

April 10, 1928.

1,665,989

W. P. SMITH

VENDING MACHINE

Filed April 25, 1927

2 Sheets-Sheet 1

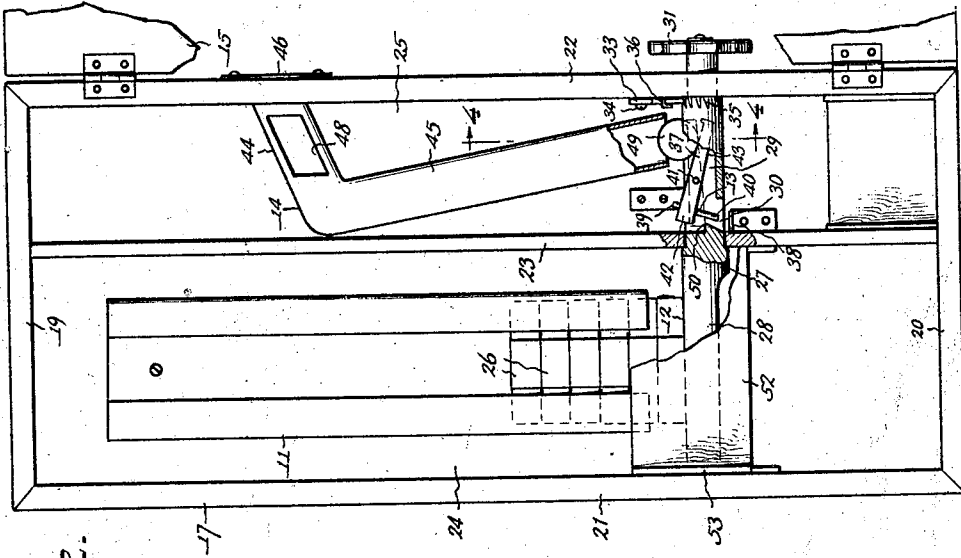


Fig. 2.

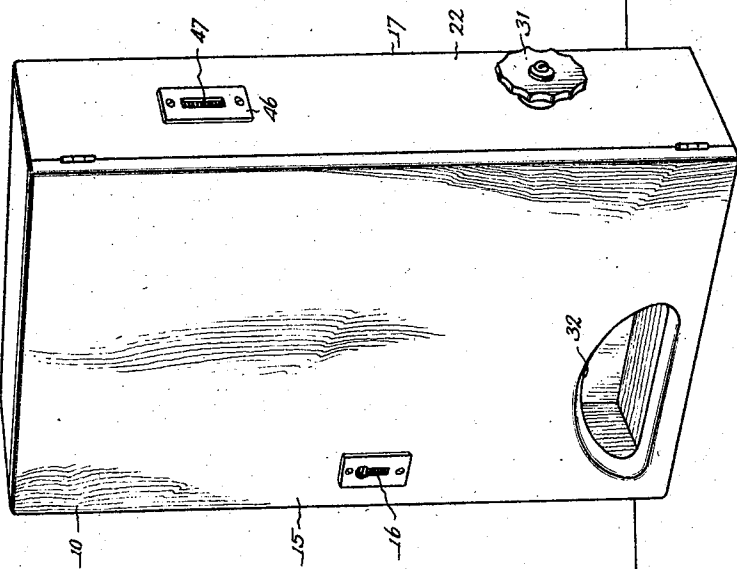


Fig. 1.

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2 Sheets-Sheet 2

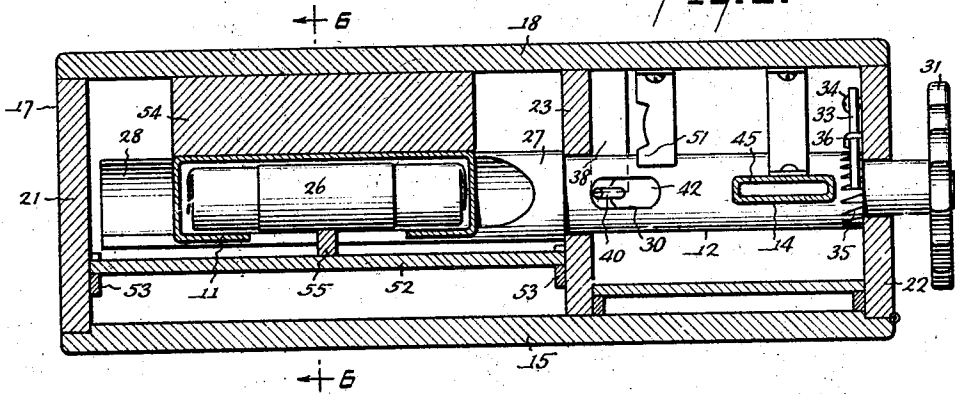


Fig. 3.

