is desirable that the slide should be caused to make its full forward movement before it can return to its rearward position as illustrated in Fig. 2 and this desirable result is secured by means of a latch 92, Fig. 5, which is pivoted at 93 to the cover 11 and is provided on its under edge with teeth 94 and with an inclined forward portion 95 on its under edge. The latch 92 is held downwardly against a stop screw 96 by a spring 97. It will be seen that the operation of this locking latch is as follows:—When the slide is moved forwardly, the upper edge of the coin 54 will engage
the inclined edge 95 and will lift the latch slightly, and upon further forward movement, the edge of the coin will be engaged by the teeth 64 which are so shaped as to prevent the slide from returning as long as there is a coin 54 located in the coin slot 53. Upon arriving at its forward position, however, the stop finger 55 will engage the ear 58 and will be moved to open the lower end of the slot 53 and at the same time the coin will be pushed down out of said slot by the action of the spring 57 and latch 92, whereupon the slide 34 will be free to return to its rearward position.

The coin receptacle 66 is locked inside the casing by a vertical rod 98, the lower end of which enters a hole 99 in a base 100 to which base the casing 10 is fastened. The upper end of the rod 98 has a plate 101 fast thereto which projects from said rod toward the center of the cover 18 and beneath the outer edge of said cover; said plate has an ear 102 thereon which projects downwardly through a slot 103 in the flange 17 so that when the cover 18 is locked in place by the padlock 20, the rod 98 will be locked in position so that the coin receptacle cannot be withdrawn from the casing.

The advertising device consists of a cylinder 104 rotatably mounted upon the top 11 and within a stationary cylinder 114 fast to the top 11 and provided with a vertical opening 113 through which advertising cards on the cylinder 104 can be seen as said cylinder is rotated step by step as hereinafter described, and having a shaft 105 fast thereto and projecting downwardly through said top. The said shaft is rotated by a link 106 connected at one end thereof to the slide 34 and at the other end thereof to a pawl carrier 107, said pawl carrier being pivotally mounted upon the shaft 105 and having a feed pawl 108 mounted thereon and adapted to engage a toothed ratchet 109 for the purpose of imparting a rotary motion to said toothed ratchet, which, being fastened to the shaft 105, will cause said shaft to rotate in the direction of the arrow b, Fig. 2. The shaft 105 is prevented from rotating in a direction reverse to that of the arrow b by a locking pawl 110.

The carrier slide is provided with two vertical pins 115 projecting upwardly therefrom through the hole 51 and into the bottom of the container 14 which serve to agitate the articles in the lower portion of the container 14 and prevent their falling to the front downwardly out of said container.

In the following claims the words "predetermined size" and "predetermined diameter" have been used in connection with the article which is being vended. These words are not intended to limit the article being vended, as set forth in said claims, to an absolutely accurate or standard size, as the mechanism is constructed to deliver articles varying somewhat in size and at the same time depositing the coin in the coin receptacle in the machine, but when the article is of substantially smaller diameter than the diameter of the standard size article intended to be vended in the machine, or when there is no article in the article holder, then such an article will be delivered from the machine and the coin will also be delivered to the user of the machine.

The general operation of the mechanism hereinbefore specifically described is as follows: Assuming the parts to be in the relative positions illustrated in Fig. 2 and that without inserting any coin in the machine the crank handle 49 is operated, the only result will be to rock the shaft 42 and through the crank arm 41 and crank pin 40 to cause the rod 36 to be moved forwardly and backwardly in the carrier slide 34. Now if a coin is dropped into the coin chute 51 it will pass downwardly in the curved slot 52 and be deposited in the coin slot 53 in the slide 34 resting upon the stop finger 55 and in alignment with the passage 64 in the auxiliary coin chute 63.

