

G. R. ANDERSON.  
 VENDING MACHINE.  
 APPLICATION FILED MAR. 21, 1917.

1,313,046.

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 2 SHEETS—SHEET 1.

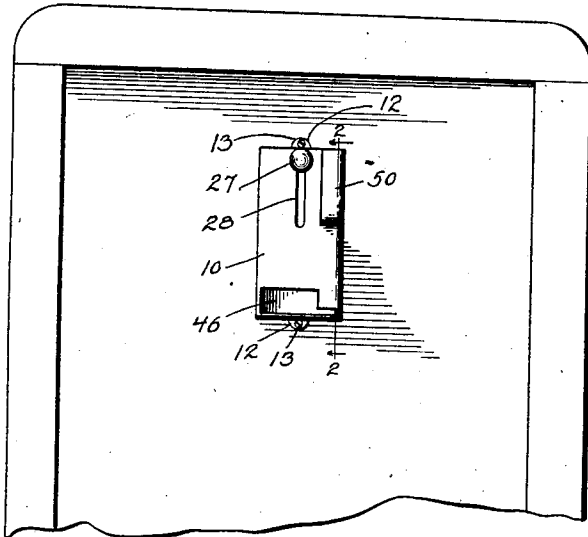


Fig. 1.

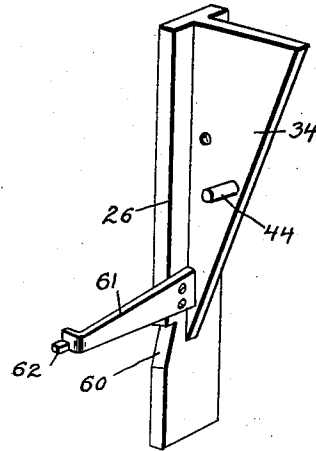


Fig. 2.

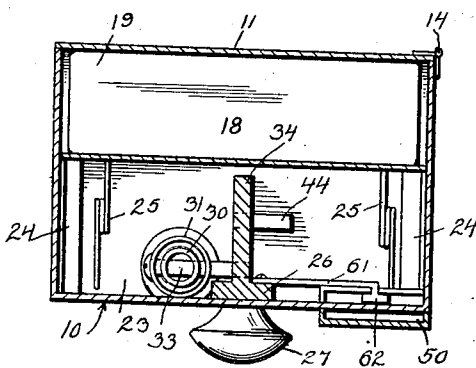


Fig. 4.

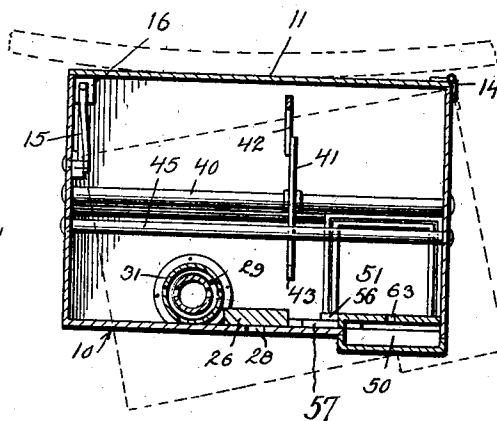


Fig. 5.