Fig. 4.

Fig. 5.

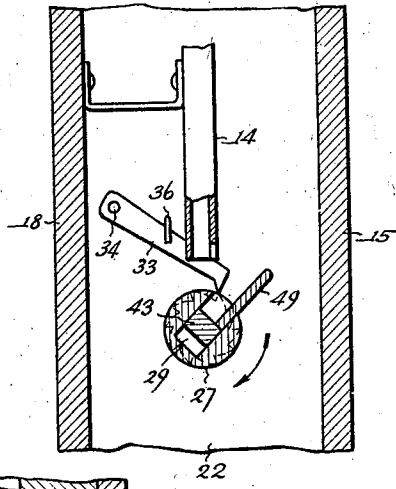
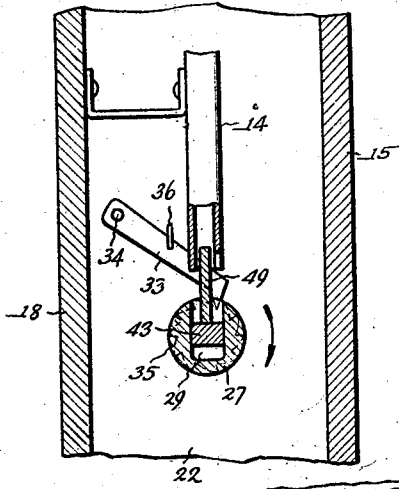


Fig. 6.

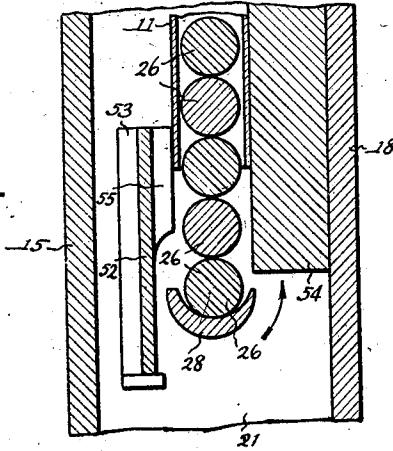
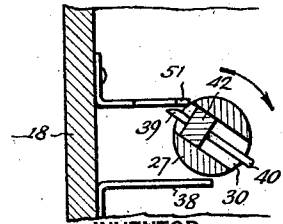


Fig. 7.



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WILLARD PUTNAM SMITH, OF NEWARK, NEW JERSEY.

VENDING MACHINE.

Application filed April 25, 1927. Serial No. 186,410.

This invention relates to vending machines of a class for vending articles of merchandise in the form of cigars, wrapped candy rolls, or other analogous articles; the machine being operable by depositing a coin of a certain denomination; and the articles being delivered one at a time for each coin deposited.

The principal object of the present invention is the provision of a vending machine of the indicated character which is of an improved and simplified construction, one which is reliable in operation, and one which is inexpensive to manufacture.

The nature of the invention and its distinguishing features and advantages will appear when the following specification is read in connection with the accompanying drawing, in which—

Figure 1 is a perspective view of the vending machine embodying the features of the present invention.

Fig. 2 is a view of the interior of the machine, parts being shown in section, and other parts being broken away to illustrate certain structural details.

Fig. 3 is a horizontal sectional view on an enlarged scale.

Fig. 4 is a sectional view on an enlarged scale, taken on the line 4—4 of Fig. 2, and illustrating a coin on the latch member holding the latter in its inactive position to permit the delivery member or rotor of the machine to be rotated to deliver an article of merchandise.

Fig. 5 is a view similar to Fig. 4, showing the delivery member or rotor moved from its normal position.

Fig. 6 is a sectional view on an enlarged scale, taken on the line 6—6 of Fig. 3, looking in the direction indicated by the arrows.

Fig. 7 is a sectional view illustrating the means for returning the latch member to its normal or active position.

