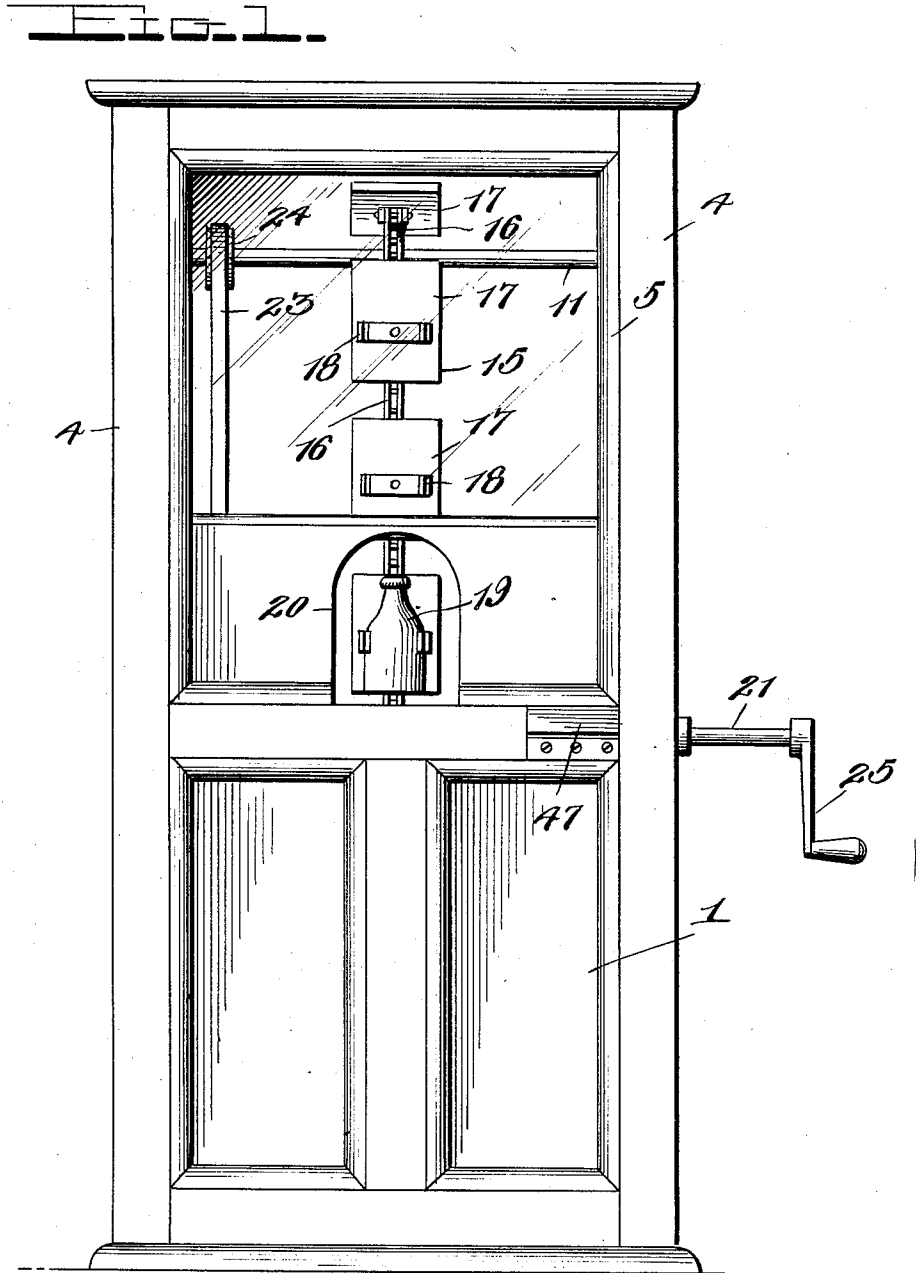


W. H. HERMAN.
BOTTLE VENDING MACHINE.
APPLICATION FILED JULY 22, 1911.

1,025,978.