Assuming now that an article 85 of the standard size is resting in the tubular holder 33 upon the stationary plate 83, the cam lever 76 will then be in the position illustrated in Fig. 2 with the finger 80 not pressed against the article. Now upon giving the crank handle 49 a rotary movement, the rod 36 will be moved forwardly and as it is now locked to the carrier slide 34 by the coin, said carrier slide will move forwardly carrying with it the article 85 with the finger 80 pressed against it as in Fig. 3 which when the slide 34 has been moved to its forward position will drop onto the plate 84 as illustrated in dotted lines, Fig. 5, being released from the pressure which holds it in the tubular holder 33 by the finger 80 on the cam lever 76 moving away therefrom and being so moved by the pin 88 engaging the side 90 of the cam finger 89. During the forward movement of the carrier slide 34 the passage 64 of the auxiliary coin chute will be brought over the V-shaped guide plate 111 which is affixed to the top of the coin receptacle 66 and the coin will thus, when dropped out of said passage 64, be guided through an opening 112 into said coin receptacle. During this forward movement the latch 92 has held the slide 34 from movement backwardly in case the crank handle should have been released or had not been sufficiently rotated to bring the slide 34 entirely forward. When the slide 34 arrives near the end of its forward movement, the stop finger 55 will engage the ear 58 on the stop plate 59 and this will cause the stop finger 55 to be rocked upon its pivot 56 until it is out of alignment with the coin.
slot 53, thus allowing the coin 54 to drop, as hereinbefore described, into the passage 64 in the auxiliary coin chute and thence to be guided into the receptacle 66. Now upon releasing the crank handle 49, the spring 46 will rotate the shaft 42 in the opposite direction to that of the arrow a and will cause a pin 36 in the rod 36 to engage the forward end of the slide 34, and cause it together with the parts mounted thereon, to return to the relative positions illustrated in Fig. 2, and as the slide 34 returns to its rearward position, the tubular holder 33 will push the article 56 off of the plate 51 and said article will then drop down onto the chute 67 and be conveyed thereby to the shelf 68.

Assuming now that the article is smaller than standard size or that there is no article in the tubular holder 33, then upon a repetition of the movement of the crank handle 49, and assuming that there is a coin in the slot 53, the slide 34 will be moved forward as before, but this time the finger 50 of the cam lever 76 will project into the tubular holder 33 a sufficient distance so that when the pin 35 arrives at the finger 50, see Fig. 4, it will pass along the path 91 and during this movement, the spring 79 will rock the lever 76 so that it will rock the arm 75 and move the sleeve 70 along the pin 71 until the auxiliary chute is brought into the position illustrated in Fig. 4 with the passage 65 in alignment with the coin slot 53. Then when the stop finger 55 is withdrawn as hereinbefore described from the coin slot 53, the coin 54 will drop and pass down the coin passage 65 into the chute 67 and will roll down said chute onto the shelf 68.

During the forward movement of said carrier slide, the advertising cards on the cylinder 104 will be brought into view through an opening 113 in the stationary cylinder 114, and thus one by one the different advertising cards on the rotary cylinder will be brought into view.

I claim:

1. A machine for vending articles having, in combination, a receptacle for articles, mechanism including an article receiving slide rendered effective by the deposit of a coin in said machine and adapted to feed an article of predetermined diameter from said receptacle and out of said machine, means carried by said slide for detecting the relative size of an article contained therein and mechanism associated with said means and adapted to eject said coin from said machine in the event of said article feeding mechanism feeding an article of less than predetermined diameter or size or failing to feed an article as set forth, said coin ejecting mechanism being rendered ineffective to eject said coin from said machine by one of said articles of predetermined diameter or size while being fed by said article feeding mechanism.

2. A vending machine having, in combination, a receptacle for articles, mechanism including an article receiving slide rendered effective by the deposit of a coin in said machine and adapted to feed an article of predetermined diameter or size from said receptacle and out of said machine, means carried by said slide for detecting the relative size of an article contained therein and mechanism associated with said means and adapted to eject said coin from said machine in the event of said article feeding mechanism feeding an article of less than predetermined diameter or size or failing to feed an article as set forth, said coin ejecting mechanism being rendered ineffective to eject said coin from said machine by one of said articles of predetermined diameter or size while being fed by said article feeding mechanism.

3. A vending machine having, in combination, a receptacle for articles, mechanism including an article receiving slide rendered effective by the deposit of a coin in said machine and adapted to feed an article of predetermined size from said receptacle and out of said machine, means carried by said slide for detecting the relative size of an article contained therein and mechanism associated with said means and including a two-way chute adapted to eject said coin from said machine in the event of said article feeding mechanism feeding an article of predetermined size as set forth, said coin ejecting mechanism being rendered ineffective to eject said coin from said machine by one of said articles of predetermined size while being fed by said article feeding mechanism.

