

Dec. 4, 1956

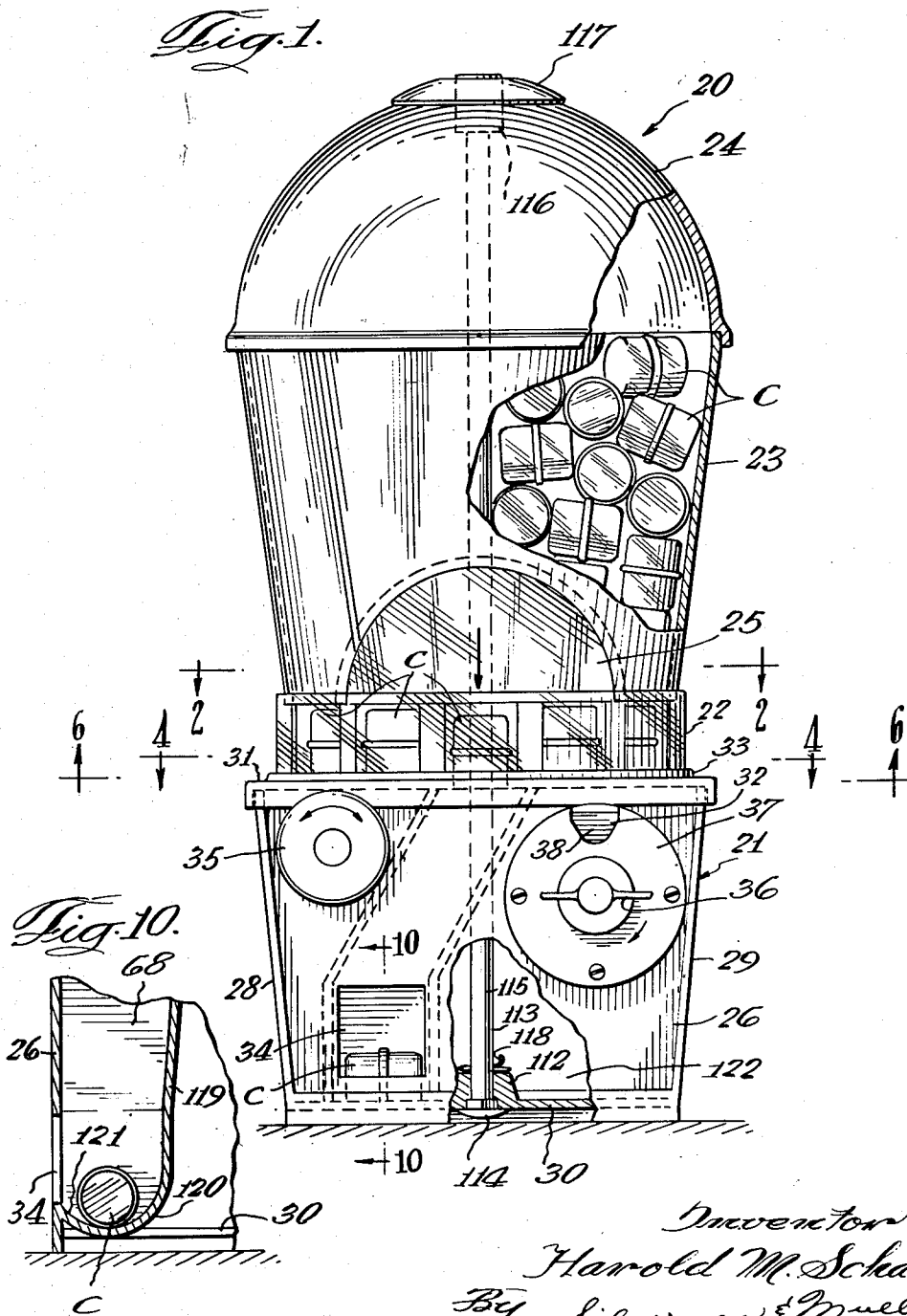
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2,772,811

SELECTIVE BULK MERCHANDISE VENDING MACHINE

Filed Jan. 19, 1955

5 Sheets-Sheet 1



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SELECTIVE BULK MERCHANDISE VENDING MACHINE

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5 Sheets-Sheet 2

Fig. 2.

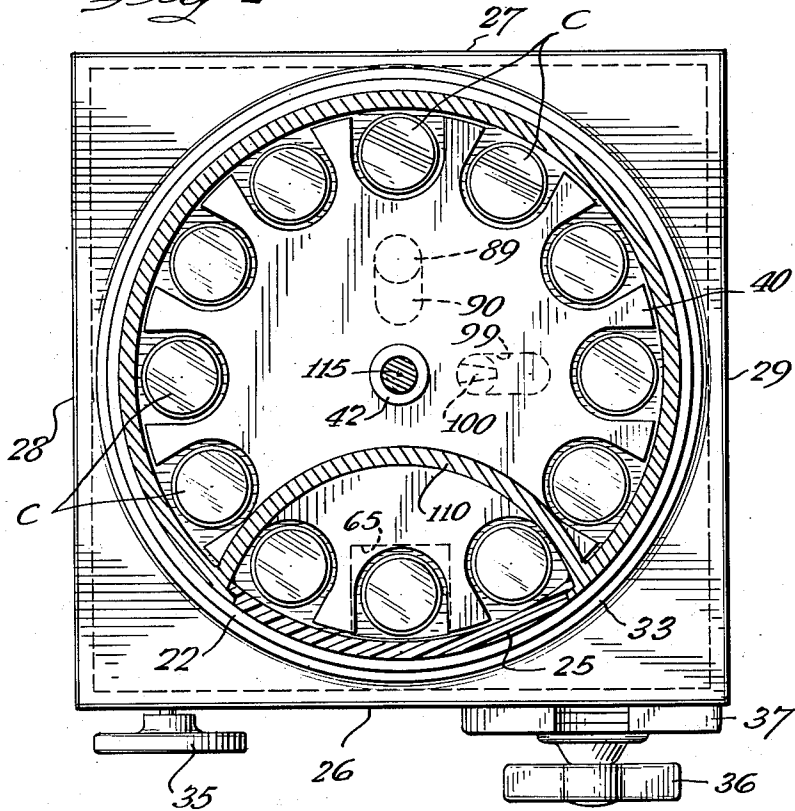
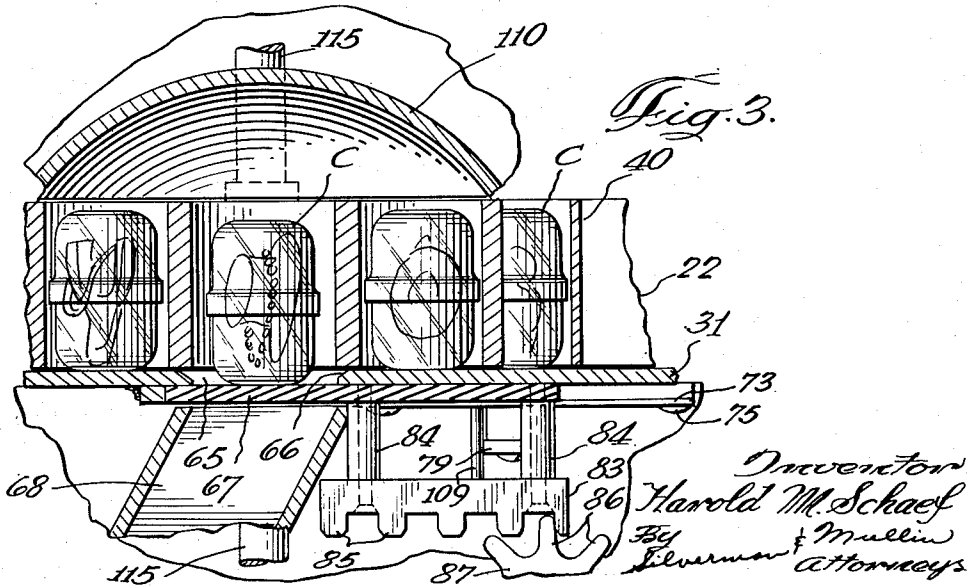


