

Sept. 9, 1952

H. S. CHILDERS

2,610,100

COIN CONTROLLED VENDING MACHINE

Filed Dec. 26, 1947

3 Sheets-Sheet 1

Fig. 1.

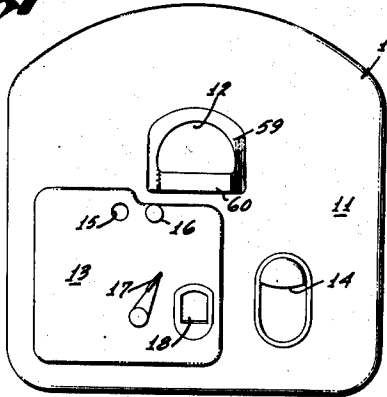


Fig. 2.

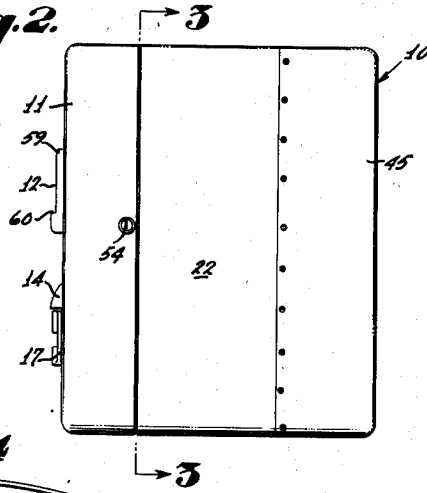
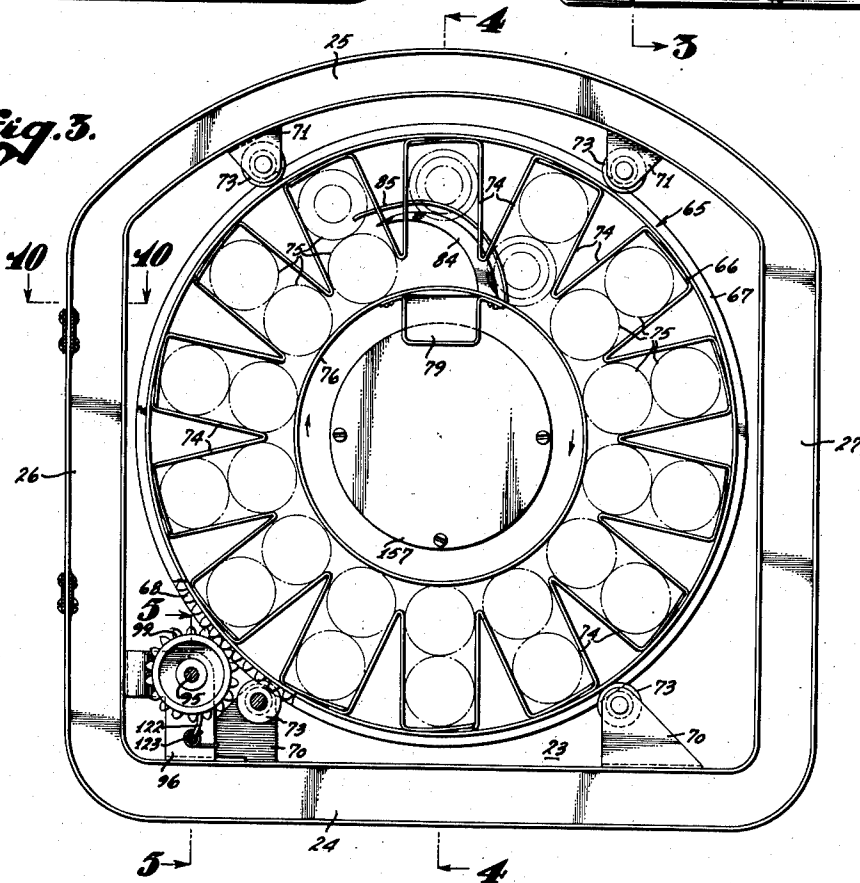


Fig. 3.



INVENTOR:
HARRY S. CHILDERS
BY

Hubner, Malby & Becker
ATTORNEYS.