Patented May 14, 1912.

4 SHEETS—SHEET 1.



Inventor

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Witnesses

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Herbert J. Jacobi

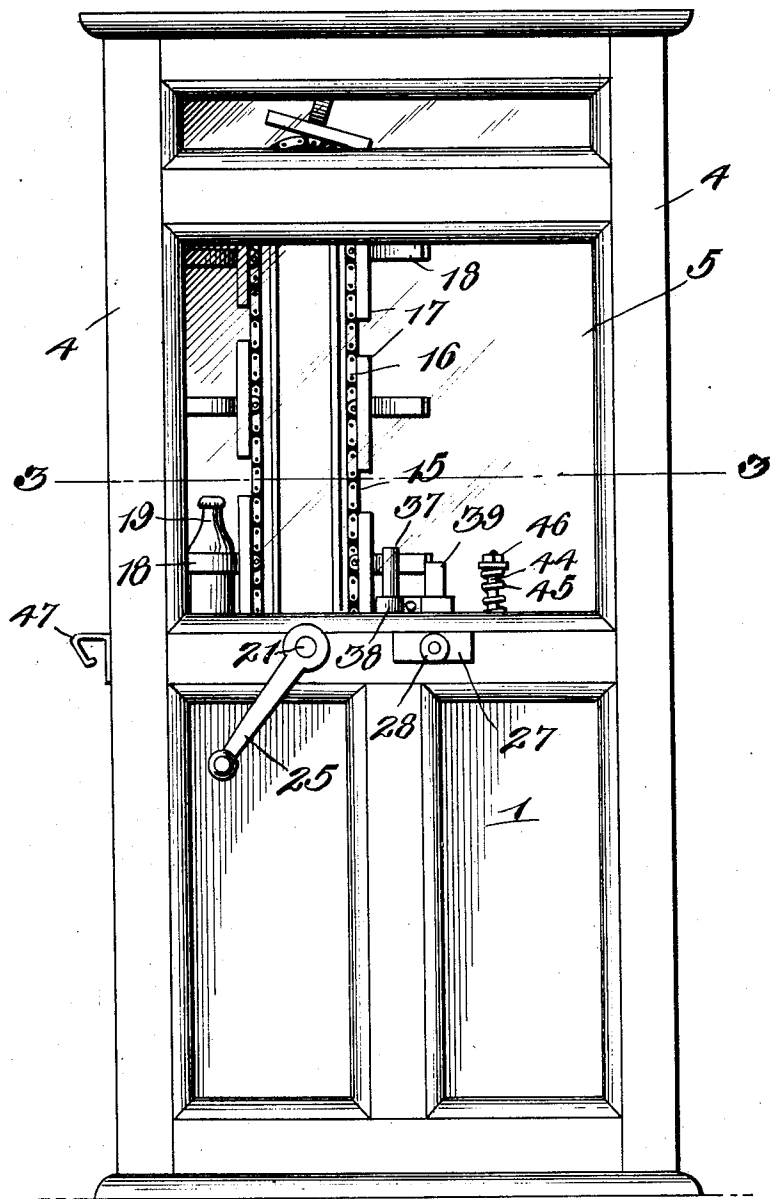
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4 SHEETS—SHEET 2.



