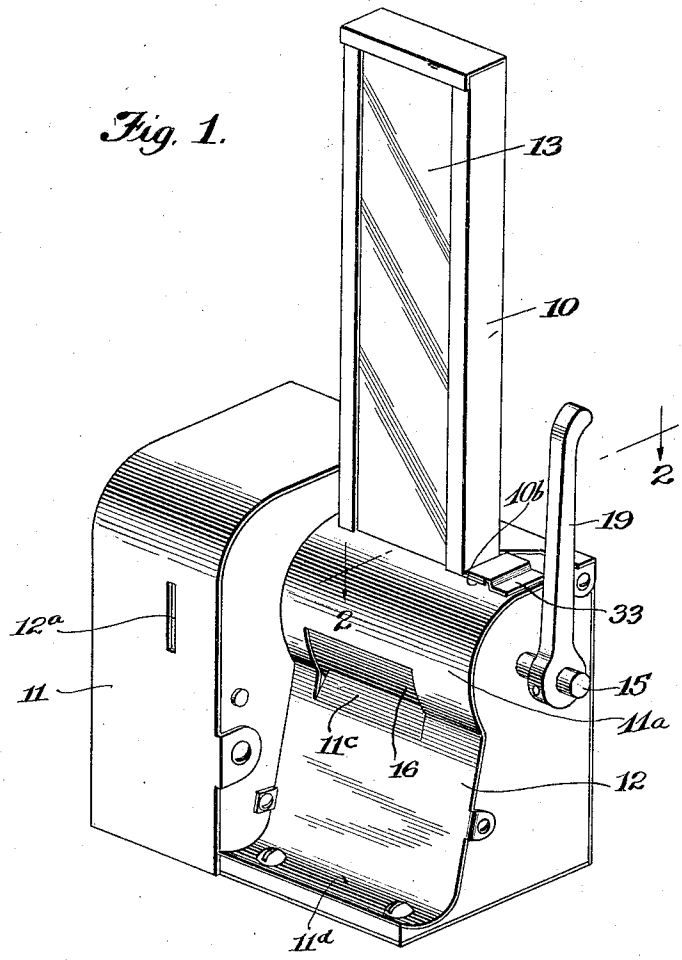
May 26, 1931. W. E. ANDREWS 1,806,835

VENDING MACHINE

Filed Feb. 26, 1929 2 Sheets-Sheet 1

Fig. 1.



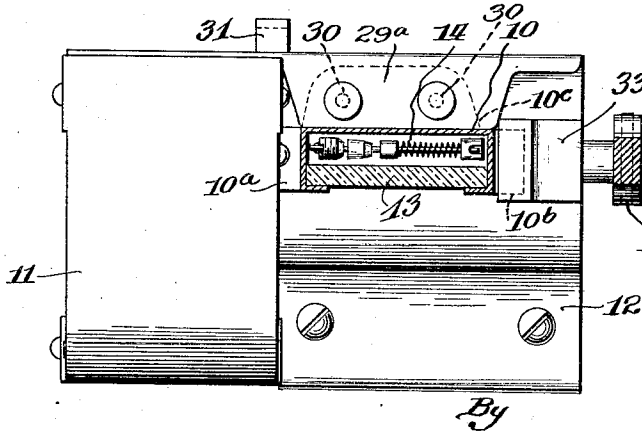


Fig. 2.

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Fig. 3.

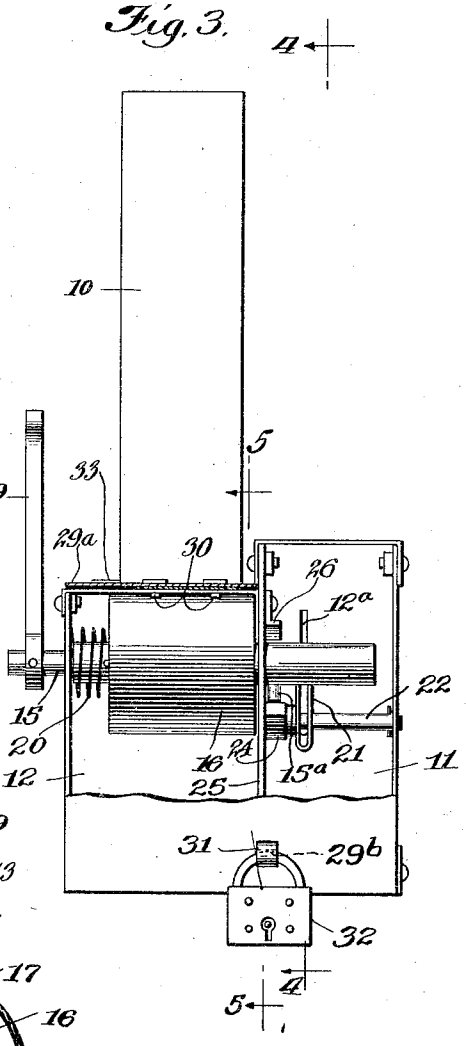


Fig. 4.