WITNESSES

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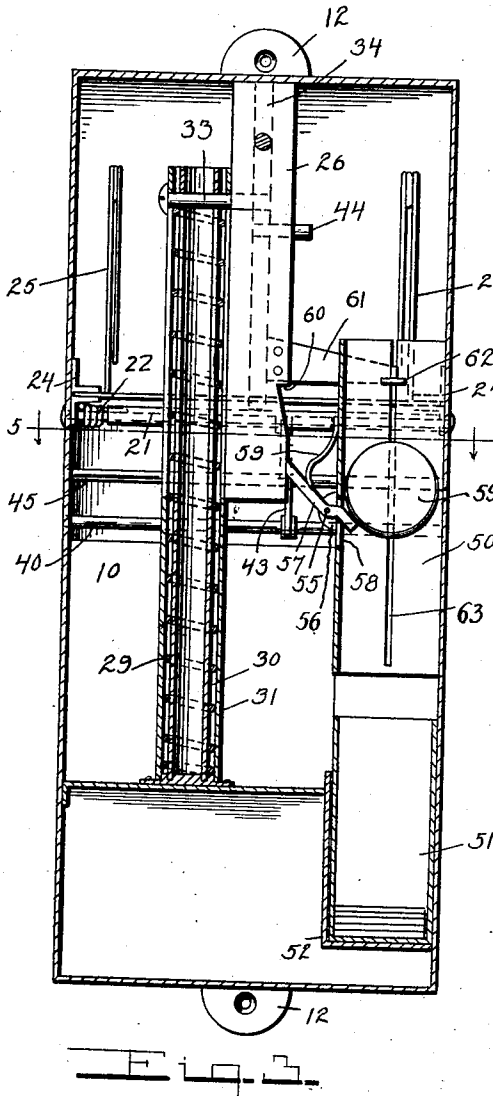
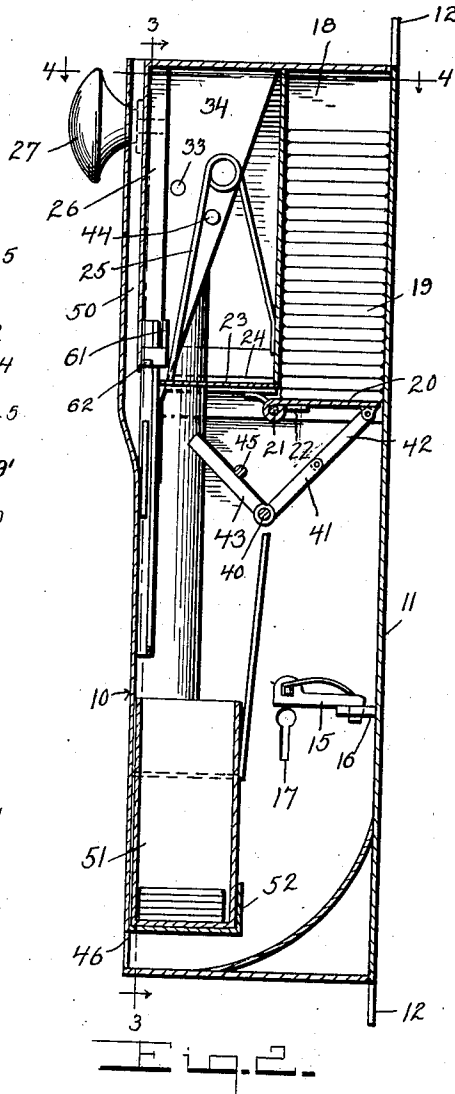
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ATTORNEY

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WITNESSES

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# UNITED STATES PATENT OFFICE.

GUSTAV R. ANDERSON, OF LONG ISLAND, NEW YORK.

## VENDING-MACHINE.

1,313,046.

Specification of Letters Patent.

Patented Aug. 12, 1919.

Application filed March 21, 1917. Serial No. 156,465.

### *To all whom it may concern:*

Be it known that I, GUSTAV R. ANDERSON, a subject of the King of Sweden, residing at Long Island, in the county of Queens and State of New York, have invented certain new and useful Improvements in Vending-Machines, of which the following is a specification.

This invention relates to vending machines, and aims primarily to simplify and improve the structure and operation of devices of this character.

A further object of the invention is to provide a vending machine which is equipped with improved mechanism for insuring the delivery of only a predetermined number or quantity of articles to be vended upon the insertion of a coin.

Still further objects reside in providing a machine of the character set forth which includes relatively few movable parts, all of which are so arranged and actuated as to minimize the opportunities for wear, breakage, or derangement; which is positive in its operations, and which will prove thoroughly efficient in the attainment of the ends for which it is designed.

With these objects in view, together with others which will appear as the description proceeds, the invention resides in the novel formation, combination, and arrangement of parts, all as will be described more fully hereinafter, illustrated in the drawings, and particularly pointed out in the claims.

In the drawings:—

Figure 1 is a front elevation of a vending machine constructed in accordance with the invention, the machine being illustrated as applied to the back of a theater or moving picture show seat;

Fig. 2 is an enlarged longitudinal sectional view taken upon line 2—2 of Fig. 1;

Fig. 3 is a similar view taken on line 3—3 of Fig. 2;

Fig. 4 is a transverse sectional view taken upon line 4—4 of Fig. 2;

Fig. 5 is a view similar to Fig. 4, taken upon line 5—5 of Fig. 3; and

Fig. 6 is an enlarged detail perspective view of the actuating block employed in connection with the vending apparatus.