Generally stated, the machine of the present invention comprises a casing 10, a magazine 11 which contains the articles of merchandise to be vended, delivery means 12 for delivering the articles of merchandise one at a time, means 13 including a coin controlled latch or lock for preventing the operation of the delivery means 12 subject to the deposit of a coin of a certain denomination, and means 14 for delivering the coins to the latch or lock of the means

13 for operating the same to permit the delivery means 12 to be operated.

The casing 10 may be of any preferred size, shape and construction. In the present instance the casing 10 is of rectangular construction and is provided with a hinged door 15 which carries a key actuated lock 16 for locking the door 15 in a closed position. The door 15 affords access to the interior of the section 17 of the casing. The section 17 is constructed of a back wall 18, top wall 19, bottom wall 20, and side walls 21 and 22. The section 17 has a partition 23 which divides the section 17 into spaces 24 and 25.

The magazine 11 may be of any preferred construction. In the present instance the magazine 11 is of tubular construction, open at the top and bottom, also open at the front. The magazine 11 is arranged in the upper part of the space 24 and is attached in any suitable manner to the back wall 18 of the section 17. The magazine 11 is adapted to receive the articles of merchandise to be vended, and in the present instance there is shown wrapped rolls of candy 26. A multiplicity of these rolls of candy are arranged in the magazine 11 transversely thereof and are allowed to move downwardly of the magazine.

The delivery means 12 for delivering the rolls 26 one at a time includes a delivery member or rotor 27. The end 28 of the rotor is adapted to receive one of the rolls 26, the said end being trough-like in formation, and the opposite end of the rotor has a recess 29 which communicates with an opening 30. The rotor 27 is arranged below the magazine 11 and is supported for rotation by portions of the wall 22 of the section 17 and the partition 23 through which the rotor extends. One end of the rotor projects beyond the side wall 22 and has secured thereto a knurled manipulating knob or handle 30. The end 28 of the rotor is arranged directly below the magazine 11, properly disposed to support all of the rolls 26. In accordance with one feature of the invention the rotor 27 when rotated counterclockwise, looking at the rotor from the end having the knob 31, to receive one of the rolls 26 during the rotation, and then delivering the roll up to the lower part of the space 24 on to the bottom wall 20. This lower part of the space 24 is adjacent a

hand opening 32 in the door 15. The hand opening 32 affords access for the removal of the delivered roll 26.

The means 13 which prevents the rotation of the delivery member or rotor 27 includes a pawl 33 pivotally connected as at 34 to the side wall 22. The pawl 33 coacts with suitable teeth or serrations 35 on the rotor 27. The pawl 33 is prevented from moving upwardly beyond a certain point by a stop 36 on the side wall 22. The pawl 33 prevents the rotor 27 from being rotated in a clockwise direction, and constantly acts to prevent such rotation. The means 13 also includes a latch or lock which consists of a latch member 37 and a stop 38. The latch member 37 carries a pin to provide an upper end 39 and a lower end 40. The latch member 37 is arranged in the recess 29, and will be disposed longitudinally of the rotor 27. The latch member 37 is mounted on a pin 41 for rocking movement. The end 42 of the latch member 37 is heavier than the end 43, and as a consequence the end 42 under its own weight will move downwardly when the rotor 27 is in its normal position shown in Figs. 2 and 4. At this particular time the end 40 of the pin will be confronted by the stop 38 to prevent rotation of the rotor 27 counter-clockwise, while the pawl 33 will prevent the rotation of the rotor 27 in a clockwise direction.

The means 14 for delivering a coin of a certain denomination on to the end 43 of the latch member 37, is in the form of a chute having relatively angularly disposed portions 44 and 45. The portion 44 of the chute extends through the side wall 22 and has secured thereto a plate 46 attached to the outside of the wall 22. The plate 46 has a slot 47 for introducing the coin into the chute. The portion 45 of the chute extends downwardly of the space 25 of the section 17 and opens directly over and in alignment with the end 43 of the latch member 37. A coin is inserted into the chute through the slot 47 and will find its way on to the end 43 of the latch 37, causing it to move downwardly and the end 42 to move upwardly. This will result in the end 40 being moved out of engagement with the stop 38, and as a consequence the rotor 27 may be rotated counterclockwise by manipulating the knob 31. When the rotor 27 has been rotated one-half of a revolution, one of the rolls 26 will pass into the trough-like end 28. In the continued rotation of the rotor 27 the particular roll 26 will be dropped to the bottom of the space 24 on to the bottom wall 20, from which the roll 26 may be removed through the hand opening 32. At the same time the coin which was deposited will drop to the bottom of the space 25. The portion 44 of the chute has an opening 48 which allows coins of denominations other

than that required to fall out of the chute. It will therefore be understood that the machine may be operated only by the insertion of a coin of the proper value or denomination.

