Jan. 27, 1942. M. L. SMITH 2,270,908

VENDING MACHINE

Filed Sept. 9, 1939 2 Sheets-Sheet 1

Fig. 1.

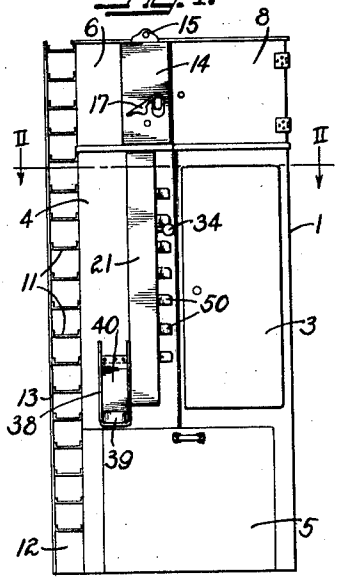


Fig. 3.

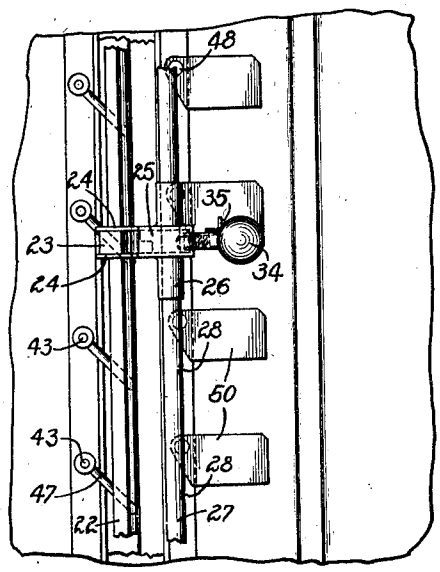
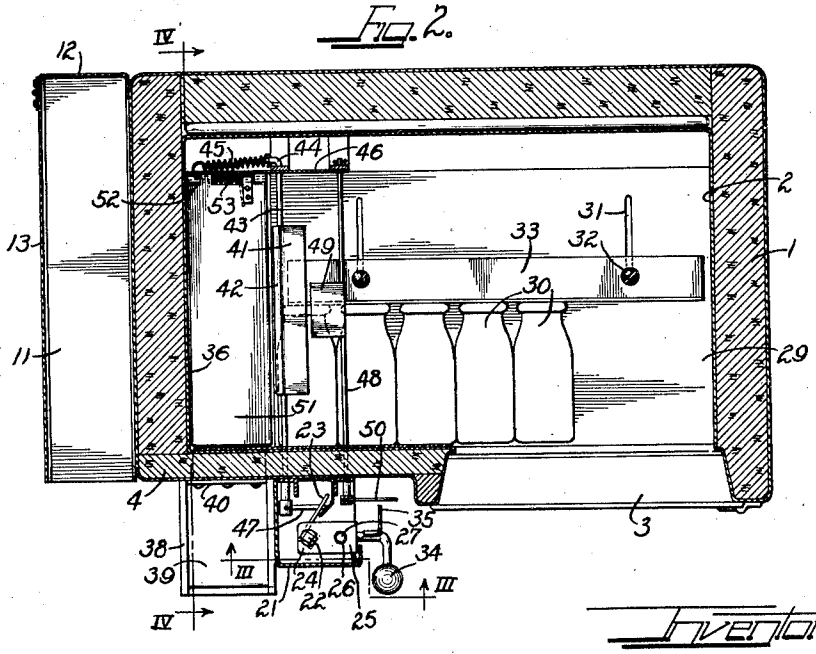


Fig. 2.



Inventor

MILTON LEE SMITH

By Charles O. Gill Attys.

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Fig. 4.