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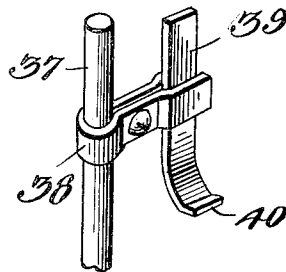
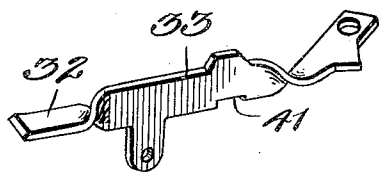
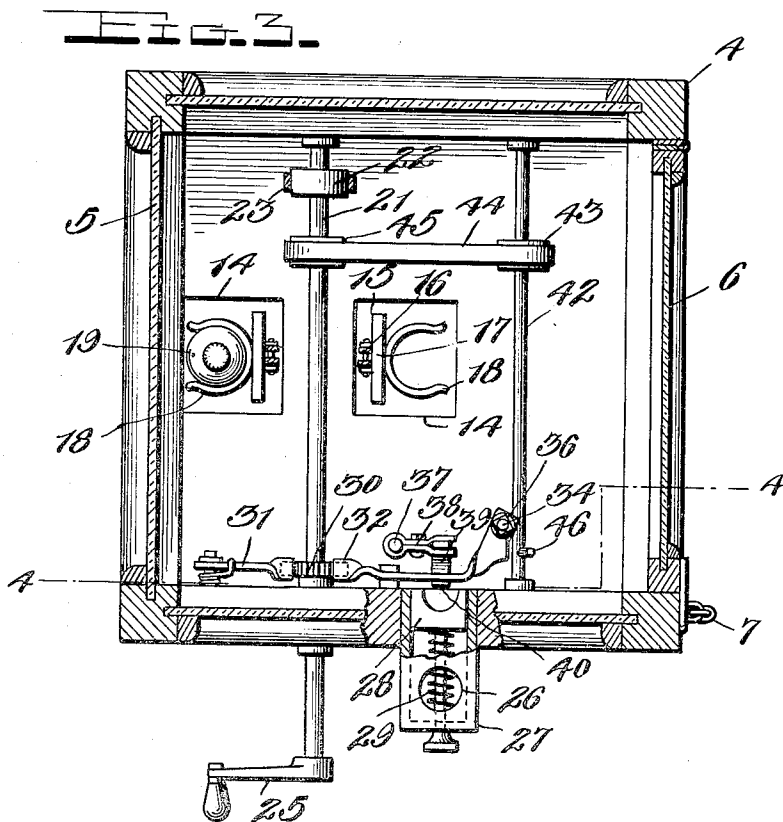
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4 SHEETS—SHEET 3.



Witnesses

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By

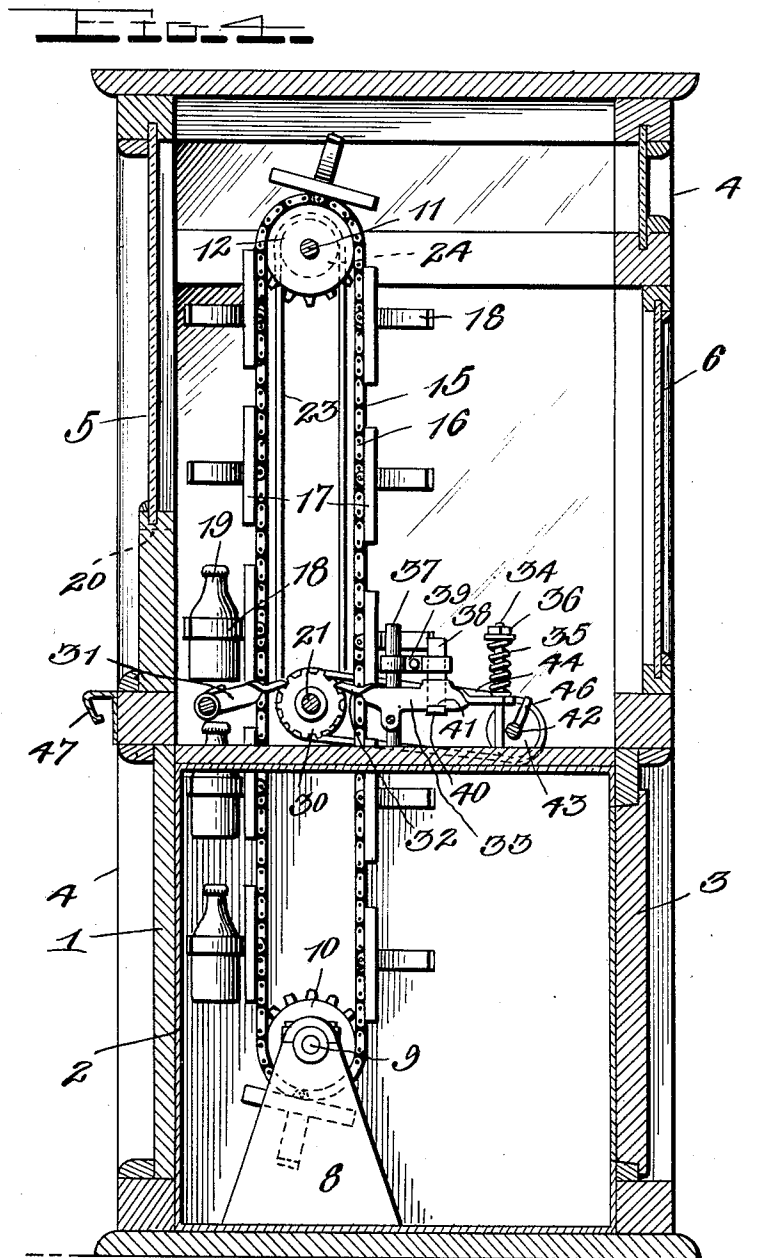
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4 SHEETS-SHEET 4.



