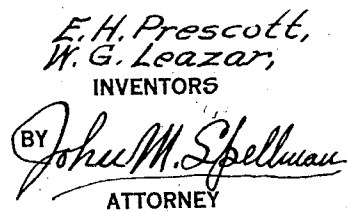


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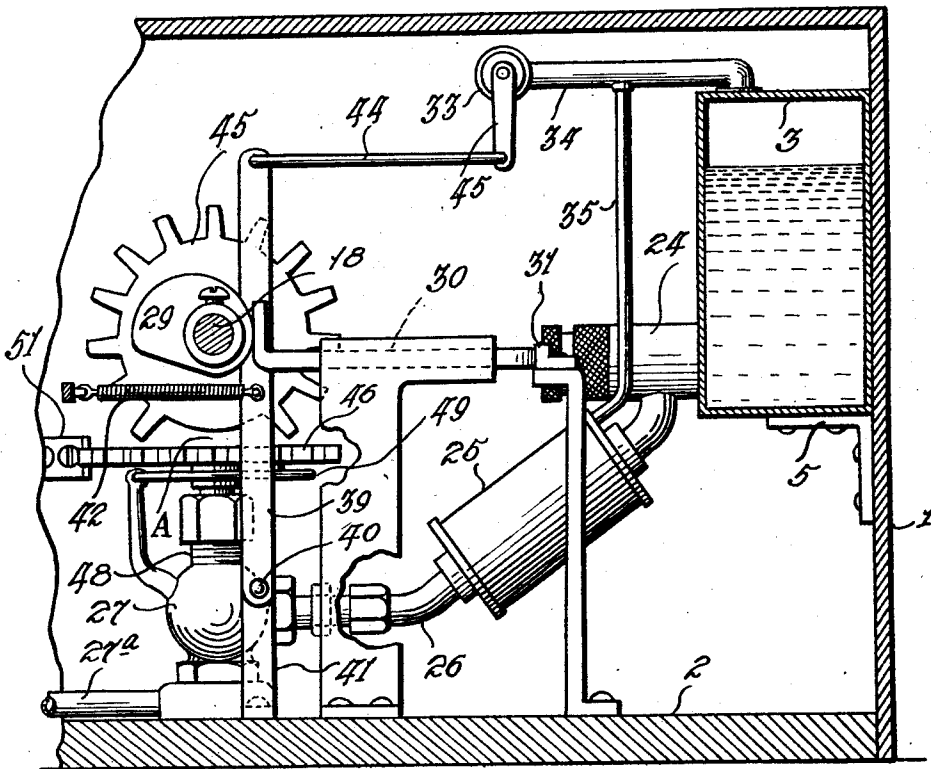


Fig. 2.

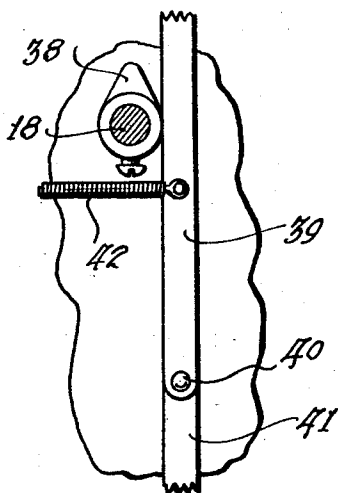


Fig. 4.

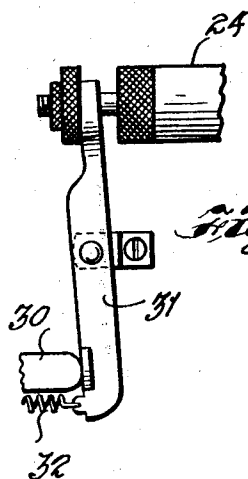


Fig. 5.

*E. H. Prescott,
W. G. Leazar,*
INVENTORS

BY John M. Spellman
ATTORNEY

March 10, 1931.

