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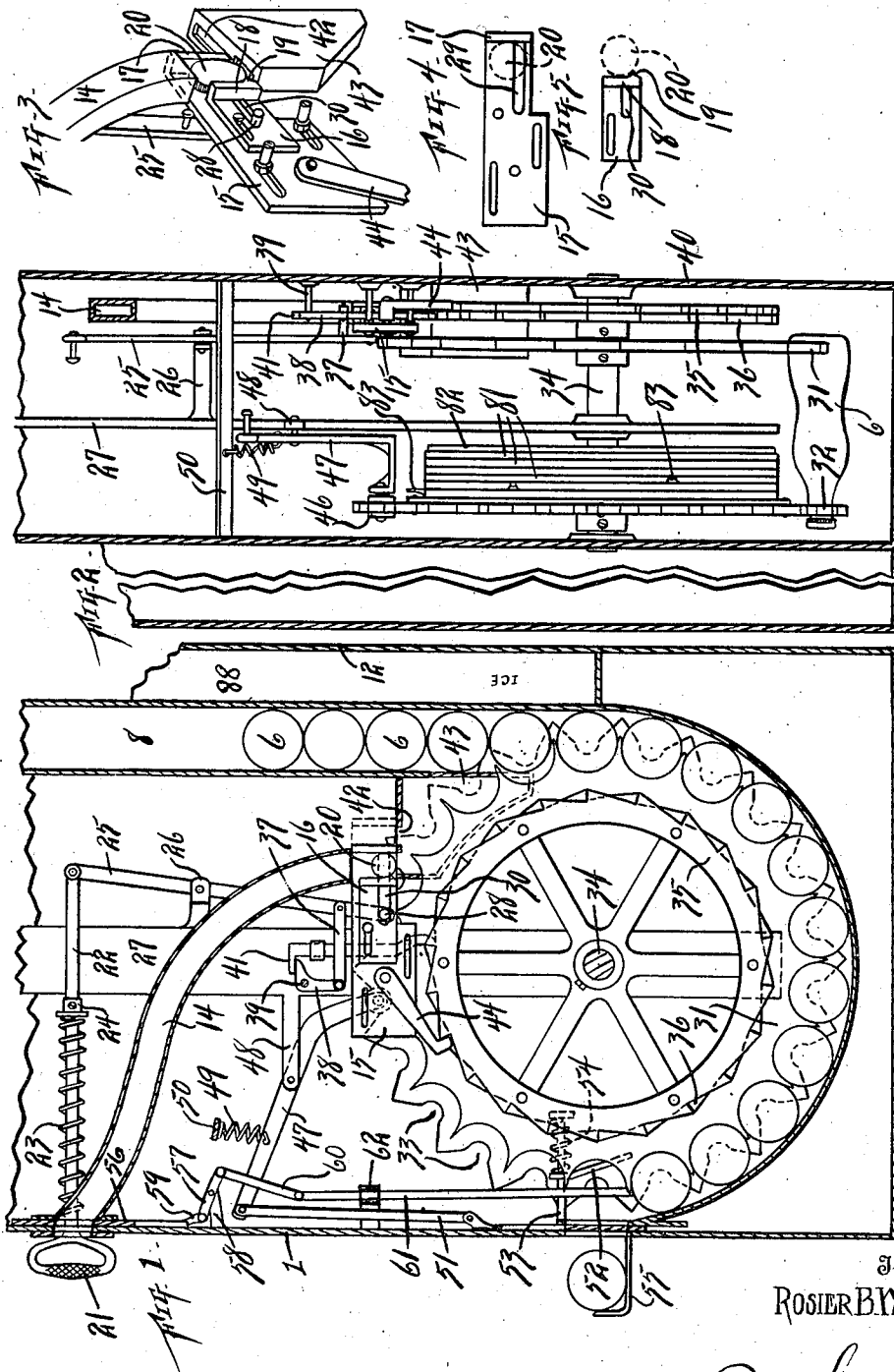
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MACHINE FOR VENDING BOTTLED BEVERAGES