Fig. 3.



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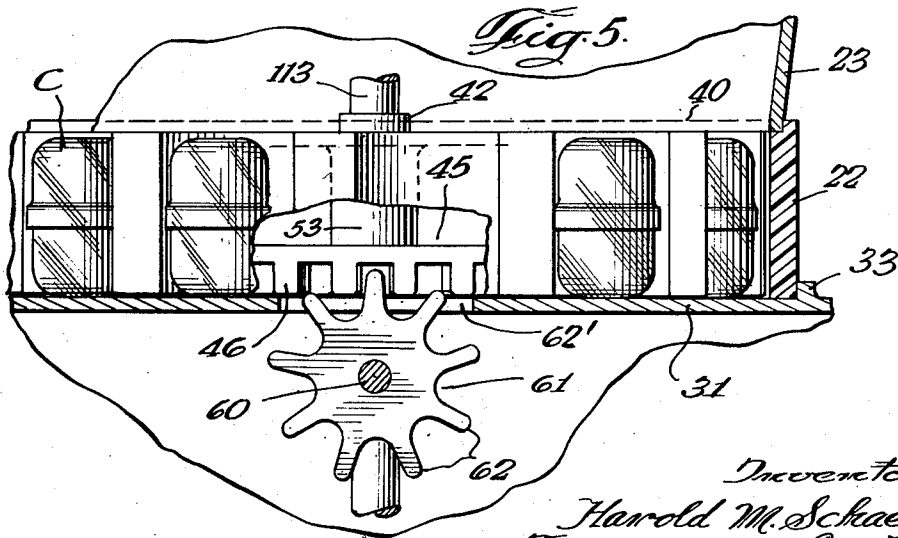
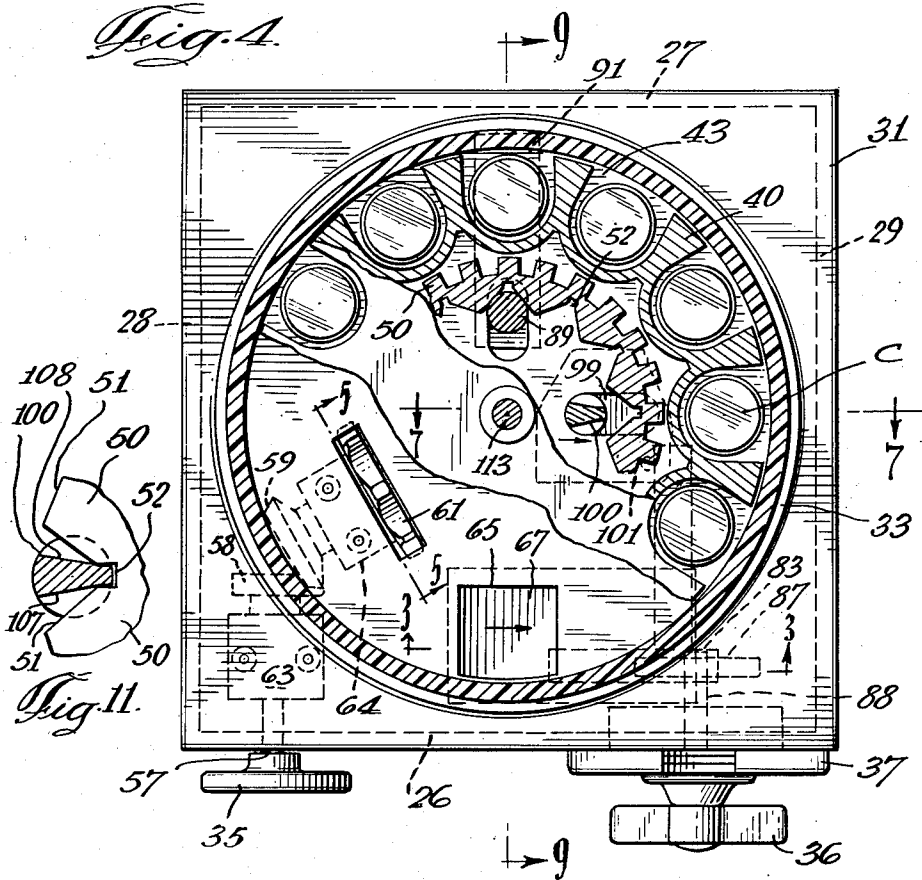
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SELECTIVE BULK MERCHANDISE VENDING MACHINE

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5 Sheets-Sheet 3



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SELECTIVE BULK MERCHANDISE VENDING MACHINE

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5 Sheets-Sheet 4

Fig. 6.