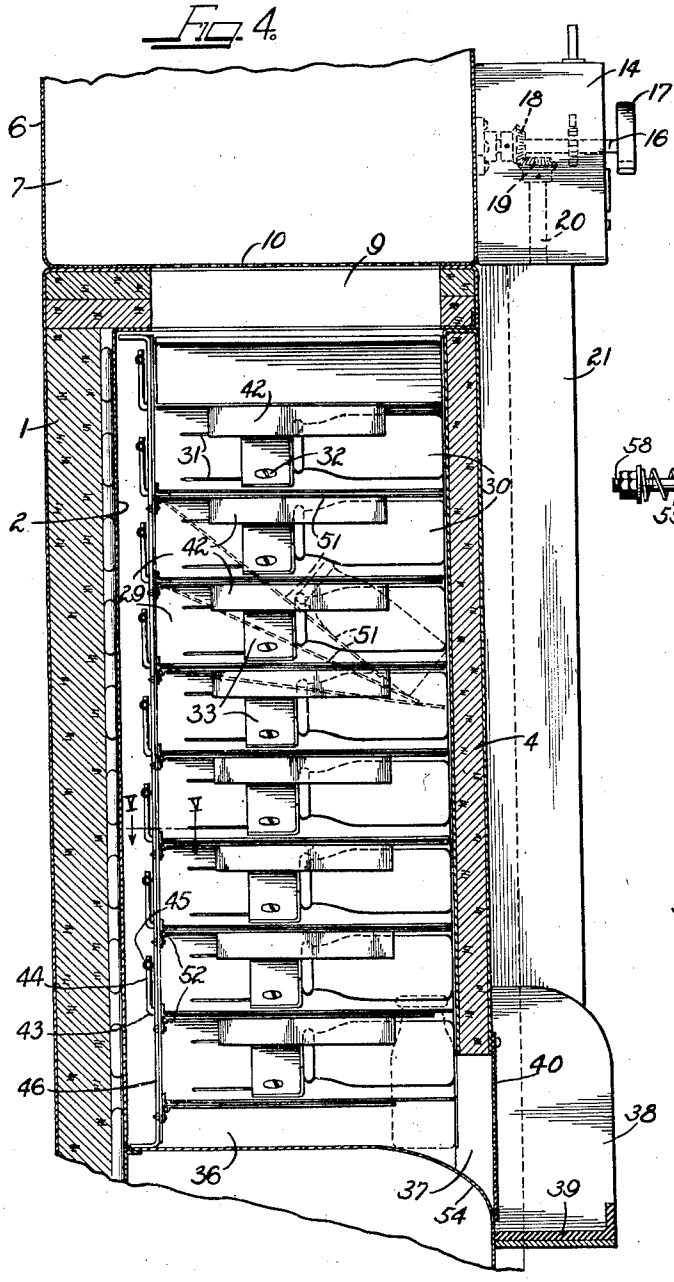


Fig. 5.

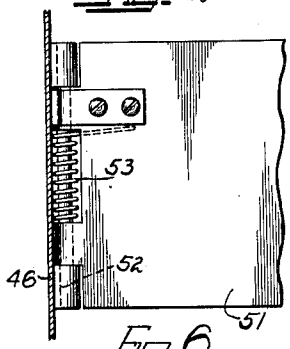


Fig. 6.

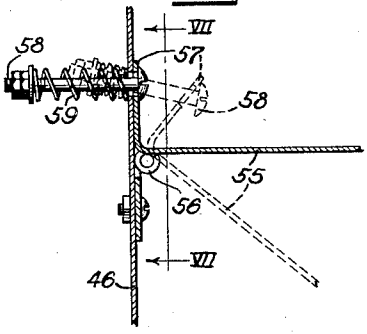
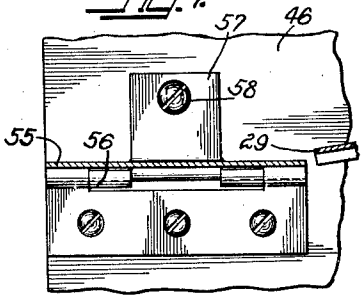


Fig. 7.



Inventor

MILTON LEE SMITH

by Charles O. Neill Attys.

Patented Jan. 27, 1942

2,270,908

UNITED STATES PATENT OFFICE

2,270,908

VENDING MACHINE

Milton Lee Smith, Oak Park, Ill.

Application September 9, 1939, Serial No. 294,104

14 Claims. (Cl. 312—48)

The present invention relates to a vending machine for dispensing bottles, filled with beverages, one at a time from a coin controlled refrigerator unit by mechanisms somewhat similar to those used in connection with my pending application for patent entitled "Vending machine," filed September 9, 1940, United States Serial No. 294,103. The present invention relates more particularly to a bottled goods dispensing machine in which the major portion of the dispensing mechanisms are enclosed in the main refrigerator chamber of a refrigerator box and with the main door of the box, leading to the refrigerator chamber, normally being locked and adapted to be opened only by an authorized attendant, making it unnecessary for a customer wishing to operate the machine to open the door since the machine is constructed with a coin controlled selector mechanism mounted on the front of the refrigerator box adjacent the main door and next to a discharge mouth or pocket connected with a dispensing chute within the refrigerator box, and including a series of spring controlled successively acting trap doors or cradles for receiving a filled bottle or container from a selected carrying tray, and being actuatable by the weight of the filled container, to successively move downwardly and operate lower trap doors or cradles until the filled container reaches the bottom of the discharge chute and slides by gravity against a closure flap or curtain to open the same permitting the filled container to drop into the cushioned dispensing pocket of the refrigerator box from which the filled container may be removed by the operator of the machine.

It is an object of this invention, to provide a self-service type of a coin controlled vending machine for dispensing bottled beverages or the like, one at a time, from a refrigerated chamber by means of a plurality of spring controlled dispensing trap doors or cradles, which govern the gradual even discharge of a filled container to a discharge pocket for removal by the operator of the machine.

