Oct. 2, 1934. C. C. KINDRED ET AL 1,975,364

AUTOMATIC COIN CONTROLLED COOLED BOTTLE DISPENSER

Filed June 18, 1932 4 Sheets-Sheet 1

Fig. 1.

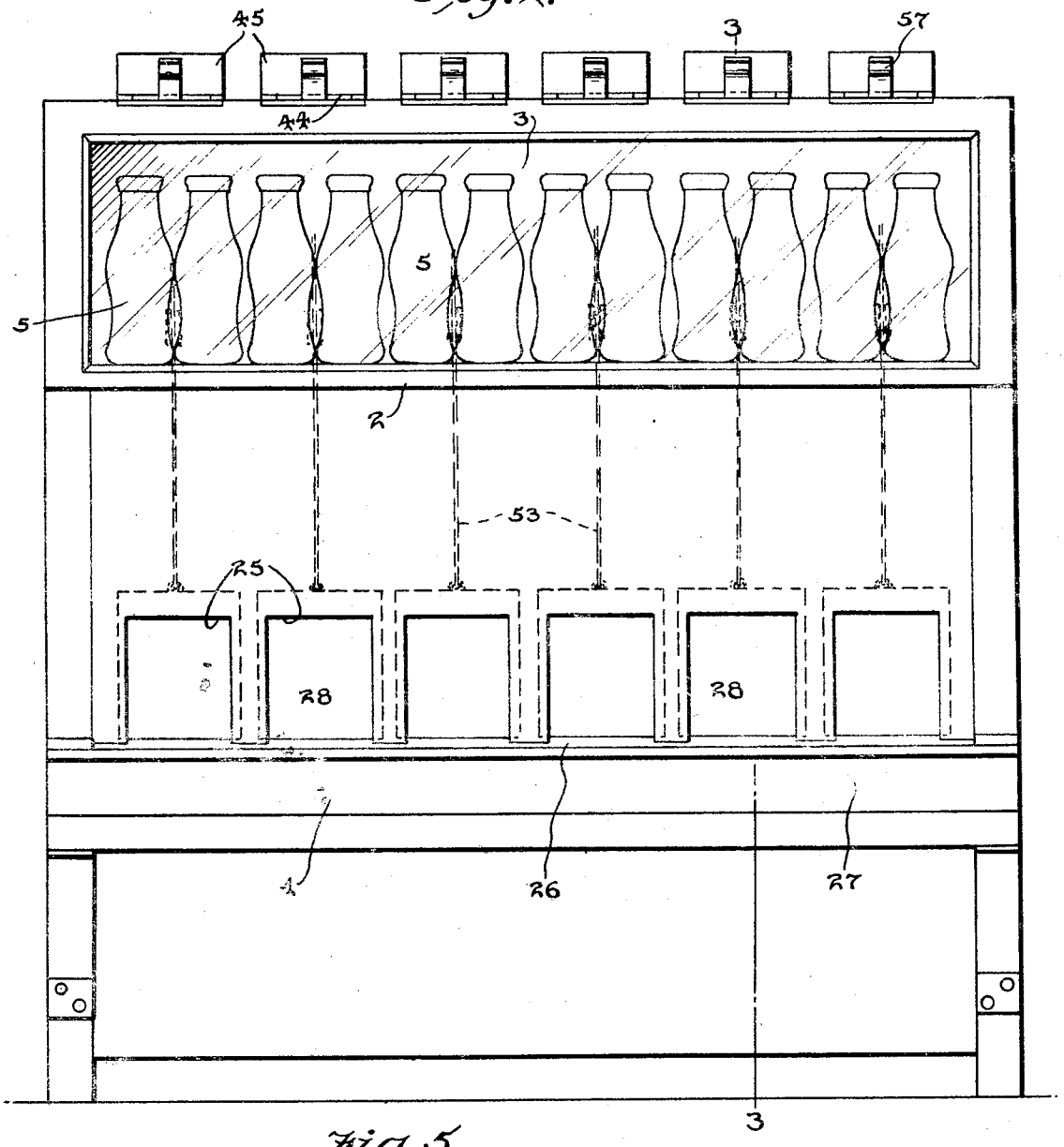
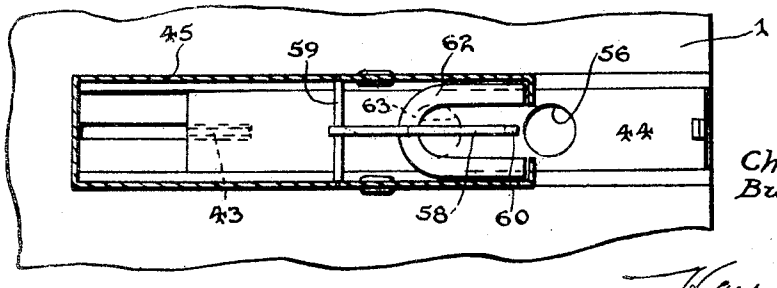


Fig. 5.