Filed Jan. 11, 1926

2 Sheets-Sheet 1



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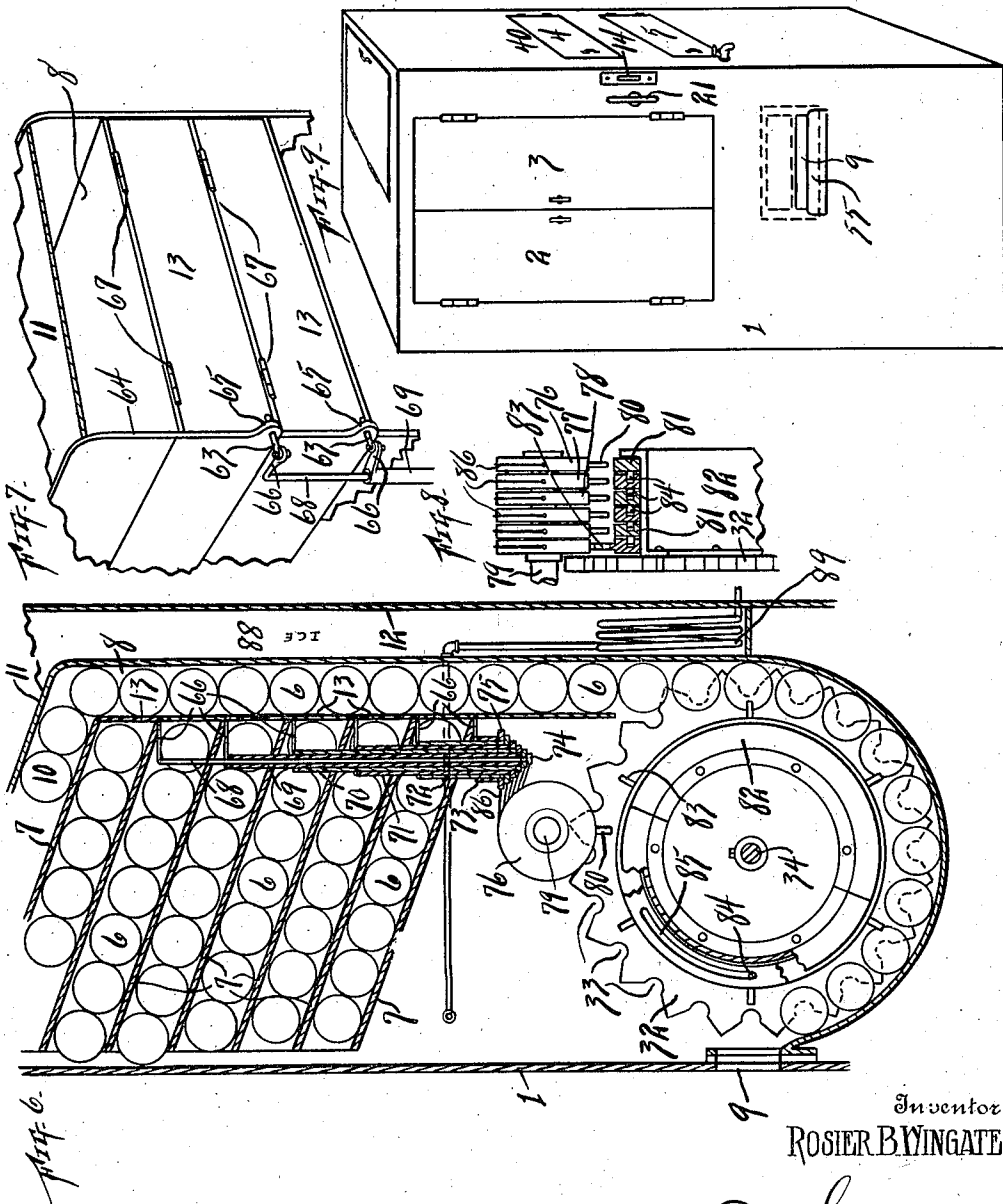
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2 Sheets-Sheet 2



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UNITED STATES PATENT OFFICE.

ROSIER B. WINGATE, OF FORT WORTH, TEXAS.

MACHINE FOR VENDING BOTTLED BEVERAGES.

Application filed January 11, 1926. Serial No. 80,562.

My invention relates to machines for vending bottled beverages, and more particularly to machines for vending beverages by coin-controlled means and to means in said machines for maintaining a supply of cool water; and the object is to provide machines for use of merchants or other trading interests from which customers can obtain the beverages by merely inserting a coin and pulling a lever. The advantages of such machines is that a machine may be located at any convenient and desirable location where it would be inconvenient and undesirable to locate a store or regular place of business, as a beverage stand, or fruit stand, or other place of business. Such machine may be located in any suitable place where many people pass or stop temporarily so that any person wanting a beverage or drink of cold water may obtain the same merely by inserting a coin and pulling a lever. Other objects and advantages will be fully explained in the following description and the invention will be more particularly pointed out in the claims.