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UNITED STATES PATENT OFFICE.

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BOTTLE-VENDING MACHINE.

1,025,978.

Specification of Letters Patent.

Patented May 14, 1912.

Application filed July 22, 1911. Serial No. 639,981.

To all whom it may concern:

Be it known that I, WILLIE H. HERMAN, a citizen of the United States, residing at Wesson, in the county of Copiah and State of Mississippi, have invented certain new and useful Improvements in Bottle-Vending Machines, of which the following is a specification, reference being had to the accompanying drawings.

My invention relates to new and useful improvements in vending machines and more particularly to a bottle vending machine, and my object is to provide a coin operated machine of this character wherein an endless carrier has removably mounted thereon, a plurality of bottles which are adapted to be brought into position to be removed one by one.

A further object of the invention resides in providing means whereby the contents of the bottles mounted on said carrier, may be kept cool.

A further object of the invention resides in the provision of means whereby said carrier may be rotated, and a still further object of the invention resides in providing an improved coin controlled mechanism in connection with the aforesaid means for rotating the carrier.

A still further object of the invention resides in providing a device which is comparatively simple in construction, thereby inexpensive to manufacture, one which contains but few operating parts and durable in construction, and furthermore, one which is very effective and useful in operation.

With these and other objects in view, my invention consists in the novel features of construction, combination and arrangement of parts as will be hereinafter referred to and more particularly pointed out in the specification and claims.

In the accompanying drawings forming a part of this application, Figure 1 is a front elevation of the device. Fig. 2 is a side elevation thereof. Fig. 3 is a horizontal section as seen on line 3—3. Fig. 2. Fig. 4 is a vertical section through the frame of the device as seen on line 4—4. Fig. 3. Fig. 5 is a detail perspective of the main locking pawl. Fig. 6 is a similar view of the spring trigger and its supporting parts.

In carrying out my invention, I shall refer to the drawings in which similar reference characters designate corresponding parts throughout the several views and in

which 1 indicates a housing of any desired size and shape, the same being preferably square in horizontal section, as shown in the drawings, the inner walls of said housing being lined with porcelain or any other desired material 2 to cause the same to be water-tight, and thus, said housing may form an ice chest or the like. One wall of said housing is provided with a hinged door 3, whereby entrance may be had to the housing, and extending upwardly from the corners of said housing, are the uprights 4 which form a frame-work for the upper casing 5. This upper casing has the walls thereof formed of transparent panes, and one of the walls of this latter casing is also provided with a hinged door 6, whereby entrance may be gained to said casing, and when desired, both doors 3 and 6 are provided with hasps or the like, whereby padlocks 7 may be engaged therewith to lock the same in their closed positions.