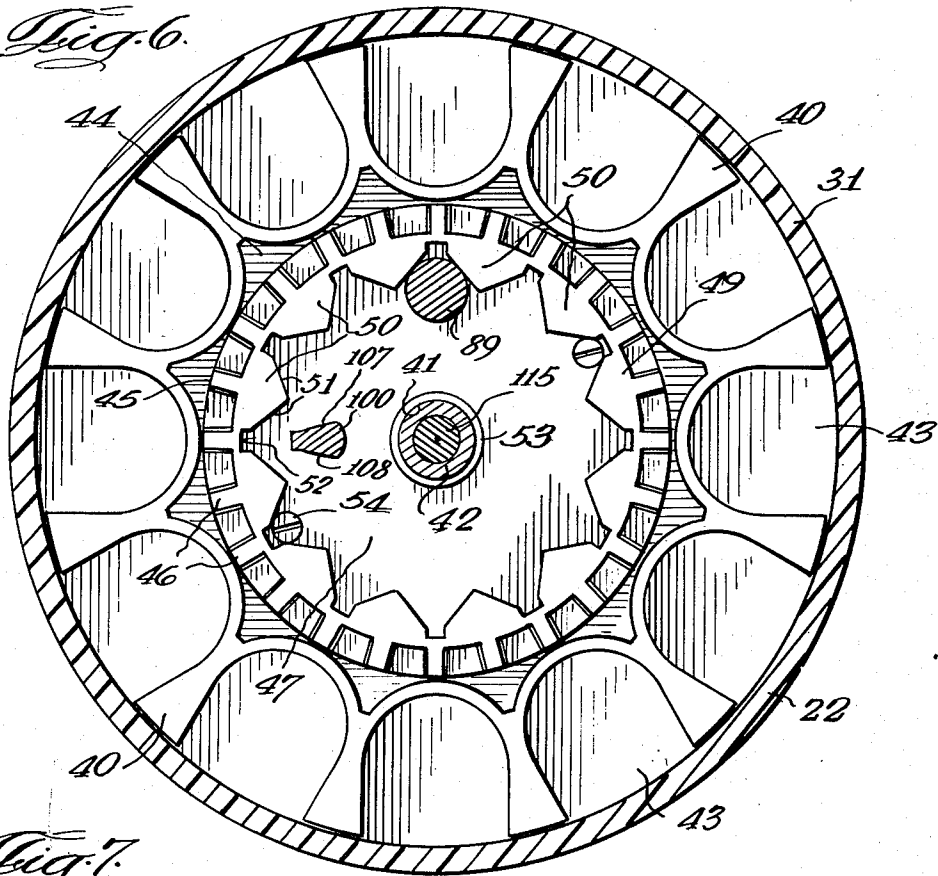
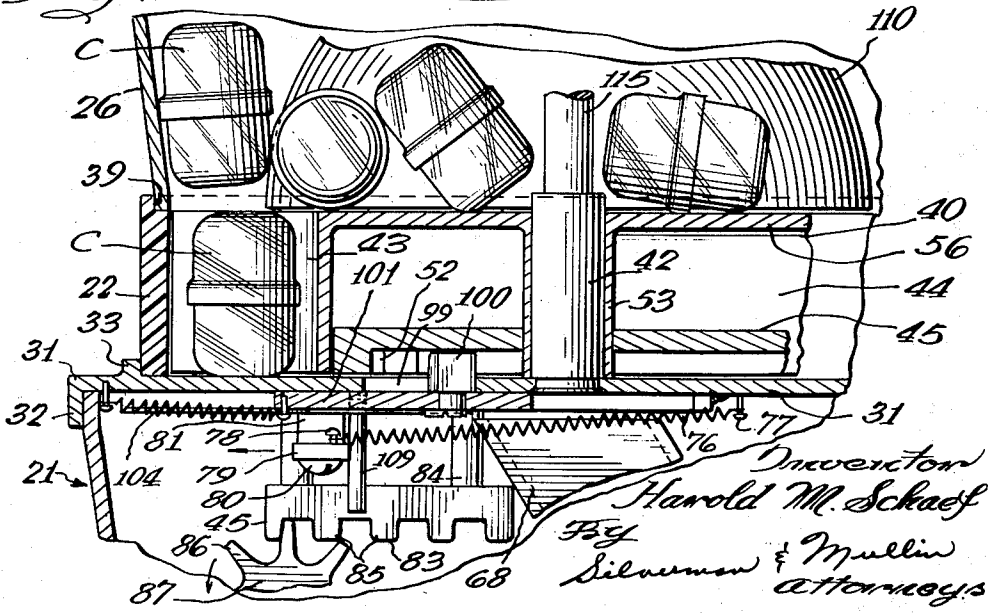


Fig. 7.



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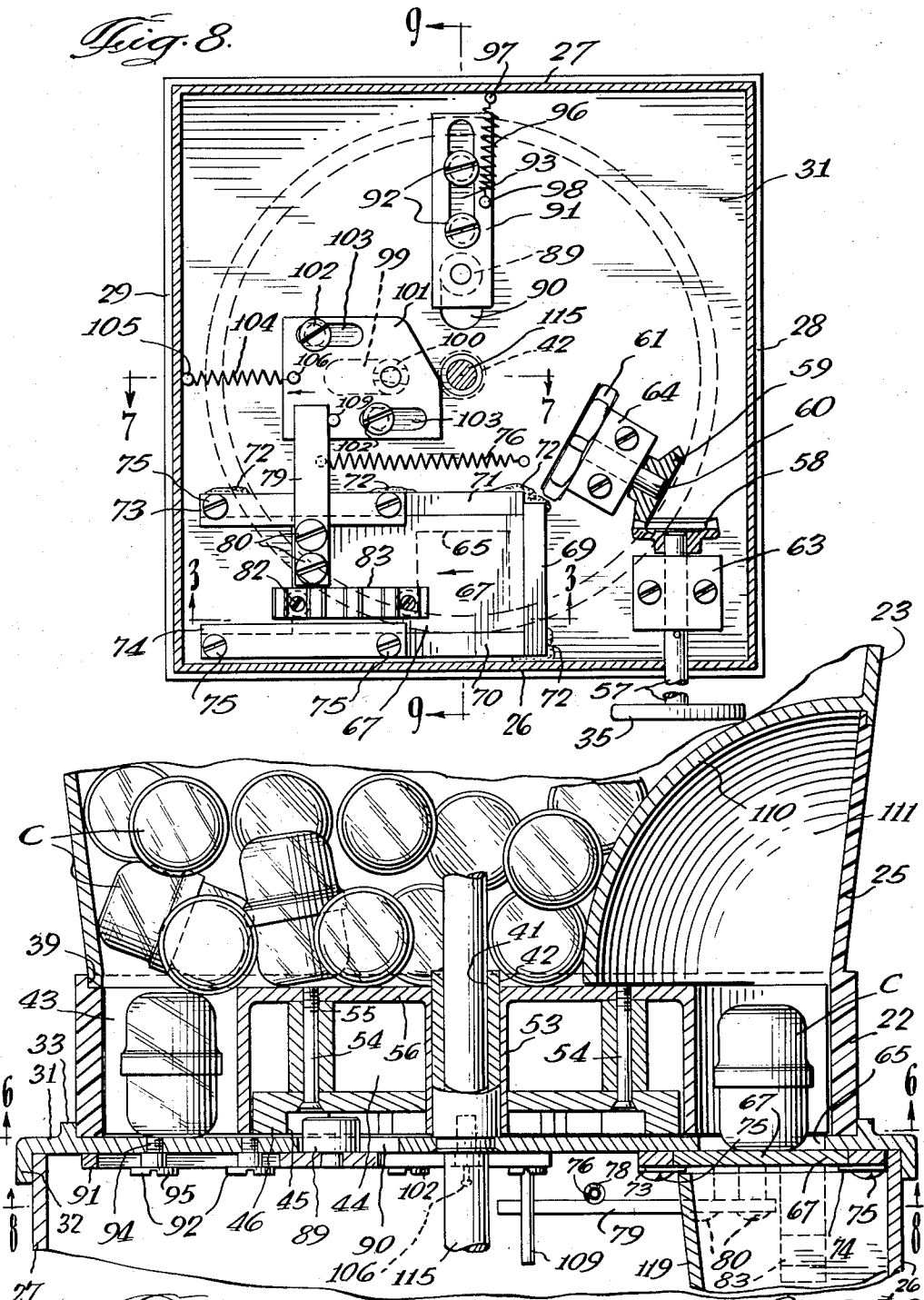