Reference is had to the accompanying drawings which form a part of this application.

Fig. 1 is a vertical section of the machine casing and coin chute, showing the interior operating mechanism.

Fig. 2 is a vertical section of the casing at right angles to the view shown in Fig. 1, and taken substantially along the line 2-2 of Fig. 1.

Fig. 3 is a perspective view of certain operating parts shown in Figs. 1 and 2 for shifting the coins from the coin chute for releasing the levers for delivering the goods.

Fig. 4 is a side view of the coin guiding plate which co-operates with the mechanism shown in Fig. 3.

Fig. 5 is a side elevation of a shifting plate which co-operates with the plate shown in Fig. 4.

Fig. 6 is an elevation of the storage bin for bottles and the delivery mechanism for discharging the bottles from the machine.

Fig. 7 is a perspective view, illustrating the means for opening the compartments which contain the bottles in the storage bin.

Fig. 8 is a detail view of the disk and slip rings for operating the levers for opening the storage compartments.

Fig. 9 is a front elevation of the machine.

Similar characters of reference are used to indicate the same parts throughout the several views.

This machine is provided with a cabinet for inclosing all the operating mechanism and the storage bin for bottles. The front 1 of the cabinet is provided with doors 2 and 3 and there are doors 4 and 5 on the side for making access to the interior working mechanism. The upper part of the cabinet forms a storage bin for the bottles. The bottles 6 are stored on inclined shelves 7 and the shelves 7 are close enough to each other to prevent displacement of the bottles, the shelves forming inclined chutes leading to the main discharge chute 8 which leads to the door or discharge 9. The upper tier 10 of bottles is supported on a shelf 7 and the bottles are prevented from displacement by the top 11 and this shelf and the top 11 form in fact the beginning of the main chute 8. The storage chutes thus described are located inside of the cabinet and the chute 8 is adjacent to the back 12. Each inclined chute, that is, the chutes formed by the shelves 7, is provided with a door 13 to prevent the bottles on the shelves 7 from jamming the bottles going down the chute 8. Each door 13 is held closed until all the bottles above the door have passed below the door. The doors are opened by mechanism hereinafter described.

The machine is provided with a coin chute 14 which leads to and forms part of the operating mechanism. When the coin is dropped in the chute 14, it will fall down between two lugs 17 and 18 on the ends of plates 15 and 16, as shown in Fig. 3. The lug 18 is provided with a projection 19 to support the coin temporarily, the coin bearing against the upperside of the projection 19. The operation is completed by pulling the handle 21 which is connected to a pull rod 22 and the handle 21 and the pull rod 22 are held in normal position by a spring 23 which is mounted on the pull rod 22 and rests against the casing 1 and a collar 24 on the pull rod 22. The pull rod is pivotally connected to the lever 25 which is fulcrumed on a bracket 26 which is attached to a central brace 27. The lever 25 carries a lug 28 which projects through a slot 29 in plate 15 and through a slot 30 of plate 16. When the handle 21 is pulled, the lever 25 will first operate a releasing mechanism before the coin is moved.

The machine is provided with two bottle carrying and moving wheels 31 and 32. The wheel 31 has larger notches or curved cavities for supporting the bodies of the bottles and the wheel 32 has smaller cavities 33 for engaging and moving the necks of the bottles 6. The wheels 31 and 32 are rigidly mounted on the shaft 34. Ratchet wheels 35 and 36 are also rigid with the shaft 34. A link bar 37 is pivotally connected to the lever 25 and to a trip 38 which is pivotally mounted on a lug 39 which is rigid with the casing member 40. The trip 38 is adapted to raise a dog 41 which locks the ratchet wheel 36; the ratchet wheel 35 and the bottle carrying wheels 31 and 32 are all locked against movement, being rigid with shaft 34. When a pull is made on the lever 25 by pulling on handle 21, the dog 41 will be actuated to release both ratchet wheels 35 and 36 and the bottle carrying wheels 31 and 32. The lug 28 carried by the lever 25 will continue to travel in the slots 29 and 30 and will strike the lug 18 of plate 16 and the lug 18 will move the coin 20 and the coin will move lug 17 and plate 15 forward to the limit of the movement of these plates 15 and 16. The coin 20 will then drop into the opening 42 in the coin box 43. The plate 15 carries a dog 44 pivotally connected thereto and the dog 44 will move the ratchet wheel 35 one tooth distance simultaneously with the moving of the plate 15. This operation starts all the wheels 31, 32, 35, and 36 to moving. The operation of moving the wheels serves to open a door 9 to discharge a bottle.