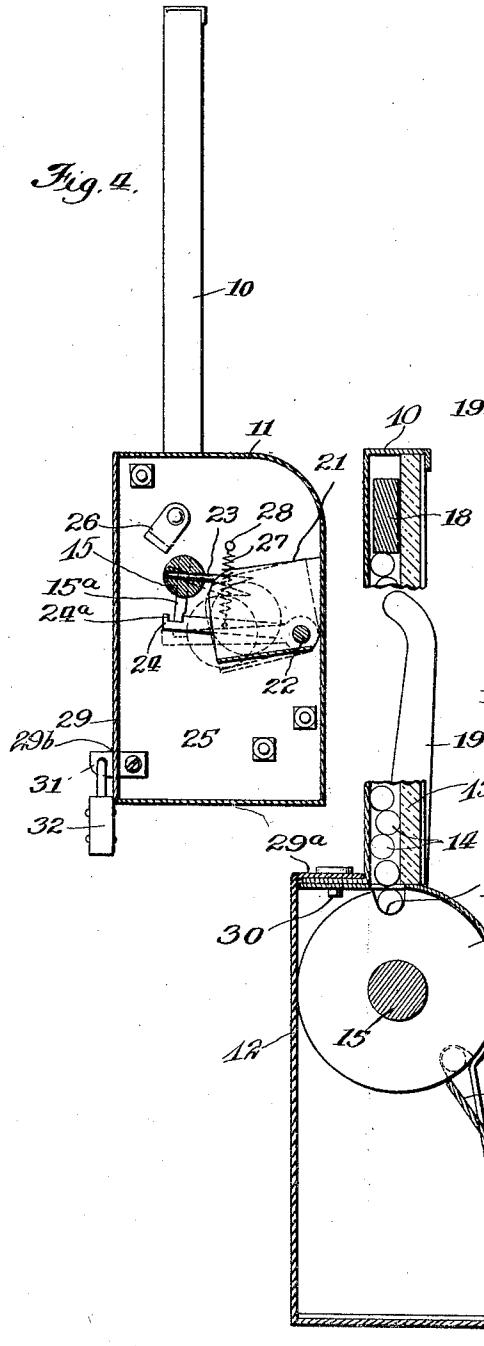


Fig. 5.

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Patented May 26, 1931 1,806,835

UNITED STATES PATENT OFFICE

WILLARD E. ANDREWS, OF SYCAMORE, ILLINOIS

VENDING MACHINE

Application filed February 26, 1929. Serial No. 342,849.

My invention relates to vending machines of the type designed for dispensing articles singly, and my main object is to devise a novel machine of this kind which will dispense cores for tire valves, commonly called valve-insides.

A further object of the invention is to design a machine of this kind which requires but a single movement of a lever after a coin has been deposited to dispense the article.

A still further object of the invention is to provide means in the mechanism of the device which utilizes the coin as an intermediary toward the operation of the dispensing apparatus.

Another object of the invention is to provide a simple and substantial locking element to prevent the operation of the dispensing apparatus when a coin has not been deposited.

A significant object of the invention is to extend the dispensing element with a column containing the goods in plain view and susceptible of embellishment with descriptive, illustrative or advertising matter.

A final, but nevertheless important object of the invention is to design the novel machine with few and extremely simple and rugged parts, whereby to secure a structure which is compact, durable and efficient.

With the above objects in view and any others that may suggest themselves from the specification and claims to follow, a better understanding of the invention may be had by reference to the accompanying drawings, in which—

Figure 1 is a perspective view of the novel machine;

Fig. 2 is a plan section taken on the line 2—2 of Figure 1;

Fig. 3 is a rear view of the machine, with the back cover partly broken away to reveal the interior;

Fig. 4 is a section on the line 4—4 of Figure 3; and

Fig. 5 is a section on the line 5—5 of Figure 3, partly broken away.