Fig. 9.

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2,772,811

SELECTIVE BULK MERCHANDISE VENDING MACHINE

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Application January 19, 1955, Serial No. 482,749

11 Claims. (Cl. 221-155)

This invention relates to merchandise vending machines and more particularly to bulk vending machines in which the articles of merchandise are stored in bulk rather than individually or selectively. Specifically the invention relates to an improved bulk vending machine in which the articles of merchandise, even though they are not individually stored, may nevertheless be individually selected and vended.

It is well known that vending machines of many types and constructions have been utilized for the vending of merchandise of various types including merchandise which is individually packaged and merchandise which is unpackaged and in bulk. Heretofore such machines have been generally classified according to the state of the merchandise dispensed, i. e. selective machines for dispensing packaged or individually stored merchandise and bulk machines for dispensing merchandise usually unpackaged and stored in bulk rather than individually.

Heretofore the bulk machines have been incapable of affording to the customer the opportunity for pre-selecting the merchandise to be dispensed. Of course where the articles of merchandise in the machine were uniform, a selective mechanism was unnecessary since such machines were limited to the dispensing of only a single type of merchandise. If more than one type of merchandise was stored in the machine for dispensing, then of course no opportunity for selection of merchandise by the customer was afforded in this type of machine. Hence, where selectivity was required, it was necessary to utilize selective machines in which all the articles of each type of merchandise were stored separately, for example in individual columns of a magazine. In such machines it was usually necessary that the merchandise be individually packaged.

Obviously selective vending machines were considerably more expensive and complicated in structure than bulk vending machines. Furthermore, they were incapable of storing as much merchandise in their magazines as in the bulk vending machine magazines, unless, of course, the size was materially increased. This further added to the cost of the machines. On the other hand without the selective feature, the bulk vending machines were limited in application, especially in recent years due to the increasing tendency to legislate against machines which involved any element of chance in the dispensing operations. Thus, for example, the dispensing of charms in ball gum bulk vending machines is forbidden in some States because of the element of chance involved in the dispensing of the same.

It is, therefore, an important object of this invention to provide a selective bulk vending machine which will overcome all of the disadvantages mentioned hereinabove.

A further object is to afford a bulk vending machine which will dispense either packaged or unpackaged merchandise.

Still another object is to so devise and construct a bulk vending machine that a large volume of merchan-

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dise may be stored within the storage magazine of the machine. An object relating thereto is to provide a selective vending machine in which the merchandise may be stored in bulk within the magazine.

5 Still a further object is to afford a merchandise dispensing machine in which the articles of merchandise may first be viewed by the operator and then selected as desired for dispensing.

10 Yet another object is to provide a selective merchandise vending machine provided with a number of safeguards to prevent pilfering or "milking" of the machine while at the same time safeguarding the customer by assuring the dispensing of an article of merchandise for each coin accepted by the machine.

15 A related object is to provide a dispensing member having a number of individual compartments within which are positioned individual articles of merchandise. One or more of such compartments are exposed to view and the customer is then enabled to rotate the dispensing member viewing each article of merchandise in each 20 compartment until he has determined which of these articles he desires to purchase. After making the selection, and only then, need he deposit his coin to actuate the dispensing mechanism.

25 Another related object is to so design the selecting mechanism that the member in which the individual articles of merchandise are positioned for selection, may be rotated in both directions for facilitating selection by the customer.

30 A further related object is to provide a means for positively insuring the proper positioning of each article of merchandise in dispensing position.

35 Yet another object is to afford a selective bulk vending machine so designed that servicing or replenishing of the stock of merchandise is accomplished with minimum effort and time.

40 Yet a further object is to provide a positive operating and ejecting mechanism for the machine. An object relating thereto is to so construct the machine that the ejecting mechanism is positively and effectively controlled by the coin mechanism thereby insuring definite dispensing for each coin deposited.

45 Another object is to so construct the machine that a minimum number of moving parts are utilized and the selecting and dispensing mechanisms are directly controlled and linked to the actuating members.

50 And finally another important object of this invention is to provide a selective merchandise bulk vending machine of simple, effective, sturdy, inexpensive and attractive construction.

55 With the foregoing and other objects in view which will appear as the description proceeds, the invention consists of certain novel features of construction, arrangement and a combination of parts hereinafter fully described, illustrated in the accompanying drawings, and particularly pointed out in the appended claims, it being understood that various changes in the form, proportion, size and minor details of the structure may be made without departing from the spirit or sacrificing any of the advantages of the invention.

60 For the purpose of facilitating an understanding of my invention, I have illustrated in the accompanying drawings a preferred embodiment thereof, from an inspection of which, when considered in connection with the following description, my invention, its mode of construction, assembly and operation, and many of its advantages should be readily understood and appreciated.