Sept. 9, 1952

H. S. CHILDERS

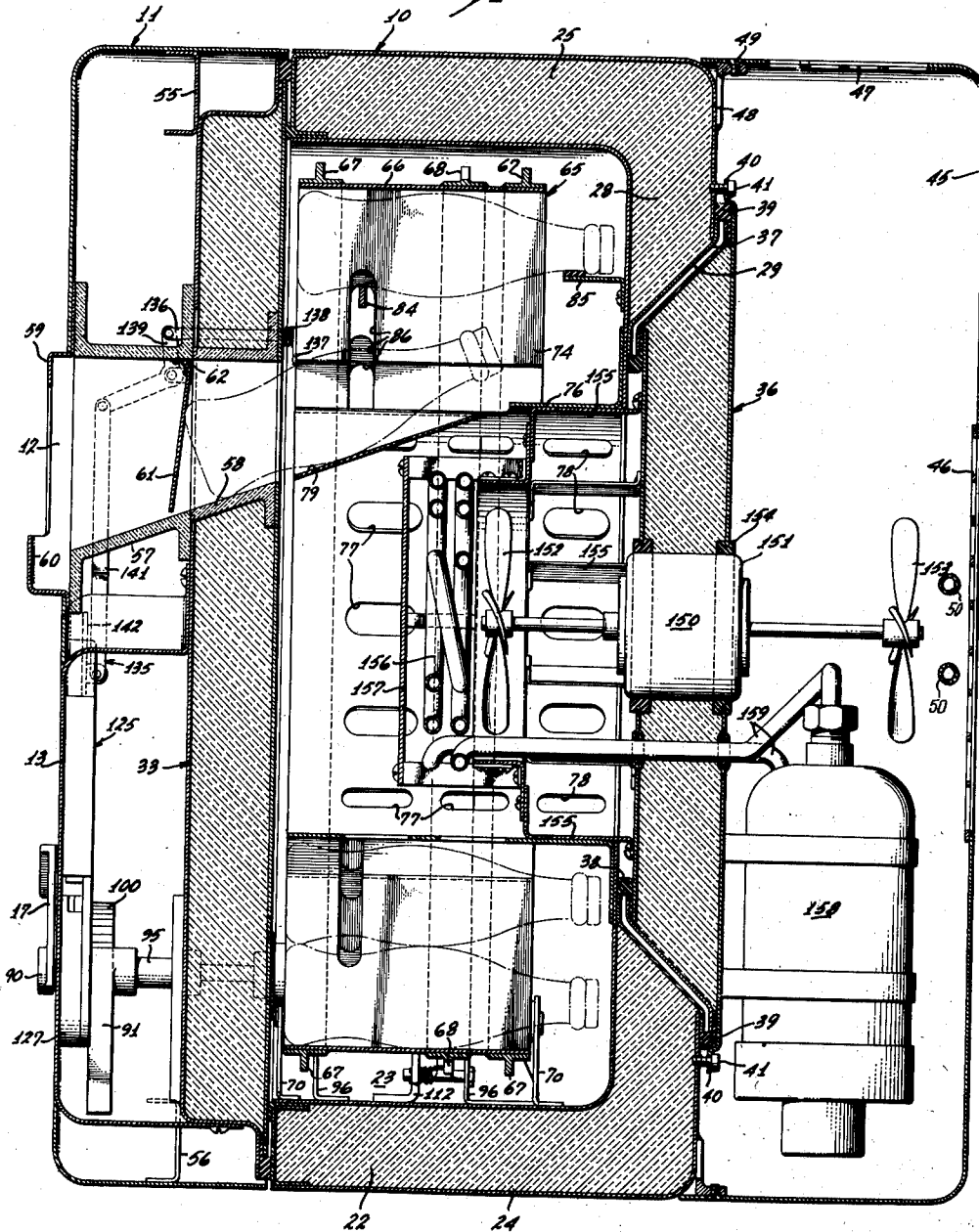
2,610,100

COIN CONTROLLED VENDING MACHINE

Filed Dec. 26, 1947

3 Sheets-Sheet 2

Fig. 4.



INVENTOR:
HARRY S. CHILDERS
BY

Hubner, Malloy & Beckler
ATTORNEYS.