Valve-insides are commonly sold in numbers contained in a small box, generally retailing at 25 cents to 35 cents. Owing to the frequent deflation of tires to a more or less extent due to leakage of the valve, it is advisable to renew the valve-insides from time to time. Since these are not always handy to the motorist, especially when he is on the road, I have provided the novel machine for application to pump columns or other suitable structures found at gasoline and oil stations and make it convenient to secure a single valve-inside by the mere deposit of a five cent coin while the motorist takes air or fuel.

In carrying out the invention, I first provide a suitable housing in three sections, 10 denoting the magazine for the goods, 11 the coin receiver and container for the coin-operated mechanism, and 12 the compartment for dispensing and discharging the article. These sections of the housing need not be considered as separate, as by proper means it is quite possible to construct the entire housing from one piece or from a minimum number of pieces, making for speed and economy in production.

The magazine 10 is tall and prism shaped, and its front glazed as indicated at 13 for facility in viewing the valve-insides 14. As suggested, the magazine may be mounted with any suitable display of pictorial, descriptive or advertising matter to advertise the brand of the goods or of any other commodity to which the attention of the motorist is to be called. Within the magazine 10, the valve-insides are laid horizontally and vertically stacked, being, however, turned about alternately due to their slightly conical shape in order to stack evenly. The bottom of the magazine opens directly into the dispensing compartment.

In the dispensing compartment is journaled a spindle 15 which carries a cylinder 16 of wood or other inexpensive material. The periphery of the cylinder is longitudinally grooved as indicated at 17 immediately below the magazine opening, so that the bottom one of the valve-insides rests in the groove, as clearly shown in Figure 5. I prefer to place a weight 18 upon the stack of valve-insides, so as to assure the fall

thereof whereby to always locate the bottom one in the groove of the cylinder. The cylinder 16 occupies the upper portion of the compartment 11, and the front of the latter is rounded as indicated at 11*a* to conform to the shape of the cylinder. The front wall of this compartment is also cut away as indicated at 11*b* to expose the lower part of the cylinder periphery to the front.

The spindle 15 of the cylinder carries an external lever 19 which is normally in poised position as indicated by full lines. By drawing the lever forwardly, and depressing the same to the dotted line position in Figure 5, the loaded groove 17 of the cylinder is caused to travel to the low position indicated by dotted lines as the cylinder turns with the spindle, permitting the valve-insides to fall out of the front of the compartment 11. A portion of the front wall of the latter is indented, as indicated at 11*c*, at the point of discharge to extend toward the periphery of the cylinder and thus form an inclined runway for the dispensed article. Further, the lower portion of the front wall is also somewhat inclined to facilitate the fall of the article to the bottom, where the wall is curved to form a trough 11*d* suitable to receive the articles in a handy position to be removed by the patron. The spindle 15 receives a torsion spring 20 to cause the cylinder to return to the initial position after the lever 19 has been released.

With reference to the coin and mechanism compartment 12, it is noted that the front wall thereof has a vertical slot 12*a* for the insertion of the coin. Inside the front wall, the coin enters a high-walled chute 21, which is rockably disposed on a frontal cross shaft 22 to normally have a slight incline whereby to facilitate the inward travel of the coin. In this connection, the chute is considerably lower than the slot 12*a*, so that the coin may take a drop as it enters the compartment and thus have a start on its inward travel. The limit of the latter is had when the coin strikes the frontal side of the spindle 15 and the chute is no longer than this limit requires, saving material and space. Such side has a forwardly projecting finger 23 at a point above the position of the coin, the lower side of the finger tapering forwardly to an edge in order to afford an entrance for the coin between the finger and the base of the chute 21.

With the coin positioned as described and denoted by the right-hand dotted line circle in Figure 4, it will be seen that the operation of the cylinder as heretofore described will cause the finger 23 to depress the coin and swing the chute 21 to a steeper position, lowering the coin to such an extent that it falls out of the chute and down into the base of the compartment. The chute 21 carries on the side corresponding to the cylinder a radial bar 24. This bar is in proximity to a vertical partition 25 between the compartments 11 and 12; and near its rear end, which is directly below the spindle 15, it receives a top recess 24*a*. The spindle carries a radial arm 15*a* in a position to enter the recess 24*a*, and when the bar 24 is in the normal position with the chute 21, which position as regards the bar is almost horizontal, the arm 15*a* can have a limited advance in the recess 24*a*, which permits the slight swing of the finger 23, whereby to back the bar 24 clear of the arm 15*a* and unlock the latter for the further rotation of the cylinder. Yet, normally considered, the cylinder is practically fixed or locked by the lodging of the arm 15*a* in the slot of the bar 24, constituting the latter a detent for the spindle. Thus, no attempt to turn the cylinder by means of the lever will succeed unless a coin has been deposited; also, the immediately-positioned cylinder lock will prevent any ill effects upon the mechanism from the tampering with the lever 19.

