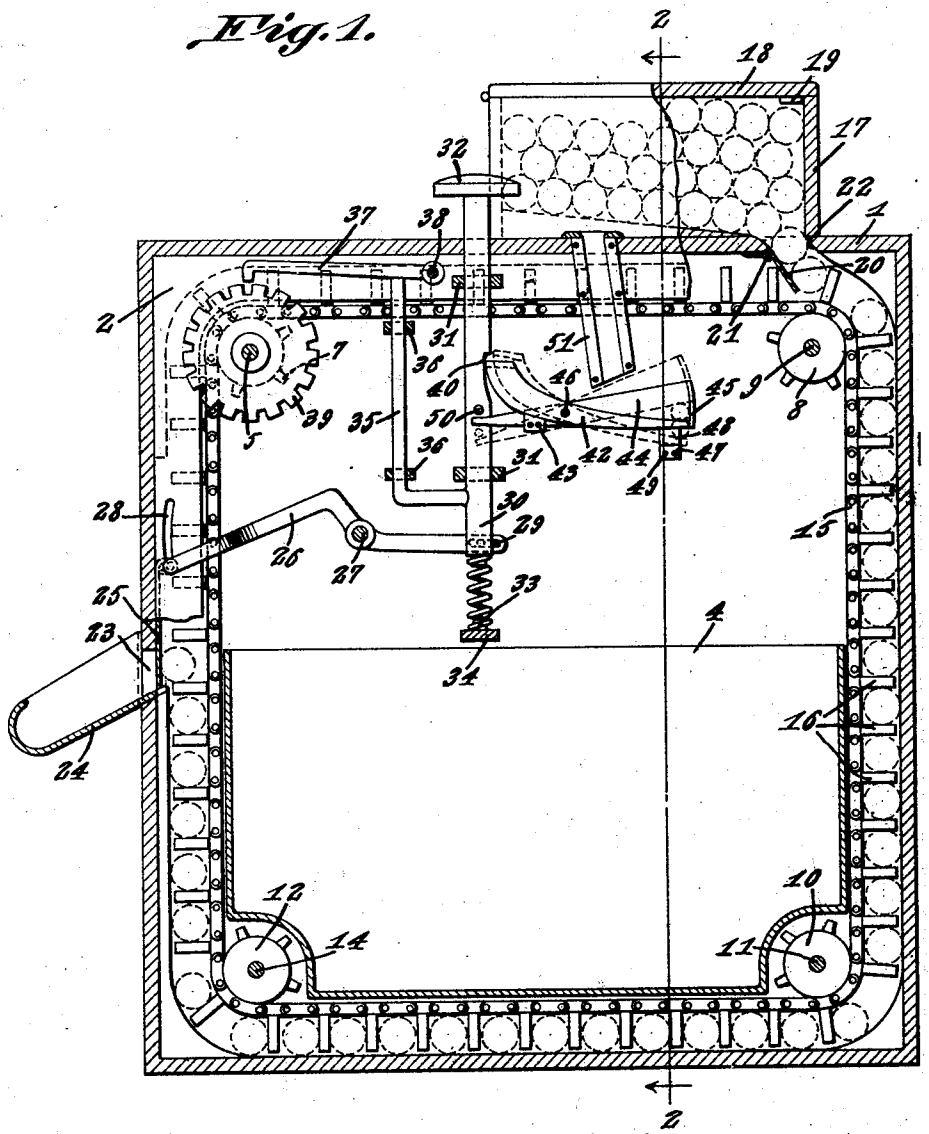
March 30, 1926. 1,578,986

C. G. GRAVES

VENDING MACHINE

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Fig. 1.



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Fig. 2.

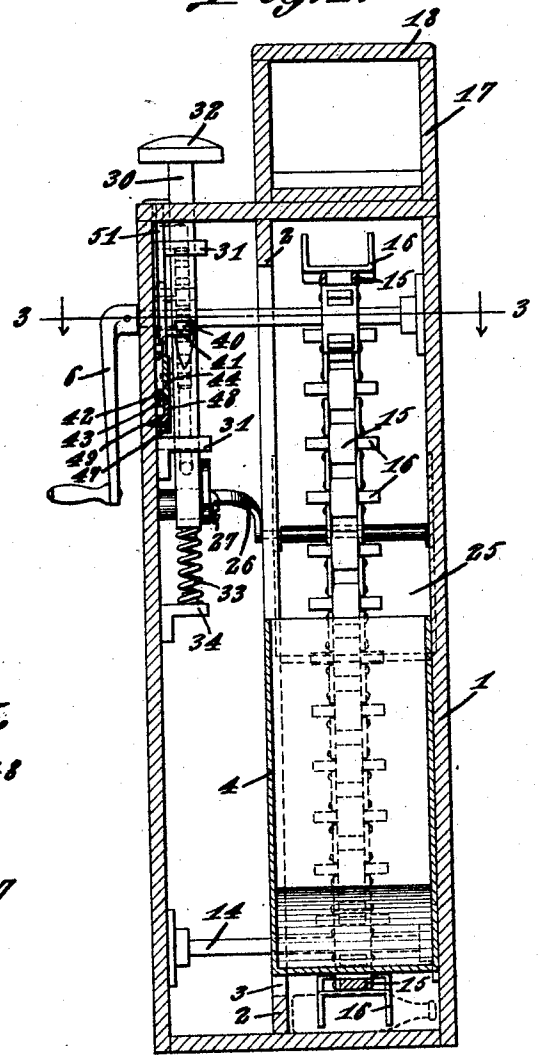
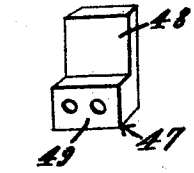