65 Referring to the drawings in which the same characters of reference are employed to indicate corresponding or similar parts throughout the several figures of the drawings:

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Fig. 1 is a front elevational view of a vending machine embodying the principles of my invention with a portion of the magazine wall broken away to show the bulk storage of the merchandise therein and with a portion of the pedestal wall broken away to show certain details of construction;

Fig. 2 is a sectional plan view taken on the plane of line 2—2 in Fig. 1 and viewed in the direction indicated;

Fig. 3 is an enlarged fragmentary sectional detail view taken substantially on the plane of line 3—3 in Figs. 4 or 8 of the drawings and likewise viewed in the direction indicated;

Fig. 4 is a sectional plan view taken on the plane of line 4—4 in Fig. 1 with portions of the dispensing wheel broken away to better illustrate certain details of construction;

Fig. 5 is an enlarged fragmentary sectional detail view taken on the plane of line 5—5 in Fig. 4 of the drawings and again viewed in the direction indicated;

Fig. 6 is an enlarged sectional plan view taken substantially on the plane of line 6—6 in Figs. 1 or 9 of the drawings and looking upwardly in the direction indicated;

Fig. 7 is an enlarged fragmentary sectional detail view taken on the plane of line 7—7 in Figs. 4 or 8 of the drawings and viewed in the direction indicated;

Fig. 8 is a sectional plan view taken on the plane of line 8—8 in Fig. 9 of the drawings and looking up in the direction indicated;

Fig. 9 is an enlarged fragmentary sectional view taken on the plane of line 9—9 in Fig. 8 and showing in elevation certain details of construction;

Fig. 10 is an enlarged fragmentary sectional view taken on the plane of line 10—10 in Fig. 1 of the drawings and showing a detail of construction of the merchandise chute; and

Fig. 11 is an enlarged fragmentary sectional view showing a detail of construction and illustrating a step in the operation of the machine.

Referring now to several figures of the drawings, it will be noted that the machine which is generally designated in Fig. 1 of the drawings by the reference numeral 20 may comprise a number of separable housing members including a pedestal base designated generally by reference numeral 21 and having a transparent merchandise-viewing annular housing member 22 mounted thereon. Mounted above said transparent viewing member 22 may be an opaque merchandise storage globe 23 with a dome-shaped cover such as 24. The globe 23 may be provided with a transparent window such as 25, the purpose of which will become apparent as the description proceeds.

It will be noted that the globe 23 contains a plurality of articles of merchandise each stored in a transparent plastic merchandise capsule C. In Figs. 1, 7 and 9 it will be noted that the merchandise capsules 26 are stored within the globe 23 in bulk. However, it will further be noted that they are positioned within the merchandise viewing housing 22 each in an individual compartment. This, of course, comprises an important feature of the machine. Thus, by providing selective means whereby the customer may select any one of the articles of merchandise displayed behind the transparent wall of the viewing housing 22, the bulk vending machine may be converted to a selective machine.

Pedestal base

Proceeding now with a more detailed description of the various elements comprising the machine, attention is directed first to the pedestal 21. Obviously the pedestal may be constructed in any shape or form desired but in the embodiment chosen for illustration, it will be noted that it is of generally rectangular shape as defined by a front wall 26, a back wall 27 and a pair of integrally formed side walls 28 and 29. The walls may be tapered to

flare outwardly and upwardly as shown in Fig. 1 of the drawings. The bottom of the pedestal may be closed by a bottom closure member 30 which in turn may be spaced from the bottom edges of the walls as shown in Fig. 1 of the drawings. The top of the pedestal may be closed by a top closure member 31 which likewise serves as a mounting plate for the selecting and dispensing mechanisms which will be subsequently described.

The closure member 31 may be formed with a marginal depending flange 32 adapted to encircle the top marginal edges of the pedestal walls to effect a closure therebetween as shown in Fig. 9 of the drawings. If desired, a rubber gasket may be positioned therebetween to insure a water-tight seal. Spaced inwardly from the outer edge of the closure member, there may be formed an upstanding annular ridge such as 23 (see Figs. 1, 7 and 9) adapted to encircle the bottom edge of the transparent annular viewing member housing 22. Again a rubber gasket may be interposed therebetween to effect a water-tight seal if desired.

Completing the description of the pedestal base 21, the front wall 26 is provided with a delivery chute opening 34 through which the merchandise may be delivered. There is also mounted on this front wall a selector knob 35, an actuating handle 36 mounted in front of the front wall of a coin mechanism 37 having a coin slot 38 positioned therein.

Transparent merchandise viewing housing

The transparent merchandise-viewing housing 22 may comprise an annular ring formed with an annular groove 39 in the upper edge of the inner surface thereof, as shown in Figs. 7 and 9 of the drawings. This groove 39 is adapted to receive the bottom edge of the merchandise globe 23. The transparent window 25 may be integrally formed at the top of the transparent viewing member 22 again as shown in Figs. 1 and 9 of the drawings. The window 25 is provided so that the articles of merchandise may be viewed from the top as well as the front. It may, of course, be formed in any desired shape but in the embodiment chosen for illustration comprises a semi-circular member.

Merchandise selecting wheel

Positioned within the annular merchandise viewing housing 22 is a novel merchandise selecting wheel 40 rotatably mounted by means of a central opening 41 on a central hollow tubular standard 42. The standard in turn is permanently mounted on the mounting plate 31. The central opening 41 of the wheel 40 is defined by a depending annular wall 53 (see Figs. 6 and 9 of the drawings).

Referring now to Fig. 6 of the drawings it will be noted that the wheel 40 is formed with a plurality of outwardly opening slots 43 formed in the periphery of the wheel. Each of these slots comprises a compartment within which may be positioned a merchandise-containing capsule C as shown in the several figures of the drawings. In the embodiment chosen for illustration there are twelve such slots formed in the wheel 40. However, it should be obvious that the number of slots may be varied as desired and the size and shape thereof may likewise be varied to accommodate various types of merchandise either packaged or in bulk.

The wheel 40 may comprise a cast-aluminum member with a bottom-opening central cavity 44 as shown in Figs. 6 and 7 of the drawings. Within this cavity 44 may be mounted an actuating control wheel or disc 45 which will now be described in some detail. Referring to Figs. 6 and 9 of the drawings it will be noted that the control disc 45 is formed with a plurality of depending sprocket teeth 46 formed in spaced relationship about the marginal bottom edge of the disc 45. The func-

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tion of these sprocket teeth will become apparent as the description proceeds. The central portion 47 of the wheel 45 is defined by a serrated spider formation 48 which protrudes downwardly and in thickness is the same as the thickness of the sprocket teeth 46. This spider formation 48 comprises a number of inwardly projecting teeth such as 50, each defined by a pair of inwardly converging walls such as 51 integrally formed with a plurality of straight-walled slots such as 52, positioned one between each of said teeth. It should be noted that each of the straight-walled slots 52 is positioned one at the center of each merchandise slot 43. Again the reason therefor will become apparent as the description proceeds.

Completing the description of the control disc 45, it will be noted that the same is mounted and secured within the cavity 44 of the merchandise wheel 40 by means of a pair of flat-headed bolts such as 54, the ends of which are screw-threaded as at 55 enabling the same to be threaded into cooperating holes formed in the top wall 56 of the merchandise wheel.

It should further be noted that the wheel 40 is positioned on the mounting plate 31 below the merchandise storage member 23 so that the merchandise capsules C are supported thereon. It will therefore be apparent that the capsules gravitate downwardly and fall into the slots 43 thereby filling the same.