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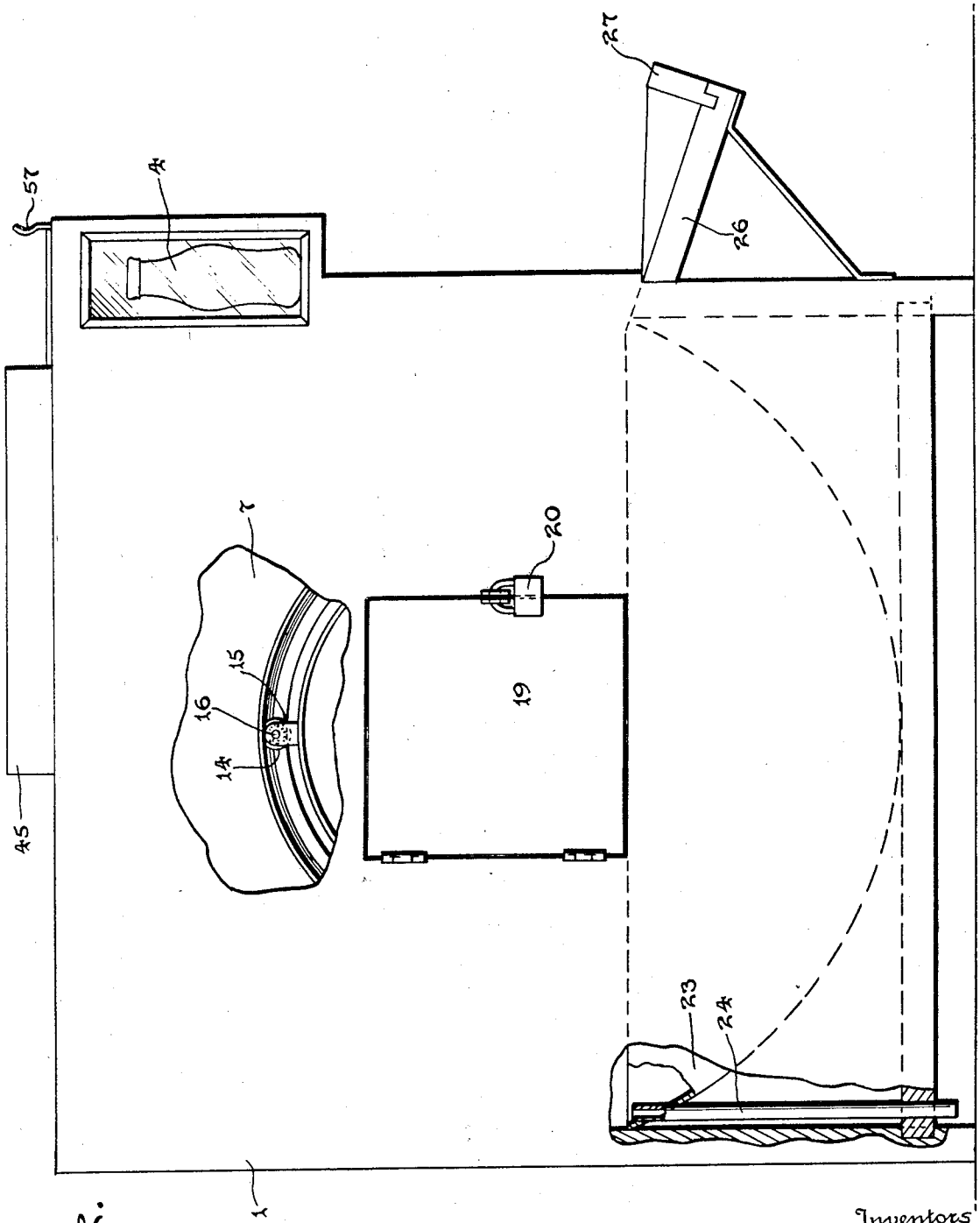


Fig. 2.