Another object of the invention is the provision of a self-service type of vending machine for dispensing bottled beverages and the like, one at a time, by the operation of a selector mechanism on the exterior of a refrigerator box, and then actuating the selectively positioned selection mechanism, after the depositing of a coin, to cause release of a bottle of a selected beverage allowing the released bottle to drop into contact and successively operate a series of superimposed spring controlled trap doors or cradles, permitting the released bottle to gradually slide into a position to be removed from the exterior of the machine by the person operating the machine.

A further object of the invention is the provision of a self-service coin controlled refrigerator unit including a pre-cooling unit for bottled goods, a receiving rack for empty bottles and a supply and dispensing unit locked within a refrigerated chamber of the box and selectively operable from the exterior of the box, subsequent to the depositing of a coin in a coin receiving mechanism, including means for actuating the selector mechanism when moved into a predetermined position to register with a tray of a selected kind of cooled bottled beverages, whereby a bottle of a selected kind of beverage is released and then moved by the action of gravity into engagement with a plurality of superimposed spring controlled bottle lowering devices, which are successively operable by the weight of the discharged bottle, to permit a gradual lowering of the selected bottle and the final discharge of the same into a receiving compartment accessible from the exterior of the machine allowing the discharged bottle to be conveniently removed, and then emptied permitting the empty bottle to be placed in the receiving rack of the machine.

It is a further object of this invention to provide a coin controlled refrigerator type of bottled beverage dispensing machine, of a type in which access to the interior of the refrigerator box is prohibited by a customer operating the machine, but from which a customer may make a selection of a number of different kinds of bottled beverages, by the simple operation of an exterior selector mechanism and a coin controlled mechanism accessible from the exterior of the machine, to cause a release of a selected bottle from the interior of the machine and allowing the bottle by its own weight to cause successive operations of a plurality of returnable spring controlled discharge cradles, which guide the released bottle into a discharge position accessible from the exterior of the machine.

It is furthermore an object of this invention, to provide a self-service type of refrigerated vending machine, having mounted in the refrigerator compartment thereof, a plurality of gravity feed trays for carrying bottled beverages or the like, arranged in groups in the different trays all of which communicate with a common discharge chute or shaft containing a plurality of self-returnable spring controlled trap doors or cradles, one associated with each of the trays, and successively operated by the weight of a bottle discharged from a selected tray, by the operation of a coin controlled manually adjustable selector mechanism mounted on the exterior of the refrigerator box and governing the release of a bottle, permitting the same to successively move into contact and gradually lower the spring controlled trap doors or cradles in the discharge shaft, to gradually cause the bottle to be lowered and then discharged into a receiving pocket ac-

cessible from the exterior of the refrigerator box permitting the customer operating the machine to remove the cooled bottled beverage, of the selected kind, from the machine.

It is an important object of this invention to provide an improved type of self-service vending machine, of a refrigerated type, for selectively dispensing bottled or cylindrically packaged commodities from a locked refrigerator compartment of a refrigerator box, equipped with a pre-cooling compartment for the commodities to be dispensed and with a storage rack for empty bottles or containers, said refrigerator box also having conveniently accessible coin controlled selector mechanisms mounted on the exterior thereof for selectively governing the release of bottles of beverages one at a time from the interior of the box into a discharge shaft or chute including, a plurality of superimposed spring controlled receiving trap doors or cradles, which are adapted to be successively operated by the weight of a discharged bottle to gradually lower the bottle and allowing the same to pass over a discharge slide and eventually pass through an outlet opening into a receiving pocket on the exterior of the machine for removal by the customer operating the vending machine.

Other and further important objects of this invention will be apparent from the disclosures in the specification and the accompanying drawings.

The invention (in preferred forms) is illustrated in the drawings and hereinafter more fully described.

In the drawings:

Figure 1 is a front elevation of an improved self-service and coin controlled type of a refrigerated vending machine embodying the principles of this invention and having the discharge control mechanism on the exterior thereof.

Figure 2 is an enlarged horizontal detail section taken on line II—II of Figure 1.

Figure 3 is an enlarged fragmentary vertical detail section taken on line III—III of Figure 2 with the guard cover omitted.

Figure 4 is a fragmentary vertical detail section taken on line IV—IV of Figure 2 and illustrating in dotted lines the operation of the trap doors governing the discharge of a filled bottle or container.

Figure 5 is an enlarged fragmentary horizontal detail section taken on line V—V of Figure 4 illustrating the spring controlled mounting end of one of the trap doors or release cradles.

Figure 6 is a fragmentary vertical detail section of a modified form of a container discharge control mechanism for use in the discharge shaft or chute of the vending machine.

Figure 7 is a fragmentary elevational sectional view taken on line VII—VII of Figure 6.

As shown in the drawings:

The improved self-service vending machine is of the electric or gas type of a refrigerating machine, which may be either of a stationary or of a portable type for placing in a suitable selected location to provide a self-service, coin controlled and selectively operable dispensing machine for selectively obtaining refrigerated bottled beverages or other cylindrically packaged commodities, such as ice cream and the like which are placed in segregated groups in supply tiers or trays, to be dispensed, one at a time, by means of a series of successively operable release gates or trap doors permitting a smooth even lowering of a selected bottle through a discharge shaft and out of the box into a suitable receiving receptacle.

