June 17, 1930. J. J. SOMERGARY ET AL 1,765,108

VENDING MACHINE

Filed June 28, 1926 2 Sheets-Sheet 1

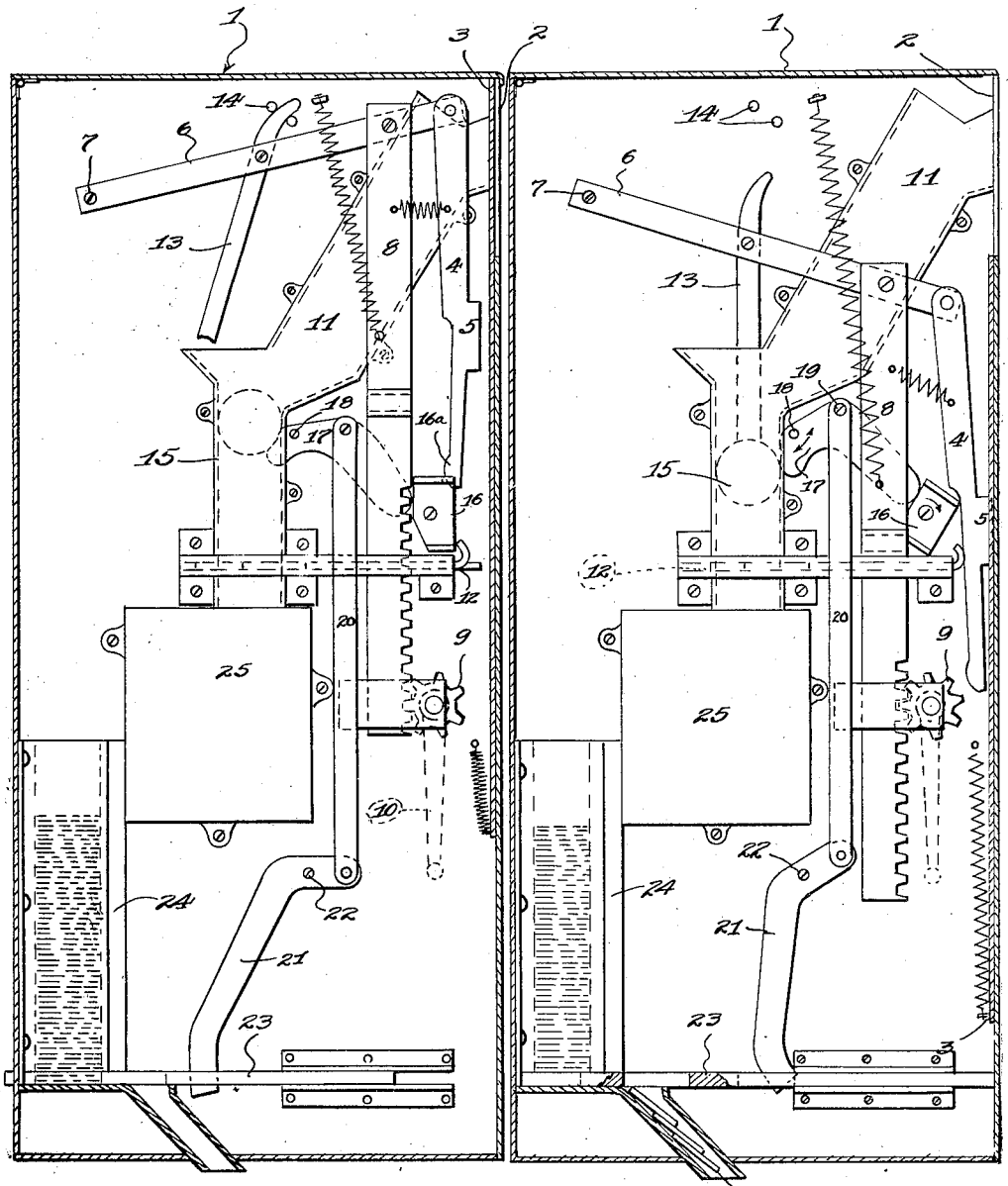


Fig. 1

Fig. 2

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VENDING MACHINE

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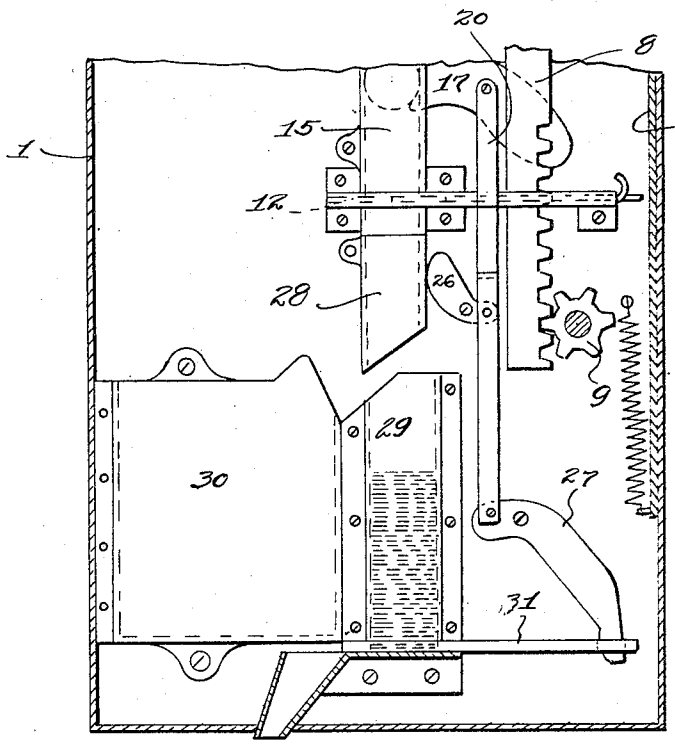


Fig. 3

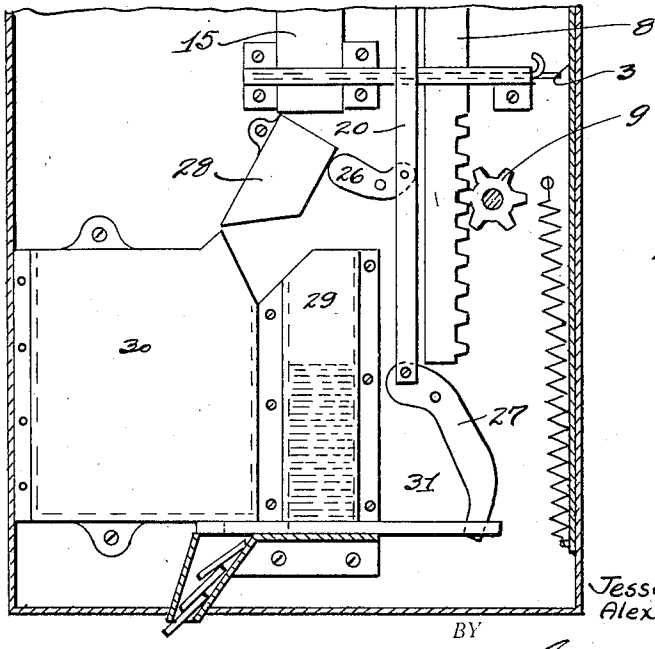


Fig. 4

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UNITED STATES PATENT OFFICE

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VENDING MACHINE

Application filed June 28, 1926. Serial No. 118,992.

This invention relates to vending machines of the type designed to vend newspapers or similar articles, and has to do particularly with a novel, compact and efficacious mechanism for effecting and controlling the actuation of the vending mechanism.

It is the object of the present invention to provide mechanism of extreme simplicity both in design and operation, and which vending actuating and controlling means is so arranged as to permit vending of a desired article regardless of the coin used, and as long as the coin or coins are of sufficient denomination corresponding to the price of the article to be vended. More specifically we have provided a novel vending structure having a single coin slot in which a plurality of pennies, a five-cent piece, or any coin desired, may be placed, and novel means operative according to the size or number of coins used for controlling the vending of the article and the return of the correct change, if any, to the purchaser.