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AUTOMATIC COIN CONTROLLED COOLED BOTTLE DISPENSER

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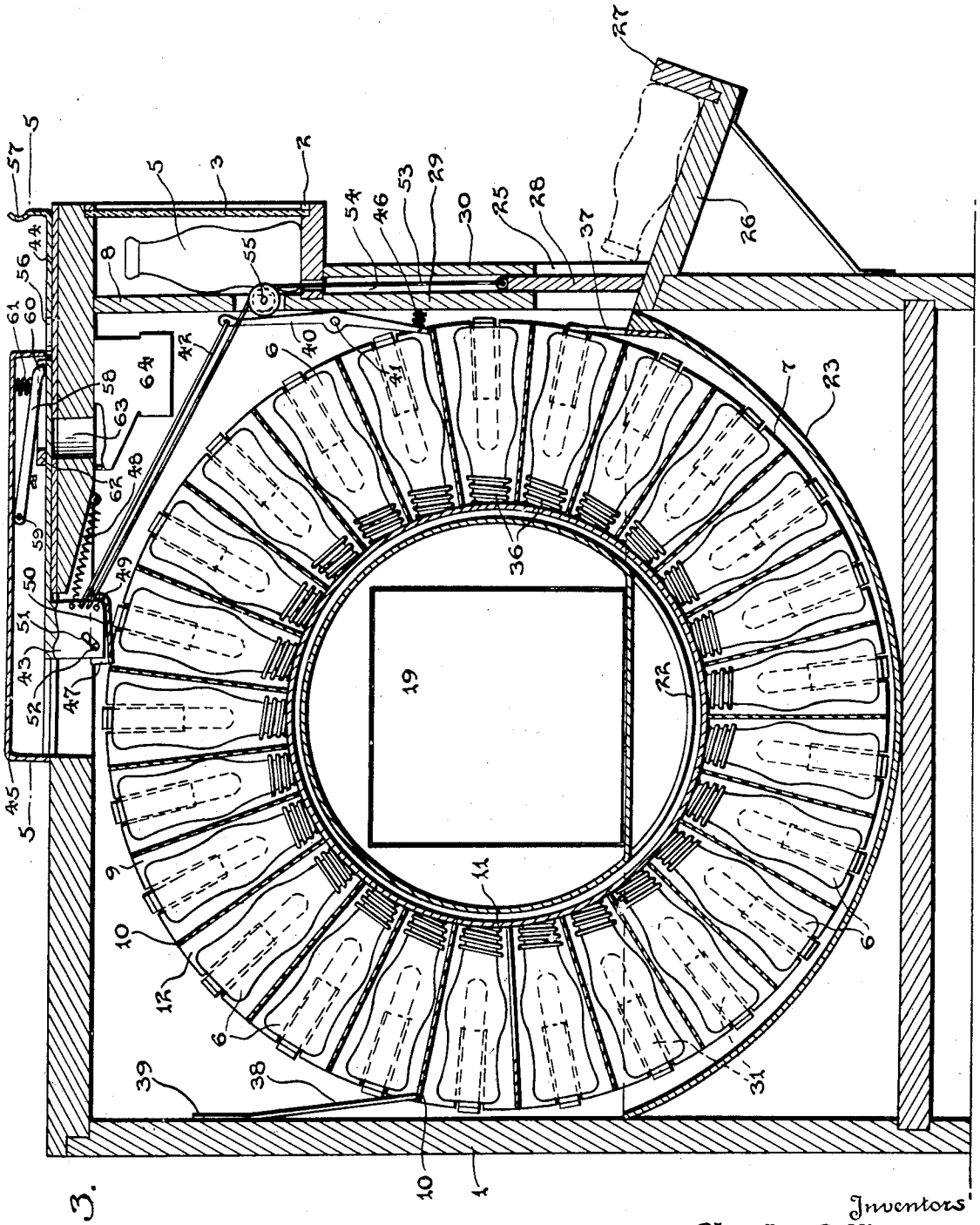


Fig. 3.