The door 9 is opened by the movement of the wheel 32. The roller 46 bears in the neck cavities 33 in wheel 32. The roller 46 is carried by a lever 47 which is pivotally mounted on a bracket 48. The lever 47 is held in engagement with the wheel 32 by a tension spring 49, which is attached to a bar 50. A link 51 is pivotally connected to the lever 47 and to the door 9. The door 9 is preferably a piece of sheet metal, having an opening therethrough corresponding to the opening in case member 1. The opening in the door member 9 normally stands above the opening in the case 1. When the link 51 moves the door 9 downwardly it makes the opening therethrough register with the opening in case 1. In the operation, a bottle is moved against a yielding plate 52 and as soon as the door 9 is opened the bottle will be forced out of the machine by the plate 52. The plate 52 is slidably mounted on a rod 53 and a spring 54 is mounted on the rod 53 between its head and the plate 52. A rack 55 is provided on the outside of the machine to support the bottle until it is removed.

Provision is made to prevent the inser-

tion of coins when the machine is empty. The coin chute 14 is provided with a door 56 and this door is supported by a lever 57 which is fulcrumed on a bracket 58 which is rigid with the casing 1 and loosely connected to a shank member 59 of the door 56. A link bar 60 is pivotally connected to the lever 57 and to a trip 61. A guide bracket 62 is attached to the casing 1 to cause the trip bar 61 to move vertically. As long as there is a bottle to support the trip bar 61, the door 56 of the coin-chute will be held open. If there is no bottle in the machine, the door 56 will be closed by gravity so that no one can put a coin in the machine.

Means are provided for releasing the doors 13. These doors are normally held closed by locking pins 63. The frame members 64 have sockets or bearings 65 for the pins 63. The pins 63 are pivotally connected to cranks 66. The pins 63 are withdrawn from positions in front of the doors 13 by means of the cranks 66. When the doors 13 are released, the bottles bearing against the doors will press the doors open, the doors swinging upwardly on their hinges 67. A door 13 will not be opened as long as there is a bottle 6 in the chute 8 bearing against a door.

Means are provided for operating the cranks 66. Each crank 66 is operated by a shaft and the shaft for operating the top-most crank consists of a rod 68. The next shaft 69 consists of a pipe or sleeve surrounding a portion of the rod 68 and this shaft carries and operates a crank 66. Similar pipes or sleeves 70, 71, 72, and 73 are provided for the other cranks 66, each sleeve being superposed on the other. It is apparent that the number of the shelves 7 may be increased and all other co-operating parts may be increased. Each shaft or pipe from shaft 68 to sleeve shaft 73 is provided with a disk on the lower end and means are provided for rotating these disks. Shaft 68 is provided with a disk 74. Sleeve shaft 73 is provided with a disk 75. A series of disks 76, 77, and 78 and enough to correspond with all the shafts 68 to 73 and their disks, are loosely mounted on the shaft 79. Each disk on shaft 79 is provided with a lug 80 projecting radially from the periphery thereof. The lugs 80 are actuated by a series of slip rings 81 are loosely mounted on a drum 82 and this drum is made rigid with carrier wheel 32. Each slip ring 81 has a lug 83 projecting radially therefrom. The lugs 83 operate the disks 76, 77, and 78 and the similar disks by engaging and driving the lugs 80. For this reason the slip rings 81 must have sufficient friction against the drum 82 for driving the lugs 80 and the disks carrying these lugs. Each slip ring 81 except the last ring has a lateral lug 84 so that the first ring after trav-

eling a predetermined distance will engage the adjacent ring 81 and move the same along with the first ring 81. The rings 81 have slots 85 and the lugs 84 project into these slots, that is, each lug 84 will project into the slot only of the adjacent ring for moving the same. When all the rings 81 have been actuated, the lugs 83 will stand in a row and all the lugs 80 will be moved out of the path of the lugs 83 and will stand in a row. All the disks and rings must be restored manually to normal positions, as shown in Fig. 6. The shaft disks 74 to 75 are actuated by cables 86 which are attached to the peripheries of the disks 74 to 75 and to the peripheries of the disks 76, 77, and 78 and similar disks on the same shaft 79. The mechanism must be so timed that when the bottles have all passed out of the top chute and the last bottle passes below the door 13 of the next chute below, the slip ring 81 will actuate the disk 76 which will actuate the disk 76 by means of a cable 86. The turning of the disk 74 will actuate the lever 66 and withdraw the first pin 63 from the door 13 so that the second tier of bottles will descend into the chute 8. When the slip ring 81 acts it will bring the next slip ring into position for action by means of the lug 84 which is carried by the ring 81. The same operations will take place when the second slip ring 81 is actuated and the second lever 66 will actuate the next pin 63.