The vending machine in the present instance is designed to contain cakes or packets of chewing gum, chocolates, and other confections, and may be used for vending

packages of peanuts and the like. The machines are adapted particularly for use in theaters or moving picture auditoriums for the convenience of the audiences, and are of such construction as to enable the same to be secured to the backs of the seats in such public places, so as to be within convenient reach of the persons in the audiences and yet not to project rearwardly from the seat backs a distance sufficient to catch in the clothing of persons passing between the seats.

In the drawings, 10 indicates generally the casing of the vending machine, and 11 is the back plate thereof. The casing may be constructed of any suitable material, sheet metal being preferred, and the upper and lower ends of the back plate 11 are provided with ears 12, through which retaining screws 13 may be extended to secure the casing to a support. The casing is arranged along one of the longitudinal edges of the back plate as at 14, so that the casing may be swung to open or closed position when desired. A locking tumbler 15 is carried by the casing, and is adapted to engage with an eye 16 on the inner face of the back plate, so as to hold the casing securely in closed position. It will be understood, of course, that a key may be inserted through the key hole 17 in the casing to lift the lock tumbler 15 to inoperative or unlocked position when it is desired to gain access to the interior of the casing.

The casing is equipped at its rear portion and upon its interior with a holder or magazine 18, which is adapted to hold a stack of articles 19 to be vended. It will be observed that the rear end of this magazine is open, so that when the casing is swung upon its hinges to open position, access may be readily had to the interior of the holder so as to facilitate filling of the same.

The lower end of the packet compartment or magazine is closed by a bottom in the form of a plate 20 hinged as at 21 adjacent the outer wall of the magazine. This plate is normally held upwardly or in closed position by a spring 22, and the packets 19 rest upon the said bottom.

A second bottom plate 23, is mounted within the casing in suitable guides 24 slightly above the plate 20, and the second plate is adapted at certain times to slide through the outer wall of the compartment

or magazine 18 and between certain of the packets within the magazine to prevent more than a predetermined number of articles being discharged from the casing at one time. In the present instance, the machine is designed to vend but a single article at one time, and the plate 23 is slidably mounted above the bottom 20 a distance substantially equal to the thickness of the lowermost packet 19 of the stack. When the plate 23 is moved inwardly, the same will pass between the lowest packet 19 and the next packet above the same, and will assume the weight of all packets except the one below the said plate and which rests upon the bottom 20. When the plate 23 has been retracted or moved outwardly the stack will be dropped upon the bottom plate 20. The sliding plate 23 is normally held in retracted or outward position by a spring 25.

The means employed for properly actuating the movable plates 20-23, comprises a slidable member in the form of a block indicated generally at 26. This block in the present instance moves centrally and longitudinally of the casing, and a knob 27 extends to the exterior of the forward end of the casing to enable the block to be easily moved. This knob extends through a guide slot 28 in the front face of the casing. The block is normally held at the limit of its upward movement by an expansion spring 29, confined between concentric tubes 30 and 31 within the casing. These nested tubes are provided for a portion of their lengths with aligned slots, through which a stem 33 secured to the block 26 extends. This stem is engaged by the upper end of the coil spring 29, and provides a shoulder for the block against which the spring operates.

The block travels upon the inner face of the front wall of the casing 10, and has a rearwardly projecting web 34 extending therefrom. This web is inclined outwardly from its juncture with the block adjacent the lower end thereof, and its rear inclined face is adapted to engage the outer edge of the sliding plate 23 and, during its downward movement, to force the said plate rearwardly against the tension of the springs 25. When the block 26 is moved upwardly, the sliding plate 23 will be free to move into retracted position by impulse of the springs 25.