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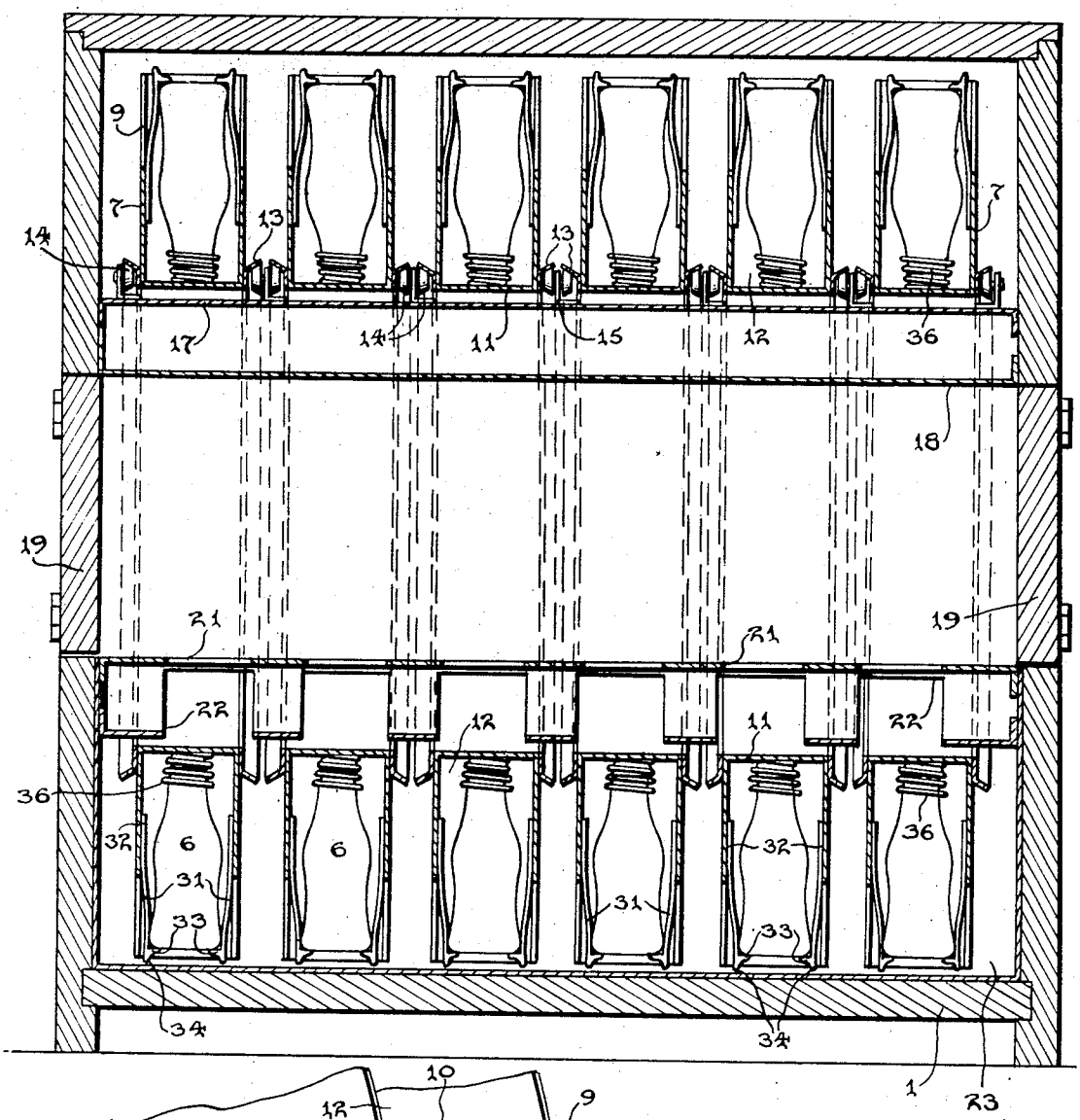
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AUTOMATIC COIN CONTROLLED COOLED BOTTLE DISPENSER

Filed June 18, 1932 4 Sheets-Sheet 4

Fig. 4.



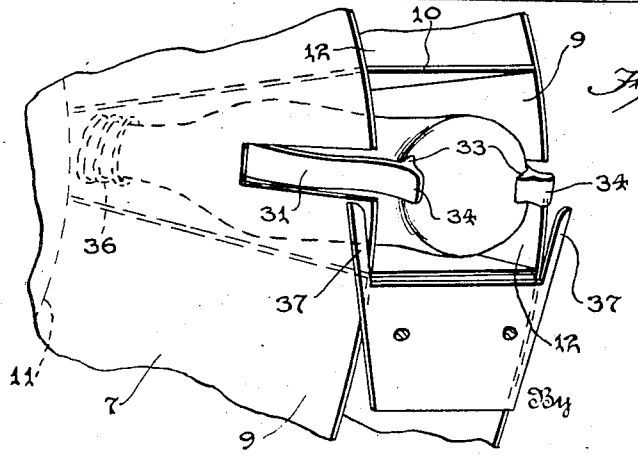


Fig. 6.