Actuating means for merchandise wheel

Attention is now directed to the actuating means for rotating the merchandise wheel. As was previously pointed out, the selecting knob 35 is positioned in readily accessible relationship on the outside of the front wall 26 of the pedestal. This knob 35 is mounted on the outer end of a shaft 57 which is journaled through the front pedestal wall 26 and has mounted on its inner end a pinion 58. The pinion 58 meshes with a bevel-gear wheel 59 which in the present embodiment is shown mounted in a plane of approximately 45° to the plane of the shaft 57. The gear wheel 59 is in turn mounted on a stub shaft 60 having a sprocket wheel 61 mounted on the other end thereof. The sprocket wheel 61 is formed with a plurality of teeth such as 62 some of which are designed to protrude through an opening 62' in the mounting plate 31 to mesh with the sprocket teeth 46 of the control disc 45. Thus by rotating the knob 35 the merchandise wheel 39 is rotated. The shafts 57 and 60 are each respectively rotatably mounted to the bottom of the mounting plate 31 by suitable mounting yokes such as 63 and 64 respectively.

Dispensing mechanism

After the merchandise has been viewed and the customer has determined which article he desires, the selector knob 35 is rotated thereby rotating the merchandise wheel 40 until the selected article of merchandise is positioned within a dispensing opening 65 as best shown in Figs. 3 and 9 of the drawings. This opening is formed in the mounting plate 31 with the marginal edges thereof beveled as at 66 and is closed by a slidable trap door 67 positioned adjacent the bottom surface of the mounting plate 31. Thus it will readily be perceived that when the trap door 67 is moved in the direction indicated by arrows in Figs. 4 and 8 of the drawings to its open position, merchandise capsule C is free to fall down through a chute 68 for delivery through the dispensing opening 34.

Turning now to a more detailed description of the trap door 67 and the mechanism for actuating the same, attention is directed to Figs. 4 and 7-9 inclusive in which this structure is best illustrated. The trap door 67 is mounted adjacent the bottom surface of the mounting plate 31 and located in position by a front stop bar 69 and a pair of side bars 70 and 71 which may be welded

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in position as shown at 72 in Fig. 8 of the drawings. A pair of retaining strips such as 73 and 74 may then be affixed to the side bars 70 and 71 by means of bolts such as 75. These strips 73 and 74 are of sufficient width so that a portion thereof overlaps the inner edges of the side bars and the outer edges of the trap door 67. Thus the trap door is free to reciprocate in the path defined by the side bars 70 and 71. The trap door 67 is constantly urged to its closed position, with the front edge thereof abutting the stop bar 69, by means of a coil spring 76 having one end affixed to a pin 77 mounted in stationary depending relationship from the bottom of the mounting plate 31 and the other end affixed to a pin 78 mounted on a cross bar 79. This cross bar 79 in turn has one end affixed to the trap door 67 by means of a pair of bolts such as 80 with spacer sleeves such as 81 spacing the cross bar 79 from the trap door 67. The function of the cross bar 79 will become apparent as the description proceeds.

Mounted on the bottom of the trap door 67 by means of bolts such as 82 may be a toothed rack 83 as shown in Figs. 7 and 8 of the drawings. This toothed rack 83 may be spaced from the trap door 67 by means of spacer sleeves such as 84 and the rack 83 may be provided with spaced gear teeth such as 85 which are adapted to mesh with the teeth 86 of a sprocket wheel 87. This sprocket wheel 87 is mounted on the inner end of a coin controlled shaft 88 which in turn is journaled through the coin mechanism 37 and the pedestal front wall 26 so that the actuating knob 36 may be mounted thereon.

Thus it will be readily apparent that upon the deposit of the proper coin within the coin slot 38 the sprocket wheel 87 is freed so that by rotating the actuating knob 36 the teeth of the sprocket wheel 87 engage the teeth of the rack 83 thereby sliding the trap door 67 in the direction indicated by arrows in the several figures of the drawings until the dispensing opening 65 is opened to permit the merchandise to drop down into the chute for dispensing. The coin mechanism 37 may be one of many standard types presently used in vending machines. However, I prefer to use the type in which the actuating knob 36 must be rotated through an arc of 180° thereby assuring sufficient rotation of the sprocket wheel 87 to enable the trap door 67 to be moved a distance sufficient to completely unblock the dispensing opening 65.

Positioning mechanism

It should be obvious that in order to assure proper dispensing, it is important that the article of merchandise selected for dispensing must be positioned directly in the middle of the dispensing opening 65. To insure such positioning a novel mechanism has been provided which will now be described in some detail.

Directing attention now to the several figures of the drawings, especially Figs. 4, 6, 8 and 9, it will be noted that a locating pin 89 is positioned to protrude upwardly through an elongated slot 90 formed in the mounting plate 31. This pin 89 is mounted on a slide plate 91 which in turn is slidably mounted on the bottom of the mounting plate 31 by means of a pair of headed bolts such as 92. The bolts 92 are positioned in a slot 93 formed in the slide plate 91 and since the shafts 94 of the bolts 92 are of sufficient reduced diameter so that the width of the slot 93 exceeds the diameter of the bolt shafts 94, the plate 91 is retained in position by means of the bolt heads 95 with the plate 91 free to reciprocate back and forth until the ends of the slot 93 abut one or the other of the bolt shafts 94. In Fig. 8 of the drawings it will be noted that the plate 91 is constantly urged outwardly in the direction indicated by an arrow in Fig. 8 of the drawings by means of a coil spring 96 having one end affixed to a pin 97 depending from the mounting plate 31. The other end is affixed to a pin 98 affixed to the slide plate 91.

It will thus be apparent that the locator pin 89 is con-

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stantly urged towards the outer periphery of the actuating control disc 45. The reason therefor is because its normal position is between one of the adjacent pair of teeth 50 as shown in Fig. 6 of the drawings. However, as the control disc 45 is rotated along with the merchandise wheel 40, the locator pin rides inwardly on the inclined surfaces 51 of the teeth 50 against the spring action of the coil spring 96 thereby permitting rotation thereof. Obviously when no rotative force is being exerted, the locator pin will tend to return to its normal position between a pair of adjacent teeth 50. Since this position is directly opposite the mid-point of each merchandise slot 43, it will readily be perceived that by properly positioning the slot 90, the positioning of each merchandise slot 43 directly in the center of the dispensing openings 65 may readily be achieved thereby.

Mechanism for locking merchandise wheel during dispensing operation

It should be apparent that unless the rotation of the merchandise wheel during the interval when the trap door 67 is opened to permit dispensing of the merchandise is locked, it would be possible for a customer to hold the trap door open while simultaneously continuing to rotate the merchandise wheel to successively position additional merchandise slots over the opened dispensing opening 65. Thus unauthorized pilfering or "milking" of the machine would be invited. To insure against this, a novel locking mechanism has been provided which automatically locks the merchandise wheel 40 against continued rotation during the dispensing interval but likewise unlocks the wheel as soon as the trap door 67 is closed. This mechanism will now be described in some detail.