Sept. 9, 1952

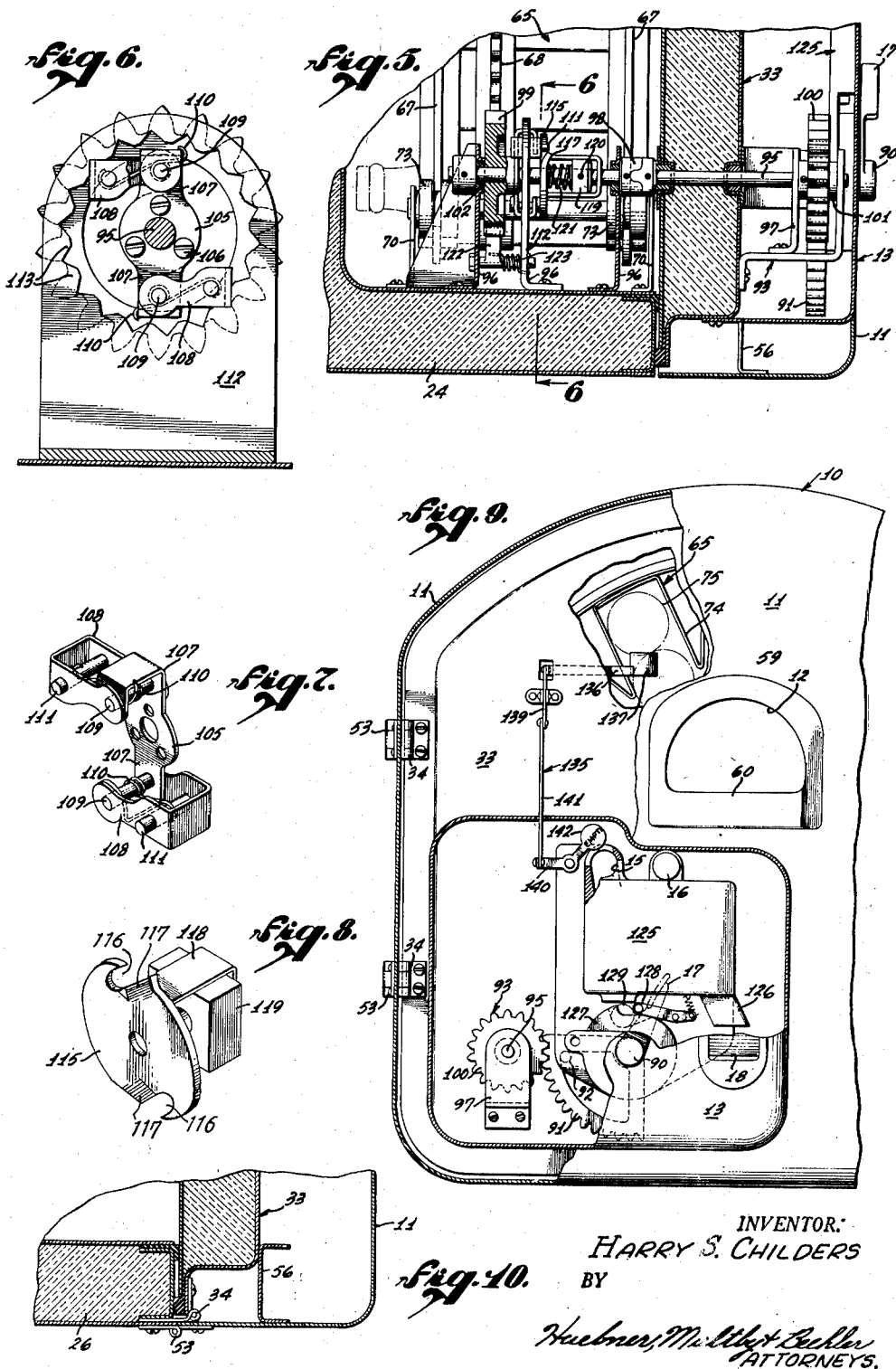
H. S. CHILDERS

2,610,100

COIN CONTROLLED VENDING MACHINE

Filed Dec. 26, 1947

3 Sheets-Sheet 3



INVENTOR:
HARRY S. CHILDERS
BY

Huebner, McMillan & Butler
ATTORNEYS.

UNITED STATES PATENT OFFICE

2,610,100

COIN CONTROLLED VENDING MACHINE

Harry S. Childers, Fresno, Calif., assignor to
Vendorlator Manufacturing Company, Fresno,
Calif.

Application December 26, 1947, Serial No. 794,045

6 Claims. (Cl. 312-97.1)

1

The present invention relates to dispensing apparatus and more particularly to a coin controlled vending machine adapted to pre-cool and dispense bottled beverages.

A prime factor in the sale of bottled beverages is the convenient availability of supplies thereof in places and at times best suited to the most effective supplying of consumer demand. Many studies have been made directed to the determination of the most effective distribution of bottle vending machines. Although such studies have proved of value, conclusions reached have been based upon so many variable and indeterminate factors as to be frequently in error. As a result, bottle vending machines are usually distributed according to a trial and error procedure with frequent ineffective results.

Further, it has been discovered that a major, and perhaps the greatest, potential demand for bottled beverages lies in dispersed areas each having relatively small demand for bottled beverages but significant in the summation of such demand. Conventional bottle vending machines are too expensive, too large, and too cumbersome to utilize effectually the potential demand of these so-called dispersed areas. Thus, a significant demand has remained unfilled because of an inability sufficiently to disperse supplies of bottled beverages and to maintain the same in potably cooled condition. The present invention is directed generally to the commercial exploitation of this potential demand.

An object of the present invention is therefore to provide an improved compact bottle vending machine.

Another object is to provide an improved manually manipulable, coin controlled, bottle dispensing apparatus suited to relatively small reserve bottle requirements.

Another object is to provide a refrigerated bottle vending machine having a capacity less than heretofore considered a minimum for efficient operation, that is simple in structure, dependable in operation, and economical to employ.

Another object is to provide a dispensing apparatus in the form of a compact, attractive cabinet including improved rotary magazine means adapted to be loaded with vendable merchandise and associated with a heat exchanging unit for effective temperature control of the merchandise.

Another object is to provide, in an apparatus of the character described in the preceding paragraph, an association of the magazine means and the heat exchanging unit making provision for the convenient and easy disassociation of said

2

means as for adjustment, repair and replacement purposes.

Another object is to provide an improved, rotatable drum type magazine for vendable merchandise so constructed as to facilitate the provision of compartments radially spaced from the axis of rotation of the drum in substantially parallel relation to said axis of rotation.

Another object is to provide an annular type magazine rotatable about a substantially horizontal axis and adapted to hold bottles and the like in substantially horizontal attitudes radially spaced from the axis of rotation of the magazine for radial discharge inwardly of said magazine.

A further object is to provide a bottle dispensing apparatus adapted to contain a plurality of bottles in substantially cylindrical arrangement and to discharge said bottles inwardly from said cylindrical arrangement, said apparatus including a heat exchanging unit concentrically disposed said cylindrical arrangement so that bottles prior to discharge are intimately exposed to the effects of said heat exchanging unit.

Still further objects are to provide improved elements and arrangements thereof in a device of the character and for the purposes set forth.