The improved vending machine comprises a main box or casing 1 having a main refrigerated or cooled chamber or compartment 2 accessible from the front of the box by means of a main refrigerator door 3. The door 3 is normally locked to prevent access into the chamber 2 except by an authorized attendant or agent who services the machine and replenishes the supply of bottled beverages or the like which are to be dispensed. As clearly illustrated in Figures 1 and 2 the door 3 to the chamber 2 occupies about only one-half of the front wall 4 of the box, thereby providing a mounting panel, for selector mechanisms hereinafter more fully described. The lower portion of the box 1 is provided with a compartment or lower chamber for containing the refrigerating unit of the machine which is accessible by means of a lower front door or closure panel 5.

Mounted or formed on the top of the box 1 is an upper casing or housing 6 providing a refrigerator storage chamber 7 for the reception of reserve supplies of bottled beverages or the like for the pre-cooling of the same before being placed in the vending or dispensing chamber 2 of the machine. The upper storage compartment 7 is provided with a door 8. As illustrated in Figure 4, the upper storage compartment 7 is adapted to be cooled or refrigerated by cold air, from the main compartment 2, through an opening 9 connecting the chambers 2 and 7. A grid or grate section 10 closes the upper end of the opening 9 and serves as a supporting floor for the reserve stock in the chamber 7.

As illustrated in Figures 1 and 2 one side of the vending machine has mounted thereon an empty bottle or container receiving rack, comprising a series of superimposed inclined receiving troughs or channel-shaped shelves 11 the lower rear ends of which are closed, by means of a vertical back wall 12, which serves as a stop for the empty bottles or containers deposited in the shelves or troughs 11. A side door 13 is hingedly engaged on the back strip 12 to normally close the side of the rack unit as shown in Figure 1 and permitting access to the various shelves or racks when the door 13 is opened to clear the rack unit.

Mounted in the main refrigerated chamber 2 of the vending machine, and accessible only by an authorized attendant or agent by unlocking the front door 3, is a dispensing unit for carrying a number of different kinds or flavors of bottled beverages, in segregated groups, for selective discharge, one at a time, out of the front of the box by the selective operation of control mechanisms on the exterior of the box operable by a customer.

The supply carrying portion of a vending or dispensing unit, forming part of the machine, is mounted within the refrigerated chamber 2 and has the operation thereof governed or controlled by means of a coin control unit mounted on the front of the upper housing 6 of the machine. The coin controlled unit comprises a coin box 14, of any selected standard type, having a top extension provided with a coin receiving opening 15 for receiving a coin of a predetermined denomination, such as nickel or a dime depending upon the cost of the bottled beverage which is to be dispensed from the machine. Projecting through the front wall of the coin box 14 is the front end of a control shaft 16

to which an operating lever or finger piece 17 is attached. The control shaft 16 projects rearwardly in the coin box 14 and carries a beveled gear 18 which meshes with a beveled gear 19 secured on the upper end of a main vertical control shaft, which projects downwardly through the bottom of the coin box 14, in front of the front wall panel 4 of the refrigerator box and behind a closure guard or protecting housing 21 secured upon the front panel 4 of the box. The lower section of the main control shaft 20 consists of a squared shaft section 22 journaled in suitable bearings provided in the protecting hood or cover 21.

Slidably mounted on the squared shaft 22, is a discharge control lever 23, having a mounting end provided with a rectangular opening to fit over the squared shaft section 22. The mounted end of the control lever 23 is engaged between a pair of parallel arms 24 which form an integral part of a crossarm 25 formed at right angles on a slidable sleeve 26. The sleeve 26 is slidably engaged on a guide shaft or rod 27 supported vertically within the protecting hood or cover 21 parallel to the squared shaft 22. At selected intervals along one side of the shaft 27 are a plurality of rounded pockets or notches 28, for indicating the location or stations corresponding with a plurality of superimposed or adjacently positioned inclined carrying chutes or trays 29 mounted on suitable wall support within the refrigerated chamber 2 for carrying a plurality of filled containers to be dispensed, such as bottled beverages 30. The bottles 30 in each of the trays, carries the same kind of beverages. To afford an assortment of beverages or the like, each of the trays is adapted to be filled with a different kind of a bottled beverage or packaged commodity so that an operator of the machine may make a selection to satisfy one's taste.

To permit bottles of different lengths or heights to be carried in the supply trays 29 each of said trays is provided with parallel guide slots 31 to receive guide bolts 32 carried by slidable angle bars 33 adapted to be adjusted and then secured in place to provide suitable space in the trays for receiving beverage bottles or the like of particular sizes. For the purpose of moving the control lever 23 into a selected position, the sleeve 26 is provided with a spring controlled ball which is adapted to seat in any selected one of the shaft notches 28. The operation of the sleeve 26 is accomplished by means of a ball handle 34, which carries an indicating pointer 35.