After the coin indicated at 49 falls away from the end 43 of the latch member 37, the latter may again move to its normal position. This will occur when the rotor 27 has approximately completed one revolution. The end 42 of the latch member 37 has limited downward movement and this is so by reason of the employment of a stop 50 on the wall of the opening 30. This insures the proper disposition of the end 40 with respect to the stop 38. In order to insure the movement of the latch member 37 to its normal or active position, there is provided a member 51 which acts as a cam on the end 39 of the latch member, just prior to the completion of one revolution of the rotor 27. This feature is shown most clearly in Fig. 7.

In the present instance, the trough-like end 28 of the rotor 27 is disposed some distance below the lower end of the magazine 11, and for this reason there is provided a slide 52 movable in guides 53 respectively on the side wall 21 and the partition 23. The slide 52 serves with a portion 54 on the back wall 18 to prevent any of the rolls 26 from falling to the bottom of the space 24, except when the rotor 27 is operated. The slide 52 has a member 55. When any of the rolls of candy 26 are larger in cross sectional size than the average size of the rolls, the slide 52 will move upwardly. This action is caused because the two lowermost rolls 26 will be rotated when the rotor 27 is rotated, and any portion or irregularity will engage the member 55 and cause the upward movement of the slide 52. The proper readjustment of the rolls 26 may take place without interfering with the proper delivery of the lowermost roll 26.

It is to be understood that the invention is not restricted to the precise arrangement of parts shown and described, as details of construction may be modified and rearranged without departing from the spirit of the invention, the scope of which is limited only by the terms of the appended claims.

I claim:

1. A vending machine including a rotor adapted when rotated to deliver the articles of merchandise to be vended, one at a time, to the delivery opening of the machine, means preventing the rotation of said rotor, said means including a latch consisting of a latch member arranged in a recess in the rotor, and a fixed stop with which the latch member coacts, the latch member normally in engagement with the stop to prevent rotation of the rotor, and a coin chute for delivering coin fed thereto into said recess on to one end

of the latch member to move it out of engagement with the stop to permit the rotor to be rotated for the delivery action, the coin being precipitated from said recess by the rotation of said rotor.

2. A vending machine including a rotor adapted when rotated to deliver the articles of merchandise to be vended, one at a time, to the delivery opening of the machine, a latch member carried by the rotor, the latch member adapted to engage a stop to prevent rotation of the rotor counter-clockwise when the latch member is in its active position, a coin chute for delivering coins fed thereto to one end of the latch member to move it out of engagement with said stop to permit the rotor to be rotated for the delivery action, and means continuously preventing the rotor from being rotated in a clockwise direction and allowing the rotor to be rotated in a counter-clockwise direction.

3. A vending machine including a rotor adapted when rotated to deliver the articles of merchandise to be vended, one at a time, to the delivery opening of the machine, means preventing the rotation of said rotor, said means including a latch consisting of a latch member carried by the rotor, and a

fixed stop with which the latch member coacts, the latch member normally in engagement with the stop to prevent rotation of the rotor, a coin chute for delivering coins fed thereto to one end of the latch member to move it out of engagement with the stop to permit the rotor to be rotated for the delivery action, and means for returning the latch member to a position so as to engage the stop.

4. A vending machine including a rotor adapted when rotated to deliver the articles of merchandise to be vended, one at a time, to the delivery opening of the machine, means preventing the rotation of said rotor, said means including a latch consisting of a pivoted latch member carried by the rotor, and a fixed stop with which the latch member coacts, the latch member normally in engagement with the stop to prevent rotation of the rotor, a coin chute for delivering coin fed thereto to one end of the latch member to move it out of engagement with the stop to permit the rotor to be rotated for the delivery action, and means on the rotor limiting the pivotal movement of the latch member to insure its engagement with the stop.

WILLARD PUTNAM SMITH.