In the drawings:

Fig. 1 is a front elevation of a dispensing apparatus embodying the principles of the present invention.

Fig. 2 is a side elevation of the dispensing apparatus shown in Fig. 1.

Fig. 3 is a section taken on line 3-3 of Fig. 2.

Fig. 4 is a somewhat enlarged section taken on line 4-4 of Fig. 3.

Fig. 5 is a section taken on line 5-5 of Fig. 4.

Fig. 6 is a section taken on line 6-6 of Fig. 5.

Fig. 7 is a perspective view of a pair of dogs and mounting means therefor employed in the drive linkage of the present invention.

Fig. 8 is a perspective view of a cam plate and mounting means therefor as employed in the drive linkage of the present invention.

Fig. 9 is a fragmentary front elevation of the dispensing apparatus of the present invention having portions of the front doors thereof removed for convenience in the illustration of internal elements.

Fig. 10 is a section taken on line 10-10 of Fig. 3.

Referring in greater detail to the drawings:

In Fig. 1, a cabinet or housing for the device of the present invention is indicated generally at 10, having a front, or outer, door 11 through which a delivery opening 12 is formed and a

control island 13 outwardly extended. A crown puller 14 is provided in the door 11 in a conveniently accessible position for the removal of bottle tops from bottles. The control island provides a coin receiving slot 15, a scavenger button 16, a manual manipulating lever 17, and a coin return cup 18, the purposes, structure, association, and operation of which will presently be more fully described.

Referring to Fig. 4, the cabinet is shown to include an insulated portion 22 enclosing a chamber 23. The insulated portion has a bottom 24, a top 25, side walls 26 and 27, respectively, and a rear wall 28. An opening 29 is centrally located in the rear wall 28. The front of the insulated portion of the cabinet is closed by an insulated inner door 33 pivotally mounted as at 34 and adapted to seal the front side of said insulated portion of the cabinet. The inner door is held in closed position by any suitable catch mechanism not shown. The forward door 11 overlays the inner door when closed.

An insulating plug 36 is seated in the opening 29 in sealing relation thereto and mounts a heat exchanging unit, presently more fully described. To facilitate removal of the plug 36, the opening 29 is preferably circular and rearwardly distended as at 37. The plug is conveniently frusto-conical in form complementary to the opening 29 so as to seat therein. To the end of more effectively sealing the opening 29 tubular rubber seals 38 and 39 are interposed the plug and the rear wall 28. The plug is conveniently secured in sealing relation to the opening 29 as by means of ears 40 outwardly extended from the plug and cap screws 41 extended through the ears and screw-threadedly engaged to the rear wall 28.

A housing 45, having an air intake 46 provided centrally therein and an air exhaust opening 47 provided in the top portion thereof, is mounted on the rear wall 28 and rearwardly extended therefrom to envelope and protect the heat exchanging unit previously referred to and subsequently described. A convenient mounting for the housing 45 includes L-shaped brackets 48 mounted on the rear wall 28, as by welding, and cap screws 49 extended through said housing and screw-threadedly engaged to the brackets. An evaporator 50 for the heat exchanging unit, presently more fully described, is mounted in the intake 46.

The outer door 11 is hingedly mounted, as at 53, in overlaying relation to the inner door 33. Said outer door is locked in position by any suitable lock mechanism 54. The front door may conveniently comprise a shell of sheet metal or the like spaced from the insulated inner door 33 by spacers 55 and 56 respectively. A delivery chute 57 is mounted in the outer door and inwardly extended from the opening 12. A delivery chute 58 is mounted in the inner door in registration with the chute 57. The chutes 57 and 58 preferably provide a downwardly inclined path for the slideable delivery of bottles dispensed to the opening 12. For purposes of appearance the opening 12 is bounded by a facing 59 providing an upwardly extended lip 60 from the lower portion of the opening. The lip member is preferably of a size and positioned to preclude falling of bottles from the opening as they descend through the chutes 58 and 57. A trap door 61 is pivotally mounted in the chute 58, as at 62. The trap door is normally maintained in closing relation to the chute by gravity to retain cold

air in the chamber 23 but pivots to open position to permit bottles to slide out of the chute upon bottle contact.

A hollow, substantially cylindrical (or annular) magazine 65 is positioned within the insulated portion 22 of the cabinet for rotation about a substantially horizontal axis. The magazine conveniently comprises a cylindrical shell 66 circumscribed by supporting rails 67 and a cog wheel 68. The shell, and thus the magazine, is rotatably mounted in the cabinet by means of brackets 70 and 71 extended upwardly from the lower panel 24 and downwardly from the upper panel 25, respectively, which in turn rotatably mount rollers 73 in engagement with the rails 67. The rollers 73 preferably provide a circumscribing groove adapted to receive the rails and thus to preclude longitudinal shifting of the magazine during rotation thereof.

In Fig. 3, the magazine is shown supported at four radial positions. It will be clearly apparent that the present invention is not limited to such number, three, for example, being adequate to maintain the magazine in position. V-shaped partitions, or bottle supporting racks, 74 are mounted inwardly disposed on the shell, having their apices inwardly extended from said shell. The partitions are spaced to receive bottles, indicated at 75, or other vendable merchandise, therebetween. The bottle compartments thus formed by the partitions are radially related to the magazine and provide support for the bottles in substantially horizontal positions. Said compartments have inwardly disposed open side portions.