Referring now to Figs. 4, 6 and 8 of the drawings, it will be noted that another elongated slot 99 is provided in the mounting plate 31 through which may project a locking pin 100. This pin in turn is mounted on a slide plate 101 mounted below the mounting plate 31 by means of a pair of threaded bolts such as 102 similar in construction to the bolts 92 used to slidably mount the slide plate 91. The slide plate 101 is formed with a pair of elongated slots such as 103, one positioned on each side of the elongated slot 99 and within which are positioned the mounting bolts 102. The slide plate 101 is free to reciprocate back and forth in the direction which is indicated by an arrow in Fig. 8, in the same manner as does the slide plate 91, with the exception that the major axis of reciprocation of the slide plate 101 is at an angle of approximately 90° to the major axis of the slide plate 91. The slide plate 101 is normally urged in the direction indicated by the arrow by means of the coil spring 104 having one end affixed to a pin 105 in turn depending from the mounting plate 31. The other end is affixed to a pin 106 depending from the slide plate 101. Obviously as the slide plate 101 is moved outwardly in the direction indicated by the arrow in Fig. 8 of the drawings, it moves towards the straight-sided slot 52 formed in the control plate 45 and positioned between the teeth 50. It will further be noted that the pin 100 is formed with straight inclined sides such as 107 and 108 which taper inwardly and outwardly so that the pin may be readily seated within the slot 52. When so seated, the merchandise wheel 40 is effectively locked against rotation.

It is obvious that the locking of the merchandise wheel must be confined to the dispensing interval only, that is, the interval when the trap door 67 is moved to its open position. To insure that the merchandise wheel is free to rotate during all other intervals when the trap door is closed, simple but effective mechanism is provided which will now be described.

This mechanism comprises a pin 109 (see Figs. 7 and 9 of the drawings) which is mounted in depending relationship from the bottom of the slide plate 101. This pin abuts the cross arm 79 which is mounted on the trap door 67 and is positioned so that when the trap door is closed, the cross arm pressing against the pin

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109 moves the slide plate 101 with the lock pin 100 mounted thereon back to the non-locking position shown in Fig. 6 of the drawings. Conversely as the trap door is moved to its open position, the cross bar 79 is moved away from the pin 109 thereby permitting the coil spring 104 to draw the slide plate 101 with the lock pin 100 to the closed position shown in Fig. 11 of the drawings. Thus the merchandise wheel is automatically locked during the dispensing interval only and is actuated by means of linkage directly associated with the trap door.

As a safeguard to protect the merchandise wheel actuating means (selecting knob 35, shaft 57, pinion 58, gear wheel 59, stub shaft 60 and sprocket wheel 61) against stripping during the dispensing interval; a clutch mechanism (not shown) may be associated with the actuating mechanism so that excessive force exerted on the actuating knob will be dissipated rather than transmitted to the sprocket wheel.

Merchandise magazine housing

As was previously stated, the merchandise is housed within an opaque storage globe 23 mounted above the transparent merchandise viewing housing 22. Again the merchandise globe 23 may be designed and shaped in whatever form desired. In the embodiment chosen for illustration it will be noted in Fig. 1 of the drawings that the globe is tapered so that it flares upwardly and outwardly with its upper edges fitted preferably in water-tight relationship with a bottom flanged edge 109 of the cover 24. It will be further noted that an inwardly curved wall 110 is integrally formed with the outer walls of the globe 23 and is positioned in spaced relationship behind the transparent window 25. This curved wall comprises a retaining wall preventing the admission of any articles of merchandise within the space 111 defined by the curved wall 110 and the transparent window 25. Thus as shown again in Fig. 9 of the drawings, the top of these merchandise capsules C positioned in the three front slots may be viewed through the transparent window 25. Hence the customer is afforded a better view of the merchandise which he intends to select.

Assembling means

A simple effective means is provided for assembling and locking all of the housing members of the machine together. Referring then to Fig. 1 of the drawings, it will be noted that the bottom wall 30 of the pedestal base is formed with a central upstanding boss 112 which is centrally apertured so that the headed bolt 113 may be positioned therethrough. The head 114 of the bolt is positioned so that it abuts the bottom of the bottom wall 30 with the shaft 115 protruding upwardly. The shaft 115 extends through the hollow standard 42 and through the central opening 41 formed in the merchandise wheel 40. It extends up through the merchandise C in the globe 23 and is threaded into a centrally apertured boss 116 depending from a locking cap 117. The locking cap may be provided with a keyway adapted to receive a key for unlocking the cap 117 from the bolt 113. It should be noted that a cotter pin such as 118 may be positioned through a hole formed through the shaft 115 for holding the bolt 113 in place.

Referring now to Fig. 10 of the drawings, it will be noted that the chute 68 is provided with a wall 119 which is arcuately formed at the bottom as at 120. Thus when the article of merchandise drops through the chute, it is retained within the chute by means of the upwardly curved front segment 121 until the customer reaches through the opening 34 and removes the same.

Although the merchandise illustrated in the drawings comprises novelty charms packaged in transparent plastic capsules, it should be apparent that any type of piece merchandise may be dispensed by the machine. For example, unpackaged ball gum, confections, novelties and

charms as well as packaged merchandise lends itself admirably to dispensing by means of my machine.

Operation

In operation the customer approaches the machine and views through the transparent housing 22, as well as through the transparent window 25, the articles of merchandise displayed in the twelve slots 43 of the merchandise wheel 40. He may grasp the selection knob 35 and rotate the merchandise wheel in either direction viewing the merchandise as it passes before him. When he has determined which article of merchandise he wishes to purchase, he rotates the wheel until the selected article of merchandise is positioned on the trap door 67 within the dispensing opening 65. It should be noted that as the merchandise wheel is rotated, the articles of merchandise successively drop slightly into the opening 65 but are prevented from being dispensed by the trap door 67. It should further be noted that the inclined edges 66 of the dispensing opening 65 facilitate the passage of the articles of merchandise thereover. As the wheel is rotated, the positioning pin 89 reciprocates in a radial direction sliding in and out on the inclined surfaces 51 of the teeth 50.

When the selected article of merchandise is properly positioned on the trap door 67 at the center of the opening 65, the customer deposits a coin into the coin slot 38 and then rotates the operating knob 36. This in turn rotates the sprocket wheel 87 so that the teeth 86 thereof engage the teeth 85 of the rack 83 thereby moving the trap door 67 towards the open position. As the trap door moves, the cross arm 79 likewise moves away from the pin 109 permitting the spring 104 to move the locking pin 100 to engage the slot 52 and thereby lock the merchandise wheel 40 against rotation. At the same time as the trap door 67 unblocks the dispensing opening 65, the article of merchandise C drops down through the chute 68 until it comes to rest at the arcuate bottom wall segment 120 of the chute. At the same time the coin drops down into the cash box 122.