The movable selector mechanism is adapted to be selectively operated by an individual, from the exterior of the refrigerator box, so that the control or operating lever 23 may be moved into a position adjacent a selected tray carrying a particular kind of bottled beverage or the like.

The refrigerated compartment 2 of the machine has mounted therein the bottled beverage carrying or supply unit, including parts positioned on the exterior of the box, with which the selector unit is adapted to cooperate. Each of the carrying trays or chutes 29 is inclined downwardly toward one side of the box and communicates with a vertical discharge shaft located at one side of the compartment 2 and extending from the top to the bottom thereof. The discharge shaft is indicated by the reference numeral 36 and communicates at its lower end with an outlet or discharge opening 37 provided in the lower part of the front wall panel 4 in communication with a bottle receiving pocket or basket 38, secured on the lower part of the front wall panel 4 in a convenient position to permit access thereto for removing a discharged bottle therefrom. The pocket or basket 38 is provided with a cushioned lining 39 constructed of rubber or other suitable material. The discharge opening 37, is normally closed by means of a flexible drop or apron 40 which is adapted to be raised or pushed out of the way when a bottle 30 is discharged into the receiving pocket or basket 38 to rest on the cushioned bottom 39 ready to be removed from the machine by a customer operating the same.

Each of the supply trays 29 at the lower discharge end thereof is equipped with an obtuse angle-shaped stop member comprising connected flanges 41 and 42 secured to a shaft 43. The rear end of the shaft 43 projects through a suitable bearing opening provided in a supporting strip or wall forming part of the dispensing unit. The rear end of each of the shafts 43 is bent over at substantially right angles to provide a lever arm 44 to the end of which one end of a coil spring 45 is secured. The other end of the coil spring 45 is connected to the back wall or plate 46, which also serves as the back of the discharge shaft 36. The front end of each of the shafts 43 projects through the front wall panel 4 and into the hood or cover 21 with projecting end of said shaft having keyed or otherwise secured thereto a handle or arm 47 positioned to be operated by the control lever 23 of the selector mechanism.

Also provided near the discharge end of each of the carrying trays or chutes 29 is a rocking shaft 48 carrying metal plates or flaps 49, positioned to normally contact and ride over the bottles in the tray to hold an indicating flag or sign plate 50, secured on the outer projecting end of the shaft 48 in a horizontal reading position in front of the front wall panel 4 and projecting out through a side opening of the hood or cover 21 to be readily read from the front of the vending machine. Each of the flags or sign plates 50 is labeled to indicate the contents of the particular tray with which it is associated. With the aid of the pointer or indicating finger 35 carried by the selector handle 34, a customer desiring to operate the machine has only to shift the selector mechanism vertically to register with a particular flag 50 until the spring controlled ball in the cross arm 25 seats in a notch 28 in the shaft 27 to properly place the operating lever 23 in position ready to coact with the discharge control arm 47 of the selected tray.

With the selector mechanism positioned as described, the person operating the machine has now to deposit a coin of a particular denomination in the coin receiving opening 15 of the coin box 14 after which the coin control operating lever or finger piece 17 is actuated, with the aid of the deposited coin, causing partial rotation of the shaft 20 and the square shaft section 22 thereby causing the control lever 23 to be pivotally swung into engagement with the arm 47, with which it is in register, to cause rotation of the particular stop shaft 43, against the action of the coil spring 45, to move the stop flange 42 outwardly and upwardly permitting the lowermost bottle in the selected chute or tray to be released and roll by gravity downwardly out of the tray, during which operation the other stop flange 41 swings downwardly into the path of the advancing remaining bottles in the selected tray to stop the further advance thereof until the flange

42 is again returned to its normal stop position by the action of the spring 45 after the discharge of a bottle from the selected tray.

As a bottle of the selected beverage is released from a selected tray, the released bottle moves into the discharge shaft 36 and drops upon a trap door or cradle 51, one of which is associated wth each of the guide trays. The rear end of each of the trap doors or cradles 51 is pivotally supported by means of a hinge mechanism 52 on one side of the back plate 46 of the discharge passage or shaft 36. For the purpose of normally holding the trap door or cradle 51 in a horizontal position, and returning the same to such position after release of the trap door or cradle, the shaft of the hinge mechanism 52 is provided with a coiled spring 53 (Figure 5) with a projecting end or arm of the spring engaging beneath the bottom of the trap door or cradle to control the movement thereof.