To the end of maintaining the bottles 75 in the compartments delineated by the partitions 74 until ready for discharge, a cylindrical retainer 76 is mounted on the rear wall of the cabinet in circumscribing relation to the opening 29 and concentrically related to the magazine 65. As seen in Fig. 4, the retainer preferably has air inlet passages 77 formed in the central and forwardly disposed portions thereof and air outlet openings 78 formed in the rearward end portion. The retainer 76 is provided with a delivery chute 79 extended forwardly and inwardly from the upper portion. The delivery chute 79 of the retainer is preferably downwardly inclined and positioned to register with the chute 58 in the inner door 33.

As will soon become apparent, the magazine is motivated in stepped rotation in a clockwise direction as seen in Fig. 3. To the end of selecting bottles from the magazine and delivering them one at a time to the chute 79 and thence to the opening 12, a selection finger 84 is mounted on the retainer 76 adjacent the right edge of the chute 79, as seen in Fig. 3, and extended upwardly and arcuately therefrom to the left. The extended end portion of the finger is spaced from the retainer a distance adapted to receive therebetween the body portion of a bottle carried toward the finger by rotation of the magazine. Thus, the finger selects the inwardly disposed bottle of bottles contained in each compartment successively as the compartments approach the finger upon rotation of the magazine. The upper surface of the finger 84 acts as a track to receive bottles outwardly disposed within the compartments and to lower said bottles to inwardly disposed positions upon further rotation of the magazine. Rearwardly of the finger a track 85 is mounted on the rear wall 28 of the cabinet and extended forwardly into the compartment 23

5

to receive and to lower the necks of bottles outwardly disposed in the magazine as said bottles are lowered by the finger 84 upon rotation of the magazine. To permit the passage of the partitions 74 past the finger, said partitions are provided with slots 86 formed in their apices in a plane of the finger at right angles to the axis of rotation of the magazine.

To translate pivotal movement of the lever 17 into stepped rotation of the magazine 65 an arbor 90 is journaled in the island 13 of the inner door 33. The arbor mounts the lever 17 outwardly disposed the cabinet and fixedly mounts a sector gear 91 within the island. A stop 92 limits movement of the sector gear to travel desired and thus of the lever 17. A unidirectional drive linkage indicated generally at 93 translates reciprocal rotation of the sector gear into stepped rotation of the magazine.

As shown in Fig. 5, the unidirectional drive linkage comprises a shaft 95 journaled in the inner door 33 and in brackets 96 mounted on the lower panel 24 of the cabinet. To provide support for the outer end portion of the shaft 95, brackets 97 are mounted on the inner door 33 within the island 13 and receive the shaft in journaled relation thereto. Inasmuch as the inner door 33 must be adapted for opening to load the machine, it is necessary to interrupt the shaft 95 between the portion thereof mounted in the brackets 96 and the portion mounted in the inner door 33. The two portions of the shaft 95 are preferably articulated by a separable coupling 98. The coupling is of conventional form employing male and female engageable portions and is thus not described in greater detail. The coupling permits the outer portion of the shaft 95 to swing outwardly upon opening of the door 33 while the inner portion remains in fixed position in the cabinet. Upon return of the door to position, the separable portions of the coupling are reengaged for unitary rotational movement of the shaft.

To reduce heat loss through the insulated inner door 33, the outer portion of the shaft 95 is preferably formed of inefficient heat conducting material such as plastic. The shaft is preferably arranged in a horizontal attitude with its inwardly extended end portion adjacent the cog wheel 68 which circumscribes the magazine. A drive cog wheel 99 is journaled on the shaft in engagement with the cog wheel 68. A driven cog wheel 100 is fixedly mounted on the shaft as at 101 in mesh with the sector gear 91. The abutting of the mounting 101 with the bracket 97 longitudinally positions the outer portion of the shaft 95. A thrust bearing 102 is interposed the drive cog wheel 99 and a flange 96 precluding inward movement of the inner portion of the shaft 95.

A frame 105 is fixedly mounted on the cog wheel 99, as by cap screws 106, and provides radially extended arm portions 107. A dog 108 is pivotally mounted on each of the radially extended arms 107, as by pivot pins 109. Springs 110 serve to urge the dogs radially, or outwardly, from the shaft 95. A boss 111 is axially extended from each of the dogs 108 toward the forward portion of the cabinet. An annular ratchet rack 112 providing inwardly disposed teeth 113 is mounted in the cabinet in circumjacent relation to the shaft 95 engageable by the dogs 108. As seen in Fig. 6, the dogs, under urging of the springs, engage the ratchet teeth to preclude counter-clockwise rotation of the shaft.

6

A cam plate 115 is slideably positioned on the shaft 95 engageable with the bosses 111. The cam plate provides spiral cam ways 116 extended counter-clockwise, inwardly from the periphery thereof, as viewed in Fig. 8, and is adapted to receive the bosses. The portions of the cam plate adjacent the periphery thereof and inwardly disposed to the spiral cam way are preferably curved toward the front of the cabinet, as at 117. Said curved portions also exercise a camming action in disengaging the bosses as will soon become apparent.