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Patented Oct. 2, 1934 1,975,364

UNITED STATES PATENT OFFICE

1,975,364

AUTOMATIC COIN-CONTROLLED COOLED BOTTLE DISPENSER

Charles Clinton Kindred and Burton Clifford Rice, Sikeston, Mo.

Application June 18, 1932, Serial No. 618,034

4 Claims. (Cl. 312—36)

The invention relates to an automatic coin controlled cooled bottle dispenser.

The object of the present invention is to improve the construction of machines for dispensing beverages in bottles and to provide a simple, practical and efficient coin controlled cooled bottle dispenser of comparatively inexpensive construction adapted for dispensing beverages which are sold in bottles and capable of rapidly cooling the bottles of beverages so that the contents may be immediately consumed.

Another object of the invention is to provide an automatic bottle dispenser adapted for dispensing beverages and various other bottled goods and equipped with coin controlled manually operable means for causing rotation of a bottle carrier and for simultaneously releasing a bottle and for automatically ejecting the same from the carrier in an inclined position on the carrier so that gravity will assist the ejecting means in the delivery of the bottle.

A further object of the invention is to provide an automatic coin controlled bottle dispenser of this character having radially disposed bottle compartments and provided with means adapted to directly engage the partitions of the compartments for causing rotation of the bottle carrier and for locking the same against rotation and for preventing retrograde rotation of the bottle carrier.

With these and other objects in view the invention consists in the construction and novel combination and arrangement of part hereinafter fully described, illustrated in the accompanying drawings and pointed out in the claims hereto appended, it being understood that various changes in the form, proportion and minor details of construction, within the scope of the claims, may be resorted to without departing from the spirit or sacrificing any of the advantages of the invention.

In the drawings:—

Figure 1 is a front elevation of an automatic coin-controlled cooled bottle dispenser constructed in accordance with this invention.

Fig. 2 is an end elevation of the same partly in section.

Fig. 3 is a vertical sectional view taken substantially on the line 3—3 of Fig. 1.

Fig. 4 is a central transverse sectional view of the automatic coin-controlled cooled bottle dispenser.

Fig. 5 is a detail horizontal sectional view taken substantially on the line 5—5 of Fig. 3.

Fig. 6 is a detail perspective view illustrating the construction of the device for automatically disengaging the bottle retaining means from the bottles.

In the accompanying drawings in which is illustrated the preferred embodiment of the invention, the automatic coin-controlled cooled bottle dispenser comprises in its construction a cabinet 1 designed to be constructed of wood or other suitable material and provided at the front at its upper portion with a bottle display compartment 2 having front and end walls 3 and 4 of glass and adapted to display a plurality of bottles 5 having contents corresponding to the contents of bottles 6 of rotary bottle carriers 7 in order to indicate the contents of the bottles of the bottle carriers so that purchasers may secure from the dispenser a bottle of the desired beverage in each operation of the dispenser. In Fig. 1 of the drawings two similar bottles are located in front of each of the rotary carriers, but a single bottle may, of course, be employed for designating the kind of beverage in the bottles of each of the rotary carriers. Also electric lights may be employed, if desired, for illuminating the contents of the display compartment and the rear wall 8 of the compartment is designed to be painted an attractive color to form an ornamental background. Access to the display compartment may be had by means of a door or closure of any desired character to enable the bottles on display to be changed when desired.

The cabinet may, of course, be constructed of any desired capacity and while six rotary bottle carriers 7 are shown in the accompanying drawings, the number of bottle carriers may, of course, be varied.

Each rotary bottle carrier which consists of substantially a wheel is designed to be constructed of cast aluminum or other suitable material and it is designed to be formed in two substantially semi-circular sections to facilitate assembling and it is composed of annular side walls 9, radial partitions 10 and an inner annulus 11 forming inner end walls for the radially disposed bottle receiving compartments 12 of the rotary carrier. The rotary bottle carriers may, of course, be constructed in any other suitable manner, and may consist of a single casting or be otherwise formed in a single unit.