As a bottle, of a selected beverage, is released from a selected tray the bottle drops upon the spring controlled trap door or cradle 51, associated with the selected tray, thereby causing the trap door by the weight of the discharged bottle, to swing or drop downwardly as illustrated in dotted lines in Figure 4 into contact with the trap door positioned therebeneath, which in turn moves into contact with the next lower trap door so that the released bottle 30, by its own weight, is gradually permitted to move downwardly in the discharge passage or shaft 36 against the inner face of the front wall of the dispensing mechanism so that the various trap doors are successively operated and guide the downward movement of the released bottle, until the lower end of the bottle reaches the discharge opening 37 and slides outwardly and downwardly over an inclined or curved slide 54 forming a portion of the bottom of the discharge passage 36. The released bottle slides over the slide 54 through the discharge opening 37 and pushes the flexible apron or flap 40 outwardly and finally rests in the pocket or basket 38 in contact with the cushioned bottom 39 thereof, which serves to break the fall of the bottle being discharged. The discharged bottle of the selected beverage may now be removed by the operator of the machine from the pocket 38 for consumption of the contents of the bottle, after which the empty bottle may be deposited in any one of the rack shelves or trays 11 at the side of the dispensing machine.

As a selected bottle is discharged from a particular tray and successively actuates the various spring controlled trap doors positioned therebeneath, said trap doors are permitted to be returned to their normal horizontal positions by their respective control springs 53 as soon as the bottle passes the lower ends of the various trap doors or cradles 51.

Referring now to Figures 6 and 7 a modified form of bottle discharging control mechanism is disclosed for association with each of the respective bottle carrying trays of the machine. The modified form of bottle guiding mechanism for each tray is mounted on the back wall 46 of the bottle discharge shaft or passage 36 and comprises a trap door or cradle 55 supported at its rear end by a hinge mechanism 56. The rear end of the trap door or cradle 55 is bent upwardly to provide a flange 57 having an opening therein through which a bolt 58 projects. The bolt also projects through an opening in the back wall or strip 46 and has a coiled spring 59 engaged around the shank thereof in back of the plate or strip 46. This construction permits a discharged bottle from a tray to drop down upon the trap door or cradle 55 to swing the same downwardly, into the dotted line position illustrated in Figure 6, thereby pulling the bolt 58 outwardly and compressing the spring 59 so that after a bottle passes the lower end of the tilted trap door 55 the trap door is automatically returned into its normal horizontal position by the action of the spring 59.

The operation of the machine is very simple. Bottled beverage, or the like or cylindrically packaged goods are adapted to be placed, by an attendant, in the trays 29 within the chamber 2 when the front door 3 of the refrigerator box is unlocked to reload the machine. To insure the dispensing of cold bottled beverages from the machine the trays 29 are loaded from pre-cooled bottled beverages removed from the pre-cooling chamber 7 in the top housing 6 of the machine.

The vending machine is of the self-service type and any person desiring to purchase a bottle of the beverage has only to approach the front of the machine and engage the selector handle 34 to move the selector mechanism vertically into a selected position wherein the pointer 35 is moved into register with a particular designating flag or signal arm 50, to indicate the choice of beverage desired by the operator of the machine. After the selector mechanism has been moved into a desired position the customer deposits a coin, of a required denomination, in the coin opening 15 of the coin box 14 and then actuates the finger piece or lever 17 to cause rotation of the squared shaft 22 and movement of the control lever 23 to operate the release arm 47 of the selected tray. Movement of the control arm 47 causes the stop flange 42 to be moved out of engagement with the lowermost bottle in the selected tray permitting said bottle to roll outwardly by gravity, while the remaining bottles in the tray are stopped from being discharged by the movement of the stop flange 41 downwardly into the path of movement of the bottles in the tray. The discharged or released bottle 30 drops upon the corresponding trap door or cradle 51 and swings the same downwardly to cause successive operations of the various trap doors which in turn act to gradually permit lowering of the released bottle until the bottle reaches the discharge opening 37 and is guided outwardly over the slide 54 into the cushioned receiving pocket or basket 38 to be removed by the operator of the machine. As soon as the released bottle passes the various tilted trap doors 51 the respective springs connected with the trap doors returns the trap doors to their respective normal horizontal positions ready to receive another bottle, for discharge from the machine.

When the coin controlled finger piece 17 is operated to move the stop flange 42 of a selected tray into a release position to permit a bottle to roll out of the tray to be discharged from the machine, the secondary stop flange 41 temporarily moves downwardly to stop the movement of the remaining bottles in the tray. As soon as the released bottle is lowered by the trap door 51 of a particular tray the main stop flange 42 together with the secondary stop flange 41 are returned to their respective normal positions by the action of the control spring 45, with the return of the secondary stop flange causing a slight backing up of the remaining bottles in the tray to permit full return of the two stop flanges to their normal positions.

When the last bottle in a selected chute or

tray is dispensed the empty signal control flap or apron **49** drops downwardly into a substantially vertical position thereby rotating the signal shaft **48** to swing the designating flag **50** on the outer end thereof, upwardly into a vertical position to indicate that the particular chute or tray is empty, thereby notifying a prospective user of the machine not to select an empty tray.