The cam plate is provided with a mounting yoke 118 fixedly extended therefrom oppositely disposed the frame 105, dogs 108 and bosses 111. The yoke provides a central portion journaled on the shaft forwardly of the cam plate and a pair of legs oppositely disposed the shaft interconnecting the central portion of the yoke and the cam plate. The legs are preferably parallel to the shaft and equally spaced therefrom. The yoke slideably receives a block 119 between the legs thereof which is fixedly secured to the shaft as by a set screw 120. The block, in engagement with the legs, causes the cam plate to rotate in unitary relation with the shaft while longitudinally slideable thereon. A helical compression spring 121 is interposed the block and the cam plate 115 and serves to urge the cam plate into boss engagement.

When the handle 17 is depressed, the shaft 95 is rotated in a counter-clockwise direction, as seen in Fig. 6, which is arbitrarily designated for purposes of convenience as forwardly. Upon such rotation the bosses are received by the cam ways 116 and their respective dogs 108 withdrawn from engagement with the ratchet wheel 112 by the bosses' riding inwardly in the cam ways. Further rotation of the shaft 95 causes the bosses to reach the inner ends of the cam ways and the cam plate, through the bosses, the dogs, and the frame 105, rotates the drive cog wheel 99 in said forward direction and the drive cog wheel thus rotates the magazine, clockwise as shown in Fig. 3, through engagement with the cog wheel 68. In the event that the magazine is urged in a clockwise direction, independent of the drive linkage, as by a person inserting his hand upwardly of the chute 57, 58 and 79, and trying manually to turn the magazine, the bosses ride up over the curved portions 117 of the cam plate 115, urge the cam plate forwardly, disengage the bosses from the cam ways 116, and release the dogs to throw outwardly into engagement with the bracket wheel 112 under the urging of the springs 110.

Counter-clockwise rotation of the magazine is precluded by a ratchet pawl 122 mounted in the brackets 96 and urged into engagement with the drive cog wheel 99 as by a spring 123. Thus, movement of the magazine in either direction independent of motivation through the drive linkage is precluded. The drive linkage motivates stepped, unidirectional rotation of the magazine in clockwise direction, as shown in Fig. 3, and precludes turning of the magazine by any other means sufficiently to effect bottle discharge.

In Fig. 9, a conventional coin selector is shown generally at 125. Any suitable form of selector may be employed and is thus not described in detail at this point. The selector provides a coin receiving slot 15, a scavenger button 16, and a chute 126 directed to the returning of slugs, bent coins, and other unacceptable elements to the return cup 18. In the event such a bent coin,

slug, or other elements becomes lodged in the selector, the pressing of the scavenger button 16 serves to return the coin to the slot. Coins suitable to the operation of the apparatus of the present invention are directed into a sprag wheel 127 by the coin selector. The sprag wheel, as is well known in coin selectors, is arranged on the shaft 90 in association with a ratchet pawl 128 whereby depressing of the handle 17 is precluded until a coin releases the pawl from sprag wheel engagement. Such a coin, shown at 129, releases the pawl by dropping into a receptacle in the sprag wheel and camming the pawl out of engagement with the sprag wheel upon the initiation of rotation of the shaft 90. The coin is dropped into a coin storage box, not shown, upon rotation of the shaft 90 sufficiently to rotate the magazine 65 a sufficient distance to bring a succeeding bottle compartment of the magazine into registration with the chute 79. It is obvious that because of the characteristics of the drive linkage 93, previously described, the insertion of a single acceptable coin permits the stepped rotation of the magazine a sufficient distance to discharge a bottle from said magazine, but no further.

The apparatus of the present invention is preferably precluded from receiving coins unless there is a bottle in a compartment ready to be delivered upon the insertion of such a coin and the depressing of the handle 17. A mechanism shown generally at 135, in Figs. 4 and 9, successfully accomplishes this purpose. A detecting finger 136 is slideably mounted in the door 33 for forward and rearward reciprocation and has an inner end portion adapted to abut and be urged outwardly by a bottle in the compartment positioned for delivery to the chute 79 upon depressing of the handle 17. The inner end portion of the finger is preferably provided with a shoe 137 of sufficient length continuously to engage a bottle traveling from a position immediately adjacent delivery to a position in registration with the chute and thus as a bottle is diverted into the chute for delivery is already engaged by a following bottle. The finger is urged inwardly by any suitable means such as a helical compression spring 138 interpositioned the door 33 and the shoe. A bell crank 139 is pivotally mounted on the outward surface of the door 33 and is articulately connected to the outward end portion of the finger 136. A second bell crank 140 is pivotally mounted in the island 13 adjacent the coin receiving slot 15. A push pull rod 141 interconnects the bell cranks 139 and 140 for corresponding rocking movement incident to reciprocal inward and outward positioning of the finger in response to bottle detection by the shoe. A coin excluding shield 142 is mounted on an arm of the bell crank 140 in a position to block the coin receiving slot 15 when no bottle is positioned for delivery adjacent the chute 79 in response to depressing of the handle 17. The shield conveniently bears the legend Empty readable through the slot 15. The positioning of a bottle adjacent the chute 79 for delivery as above described, urges the finger 136 outward and withdraws the shield 142 from blocked position in the slot 15. Thus, at all times, the apparatus of the present invention either precludes the reception of a coin or is preconditioned for the delivery of a bottle upon the insertion of the coin and the depressing of the handle 17.