When the dispensing is completed the trap door moves back to its closed position moving with it the cross bar 79 until it abuts the pin 109 and thereby moves the slide plate 101 with the lock pin 100 thereon out of engagement with the slot 52 thereby again releasing the merchandise wheel for further rotation.

It is believed that my invention, its mode of construction and assembly, and many of its advantages should be readily understood from the foregoing without further description, and it should also be manifest that while a preferred embodiment of the invention has been shown and described for illustrative purposes, the structural details are nevertheless capable of wide variation within the purview of my invention as defined in the appended claims.

What I claim and desire to secure by Letters Patent of the United States is:

1. In a coin-controlled vending machine including a pedestal base, a dispensing chute and dispensing actuating means; a bulk merchandise storage member, a selective merchandise member positioned on said pedestal base and below said storage member, said selective merchandise member having a plurality of outwardly exposed individual compartments each adapted to receive at least one item of merchandise from said storage member, a transparent housing enclosing said selective merchandise member with at least the compartment disposed above the dispensing chute positioned in the line of sight through a wall of said transparent housing, said selective merchandise member mounted for movement in a fixed path to position any selected compartment over said dispensing chute, selecting means for freely moving the selective merchandise member so as to dispose said selected compartment over said dispensing chute, and means for dis-

pensing the merchandise from the selected compartment into said dispensing chute.

2. The vending machine of claim 1 in which a mounting plate is positioned on said pedestal base, said selective merchandise member comprising a wheel rotatably mounted on said mounting plate, spaced peripheral portions of said wheel formed with slots therein comprising said compartments.

3. The vending machine of claim 2 in which said merchandise wheel is provided with a control disc, said control disc formed with a plurality of spaced apart depending sprocket teeth in the marginal peripheral edge thereof, a toothed spider formation having inclined teeth facing inwardly from said sprocket teeth, each of said teeth separated by a straight-sided slot and actuating means including a sprocket wheel having teeth adapted to engage the sprocket teeth of said control disc for rotating said merchandise wheel.

4. The vending machine of claim 2 characterized by a dispensing member, said member comprising a trap door slidably mounted on the bottom surface of said mounting plate, said trap door adapted to close an opening in said mounting plate when in its closed position and likewise movable to unblock said opening, said selected item of merchandise positioned in said opening and adapted to drop down through the dispensing chute for dispensing thereof when the opening is unblocked.

5. The vending machine of claim 1 in which means for inactivating said selecting means during the dispensing interval is provided, said inactivating means comprising a slide plate mounted in reciprocable sliding relationship on the bottom surface of said mounting plate, said mounting plate formed with an elongated slot radially positioned above said slide plate, a locking pin mounted on said slide plate and protruding up through said slot, and means adapted to cooperate with said locking pin to prevent the activation of said selecting means during the dispensing interval.

6. The vending machine of claim 1 in which locator means for locating the selected compartment of said merchandise member in proper dispensing position is provided, said locator means comprising a slide plate mounted in reciprocable sliding relationship on the bottom of said mounting plate, said mounting plate formed with an elongated slot radially positioned above said slide plate, a positioning pin mounted on said slide plate and protruding up through said slot, and means adapted to cooperate with said positioning pin to locate the selected compartment in proper dispensing position.

7. The vending machine of claim 1 in which said selecting means comprises a shaft journaled through one of the walls of said housing, an actuating knob mounted on the outer end of said shaft and a ratchet wheel operatively connected to the inner end of said shaft, said ratchet wheel adapted to cooperate with said control disc to rotate said merchandise member in both directions.

8. The vending machine of claim 4 in which said dispensing actuating means comprises a coin mechanism mounted on a wall of said pedestal base housing, a shaft journaled through said coin mechanism and housing wall, an actuating handle mounted on the outer end of said shaft, a sprocket wheel mounted on the other end of said shaft, and a toothed rack mounted on said trap door, said sprocket wheel cooperating with the toothed rack for moving said trap door.

9. The vending machine of claim 4 in which locking means is provided to lock said merchandise wheel against rotation during the interval when the dispensing opening is unblocked, said means comprising a lock pin mounted on a slide plate, said slide plate mounted on said mounting plate in radially reciprocable relationship therewith, said slide plate having a pin depending therefrom, said door having a cross bar mounted therebelow, said cross bar abutting said pin thereby to move said lock pin in the closed direction of the door and against the action of an oppositely urging coiled spring.

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10. A selective bulk merchandise vending machine comprising in combination a four-sided pedestal base having a separable bottom member and closed at the top by a mounting plate; said mounting plate having a dispensing opening formed therein one side of said pedestal having a delivery chute opening formed therein, a hollow tubular standard projecting upwardly from said mounting plate, a peripherally slotted merchandise wheel rotatably mounted on said standard through a central opening formed therethrough, said wheel mounted for movement of any of said peripheral slots in a fixed path to position the same over said dispensing opening, a control disc affixed in the bottom of said merchandise wheel, said control disc having a plurality of spaced ratchet teeth formed in the marginal periphery of the bottom surface of said disc; a plurality of inwardly projecting teeth integrally formed with said ratchet teeth, said inwardly projecting teeth having inwardly converging sides with straight-walled slots formed one between each pair of teeth, one of said teeth positioned in aligned relationship with each slot of said merchandise wheel, a transparent merchandise-viewing housing mounted on the mounting plate encircling said merchandise wheel so that said peripheral slots are positioned in the line of sight through said housing, an opaque bulk merchandise storage globe positioned on said latter-mentioned housing, a transparent window formed in said globe, a cover closing the top end of said globe, selecting means adapted to cooperate with said control

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disc for rotating said merchandise wheel so as to dispose any selected slot over said dispensing opening, stop means for locking said merchandise wheel against rotation during the dispensing interval and locating means for insuring proper positioning of the merchandise wheel for dispensing, and coin-controlled means for dispensing the selected merchandise from the merchandise wheel into the delivery chute.

11. The vending machine of claim 10 in which said selecting means comprises a shaft journaled through a side of said pedestal base, an actuating knob affixed to the outer end of said shaft, a pinion gear affixed to the inner end of said shaft, a bevel gear mounted on the end of a stub shaft in meshing relationship with said pinion gear, and a ratchet wheel mounted on the other end of said shaft in cooperating relationship with the ratchet teeth of said control disc whereby said merchandise wheel may be rotated in either direction.

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