Fig. 5.



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Fig. 3.

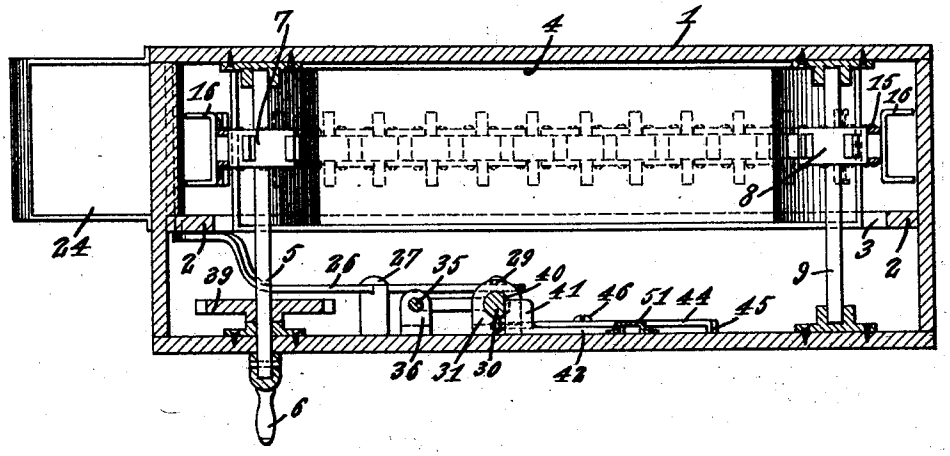
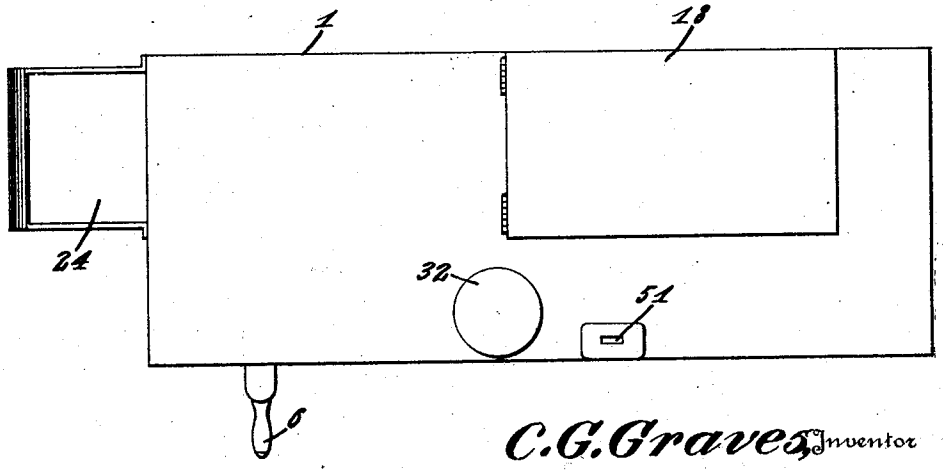


Fig. 4.



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Patented Mar. 30, 1926. 1,578,986

UNITED STATES PATENT OFFICE.

CHARLES GREEN GRAVES, OF CEDAR GROVE, LOUISIANA.

VENDING MACHINE.

Application filed December 12, 1923. Serial No. 680,205.

To all whom it may concern:

Be it known that I, CHARLES G. GRAVES, a citizen of the United States, residing at Cedar Grove, in the parish of Caddo and State of Louisiana, have invented a new and useful Vending Machine, of which the following is a specification.

This invention aims to provide novel means whereby bottles or other merchandise may be dispensed, subject to a coin-controlled mechanism, and the invention aims to provide a novel coin-control. Another object of this invention is to improve the delivery mechanism. A further object of the invention is to supply novel means whereby a proper cooperation between the coin-control and the delivery mechanism is secured.

It is within the province of the disclosure to improve generally and to enhance the utility of the devices of that type to which the invention appertains.