The heat exchanging unit shown generally at 150 in Fig. 4 is essentially of conventional form

but is mounted and positioned in a novel manner and arrangement. A fan motor 151 driving a cool air circulating fan 152 and a hot air circulating fan 153 is mounted in the plug 36 as by means of rubber or other resilient mounting rings 154 fixedly circumscribing the motor and secured in the plug. The rings provide a convenient mounting of the motor, serving to prevent the entrance of the moisture into the insulation within the plug, and absorbing sound incident to operation of the motor. A plurality of evaporator coil mounting flanges 155 are mounted on the block 36 concentrically of the motor and inwardly extended into the hollow interior of the magazine 65. The mounting flanges preferably are slideably fitted to the retainer 76. The flanges mount the evaporator coils 156 concentrically within the retainer 76. The inner end portions of the flanges mount a baffle plate 157.

The fan 152 is rotated in a direction drawing air through the openings 77 inwardly over the coils 156, moving the air rearwardly, and radially ejecting the air from the retainer through the openings 78. This provides an effective circulation of the cool air within the chamber 23 over the bottles.

The evaporator coils are connected to a conventional refrigeration compressor unit 158, as by fluid conduits 159. The compressor unit effects a removal of heat from the compartment 23 rearwardly through the plug 36. The fan 153 operates effectively to draw air in through the intake 46 and to discharge the air through the exhaust 47 effectively dissipating heat from the compressor unit 158.

Attention is directed to the mounting of the heat exchanging unit on the plug which permits the ready disassociating of the heat exchanging unit and the remainder of the dispensing apparatus as for repair, replacement, adjustment, cleaning or the like merely by releasing the plug and sliding said plug and heat exchanging and circulating units rearwardly.

Operation

The operation of the device of the present invention is briefly summarized as follows:

The magazine 65 is loaded by opening the outer door 11, the inner door 33, and by inserting the bottles 75, crown first, into the compartments delineated by the partitions 74. The bottles are horizontally disposed in a pair of concentric circular arrangements, each compartment containing a pair of bottles except the uppermost compartment which contains only an outwardly positioned bottle. Thus, in the size exemplified in Fig. 3, twenty-seven (27) bottles are arranged in the magazine.

The inner door 33 and the outer door 11 are closed and said outer door locked as at 54. The abutting of the bottle adjacent the delivery chute 79 by the shoe 137, through the operation of the mechanism 135, removes the shield 142 from the coin slot 15. The heat exchanging unit and ventilation means operate to cool the bottles 75 and their contents to potable condition. The dispensing apparatus is at such time preconditioned for the vending of the bottled beverages at the customers' convenience.

The insertion of an appropriate coin into the slot 15 releases the handle 17 for manual depression thereof. Such depression results in rotation of the shaft 95 through the sector gear 91 and the driven cog wheel 100. The drive linkage 93 rotates the magazine 65 in a clockwise direc-

tion as viewed in Fig. 3. The magazine is rotated in steps by the depressing of the handle 17 successively to bring the bottle compartments into registration with the chute 79, the insertion of an acceptable coin being prerequisite to each step of advancement. In response to each step of rotation a bottle is selected by the finger 84 and discharged inwardly of the magazine down the chutes 79, 58 and 57 to the opening 12. All bottles positioned radially, outwardly of such discharged bottles are gently lowered to the retainer 76 by the outer curvature of the finger 84 and by the track 85. It will be clearly apparent that further rotation of the magazine may cause such a bottle to roll gently out and then in of its respective compartment but when it approaches the chute 79 it is inwardly positioned for discharge by the finger 84.

The circulation of cold air within the compartment 23 provides effective refrigeration of the bottled beverages contained therein. The arranging of the bottles in intimate circumjacent relation to the cooling coil 156 efficiently utilizes the effect of the heat exchanging unit. Although the present invention has been described in terms of bottled beverages, which are cooled to potable condition, it will be clearly apparent that the invention is not limited to such vendable merchandise nor is it limited to the cooling thereof.

As previously mentioned, the coin selector 125 accumulates the acceptable coins in a coin storage box, of any suitable form, not shown. Removal of accumulated coins therefrom is conveniently effected by unlocking the outer door 11 and swinging the same outwardly to gain access to the storage box.

The dispensing apparatus of the present invention is simple in structure, dependable in operation, and economical to employ. It enables the provision of relatively small quantities of bottled beverages sufficiently dispersed to effectively utilize dispersed areas of demand. The apparatus is compact in form and economical to construct.

Although I have herein shown and described my invention in what I have conceived to be the most practical and preferred embodiment, it is recognized that departures may be made therefrom within the scope of my invention, which is not to be limited to the details disclosed herein, but is to be accorded the full scope of the claims so as to embrace any and all equivalent devices and systems.