The side walls 9 of the rotary carriers are provided with laterally extending annular flanges 13 arranged on ball bearing rollers 14 which are mounted in suitable brackets 15. The ball bearing rollers may be of any desired construction, and in order to prevent lateral movement of the rotary bottle carriers the ball bearing

rollers may be beveled and the flanges 13 may be inclined, as illustrated in Fig. 4 of the drawings. The inclined flanges and the beveled ball bearing rollers will space the rotary bottle carriers from the rollers, but flat rollers and any other means may be employed for accomplishing this result.

The bearing brackets 14 are preferably L-shaped and are provided with suitable spindles 16 upon which the ball bearing rollers are mounted and the said bearing brackets are secured to a stationary cylindrical drum 17 and arranged on the exterior thereof.

The cylindrical drum which is designed to be constructed of sheet metal or other suitable material is disposed horizontally and is secured at its ends to the opposite side walls of the cabinet and it has mounted within it a refrigerant receptacle 18. Any form of refrigerant may, of course, be employed. In the accompanying drawings the refrigerant receptacle is in the form of an ice box, rectangular in cross-section, and extending the entire length of the stationary drum 17 from one side wall of the cabinet to the other and the said side walls of the cabinet are provided with hinged doors 19 for affording access to each end of the ice box. In practice, the ice box or receptacle 18 is designed to be constructed of a size to hold 100 pounds of ice in two cakes of 50 pounds each, which will be introduced into the ice box at the sides of the cabinet. The doors 19 will be secured in their closed position by a suitable lock 20 which may be in the form of a padlock or any other type of lock may, of course, be provided.

The ice box and the drum are provided in their bottom portions with openings 21 and 22 adapted to permit water resulting from the melting of the ice to drain into a half round or segmental drip pan 23 located below and enclosing the lower portions of the rotary bottle carriers, as clearly illustrated in Fig. 3 of the drawings. The drip pan which is composed of a curved bottom and side walls is arranged in close proximity to the rotary carriers so that a comparatively small amount of water from the ice will be sufficient to cool the bottles and their contents sufficiently to permit the contents of the bottles to be consumed immediately upon delivery of the bottles.

By this construction and arrangement of the drip pan the bottled beverages are rapidly cooled with a minimum consumption of the refrigerant. The drip pan is provided with a suitable drain pipe 24 having its upper end located slightly below the upper edge of the drip pan so that the excess water will be carried away by the drain pipe without overflowing the drip pan. The drain pipe extends through the bottom of the cabinet as clearly illustrated in Fig. 2 of the drawings, and the water draining from the cabinet may be disposed of in any desired manner.

The cabinet is provided at its front with a bottle delivery opening 25 and it has an inclined tray 26 extending forwardly and downwardly from the opening 25 and provided with an outer end wall 27 which forms a stop for the bottle. The bottle delivery opening is normally closed by a vertically slidable door 28 movable upwardly and downwardly in a guideway formed by spaced inner and outer walls 29 and 30 located at the front of the cabinet, as clearly shown in Fig. 3 of the drawings. When the bottle dispenser is in its normal position one of the radially disposed compartments 12 registers with the bottle delivery opening 25 and when a full bottle has been ejected by the means hereinafter described, from such compartment, from the position shown in full lines in Fig. 3 of the drawings to the position illustrated in dotted lines in the said figure, the compartment registering with the delivery opening will be empty and the adjacent compartments 12 will be located above and below the delivery opening so that access to the full bottles cannot be had by simply raising the sliding door.

The bottles 6 are positively held in the radially disposed compartments 12 of each rotary carrier by means of bottle retaining devices consisting of springs 31 disposed in pairs and extending longitudinally of the compartments at opposite sides thereof and secured at their inner end portions 32 to the inner faces of the sides of the rotary carrier and provided at their outer ends with inwardly projecting lugs 33 shouldered at their inner faces for engaging the bottom end of the bottles and beveled beyond the shoulders at 34 to facilitate ready introduction of the neck end of the bottle between the springs 31. The neck end of the bottle 6 may be readily introduced between the springs 31 and is located at the inner end wall of the radially disposed compartment when in position. The inner or neck end of the bottles are engaged with coiled expansion springs 36 which cooperate with the bottle retaining devices in holding the bottles firmly in the radially disposed compartments and which also operate to eject the bottles from the radially disposed compartments when the springs of the bottle retaining device are disengaged from the bottle to permit the latter to be delivered to the tray 26 through the delivery opening 25. The coiled spring which is tapered inwardly toward the center of the carrier consists of convolutions of varying diameters to permit a bottle to pass through or protrude beyond the outer larger end or base of the spring and enable the spring to accommodate bottles of different diameters and lengths. The compartment 12 registering with the delivery opening 25 is disposed at a slight inclination, the lower partition of the compartment being disposed at an inclination and extending downwardly and outwardly in flush relation with the upper face of the tray 26 so that gravity will assist the expansion spring in discharging the bottle from the rotary carrier.