It will of course be understood that various details of construction may be varied through a wide range without departing from the principles of this invention, and it is, therefore, not the purpose to limit the patent granted hereon otherwise than necessitated by the scope of the appended claims.

I claim as my invention:

1. A self-service type of vending machine including in combination a refrigerator box having a main refrigerated chamber accessible only by means of a normally locked door of the refrigerator box, a bottled beverage dispensing unit in said chamber, stop mechanism for controlling the discharge of bottles one at a time from the dispensing unit, a selector mechanism on the exterior of the box and movable into a selected position and then operable by a customer to operate the stop mechanism for the release of a selected bottle of beverage from the dispensing unit, a cushioned receiving pocket on the exterior of the refrigerator box and communicating with the interior thereof, and pivoted trap door mechanisms in the refrigerator box for receiving the discharged bottle from the dispensing unit and successively movable into contact with one another by said released bottle to gradually guide the bottle out of the machine into the receiving pocket.

2. A self-service type of vending machine comprising a refrigerator box, a bottled beverage dispensing unit locked in the box and inaccessible by an operator of the machine, means for segregating bottles in said unit, a selector mechanism mounted on the exterior of the refrigerator box and movable into a selected position with respect to the segregating means within the box, a control mechanism within the box for governing the release of bottles from the segregating means one at a time, said control mechanism partly projecting from the box into co-acting relationship with the selector mechanism, a coin controlled mechanism on the exterior of the box and connected with the selector mechanism and operable to actuate the selector mechanism and the control mechanism to release a selected bottle of beverage from the dispensing unit within the box, a receiving pocket on the exterior of the box and communicating with the interior thereof, and a plurality of spring controlled trap door devices mounted within the refrigerator box for receiving the bottle released from the segregating means and successively operable by the released bottle to gradually guide and control the lowering of the bottle until the eventual discharge thereof into the receiving pocket on the exterior of the refrigerator box.

3. In a self-service type of refrigerated vending machine the combination with a refrigerator box, of a dispensing unit within the box, segregating means forming a part of said unit for carrying segregated groups of different kinds of bottled beverages, a manually operable selector mechanism on the exterior of the box, a coin controlled mechanism on the exterior of the box connected with the selector mechanism and operable to actuate the selector mechanism, a bottle release device forming part of the dispensing unit and projectable out of the box into co-acting relationship with the selector mechanism to be operated thereby to release a bottle of selected beverage from the dispensing unit, a receiving pocket on the exterior of the refrigerator box and communicating with the interior thereof, a plurality of superimposed spring controlled trap doors in the refrigerator box for receiving a released bottle from the dispensing unit and then successively operable by the dispensed bottle to form a guideway within the refrigerator box for gradually and evenly lowering the released bottle, and a slide in the refrigerator box for receiving the lowered bottle and guiding the same into the pocket on the exterior of the box for delivery to a person operating the machine.

4. In a self-service type of refrigerated vending machine the combination with a refrigerator box, of a dispensing unit therein, segregating means forming a part thereof for carrying different kinds of bottled beverages in grouped relationship, coin controlled mechanisms on the exterior of the box and connected with the dispensing unit within the box, control mechanisms adjustable with respect to the segregating means for first making a selection of a particular kind of beverage within the box and then operable to release a bottle of the selected beverage from the dispensing unit, and a plurality of bottle lowering and guiding devices mounted within the box for receiving a released bottle and operable thereby in successive overlapping relationship in the same general direction to gradually lower and then discharge the selected bottle from the machine.

5. In a self-service refrigerator type of vending machine, a refrigerator box, a dispensing unit therein for carrying bottled beverages, coin control mechanisms on the exterior of the box for governing the release of a bottle of beverage from the dispensing unit, and a plurality of normally separated bottle guide devices within the refrigerator box successively operable by a released bottle into slidable contacting relationship with respect to one another to provide a continuous slide for lowering the released bottle in the refrigerating box into a position for removal from the exterior of the box.

6. A self-service refrigerator type of vending machine comprising a refrigerator box, a dispensing unit in the refrigerator box including a plurality of separate trays for holding groups of different kinds of bottled beverages in the respective trays, means in each of said trays for permitting release of only one bottle at a time, a movable selector mechanism on the exterior of the box for co-action with the dispensing unit and movable by an operator of the machine into register with a selected tray, a controlled mechanism mounted on the exterior of the box and connected with the selector mechanism and operable to actuate the selector mechanism to release a single bottle of a selected beverage from the indicated tray, a series of spring controlled cradles in the refrigerator box for receiving the released bottle and successively operable by the bottle into co-acting relationship with one another to form a guideway for uniformly and gradually lowering the released bottle in the refrigerator box for discharge through a discharge opening provided in the box, and a cushioned receiving pocket mounted on the exterior of the box communicating with said discharge

opening to receive the selected bottle of the beverage for delivery to the operator of the machine.