4. A vending machine having, in combination, a receptacle for articles, mechanism including an article receiving slide rendered effective by the deposit of a coin in said machine and adapted to feed an article of predetermined diameter from said receptacle and out of said machine, means carried by said slide for detecting the relative size of an article contained therein and mechanism associated with said means and including a two-way chute adapted to eject said coin from said machine in the event of said article feeding mechanism failing to feed an article of predetermined diameter, said coin ejecting mechanism being rendered ineffective to eject said coin from said machine by one of said articles of predetermined diameter while being fed by said article feeding mechanism.

5. A vending machine having, in combination, a receptacle for articles, an outlet chute leading out of said machine, a slide with an orifice therein adapted to receive an article from said receptacle and conduct it to said chute, said slide having a slot therein adapted to receive a coin, an actuating member adapted to be locked to said slide by a coin in said slot, an auxiliary chute with
two passages therein, one of said passages adapted to guide a coin out of said machine and the other of said passages adapted to guide said coin into a coin receptacle in said machine, means carried by said slide for detecting the relative size of an article contained therein and mechanism associated with said means and rendered effective by one of said articles of predetermined size while being fed by said slide to said outlet chute to position said auxiliary chute to receive said coin from said slide in the passage leading to said coin receptacle in said machine.

6. A vending machine having, in combination, a receptacle for articles, an outlet chute leading out of said machine, a slide with an orifice therein adapted to receive an article from said receptacle and conduct it to said chute, said slide having a slot therein adapted to receive a coin, an actuating member adapted to be locked to said slide by a coin in said slot, an auxiliary chute provided with two passages, one of said passages adapted to guide a coin to said outlet chute and mechanism rendered effective by one of said articles of less than predetermined diameter or size while being fed by said slide to said outlet chute to position said auxiliary chute to receive said coin from said slide in the passage leading to said outlet chute.

7. A vending machine having, in combination, a receptacle for articles, an outlet chute leading out of said machine, a slide with an orifice therein adapted to receive an article from said receptacle and conduct it to said chute, said slide having a slot therein adapted to receive a coin, an actuating member adapted to be locked to said slide by a coin in said slot, an auxiliary chute provided with two passages, one of said passages adapted to guide a coin to said outlet chute, the other of said passages adapted to guide a coin to a coin receptacle in said machine and mechanism rendered effective by one of said articles of predetermined diameter or size while being fed by said slide to said outlet chute to position said auxiliary chute to receive said coin from said slide in the passage leading to said coin receptacle, said last-named mechanism being rendered effective to position said auxiliary chute to receive said coin from said slide in the passage leading to said outlet chute by said slide receiving one of said articles of less than predetermined diameter or size.

8. A vending machine having, in combination, a receptacle for articles, an outlet chute leading out of said machine, a slide with an orifice therein located beneath said receptacle and adapted to receive an article in said orifice from said receptacle and conduct it to said outlet chute, said slide having a slot therein adapted to receive a coin, an actuating member adapted to be locked to said slide by a coin in said slot, an auxiliary chute provided with two passages, one of said passages adapted to guide a coin to said coin receptacle, another of said passages adapted to guide a coin to said outlet chute, said auxiliary chute being slidably mounted on said slide and mechanism mounted upon said slide adapted to project into said orifice and contact with one of said articles located therein, said mechanism being adapted to position said auxiliary chute with the passage which leads to said coin receptacle in alignment with the coin slot in said slide when said mechanism contacts with an article of predetermined diameter or size located in said orifice.

10. A vending machine having, in combination, a receptacle for articles, an outlet chute leading out of said machine, a receptacle for coins in said machine, a carrier slide with an orifice therein located beneath said receptacle and adapted to receive an article in said orifice from said receptacle and conduct it to said outlet chute, said carrier slide having a slot therein adapted to receive a coin, an actuating member adapted to be locked to said carrier slide by a coin in said slot, an auxiliary chute provided with two passages, one of said passages adapted to guide a coin to said coin receptacle, another of said passages adapted to guide a coin to said outlet chute, said auxiliary chute being slidably mounted on said carrier slide and mechanism mounted upon said carrier slide adapted to project into said orifice and contact with one of said articles located therein, said mechanism being adapted to position said auxiliary
chute with the passage which leads to said outlet chute in alignment with the coin slot in said carrier slide when said mechanism contacts with an article of less than predetermined diameter or size in said orifice.