With the above and other objects in view, which will appear as the description proceeds, the invention resides in the combination and arrangement of parts and in the details of construction hereinafter described and claimed, it being understood that changes in the precise embodiment of the invention shown, can be made, without departing from the spirit of the invention.

In the drawings:

Figure 1 shows in vertical section, a device constructed in accordance with the invention; Figure 2 is a section on the line 2—2 of Figure 1; Figure 3 is a horizontal section on the line 3—3 of Figure 2; Figure 4 is a top plan; Figure 5 is a perspective view showing one of the stops.

In carrying out the invention, there is provided a box-like frame or casing 1 having a vertical partition 2 which is cut away as at 3 to receive an ice box 4. If the nature of the merchandise is such that it does not require to be cooled, then, the ice box 4 may be dispensed with.

In one of the upper corners of the frame 1, a drive shaft 5 is journaled, the drive shaft being operated by a crank 6 or in any other suitable way. There is a sprocket wheel 7 on the shaft 5. A sprocket wheel 8 is disposed opposite to the sprocket wheel 7 at the top of the casing 1, and is carried by a shaft 9 journaled in the casing 1. Below the sprocket wheel 8, a sprocket wheel 10 is disposed, the same being carried by a shaft 11 journaled in the frame or casing 1. A sprocket wheel 12 is located below the sprocket wheel 7 and is carried by a shaft 14 journaled in the frame 1. About the sprocket wheels 7, 8, 10 and 12, an endless conveyor chain 15 is trained, the conveyor chain having projecting fingers 16.

A receptacle 17 is mounted on the top of the frame 1 and has a hinged lid 18 which may be held closed by a lock 19. A guide wing 20 is hinged at 21 to the top of the frame 1 and is adapted to engage the fingers 16 of the conveyor chain 15. The wing 20 cooperates with the fingers 16 of the conveyor chain 15 to govern the passage of the bottles from the receptacles 17 upon the conveyor chain 15, the bottles passing through an opening 22 in the top of the frame or casing 1.

In one end of the frame 1, there is an opening 23 discharging into a projecting tray 24, the opening 23 being controlled by a door 25 which is vertically slidable in the partition 2 and in one side wall of the frame 1. A lever 26 is fulcrumed intermediate its ends, as at 27, on the frame 1. The lever 26 is pivotally connected with the upper edge of the door 25, the partition 2 having a slot 28 in which the connection between the lever and the door is adapted to move.

The inner end of the lever 26 is united, by a pin and slot connection 29, with a vertically movable plunger 30, slidably mounted in the top of the frame 1 and in guides 31 located within the frame. At its upper end, the plunger 30 is provided with a button 32. A compression spring 33 is provided, for the raising of the plunger 30, the spring being interposed between the lower end of the plunger and a bracket 34 mounted on one side wall of the frame 1. The plunger 30 includes an angular arm 35, the vertical portion of which is slidable in guides 36 on the frame 1. The upper end of the arm 35 of the plunger 30 engages beneath a pawl 37, pivotally mounted at 38 on the casing 1, the free end of the pawl being adapted to cooperate with a stop wheel 39 on the shaft 5. The plunger 30 is provided on one side with a shoulder 40.

The inwardly projecting end 41 (Figure 3) of a coin-controlled lever 42 is adapted to cooperate with the shoulder 40 in the plunger 30. The coin-controlled lever 42 is so constructed that the inner end (Figure 1) tends to swing downwardly, by grav-

ity, toward the plunger 30, downward movement of the inner end of the lever 42 being limited by a stop 43 secured to one side wall of the frame 1. A coin-holding lever 44 cooperates with the inner surface (Figure 3) of the coin-controlled lever 42. The coin-holding lever 44 has an end flange 45, extended across the adjacent extremity of coin-controlled lever 42. The levers 44 and 42 are mounted to swing on a common fulcrum pin 46 carried by the casing 1. The numeral 47 designates a stop, shown in detail in Figure 5 and secured to one wall of the frame 1. The upper end of the stop 47 is marked by the numeral 48 and the stop has a shoulder 49 located below the upper end of the stop. The coin-holding lever 44 is so constructed that its right hand end (Figure 1) tends to swing downwardly by gravity until that end of the lever rests (Figure 2) on the upper end 48 (Figure 5) of the stop 47. Under the action of a coin (Figure 1) the right hand end of the lever 42 is adapted to swing downwardly into engagement with the shoulder 49 on the stop 47.

The inner end of the coin-holding lever 44 extends beneath a later projection 50 on the plunger 30. A coin-chute 51 is mounted in the top of the frame 1 and discharges downwardly on the lever 42, between the coin-holding lever 44 and the adjacent wall of the frame or casing 1.