7. In a self-service refrigerator type of vending machine the combination with a refrigerator box, means in the box for holding groups of bottles of beverages, of a coin controlled selectively operable dispensing mechanism for releasing a selected kind of bottled beverage from said means, and a plurality of spring controlled cradles in the refrigerator box for receiving a released bottle of the beverage and actuated by the weight of said bottle into slidable contacting relationship with one another to form a temporary guideway for gradually lowering and guiding the released bottle into a discharge position on the exterior of the refrigerator box.

8. A self-service type of refrigerator vending machine comprising a refrigerator box, a dispensing unit in the refrigerator box comprising a plurality of trays for carrying different kinds of bottled beverages, means in said trays for governing the discharge of bottles one at a time into a release position, a selector mechanism on the exterior of the refrigerator box and movable into a selected position for coaction with the bottle release means of a selected tray, a control mechanism on the exterior of the refrigerator box operable to actuate the selector mechanism and the release means of a selected tray, a plurality of spring controlled normally independent guides in the refrigerator box for receiving a released selected bottle and successively operable by the weight thereof into contact with one another to form a temporary guideway to carry the bottle downwardly out of the refrigerator box, and a receiver mounted on the exterior of the box including means for cushioning the delivery of the discharged bottle.

9. In a self-service refrigerated vending machine of the class described, means in said box for holding groups of bottles of beverages, means for selecting and releasing a bottled beverage from said first named means, and a plurality of hingedly mounted spring controlled self-restoring trap members in the refrigerator box adapted to receive a released bottle and be temporarily moved thereby into slidable contacting relationship with one another to form a guideway for directing the released bottle out of the refrigerator box.

10. A self service type of vending machine including in combination a locked box having a main chamber, a package dispensing unit in said chamber, stop mechanism for controlling the discharge of packages one at a time from the dispensing unit, a selector mechanism on the exterior of the box and operable by a customer to operate the stop mechanism for the release of a selected package from the dispensing unit, pivoted trap door mechanisms one above the other each for receiving a discharged package from the dispensing unit and each trap door pivoting downwardly by the weight of a package discharged thereonto to discharge its package to the next subjacent trap door mechanism, and counterbalancing means for returning each trap door to its normal position on discharge of the package therefrom.

11. In a self service type of vending machine the combination with a refrigerator box of a dispensing unit therein, segregating means within the box for carrying different kinds of articles in group relationship, coin controlled mechanism on the exterior of the box and connected with the dispensing unit within the box, and control mechanism for making a selection of a particular group of articles within the box and operable to release an article of the selected group from the dispensing unit, and a plurality of article lowering and guiding devices mounted within the box each for receiving a released article and each operable to discharge its article to the next subjacent device to discharge the selected article from the machine by causing the article to slide along a plurality of said article lowering and guiding devices.

12. In a self service type of vending machine a box, a dispensing unit therein for carrying articles, coin controlled mechanism on the exterior of the box for governing the release of an article from the dispensing unit and a plurality of normally separate article guiding devices within the box and located one above the other and each swingable by the weight of a released article into slidable contact relationship with the next subjacent device whereby a plurality of said bottle guide devices provide a continuous slide for lowering the released article in the box into a position for removal from the exterior of the box.

13. A vending machine comprising a locked box, means in the box for holding a plurality of vertically spaced rows of articles in the box, the articles in each row being gravity fed towards the end of the row, dispensing means for holding the lowermost article in each row against discharge, a selector unit on the outside of the box for selectively operating the dispensing means to discharge the lowermost article in any selected row, a pivoted cradle associated with each row of articles and constituting a discharge chute for receiving the article discharged from its associated row, said cradles being one above the other and each cradle being swung downwardly by the weight of an article discharged thereonto into proximity to the next subjacent cradle to form a plurality of successive cradles into a chute down which the discharged article slides.

14. A self-service type of vending machine including in combination a refrigerator box having a main refrigerated chamber accessible only by a normally locked door of the refrigerator box, bottle holding means in said chamber for holding bottles of beverage in a row at an angle to the horizontal, each bottle being held by the preceding bottle against moving downwardly by gravity, stop means for holding the lowermost bottle of the row, mechanism for controlling the discharge of bottles one at a time from the lowermost end of the row whereby each time a bottle is withdrawn the remaining bottles move downwardly in said holding means by gravity, each bottle being in physical contact with the adjacent bottles of the row, means controlled by a customer to operate the mechanism for the release of a single bottle of beverage, a receiving pocket on the exterior of the refrigerator box and communicating with the interior thereof, pivoted trap door mechanism in the refrigerator box for receiving the discharged bottle, said trap door being above the receiving pocket and swinging downwardly by the weight of a bottle discharged thereonto towards the pocket and guiding the bottle thereon to slide axially towards the pocket, and counterbalancing means for returning the trap door to its normal position upon discharge of a bottle therefrom.

MILTON LEE SMITH.