Mounted in the floor of the housing 1, is a pair of supporting blocks or the like 8, between which is rotatably mounted a shaft 9 upon which is carried a sprocket wheel 10, and rotatably carried between the frame of the upper casing 5 adjacent the top thereof, is an additional shaft 11, upon which is mounted to rotate therewith, an additional sprocket 12. Extending over the sprocket in the casing and the housing and through openings 14 in the bottom of said casing, or what may be termed the top of said housing, is an endless carrier 15, said carrier comprising an endless chain 16, the links of which are adapted to engage the teeth of the sprocket, and a plurality of blocks or plates 17 carried on the outer faces of the links of said chain. Each plate or block 17, except one, is provided on its outer face, with a spring clamping member 18 which is adapted to receive therein, a bottle 19, and in order to allow the bottles to be readily removed from the clamping members on the plates 17, an opening 20, sufficiently large to admit of the entrance of the hand therein, is provided on the front wall or face of the casing 5. The spring clamping members 18 retain the bottles to the plates in a substantially vertical position, and as each plate registers or aligns with the opening 20, a bottle will be disposed in position, whereby the same may be removed by the insertion of the hand through said opening, and when the contents of said bottle has been ex-

tracted, said bottle may be replaced in the clamping member of the plate from which it was removed. Rotatably mounted in the frame of said casing 5 adjacent the lower end thereof and a short distance above the top of the housing 1, is a shaft 21, said shaft being provided with a pulley 22, over which extends an endless belt 23. This belt also extends over a pulley 24 carried on the shaft 11, whereby as said shaft is rotated, the shaft 11 will likewise be rotated to correspondingly rotate the endless carrier 15, and in order to provide means whereby said shaft 21 may be manually operated, a crank or handle member 25 is provided on one end of said shaft 21.

In the frame-work of the casing 5 adjacent its bottom, is a coin slot 26, and mounted on said frame in alinement with said slot, is a casing or frame-work 27 in which is reciprocally mounted a plunger 28, said plunger being acted upon by means of a coil spring 29, whereby one end of the same is normally disposed within said slot 26. The shaft 21 carries thereon, a gear or pinion 30, and a spring operated pawl or the like 31, which is pivotally carried within the casing, is adapted to engage the teeth of said gear or pinion to prevent the same from being turned counter-clockwise, and thus, it will be seen that those attempting to tamper with the device by turning the crank 22 in the wrong direction, will be foiled. Also pivotally carried within the casing 5 on the opposite side of the shaft 22 from which the pawl 31 is disposed, is an additional pawl 32, the effective end of which is adapted to also engage the teeth of said gear 30, and said pawl 32 is also provided with an extension or arm 33, which extension is disposed across the coin slot 26 a short distance therefrom and has the extreme end thereof loosely disposed over a vertical stem or arm 34. Encircling this stem 34, is a coil spring 35, the lower end of which is adapted to bear against the free end of said extension 33, while the upper end of said coil engages a nut or the like 36 on said stem, and as the tendency of this spring is to force downwardly, it will be seen that the action of the spring will cause the pawl 32 to swing on its pivot so that the effective end thereof will be normally out of engagement with the teeth of the pinion or substantial ratchet 30. Also mounted in the bottom of the casing or the top of the housing, is a vertically disposed post 37, which post has extending therefrom in a substantially horizontal position, a socket or the like 38, and carried in said socket 38, is a spring trigger 39, said trigger being so disposed as to have the lower end thereof in substantial alinement with the coin slot 26. The extreme lower end of said spring trigger 39 is provided with a laterally extending lug 40 which is