Means is employed for swinging the bottom plate 20 downwardly so as to discharge from the casing the article held thereby, but this means only operates when the plate 23 has been projected across the lower end of the magazine to support the packets or articles contained therein. In carrying out this end, a bell crank lever is pivoted within the casing and below the magazine to a bar or rod 40. One arm 41 of the lever extends angularly beneath the bottom plate 20, and

a link 42 connects the free end of said arm with the outer end of the bottom plate 20. The arm 43 of the bell crank lever extends into the path traversed by a trip pin or arm 44 projecting laterally from the web 34 on the block 26. A stop 45 limits the upward movement of the arm 43, and maintains the latter in proper position to be actuated by the pin 44 on the downwardly moving block 26. The arrangement is such that when the block has moved downwardly a distance sufficient to enable the pin 44 to contact the bell crank arm 43, continued downward movement of the block will cause the said lever to rock upon its support 40, whereupon the arm 41 of the lever will move upwardly and inwardly, drawing upon the link 42 and causing the bottom plate 20 to move downwardly against impulse of the spring 22 to release the article or packet supported thereon. The article when dropped by the bottom plate may be removed from the casing by inserting the hand in the opening 46. It will be observed that the bell crank lever is only actuated after the plate 23 has been moved beneath the stack or articles in the magazine, as the arm 43 is located an appreciable distance below the sliding plates. When the block moves upwardly, the spring 22 will force the plate 20 to normal or closed position, and the bell crank and link will assume the position shown in Fig. 2 of the drawings. It will be observed that when in this position, the bell crank arm 41 and link 42 will be longitudinally aligned, and the weight of the articles upon the plate 22 will be supported by the said arm and link. In the vending operation, the pin 44 need only move the bell crank upon its support until the pivotal connection between the arm 41 and link 42 is out of alinement with the support 40 and the pivotal connection between the link and the bottom plate 20, whereupon the weight of the article upon the bottom 20 will cause the latter to move downwardly.

From this construction, it is obvious that there has been provided an extremely simple and thoroughly efficient vending mechanism, and one which will insure the vending only of a predetermined number of packets. It is to be observed that by the arrangement of alternately operated supporting plates 20 and 23, the stack of articles is always held against being dropped into the discharge chute. It will be understood, of course, that the sliding plate 23 may be moved farther away from the bottom plate 20 should it be desired to have the machine vend more than a single article for a single coin.

While the present disclosure is that of what is believed to be the preferred embodiment of the invention, it is to be understood that the invention is not limited thereto, but that various changes may be made in the construction, arrangement, and proportion

of parts, without departing from the spirit of the invention as defined in the appended claims.

What is claimed is:—

- 5 1. In a vending machine, a packet magazine, a bottom hinged adjacent the lower end of said magazine and being adapted to support the packets therein, a second plate adapted when projected to slide between the
- 10 packets adjacent the lower end of the magazine, means for normally holding said second plate retracted, means normally maintaining said bottom plate in packet supporting position, a movable member, and the
- 15 said member being adapted when moved in one direction to project said second plate and to move said bottom plate to packet releasing position.
2. In a vending machine, a packet magazine, a bottom hinged adjacent the lower
- 20 end of said magazine and being adapted to support the packets therein, a second plate adapted when projected to slide between the packets adjacent the lower end of the maga-
- 25 zine, means for normally holding said second plate retracted, means normally maintaining said bottom plate in packet supporting position, a movable block, an inclined surface on said block engaging said sec-
- 30 ond plate, and an arm on said block at the

lower end thereof adapted to open said bottom plate.

3. In a vending machine, a magazine, a hinged door closing the bottom thereof, a slidable dividing plate, a lever 35 for operating the door, a slidable cam to move the plate, and a pin carried by the cam to engage the lever.

4. In a vending machine, a magazine, a hinged door closing the bottom 40 thereof, a bell crank, a link connecting one arm of the bell crank with the door, resilient means to retain the door in a closed position and the link and associated arm in substantially alined relation, and means 45 to engage the bell crank to open the door.

5. In a vending machine, a dispensing mechanism, and means to actuate said mechanism including a pair of substantially concentric sleeves having longitudinal extend- 50 ing, transversely alined slots, a pin extending through said slots, a coiled spring inclosing the inner sleeve, and a block manually shiftable mounted on said pin.

In testimony whereof I affix my signature 55 in presence of two witnesses.

GUSTAV R. ANDERSON.

Witnesses:

OSCAR SWENSON,  
NILS WEINBERG.

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