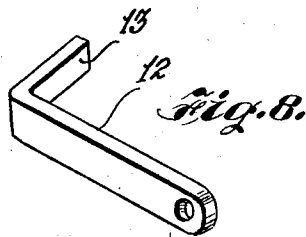
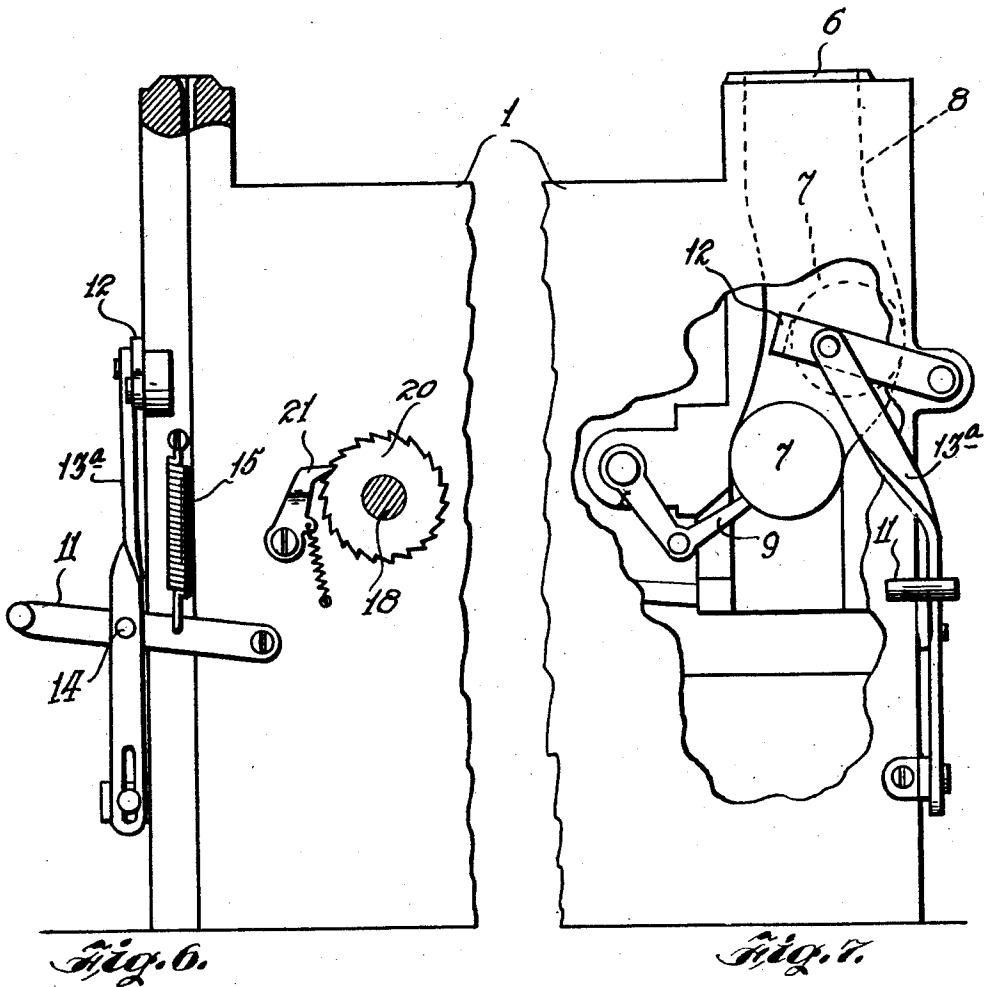
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VENDING MACHINE FOR FILLING CIGARETTE LIGHTERS

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3 Sheets-Sheet 3



E. H. Prescott,
W. G. Leazar,
INVENTORS

BY *John M. Spellman*
ATTORNEY

UNITED STATES PATENT OFFICE

EUGENE H. PRESCOTT AND WILLIAM G. LEAZAR, OF KERRVILLE, TEXAS

VENDING MACHINE FOR FILLING CIGARETTE LIGHTERS

Application filed July 15, 1929. Serial No. 378,461.