adapted to be received in a small recess or notch 41 in the lower edge of the extension 33 of said pawl 32, to cause the extreme free and effective end to overcome the tension of the spring 35, thereby disposing the effective end of the pawl 32 into engagement with the teeth of the pinion or gear 30. As before stated, the lower end of the spring trigger 39 carrying the lug thereon, is disposed immediately in alinement with the coin slot 26, whereby when a coin is inserted therethrough, the same will force the lug 40 on the lower end of said trigger from its effective position in engagement with the notch in the pawl 32, whereby the action of the spring 35 will have its effect to disengage the effective end of the pawl from the teeth of the pinion 30, and in order to cause the pawl 32 to be disposed in its effective position after being once disengaged, an additional shaft 42 is rotatably mounted in the frame of the casing immediately adjacent the vertical stem 34, which additional shaft is provided with a pulley 43, over which extends an endless belt 44.

This belt 44 also passes over an additional pulley 45 on the shaft 21, and thus, it will be seen that as said last referred to shaft is rotated, the shaft 42 will likewise be rotated, and carried on said shaft 42, is a laterally extending lug or pin 46 which is so arranged with relation to the extreme free end of the extension arm 33 and the vertical stem 34 that when said shaft 42 is rotated, said lug or pin will engage the under face of the free end of said extension arm to force the same upwardly against the action of the spring 35. The forcing of this end upwardly by the lug, will swing the pawl 32 on its pivotal point to cause the engaging end to contact with the teeth of the pinion 30 and simultaneously, the laterally extending lug 40 on the spring trigger 39, will be disposed in the notch 41 to retain the pawl 32 in this position, and when in such position, the shaft 21 cannot be rotated in either direction, in view of the pawls 31 and 32. The carrier, however, will be so disposed with respect to the opening in the front wall of the casing, that it will be impossible to grasp the bottle on the plate below the one disposed immediately in alinement with said opening, and thus, it will be seen that the only possible way to obtain a filled bottle, will be by means of placing a coin in the slot and operating the device heretofore described.

In operation, bottles filled with any liquid which is desired to be vended, are first applied to all but one of the plates on the endless carrier and ice placed in the housing or chest 1, whereupon the carrier is then rotated so that the empty plate will be disposed opposite the opening in the front wall of the device. The doors of the device are then locked so that no one may

enter with malicious intent, and in this position, it will be impossible for one to obtain a bottle from the plate above or below the blank plate without first placing a coin in the device. The placing of the ice in the housing in the lower portion of the device and the disposing of the carrier there-through so that the bottles carried thereby, may pass through this housing before being obtained by the purchaser, the contents of the bottles will always be cold when purchased, and when it is desired to obtain a cold bottle, the plunger 28 is first withdrawn and a coin placed thereon, and as said plunger is acted upon by means of a spring, the coin will be automatically forced through the slot 26. As the coin is forced inwardly, the same will engage the lug 40 and force the lower end of the spring trigger 39 inwardly to release the same from its engagement in the notch of the extension arm 33 of the pawl 32. As the lower end of the spring trigger 39 is disengaged from the pawl 32, the spring 35 will act upon the extreme free end of the arm 33 to swing said pawl upon its pivotal point and disengage the effective end thereof from the teeth of the pinion 30. The coin will then drop to a box 47 therebelow, and the handle member 25 may then be turned in the proper direction, which will cause the endless carrier to be rotated through the medium of the means heretofore described, until the plate 17 below the empty plate has been disposed in alinement with the opening in the front wall of the casing. The bottle may then be removed from its spring clamping means on the plate and the contents thereof extracted, whereupon the purchaser may then return the empty bottle to the clamping chamber.

Simultaneously with the rotation of the shaft 21 through the rotation of the handle member 25, will be the rotation of the shaft 42, and by the time the plate retaining the cold bottle has reached the point opposite the opening in the front wall of the device, the lug on said shaft 42 will have engaged the lower face of the extension arm 33 to force the same upwardly against the action of the spring 35 to correspondingly dispose the effective or engaging end of said pawl 32 into engagement with the teeth of the pinion 30, thereby locking the same against a continued rotation. Thus, it will be seen that the carrier may only be rotated sufficiently to allow one bottle to be obtained therefrom upon the insertion of but a single coin. As this extension arm 33 is forced upwardly at its free end, the lug 40 on the spring trigger 39 will again be forced into its position in engagement with the notch 41 to retain the pawl in its effective position until another coin has been placed therein.