11. A vending machine having, in combination, a receptacle for articles, an outlet chute leading out of said machine, a receptacle for coins in said machine, a carrier slide having a slot therein adapted to receive an article from said receptacle and convey it to said outlet chute, said carrier slide having a slot therein adapted to receive a coin, an actuating member adapted to be locked to said slide by a coin in said slot, an auxiliary chute provided with two passages, one of said passages leading to said coin receptacle, the other of said passages leading to said outlet chute, said auxiliary chute being slidably mounted upon said carrier slide, a lever pivoted to said slide, one arm of said lever being connected to said auxiliary chute, another arm of said lever being adapted to project into said orifice and a stationary cam plate adapted to be engaged by said lever during the forward movement of said carrier slide, whereby when said lever engages an article of predetermined size in said orifice, said auxiliary chute will be held with the passage thereof leading to said coin receptacle in alignment with said slot.

14. A vending machine having, in combination, a receptacle for articles, an outlet chute leading out of said machine, a coin receptacle located in said machine, a carrier slide with an orifice therein adapted to receive an article from said receptacle and convey it to said outlet chute, said carrier slide having a slot therein adapted to receive a coin, an actuating member adapted to be locked to said slide by a coin in said slot, an auxiliary chute provided with two passages, one of said passages leading to said coin receptacle, the other of said passages leading to said outlet chute, said auxiliary chute being slidably mounted upon said carrier slide, a lever pivoted to said slide, one arm of said lever being connected to said auxiliary chute, another arm of said lever being adapted to project into said orifice and a stationary cam plate adapted to be engaged by said lever during the forward movement of said carrier slide, whereby when said lever engages an article of predetermined size in said orifice, said auxiliary chute will be held with the passage thereof leading to said coin receptacle in alignment with said slot.

15. A vending machine having, in combination, a receptacle for articles, an outlet chute leading out of said machine, a coin receptacle located in said machine, a carrier slide with an orifice therein adapted to receive an article from said receptacle and convey it to said outlet chute, said carrier slide having a slot therein adapted to receive a coin, an actuating member adapted to be locked to said slide by a coin in said slot, an auxiliary chute provided with two passages, one of said passages leading to said coin receptacle, the other of said passages leading to said outlet chute, said auxiliary chute being slidably mounted upon said carrier slide, a lever pivoted to said slide, one arm of said lever being connected to said auxiliary chute, another arm of said lever being adapted to project into said orifice and a stationary cam plate adapted to be engaged by said lever during the forward movement of said carrier slide, whereby when said lever engages an article of less than predetermined size or diameter in said orifice or when said lever fails to engage an article located in said orifice said auxiliary frame will be moved by said lever to bring the passage thereof which leads to said outlet chute in alignment with said slot.
leading to said outlet chute, said auxiliary chute being slidably mounted upon said carrier slide, a lever pivoted to said slide, one arm of said lever being connected to said auxiliary chute, another arm of said lever being adapted to project to said orifice, and a stationary cam plate adapted to be engaged by said lever during the forward movement of said carrier slide whereby

then said lever engages an article of predetermined size in said orifice, said auxiliary frame will be held with the passage which leads to the coin receptacle in alignment with said slot and whereby when said lever does not engage an article in said orifice, said auxiliary chute will be positioned with the passage thereof which leads to said outlet chute in alignment with said slot during the forward movement of said carrier slide.

16. A machine for vending articles having, in combination, a receptacle for said articles, mechanism including an article receiving slide rendered effective by the deposit of a coin in said machine, and adapted to feed one of said articles from said receptacle and out of said machine, means associated with said slide for detecting the relative size of one of said articles contained therein comprising a detector finger pivoted on said slide and mechanism controlled by said means and adapted to eject said coin from said machine in the event of said article feeding mechanism failing to feed an article of predetermined diameter or size, or failing to feed an article.