The present invention is particularly adaptable to and constitutes an improvement upon the vending machine shown and described in the pending application, Serial No. 42,865, of John Urbanek.

In the drawings:

Fig. 1 is a vertical sectional view taken through a vending machine container, embodying our novel coin control actuating mechanism.

Fig. 2 is a view similar to Fig. 1, but showing the various parts of the vending mechanism after a five-cent piece has been inserted in the machine, and also showing the parts in operative position to permit vending of the newspaper and to effect the return of change to the customer.

Fig. 3 is a fragmentary view similar to Fig. 1, but showing in modified form the change-making mechanism wherein the smaller coins for use as change are automatically directed to the change container.

Fig. 4 is a fragmentary view similar to Fig. 3, but showing the position of the mechanism after a coin of large denomination has been inserted whereby change will be automatically returned to the customer.

Our novel apparatus for controlling and actuating the vending mechanism is preferably adapted to be used in combination with vending mechanism of a type having a vertically movable shutter and means for moving the shutter controlled by the number and size of the coins used, and by the application of power applied from the exterior of the vending container. It will be understood our novel controlling and coin change mechanism may be applied to various types of vending mechanism, but as shown in the drawings, it is particularly adapted for use with the newspaper vending container 1 which may be of any desired shape, preferably rectangular, and which is provided at the upper front side thereof with a suitable opening 2. This opening 2 is adapted to be opened or closed, to permit vending of the article, by means of a vertically movable shutter 3. This shutter 3 preferably extends clear across the front of the vending container so as to cover up the slot or opening 2 to prevent or permit vending of the newspapers or other articles.

This shutter 3 is designed to be moved downwardly by means of an actuating arm 4, said arm being provided with a suitable extension 5, adapted to be moved into engagement with a suitable recess in the shutter 3, as clearly shown in Fig. 2. The upper end of this arm 4 is pivotally connected to an arm 6 which is fulcrumed to the container wall, as at 7, and which arm 6 is designed to be vertically reciprocated by virtue of rack 8 which is designed to be actuated by means of a pinion 9, mounted on a suitable operating handle 10, the operating handle extending exteriorly out of the container.

The coins are adapted to be inserted in the coin chute 11, and are adapted to be normally supported by means of a suitable closure member 12. This closure member 12 is provided with a suitable slot which is adapted to register with the opening in the coin chute 11, which slot only extends normally across the coin chute to such an extent as to hold the coins in the chute supported above the closure member 12. Connected to the same lever arm 6 is a suitable plunger or actuator arm 13. This actuator arm 13 is controlled

and moved by initial actuation of the rack 8, but its movements are directed by means of the pin 14, whereby as the rack 8 is moved downwardly the actuator arm 13 will also be moved downwardly but will be simultaneously moved in an arc so as to be in alignment with the vertical portion 15 of the coin chute.

The actuator arm 13 is only of such length that when the required number of coins, say three pennies, are supported in the chute above the closure member 12, that movement of the actuator arm 13 will cause it to contact with the top coin and thus cause the bottom coin contacting with the closure member to move such closure to the left until enough of the slot therein is exposed to permit the coins to drop therethrough. If not enough coins are contained in the chute 15 supported above the closure member 12, the arm 4 will be moved vertically downward until it strikes the extended end of the closure member 12, whereby such arm 4 and extension 5 will be prevented from entering the opening in the shutter 3. However, if the required number of coins are contained in the chute 15, then the actuator arm 13 contacting with the top point will cause the closure member 12 to be moved to the left, as viewed in Figs. 1 and 2. This moving of the closure member 12 to the left will cause the up-turned projection on the same to contact with a pivoted lug 16. The upper end of this lug 16 is adapted to receive the lower end 16[a] of the lever 4, and when this lug 16 is partially rotated by movement of the closure member 12 it will be obvious that the arm 4 will be moved towards the shutter member 3. Continued actuation of the rack 8 and continued downward movement of the arm 4 will cause the projection 5 to enter the opening in the shutter 3 and move the same downwardly. Upon the return of the rack 8 to normal position, which may be accomplished by suitable springs or other means, the arm 4 will likewise return to normal position and in doing so the pivoted lug 16 and the closure member 12 will again be returned to normal inoperative position. So much of this structure as described is old and is described and claimed in application Serial No. 42,865, above mentioned.