From the foregoing, it will be seen that I have provided a bottle vending machine wherein a bottle filled with liquid contents may be obtained each time a coin is inserted in the machine and the parts caused to operate therein. It will further be seen that I have provided an endless carrier having a plurality of plates secured thereto, said plates being provided with spring clamping means on the outer faces, whereby a bottle may be readily placed therein and removed therefrom when desired.

It will further be seen that I have provided operating means whereby the endless carrier carrying the bottles, may not be rotated until a coin has been placed in the machine, and it will still further be seen that in the rotation of the endless carrier, the same passes through an ice chamber which will allow the contents of the bottles carried thereby to be thoroughly cooled.

It will still further be seen that I have provided an improved coin operated mechanism for the device, whereby the insertion of a coin will automatically release parts so that the device may be readily operated.

It will still further be seen that my device is of comparatively simple construction, whereby the same may be readily and cheaply manufactured, one which is composed of but few operating parts and is durable in construction, and furthermore, one which is very effective and useful in operation.

Although not heretofore mentioned, it must be here stated that I have also provided for the removing of the bottle stoppers from the bottles after the same have been taken from the cabinet, and to this extent, I provide the stationary bottle opener 47 on the front face of said cabinet. After the bottle has been removed, the stopper thereof may be engaged with this opener and readily removed from the bottle.

What I claim is:—

1. In a coin operated vending machine, the combination with a casing, a shaft rotatably mounted in said casing, a pinion carried on said shaft and means to rotate said shaft; of a pawl pivotally mounted within said casing and adapted to engage the pinion to lock said shaft against rotation, means to normally retain said pawl in its ineffective position, additional means to temporarily retain said pawl in its effective position, and means to counteract the action of the last referred to means.

2. In a coin vending machine of the class described, the combination with a casing, a shaft rotatably mounted in said casing, a pinion carried on said shaft and means to rotate said shaft; of a pawl pivotally carried within said casing and adapted to engage the teeth of said pinion, means to retain said pawl in its ineffective position, a spring trig-

ger adapted to engage said pawl to retain the same in its effective position, and means to release the engagement of said trigger with the pawl.

5 3. In a vending machine of the class described, the combination with a casing; a shaft rotatably mounted in said casing, a pinion carried on said shaft and means to rotate said shaft; of a pawl pivotally mounted
10 within said casing and adapted to engage the teeth of the pinion, said pawl being provided with an extension on its ineffective end, spring means acting on the free end of said extension to normally dispose said pawl
15 in its ineffective position, a spring trigger adapted to engage a portion of said extension to retain said pawl in its effective position, and means to release the trigger from its engagement with the extension of said
20 pawl.

4. In a vending machine of the class described, the combination with a casing, a shaft rotatably mounted in said casing, a pinion carried on said shaft and means to
25 rotate said shaft; of a pawl pivotally mounted within said casing and adapted to engage the teeth of the pinion, said pawl being provided with an extension on its ineffective end, spring means acting on the free end of
30 said extension to normally dispose said pawl in its ineffective position, a spring trigger adapted to engage a portion of said extension to retain said pawl in its effective position, means to release said trigger from its
35 engagement with the extension of the pawl to permit said shaft to be rotated, and additional means operated through the rotation of the shaft for causing the pawl to return to its effective position after being ineffective-
40 tively disposed.