This invention relates to new and novel improvements in slot machines, and more particularly to that class of machines for dispensing predetermined quantities of liquids.

5 The primary object of the invention is to provide a slot machine for delivering liquids for replenishing cigar, cigarette and pipe lighters. The machine consists of a mechanism including parts whereby upon deposit
10 of a proper coin therein a certain quantity of liquid is automatically released to the lighter.

Another object of the invention is to provide in the machine a mechanism of durable and positive action and designed to carry
15 out its functions in a practical and efficient manner.

With the above and certain other features in view and which will become apparent as the description proceeds, the machine and its
20 operation will be clearly understood from a perusal of the following explanation, together with the drawings and wherein:

Figure 1 is a top or plan view,

25 Figure 2 is a cross-sectional view taken on the line 2—2 of Figure 1, and partly broken away,

Figure 3 is a partial vertical sectional view, taken on the line 3—3 of Figure 1,

30 Figures 4, 5, 6 and 7 are detail sectional views of the machine, Figure 8 being a perspective view of a coin ejecting lever.

Referring more closely to the drawings, 1 denotes the frame of the machine and 2 the base. A covering, not shown, but of any
35 preferred construction may be provided to enclose the mechanism.

To the rear side of the frame is fastened a liquid tank 3, with filler cap 4, the tank being supported on brackets 5.

40 At the front corner of the frame is a coin slot 6, the coin 7 indicated by broken and full lines in Figure 7. The coin upon deposit in the machine follows the chute 8 and comes to rest upon a dog 9. The dog 9 is under spring
45 tension 10, until released by a lever 11 and its co-acting element 12, see Figure 8. The element 12 is bent at right angles to form an inwardly projecting end 13 which upon downward movement of the lever 11 comes in contact
50 with the coin 7 and forces the coin into

a coin box. The actuation of the lever 11 to move element 12 downward is had through the bar 13a, loosely connected to element 11 by a pin 14, the lever 11 having its free end connected to the frame 1, see Figure 6. A
55 spring 15 holds the lever 11 in normal position.

In Figure 1 the dog is shown in locked engagement with a disk 17 carried on a main shaft 18 journaled in the sides of the frame. 60 The shaft has a crank 19 and includes a ratchet 20 co-acting with a pawl 21 to prevent reverse rotation of the main shaft 18. The shaft 18 also carries a cam 22 under spring tension 23, the object being to kick the
65 shaft 18 slightly to the right to start it on a right hand revolution.

Following the preceding it will be apparent that when a coin is dropped upon the dog 9 and the lever 11 depressed, the
70 coin and lever will force the dog from the notch 9a in the disk 17. The coin is then deposited into a coin box and the disk 17 is free to rotate with the shaft 18 by turning the crank 19 to deliver a quantity of liquid. 75 The remaining parts of the mechanism for bringing this about will now be explained in detail.

Connected to the tank 3, see Figure 2, is a valve 24 and to this valve is connected a
80 measuring receptacle 25 having an outlet tube 26. Connected to this tube is a delivery valve 27. A tube 27a delivers the liquid to the purchaser. The means for operating the valve 24 is through a cam 29 carried on
85 the shaft 18 and coacting with a slide bar 30 and pivoted lever 31, the latter under spring tension 32. There is also provided a means for permitting air to enter tank 3 to facilitate the flow of liquid at each delivery. This arrangement is carried out by
90 means of a small slide valve 33, carried on a pipe 34 the pipe connected to the tank 3, and having a lateral tube connection 35 leading to the measuring receptacle 25. Air
95 is admitted through the opening 36. This valve is opened by means of a cam 38 on shaft 18 in connection with an upright member 39, pivoted at 40 to a rigid support 41. The upper end of this member 39 is under spring
100

tension 42 when the valve is operated and when so moved inward by the cam 38 it shoves inward a rod 44 and moves the link 45 thus opening the valve 33.