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

1. A bottle dispensing apparatus comprising an enclosed chamber having a delivery opening in a side wall thereof; a substantially cylindrical magazine having a substantially cylindrical shell, circumscribing rails mounted on the shell, and V-shaped partitions borne by the shell with the apices of said partitions inwardly disposed to the shell defining a plurality of radially disposed bottle compartments therebetween adapted to receive bottles in substantially horizontal positions, said compartments having inwardly disposed open end portions; rollers mounted in the cabinet in supporting engagement with the rails and supporting the magazine for rotation about a substantially horizontal axis; a cylindrical retainer mounted concentrically within the magazine in closing relation to the compartments traveled thereabout and providing a discharge chute in the upper portion thereof extended inwardly of the magazine and downwardly to register with the delivery opening; a drive linkage peripherally

engaged with the magazine for step rotation thereof in one direction; manual means for motivating the drive linkage; a heat exchanging unit mounted concentrically within the cylindrical retainer; and a selection finger mounted on the retainer and positioned to discharge bottles one at a time from the magazine into the delivery chute in response to movement of the bottles into registry with the chute upon rotation of the magazine.

2. A magazine adapted for use in bottle dispensing apparatus comprising a substantially cylindrical shell; circumscribing rails adapted for rotatable mounting of the shell by peripheral, rolling support thereof; a circumscribing cog wheel adapted for engagement by a driving cog for rotation of the shell; spaced, V-shaped partitions borne by the shell with the apices of said partitions inwardly disposed to the shell, said partitions being slotted from their apices radially to the shell to provide passage of a selection finger therethrough upon magazine rotation for the ejecting of bottles positioned between the partitions.

3. In a dispensing apparatus having a cabinet; a magazine having a substantially cylindrical shell, circumscribing rails mounted on the shell, and spaced V-shaped partitions borne by the shell with the apices of said partitions inwardly disposed to the shell, said partitions being slotted from their apices radially of the shell to provide passage of a selection finger therethrough; rollers rotatably mounted in the cabinet engaged with the rails supporting the magazine for substantially horizontal rotation; and a selection finger mounted in the cabinet in a position to pass through the slots in the magazine partitions upon magazine rotation.

4. In a dispensing apparatus having a cabinet; a magazine having a substantially cylindrical shell, circumscribing rails mounted on the shell, and spaced V-shaped partitions borne by the shell with the apices of said partitions inwardly disposed to the shell, said partitions defining compartments therebetween inwardly disposed to the magazine and being slotted from their apices radially of the shell to provide passage of a selection finger therethrough; rollers rotatably mounted in the cabinet engaged with the rails supporting the magazine for substantially horizontal rotation; a stationary cylindrical retaining means mounted concentrically within the magazine in closing relation to the inwardly disposed compartments defined by the partitions and providing a delivery chute therein inwardly extended from the magazine at the uppermost portion of the retaining means; and a selection finger mounted on the retaining means in a position to pass through the slots in the magazine partitions upon magazine rotation; and means for imparting step rotation to the magazine.

5. In a dispensing apparatus having a cabinet; a magazine having a substantially cylindrical shell, circumscribing rails mounted on the shell, a circumscribing cog wheel mounted on the shell, and V-shaped partitions borne by the shell with the apices of said partitions inwardly disposed to the shell, said partitions being slotted from their apices radially of the shell to provide passage of a selection finger therethrough; rollers rotatably mounted on the cabinet engaged with the rails supporting the magazine for rotation about a substantially horizontal axis; a driving cog rotatably mounted in the cabinet in mesh with the circumscribing cog wheel; and a selection finger mount-

ed in the cabinet in a position to pass through the slots in the magazine partition upon magazine rotation.

6. In a bottle dispensing machine, the combination of a magazine having a substantially cylindrical shell and partitions borne by the shell in inwardly disposed positions defining bottle compartments therebetween having inwardly disposed open end portions, said partitions being slotted from their inner ends radially to the shell for the passage of a selection finger therethrough, means mounting the magazine for rotation about a substantially horizontal axis, means for imparting stepped rotation to the magazine, an arcuate retainer mounted concentrically within the magazine in closing relation to the inwardly disposed ends of the compartments during the upper half of rotary travel of the compartments for rolling support of bottles in horizontal stacked relation contained therein and having a bottle discharge chute formed downwardly therein from the uppermost point thereof, and a selection finger mounted on the retainer and extended over the chute adapted to select successive innermost bottles carried thereto by magazine rotation and to divert the same into the chute, said finger having

an upwardly disposed edge curved downwardly in the direction of magazine rotation adapted to support bottles outwardly of the diverted bottles and to provide rolling lowering support thereof against the partitions of preceding compartments in magazine rotating engagement therewith.

HARRY S. CHILDERS.

REFERENCES CITED

The following references are of record in the file of this patent:

UNITED STATES PATENTS

Number	Name	Date
398,245	Ford	Oct. 19, 1889
1,065,029	Craig et al.	June 17, 1913
1,722,849	Luse	July 30, 1929
1,741,728	Nemeth	Dec. 31, 1929
1,913,231	Carlstedt et al.	June 5, 1933
1,975,540	Folger	Oct. 2, 1934
1,983,459	Hockman	Dec. 4, 1934
2,049,111	Dunham	July 28, 1936
2,176,394	Elder	Oct. 17, 1939
2,217,962	McNair	Oct. 15, 1940
2,314,632	Rear	Mar. 23, 1943