In practical operation, the coin moves downwardly through the chute 51 and engages the coin-controlled lever 42 between the coin-holding lever 44 and the adjacent wall of the frame 1. The coin rolls to the right in Figure 1 until the coin strikes the end flange 45 of the coin-holding lever 44. The right hand end of the coin-controlled lever 42 then swings downwardly until it strikes the shoulder 49 on the stop 47, the left hand end (Figure 1) of the coin-controlled lever or latch moving out of engagement with the shoulder 40 on the plunger 30. The plunger 30 now is set free so that it may be pushed downwardly, through the instrumentality of the button 32, the spring 33 being compressed. When the plunger 30 moves downwardly, the projection 50 on the plunger, cooperating with the left hand end of the coin-holding lever 44 (Figure 1), swings the left hand end of the lever 44 downwardly and raises the right hand end of the lever so that the end flange 45 of the lever 44 no longer retains the coin on the lever 42. The coin, thereupon, rolls off the lever 42. The left hand end (Figure 1) of the coin-controlled lever or latch 42 swings downwardly by gravity and bears against the edge of the depressed plunger 30, above the shoulder 40.

When the plunger 30 moves downwardly, as aforesaid, the lever 26 is tilted on its fulcrum 27, and the door 25 is raised, one of the bottles on the conveyor chain 15 rolling outwardly, through the opening 23 into the tray 24. When the plunger 30 moves downwardly, the arm 35 of the plunger moves downwardly also, and the pawl 37 swings downwardly on its pivotal mounting 38, the pawl engaging the stop wheel 39 on the shaft 5. The stop wheel and the pawl 37 cooperate to hold the shaft 5 against rotation and, consequently, motion cannot be imparted to the conveyor 15 by way of the sprocket wheel 7. This feature prevents the operator from obtaining more than one bottle when a single coin is delivered.

When the downward pressure on the plunger 30 is released, the spring 33 raises the plunger, and the levers 42 and 44 assume the position shown in Figure 1, the inner end of the coin-controlled lever or latch 42 cooperating with the shoulder 40 on the plunger 30 to prevent the plunger from being thrust downward until another coin is deposited into the chute 51. When the plunger 30 moves upwardly, the arm 35 on the plunger raises the pawl 37 out of engagement with the stop wheel 39, and the shaft 5 is set free for rotation.

Whilst the parts are arranged as shown in Figure 1, and prior to the depositing of the coin in the coin chute, the operator gives the shaft 5 a few turns, by way of the crank 6, to insure the raising of one of the bottles into such a position that it will rest against the door 25 as shown in connection with the uppermost dotted bottle at the left hand side of Figure 1.

When the rotation is imparted to the shaft 5 by way of the crank 6, the bottles, having been delivered between the fingers 16 of the conveyor chain 15, from the receptacle 17 by way of the hinged wing 20, are carried downwardly along the right hand end of the casing 1 (Figure 1) and, thence, are carried along the bottom of the casing and upwardly along the opposite end of the casing, to position one of the bottles for delivery through the opening 23, as aforesaid, when the door 25 is raised by the operation of the lever 26.

Having thus described the invention, what I claim is:

1. In a device of the class described, a casing, a door mounted for right-line sliding movement on the casing, a drive shaft journaled on the casing, an endless conveyor driven by the shaft and so positioned as to deliver an article at the door, a lever fulcrumed intermediate its ends on the casing, one end of the lever being directly connected to the door, a plunger slidable in the casing and disposed about parallel to the line of reciprocation of the door, the other end of the lever being directly connected to the plunger, the plunger being movable in one direction to open the door, a stop wheel on

the shaft, a pawl pivoted to the casing and coacting with the stop wheel to hold the shaft against rotation when the door is opened, the plunger comprising a part which engages the pawl to disengage the pawl from the stop wheel when the plunger is moved in an opposite direction, and spring means for moving the plunger in the last-specified direction, thereby to close the door and disengage the pawl from the wheel.

2. In a device of the class described, a casing, a door mounted for right-line sliding movement on the casing, a drive shaft journaled on the casing, an endless conveyor driven by the shaft and so positioned as to deliver an article at the door, a lever fulcrumed intermediate its ends on the casing, one end of the lever being directly connected to the door, a plunger slidable in the casing and disposed about parallel to the line of reciprocation of the door, the other end of the lever being directly connected to the plunger, the plunger being movable in one direction to open the door, a stop wheel on the shaft, a pawl pivoted at one end to the casing, and coacting at its other end with the stop wheel to hold the shaft against rotation when the door is opened, the plunger comprising an offset arm which engages the pawl intermediate the ends of the pawl to disengage the pawl from the stop wheel when the plunger is moved in an opposite direction, and spring means for moving the plunger in the last-specified direction, thereby to close the door and to disengage the pawl from the wheel.

In testimony that I claim the foregoing as my own, I have hereto affixed my signature.

CHAS. GREEN GRAVES.