When the lever 19 is swung to operate the cylinder when a coin is present in the chute 21, the arm 15*a* of the spindle swings to a position not further than a wall stop 26 which prevents the cylinder from turning further than the desired limit, consistent with the delivery of the article. When the lever is released, the return rotation of the cylinder causes the arm 15*a* to wipe over the inner end of the bar 24 at an angle and trip the same whereby to receive the arm 15*a* in the slot 24*a*. The bar 24 and chute 21 are drawn upwardly by a spring 27 suspended from a wall pin 28.

The rear wall 29 of the apparatus is preferably separable from the housing for access to the interior of the latter when any attention is necessary or when coins are to be removed by the keeper of the machine. My present method for securing the rear wall or cover is to form the top of the same with a forward bend 29*a* from which depend two laterally spaced studs 30. These depend through perforations in the top of the compartment 11, anchoring the rear wall 29 at that point. Below, the said wall is made with an opening 29*b* to clear a lug 31 projecting from the partition 25. After the wall 29 has been applied, the shackle of a padlock 32 is passed through a cross bore in the lug 31, locking the wall from removal until the padlock has been opened and the shackle removed. If the column 10 is made separate from the housing, I prefer to form the same with side wings 10*a* and 10*b* and a back wing 10*c*. The back wing may be perforated in registration with the studs 30 of the back wall, and secured by being inserted between the bend 29 of the latter and the top of the compartment 11. A clip 33 on top

of the latter serves as a retainer for the outer wing 10*a*.

It will be seen that the novel machine forms a compact and simple accessory for use as described. By means of the single delivery, one may secure a valve-inside cheaply and handily. Further, the coin operated mechanism is rugged and efficient, being impotent unless a coin has been deposited. Altogether, the device is made of the fewest number of parts consistent with the actual necessity and efficiency, so that a minimum cost may be involved in its manufacture.

While I have illustrated and described the invention in the preferred form, it will be evident that the same is capable of minor changes and refinements and it is my desire to include such changes and refinements as coming within the spirit and scope of the appended claims.

I claim:

1. A coin control for a vending machine comprising a spindle, a radial arm carried by the latter, a detent recessed to receive and lock said arm against forward and rearward motion, a coin chute movable with said detent, and a radial finger carried by the spindle and adapted to receive the coin between it and the chute, the finger being caused by a movement of the spindle to depress the coin with the effect of moving the chute and separating the detent from the arm, and the recess of the detent having sufficient lateral clearance for the necessary rotary travel of the arm while the finger executes the depressing action aforesaid.

2. A coin control for a vending machine comprising a spindle, a radial arm carried by the latter, a detent recessed to receive and lock said arm at one end of the recess when the spindle is urged in either direction, yieldable means normally urging the spindle in one direction whereby to maintain the arm at one end of the recess, a coin chute movable with said detent, and a radial finger carried by the spindle and adapted to receive the coin between it and the chute, the finger being caused by an operative movement of the spindle to depress the coin with the effect of moving the chute and separating the detent from the arm with sufficient clearance to permit the spindle to continue said operative movement.

3. A coin control for a vending machine, comprising a frontal coin entrance, a short coin chute leading rearwardly from the latter and with a limited incline, the form of the chute disposing the coin in a substantially vertical plane, a frontal rock-shaft carrying the chute, a detent carried by the rock-shaft and rearwardly extended, a spindle controlled by the detent, and a radial finger extended from the spindle into the chute to receive the coin between it and the floor of the coin chute, the finger being caused by a movement of the spindle to depress the coin with the effect of moving the coin chute and backing the detent out of controlling connection with the spindle.

4. The structure of claim 2, the detent being at substantially right-angles to the arm when the latter is at said other end of the recess, and the arm having a wiping inclination on a return from said continued movement relative to the detent whereby to trip the same and re-enter the recess thereof.

In testimony whereof I affix my signature.

WILLARD E. ANDREWS.