5. In a vending machine of the class described, the combination with a casing, a shaft rotatably mounted therein, a pinion carried on said shaft and means to rotate
45 said shaft; of a pawl pivotally carried within said casing and adapted to engage the teeth of the pinion, said pawl being provided with an extension arm on its free end, spring means acting on the free end of said
50 extension arm to normally dispose said pawl in its ineffective position, a spring trigger adapted to engage a portion of said extension arm to retain the pawl in its effective position, means to release said trigger from
55 its engagement with the extension arm, an additional shaft rotatably mounted in said casing and operated through the rotation of the first referred to shaft, and means carried on said additional shaft adapted to engage
60 portions of the extension arm to force said pawl to its effective position after being ineffectively disposed.

6. In a vending machine of the class described, the combination with a casing, a
65 shaft rotatably mounted in said casing, a

pinion carried on said shaft and means to rotate said shaft; of a pawl pivotally carried within said casing adapted to engage the teeth of said pinion, said pawl being provided with an extension arm on the ineffective
70 end thereof, a vertical stem mounted within the casing upon which the free end of said extension arm is loosely disposed, a spring means on said stem acting on said extension arm to normally dispose the pawl in
75 its ineffective position, means adapted to engage portions of the extension arm to retain said pawl in its effective position, means adapted to cooperate with the last referred to means to counteract the action thereof
80 and permit the shaft to be rotated, and additional means operated through the rotation of said shaft adapted to engage the free end of the extension arm and dispose said pawl into effective position after being once in-
85 effectively disposed.

7. In a vending machine of the class described, the combination with a casing, a shaft rotatably mounted in said casing, a pinion carried on said shaft and means to rotate said shaft; of a pawl pivotally carried
90 within said casing adapted to engage the teeth of said pinion, said pawl being provided with an extension arm on the ineffective end thereof, a vertical stem mounted within the casing upon which the free end of said extension arm is loosely disposed, a spring means on said stem acting
95 on said extension arm to normally dispose the pawl in its ineffective position, a spring trigger adapted to engage portions of the extension arm to retain said pawl in its effective position, means to release said trigger from its engagement with the extension
100 arm, an additional shaft rotatably mounted in said casing and operated through the rotation of the first referred to shaft, and means carried on the last referred to shaft adapted to engage the free end of said extension
105 arm to cause the pawl to be returned to its effective position after being once ineffectively disposed.

8. In a vending machine of the class described, the combination with a casing, a shaft rotatably mounted in said casing, a
115 pinion carried on said shaft and means to rotate said shaft; of a pawl pivotally carried within said casing adapted to engage the teeth of said pinion, said pawl being provided with an extension arm on the ineffective end thereof, a vertical stem
120 mounted within the casing upon which the free end of said extension arm is loosely disposed, a spring means on said stem acting on said extension arm to normally dispose the pawl in its ineffective position, a spring
125 trigger adapted to engage portions of the extension arm to retain said pawl in its effective position, means to permit the shaft to be rotated to release the same from its

engagement with the extension arm, an additional shaft rotatably mounted in said casing and operated through the rotation of the first referred to shaft, and a lug carried on said additional shaft adapted to engage the free end of said extension arm as said shafts are rotated to cause said pawl to be swung on its pivot and returned to its effective position after being once ineffectively disposed.

9. In a vending machine of the class described, the combination with a casing, a shaft rotatably mounted in said casing, a pinion carried on said shaft and means to rotate said shaft; of a pair of pawls pivotally carried within said casing and adapted to engage the teeth of said pinion, one of said pawls being provided with an extension arm on the ineffective end thereof, a vertically disposed stem within the casing over which the free end of said extension arm is loosely disposed, a spring encircling said stem and forcing downwardly on said

extension arm to normally dispose the last mentioned pawl in its ineffective position, a spring trigger supported within said casing adapted to engage portions of said extension arm to dispose the pawl thereof in its effective position, means to release said trigger from its engagement with said extension, an additional shaft rotatably mounted in said casing and operated through the rotation of the first mentioned shaft, and a lug carried on said additional shaft adapted to engage the free end of said extension arm to force the same against the action of the spring thereagainst.

In testimony whereof I hereunto affix my signature in the presence of witnesses.

WILLIE H. HERMAN.

Witnesses:

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Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."