In the operation of the bottle dispenser the rotary carrier is intermittently rotated by the means hereinafter described a distance sufficient to carry the radially disposed compartment successively in register with the delivery opening and when the bottle to be discharged reaches the pont of delivery the springs of the bottle retaining device are out of engagement with the bottle. The spreading of the springs to release the bottle is automatically effected by means of a bottle releasing device comprising a pair of diverging members 37 located in the path of the bottle retaining springs and preferably formed of stout resilient material. The resilient diverging members 37 are located in the path of the springs 31 and engage the same as the bottle nears the point of delivery and the said members 37 automatically spread the bottle retaining springs as the latter move along the relatively fixed diverging members 37. When the bottle reaches the point of delivery the bottle retaining springs are fully spread apart and out of engagement with the bottle which is automatically ejected through the delivery opening by the expansion spring 36. The spring or resilient expanding members 37 which

are located in the path of the retaining springs are arcuate as clearly illustrated in Fig. 3 of the drawings, and they are engaged at their upper ends by the bottle retaining springs when the bottle is at the point of delivery.

The rotary carriers are locked against retrograde rotation by resilient locking members 38 preferably consisting of leaf springs arranged at the inner face of the rear wall of the cabinet and secured at their upper ends at 39 to the same and have their lower ends free and engaging directly a partition 10 in each of the rotary carriers.

The locking devices 38 permit forward movement of the rotary carriers and effectually prevent backward rotation of the same. The rotary carriers are normally locked against forward rotation by means of locking levers 40 located at the inner face of the front wall of the cabinet in an upright position and pivoted intermediate of their ends at 41 to form upper and lower arms, the lower arms engaging a radial partition in each of the rotary carriers, as clearly illustrated in Fig. 3 of the drawings. The upper arm of the locking lever 40 is connected by a rod 42 with a depending block or extension 43 of a coin controlled manually operable slide 44 located at the upper face of the top wall of the cabinet and extending into a metallic casing 45 of approximately oblong formation mounted upon the said top wall of the cabinet, as clearly shown in Fig. 3 of the drawings. When the slide is moved inwardly to operate a rotary carrier the rod 42 pulls the upper arm of the lever 40 inwardly or rearwardly and swings the lower arm forwardly or outwardly against the action of a spring 46 to disengage the locking lever 40 from the adjacent partition of the rotary carrier to release the latter and permit a forward rotary movement of the same by an actuating dog 47 carried by the block or extension 43 at the bottom thereof and adapted to engage a radial partition of the rotary carrier. The spring 46 which is of spiral form is mounted on the front wall of the cabinet at the inner face thereof and it bears against the lower arm of the locking lever 40 and returns the same to its engaging position when the slide 44 is moved outwardly by the action of a spring 48 which returns the slide to its initial position after each operation of the bottle dispenser.

The carrier actuating dog 47 which is pivoted at its front end at 49 to the block or extension of the slide 44 is provided with a recess 50 to receive the bottom of the block 43 and the rear portion of the dog is connected by a slot and pin connection with the block 43 to permit a limited upward and downward movement of the said dog 47. The block 43 is provided at its rear portion adjacent its lower face with an inclined slot 51 and the dog 47 is provided with a transverse pin 52 which operates in the slot. This up and down pivotal movement of the dog 47 enables the dog to engage a partition and actuate the rotary carrier when the slide 44 is moved inwardly and it also permits the dog to slide over the rotary carrier in the outward movement of the manually operable slide 44. By means of the actuating dog the rotary bottle carrier is rotated a distance equal to the circumferential width of one of the compartments of the rotary carriers so that the rotary carrier will be rotated with a step by step movement a distance just sufficient to bring the bottles successively opposite the delivery opening. The closure 28 of the delivery opening is connected by a wire cable 53 with the block or extension 43. The wire cable 53 extends upwardly in the guideway 54 and it passes over a pulley 55 and extends upwardly and rearwardly therefrom to the depending extension 43 of the slide and when the slide is moved inwardly or rearwardly the door 28 will be raised to expose the delivery opening simultaneously with the unlocking of the rotary carrier and the forward rotation of the same by the dog 47.