17. A machine for vending articles having, in combination, a receptacle for articles, a receptacle for coin, an outlet chute leading out of said machine, a slide with an orifice therein adapted to receive an article from said receptacle and convey it to said outlet chute, said slide having a slot therein adapted to receive a coin, an actuating member adapted to be locked to said slide by a coin in said slot, a lever pivoted to said slide and adapted to project across the bottom of said slot and means on said casing adapted to alternately engage said lever to cause the same to close the bottom of said slot and to open the bottom of said slot.

18. A machine for vending articles having, in combination, a casing, a receptacle adapted to contain articles, a carrier slide movable beneath said receptacle and adapted to receive an article therefrom and rendered operable by the insertion of a coin therein, means adapted to engage said coin during the forward movement of said slide to prevent said slide from being moved rearwardly until after the completion of its forward movement said means comprising a movable notched member pivoted to said casing and mechanism adapted to eject said coin from said machine in the event of said slide receiving an article of less than predetermined diameter or size.

19. A machine for vending articles having, in combination, a receptacle for articles, an outlet chute leading out of said machine, a slide with an orifice therein adapted to receive an article from said receptacle and conduct it to said chute, means associated with said slide for determining whether an article of predetermined size is contained in said orifice, said slide having a slot therein adapted to receive a coin, an actuating member adapted to be locked to said slide by a coin in said slot, a lever pivoted to said slide and adapted to project across the bottom of said slot and means on said casing adapted to alternately engage said lever to cause the same to close the bottom of said slot and to open the bottom of said slot.

20. A machine for vending articles having, in combination, a receptacle for articles, an outlet chute leading out of said machine, a slide with an orifice therein adapted to receive an article from said receptacle and conduct it to said chute, said slide having a slot therein adapted to receive a coin, an actuating member adapted to be locked to said slide by a coin in said slot, a lever pivoted to said slide and adapted to project across the bottom of said slot and means adapted to alternately engage said lever to cause the same to close the bottom of said slot and to open the bottom of said slot, an auxiliary chute provided with two passages, one of said passages adapted to guide a coin from said slot to said outlet chute, the other of said passages adapted to guide a coin from said slot to a receptacle in said machine and mechanism rendered effective by one of said articles of predetermined size while being fed by said slide to said outlet chute to position said auxiliary chute with the passage leading to said coin receptacle in alignment with said slot, said last-named mechanism being rendered effective to position said auxiliary chute with the passage leading to said outlet chute in alignment with said slot to receive said coin from said slide by the failure of said slide to receive one of said articles, or by said slide receiving an article of less than predetermined size or diameter.

21. A vending machine having, in combination, a carrier slide adapted to hold an article and having a slot adapted to receive a coin, a lever pivoted to said carrier slide and movable toward and away from said article, means adapted to position said lever relatively to said article, means adapted to
move said slide forwardly whereupon said article may be consecutively gripped by said lever and released thereby to allow said article to fall out of said carrier slide, and a two-way coin chute associated with said slide and adapted to be positioned with respect to said slot by said lever.

22. A vending machine having, in combination, a carrier slide adapted to hold an article and having a slot adapted to receive a coin, a lever pivoted to said carrier slide, a spring acting to move said lever toward said article, a cam co-operating with said spring and adapted to position said lever relatively to said article, means adapted to move said slide forwardly whereby said lever may be alternately moved toward and away from said article to alternately press said article against said slide and release the same to allow it to drop out of said slide, and a two-way coin chute associated with said slide and adapted to be positioned with respect to said slot by said lever.

23. A vending machine having, in combination, a carrier slide provided with a coin slot and provided with an orifice adapted to receive an article, a coin chute provided with two passages mounted on said carrier slide and movable relatively thereto, an actuating member adapted to be locked by a coin located in said slot to said slide, means mounted on said slide projecting into said orifice and movable relatively thereto adapted to move said coin chute to bring either one of the passages therein into alignment with said slot, a spring and a stationary cam co-operating therewith to actuate said means to position said chute with one or the other of said passages in alignment with said slot.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

DANIEL L. CHANDLER.

Witnesses:
FRANKLAN E. LOW,
CHARLES S. GOODING.