The machine is provided with a storage compartment 88 for ice and coils 89 are mounted in this compartment to be connected with a water supply source for providing cooled water for service with the bottled beverages and for service generally. The ice will cool the bottled beverages and also the coils sufficiently without other cooling means.

What I claim, is,—

1. A beverage bottle vending machine comprising a casing provided with a discharge door, a storage bin provided with a main discharge chute leading to said door, a pair of bottle carrying wheels of different diameters revolubly mounted in said casing, each wheel having a plurality of peripheral cavities and adapted to move the bottles in said main chute for moving the bottles one by one to said door, means for forcing the bottles through said door, a plurality of storage chutes inclined towards said main chute, means for locking said inclined chutes closed, and means actuated by said bottle carrying wheels for releasing the locking means of said inclined chute.

2. A beverage bottle vending machine comprising a casing provided with a discharge door, a storage bin provided with a main discharge chute leading to said door and a plurality of inclined storage shelves

adapted to discharge into said main chute, doors for said inclined storage shelves, a pair of bottle carrying wheels of different diameters revolubly mounted in said casing and the larger wheel having a plurality of peripheral cavities for engaging bottle necks and the smaller wheel having an equal number of larger cavities for engaging the bottle bodies adapted to move bottles in said main chute for moving the bottles one by one to said door, means for forcing the bottles through said door, means for locking the doors of said inclined storage shelves closed, and means actuated by said bottle carrying wheels for releasing the locking means of said doors.

3. A beverage bottle vending machine comprising a casing provided with a discharge door, a storage bin provided with a main discharge chute leading to said door, said chute terminating with a curved member open on one side, a plurality of inclined storage chutes adapted to discharge bottles into said main chute, doors for said inclined chutes, means for locking said doors closed, a pair of bottle carrying wheels revolubly mounted in said casing with their peripheries projecting into the curved member of said main chute for moving bottles one by one to said discharge door, means for forcing bottles through said discharge door, and means actuated by said bottle carrying wheels for releasing said door locking means, one at a time in succession.

4. A beverage bottle vending machine comprising a casing provided with a discharge door, a storage bin provided with a main discharge chute leading to said door, said chute terminating with a curved member open on one side, a plurality of inclined storage chutes adapted to discharge bottles into said main chute, doors for said inclined chutes, means for locking said doors closed, a pair of bottle carrying wheels revolubly mounted in said casing with their peripheries projecting into said curved member for moving bottles in said chute to said discharge door, means for forcing bottles through said door, means actuated by said bottle carrying wheels for releasing said door locking means, means for revolving said bottle carrying wheels, and a pull rod and lever for actuating said revolving means.

5. A beverage bottle vending machine comprising a casing provided with a discharge door, a storage bin in said casing provided with a main discharge chute leading to said door and terminating with a curved member open on one side, a plurality of inclined storage chutes adapted to discharge bottles into said main chute, said casing having a compartment for cooling water supplying coils and for ice, doors for said inclined storage chutes, means for lock-

ing said doors closed, a pair of wheels having their peripheries corrugated for receiving bottles projecting into said main chute for moving bottles therein to said discharge door, means for forcing bottles through said door, means actuated by said pair of wheels for releasing said door locking means, means for revolving said wheels, and a pull rod and lever for actuating said revolving means.

6. A beverage bottle vending machine comprising a casing provided with a discharge door, a storage bin provided with a main discharge chute leading to said door, a pair of bottle carrying wheels of different diameters revolubly mounted in said casing

and one wheel having small cavities for engaging bottle and the other wheel having larger cavities for engaging bottle bodies adapted to move bottles in said main discharge chute for moving bottles one by one to said door, means for forcing bottles through said door, means for revolving said wheels, a series of inclined chutes for feeding bottles to said main chute and locks therefor, and means actuated by one of said wheels for opening said door and means actuated by one of said wheels for releasing said locks.

In testimony whereof, I set my hand, this 5th day of January, 1926.

ROSIER B. WINGATE.