5 The measured quantity of liquid is now ready to be released to the customer through tube 27a. This tube may be reduced at extreme outlet in order to reduce flow.

10 This is accomplished through the gears 45 and 46, gear 45 carried on shaft 18 and in mesh with gear 46 when the machine is operating. The gear 46 is mounted on an upright valve stem 48 of valve 27 and is under tension of a coiled spring 49. The gear 46
15 has one tooth 50 longer than the other teeth and on contact with the stop 51 stops this gear when the valve 27 is opened. In this connection and in closing the valve 27, the gear 45 is minus one tooth, and the space A
20 will throw the gears out of mesh when this point is reached. The spring 49 will then close the valve 27 after the liquid has been delivered.

25 The operation of the parts in depositing the coin, releasing the dog, and opening and closing the valves is practically simultaneous and when the crank has made one turn to effect one revolution of shaft 18, the dog again falls into the notch in the disk 17,
30 thus locking the machine. The gears are also again placed in mesh and the machine is ready to serve the next customer. When the coin is deposited and the lever 11 depressed, the dog 9 is released from the disk
35 17 and remains just out of the notch, held so by the tension of spring 49 acting on the shaft 18 until the crank 19 is operated to work the mechanism.

40 It is believed that further explanation of the operation of the machine will not be necessary.

45 It is also obvious that the different parts of the mechanism are capable of considerable variation and modification, such changes to come within the scope and meaning of the appended claims.

What is claimed as new is:

50 1. In a machine of the class described, a frame for the mechanism, a main shaft journaled in the frame; means for operating said shaft; a liquid supply tank having a valve; means connecting the supply tank valve with said shaft to operate the supply tank valve; a measuring receptacle in communication
55 with said valve and arranged to communicate with the supply tank when the valve is open; a delivery valve having communication with said measuring receptacle; means on said delivery valve connecting the delivery valve with said main shaft to open the
60 supply tank valve when the delivery valve is closed, and means on the delivery valve to close the supply tank valve when the delivery valve is open.

65 2. In a machine of the class described, a

frame for the mechanism, a main shaft, means for operating said shaft, a supply tank including a supply tank valve and a measuring tank in communication with said valve and arranged to communicate with the supply tank when the valve is open; an air inlet valve communicating with said tank and measuring receptacle, said valves operable by said shaft; a delivery valve, means operable by said shaft to open the delivery valve when the supply tank valve is closed, and means on the delivery valve to close said supply tank valve when the delivery valve is open.

3. A machine as claimed in claim 1, said tank valve operating means comprising pivotable and sliding mechanism in connection with a cam on said shaft, whereby on rotation of the shaft the valve is opened and closed; said main shaft including a gear in mesh
85 with a gear on said delivery valve for opening said delivery valve; and a spring on said delivery valve to close said delivery valve.

4. A machine as claimed in claim 2, said air inlet valve and said tank valve operable
90 simultaneously on rotation of the main shaft, the air valve including a mechanism in connection with a cam on said shaft to open and close the air valve.

5. In a machine of the class described and as claimed in claim 1, the main shaft having a crank arm to rotate the shaft including a cam and spring to start the shaft to rotate in a right hand direction, said shaft including means to prevent its reverse rotation
100 when delivering a charge of liquid.

6. A machine of the class described comprising a frame having a main shaft and means to revolve the shaft; a gear on said shaft; a measuring receptacle, a delivery
105 valve communicating with said measuring receptacle, a gear on the delivery valve, both gears in mesh when the machine is delivering a charge of liquid; said gear on the valve having means in connection with a
110 stop to cause the gear to cease revolving when a charge has been delivered; said gear on the shaft having a space between certain teeth to release one gear from the other when said stop is reached.

In testimony whereof we affix our signatures.

EUGENE H. PRESCOTT.
WILLIAM G. LEAZAR.

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