The compartments of the rotary carriers may be made of any desired size to receive five cent, ten cent or other priced beverages or goods, and the slide 44 which extends forwardly in advance of the casing 45 is provided with a coin receiving opening 56 and is of a thickness corresponding exactly to the proper coin so that only a coin of the proper dimension will enable the slide to be operated. The slide is provided at its front end with a handle 57 and it is adapted to be locked against inward movement by a slide locking lever 58 disposed at an inclination within the front portion of the casing 45 and pivoted at its upper rear end at 59 to the same and having a front downwardly extended terminal 60 adapted to enter the coin receiving opening and lock the slide against inward movement when no coin occupies the said opening. When a coin of the proper size is arranged in the opening 46 it will pass under the locking lever and the slide may be fully operated. If a coin of greater thickness than the slide is inserted in the opening 56 of the locking lever it will abut against the front end of the locking lever which will form a stop for preventing further inward movement of the slide. The lever is urged downwardly by a coiled spring 61 interposed between the upper edge of the lever and the top wall of the casing 45 and located adjacent the front end of the locking lever. In order to prevent the slide from being released by the insertion of a slug in the coin receiving opening 46 a horse shoe magnet 62 is arranged horizontally within the casing 45 with its sides located at opposite sides of the locking lever and projecting slightly in advance of the same so that the magnet will operate to lift a slug and cause the same to be engaged by the locking lever.

Instead of employing a permanent horse shoe magnet any other form and arrangement of magnet may be used. The spring 48 which automatically returns the slide to its initial position is located at the top wall of the cabinet and is connected at one end to the top wall and at its other end to the extension 43 of the slide. The top wall of the cabinet is provided with a coin passage 63 which communicates with a coin receptacle 64 located directly beneath the top wall of the cabinet and adapted to receive the coins from the slide. The coin opening 56 of the slide registers with the coin passage 63 when the slide is at the limit of its inward movement so that each coin will be deposited in the coin receptacle.

What is claimed is:

1. In an automatic bottled beverage dispenser, a cabinet having a delivery opening and provided with a movable door, a rotary bottle carrier provided with radially disposed bottle compartments and having radially disposed partitions separating the compartments, a pivoted locking lever normally directly engaging one of the partitions for holding the bottle carrier against forward rotary movement, an automatic locking device engaging another of the said partitions for holding the bottle carrier against retrograde rotation, and a manually operable slide provided with a pivoted dog for directly engaging the radial

partitions for rotating the bottle carrier, and means for connecting the slide with the locking lever and movable closure for releasing the bottle carrier and for exposing the delivery opening when the slide is actuated to rotate the rotary bottle carrier.

2. In an automatic bottled beverage dispenser, a rotary bottle carrier provided with radially disposed bottle compartments, means for positively retaining bottles in the compartments including a pair of springs engaging the bottles at opposite sides thereof, manual means for causing rotation of the bottle carrier, and means located in the path of the springs for spreading a pair of the same to release a bottle at each operation of the rotary bottle carrier.

3. In an automatic bottled beverage dispenser, a rotary bottle carrier provided with radially disposed bottle compartments, means for positively retaining bottles in the compartments including a pair of springs engaging the bottles at opposite sides thereof, manual means for causing rotation of the bottle carrier, and divergent members arranged in the path of the springs for automatically spreading a pair of the same to release a bottle at each operation of the rotary bottle carrier.

4. In an automatic bottled beverage dispenser, a cabinet having a delivery opening and provided with a vertically slidable door normally closing the delivery opening, said cabinet being provided with exteriorly arranged means adapted to receive the bottles delivered through the said opening, a rotary bottle carrier provided with radially disposed bottle compartments, a manually operable slide guided in the cabinet above the rotary carrier and provided with a dog for directly engaging the radial partitions for rotating the bottle carrier, said slide being also located above the vertically slidable door, means for connecting the slide with the vertically slidable door for exposing the delivery opening when the slide is actuated to rotate the bottle carrier, means for retaining the bottles in the compartments, and means for automatically disengaging the retaining means from a bottle when the slide is operated to rotate the carrier and to open the door.

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