Secured to the wall of the container 1 and pivotally mounted thereon so as to normally extend into a suitable opening in the wall of the chute 15 is a dog 17. This dog is fulcrumed as at 18, and a small extension thereof normally projects into the chute 15 to such an extent that it will not be actuated by or effected by coins of a certain diameter, such as pennies, but which will be effective to stop coins of a larger diameter, such as five-cent pieces. The other end of this dog 17 preferably extends downwardly to the point adjacent the pivoted lug 16, whereby when such dog 17 is actuated it will be effective to rotate the lug 16 on its axis in the same manner with the same results as if such lug 16 were actuated by the closure member 12. Pivoted as at 19 to the dog 17 is a rod 20 which extends vertically downward and which in turn is pivotally connected to an actuating lever 21 fulcrumed as at 22. This actuating lever 21 extends downwardly so as to slidably contact with and actuate a suitable slide 23 positioned at the bottom of the container 1. One end of this slide 23, as shown in Figs. 1 and 2, is adapted to project into the bottom of a suitable coin container 24, and such slide 23 is provided with a suitable opening for receiving coins positioned in such container 24. This slide 23 may be of any thickness desired in accordance with the number of coins desired to be dispensed.

In operation of this device a five-cent piece or other coin of large denomination may be placed in the coin slot 11 and such coin will be stopped and supported, as shown in Fig. 1, by the inwardly projecting part of the dog 17. The operator will then turn the crank arm 10, or other suitable means, to actuate the rack 8 whereby the actuator arm 13 will be moved to vertical position over the chute 15 and the arm 4 will be moved downwardly. If the arm 13 does not contact with the coin it will be obvious that the arm 4 will be stopped, but if the arm 13 contacts with the coin of large denomination positioned by the dog 17 it will force such coin downwardly and move such dog 17 in a counter clockwise direction about the fulcrum 18. This movement of the dog 17 will cause the lower end of the dog to contact with and rotate the lug 16 whereby the lower end 16[a] of the arm 4 will be moved outwardly so that the arm 4 will pass by the closure member 12, and whereby the projection 5 will enter into the suitable opening in the shutter 3. Continued operation of the crank 10 and the downward movement of the rack 8 will cause the shutter 3 to be moved to its downward position, as shown in Fig. 2. The movement of the dog 17 will also cause the rod 20 to be moved upwardly and the bell crank 21 to be moved in a counter clockwise direction whereby the slide 23 will be actuated to cause the number of coins positioned in the opening in said slide to be moved to a dispensing outlet. In the form shown in Figs. 1 and 2, a suitable coin box 25 may be positioned beneath the outlet of the chute 15.

In the modified form shown in Figs. 3 and 4, the rod 20 is shown connected to a pivoted member 26 and the lower end of the rod 20 is connected to a bell crank 27 which is so fulcrumed as to move in the opposite direction from the crank 21, as shown in Fig. 1. In this modification the lower end of the chute 15 is provided with a hinged section 28 and which section is designed to be actuated to the position shown in Fig. 4 whenever such rod

20 is moved upwardly. A coin or change container 29 is preferably positioned directly beneath the chute 15 whereby when pennies or coins of a small denomination are used they will drop directly into such change container. A suitable coin collector 30 is positioned to one side of the container 29 to receive the five-cent pieces or coins of large denomination. A suitable slide 31 is designed to be actuated by the bell crank 27 and is designed to receive the desired number of coins from the container 29 in accordance with the thickness of such slide 31.

It will be understood that the closure member 12 which is designed to be actuated mainly by the small coins, such as pennies, may be resiliently connected whereby it will move to the left, as viewed in Figs. 1 and 2, whenever the lug 16 is actuated by the dog 17. This movement is to permit passage of the five-cent pieces or other coins through the slot in the member 12 after such coins have caused actuation of the dog 17.

It will thus be seen that we have provided a novel vending apparatus, in combination with a novel change-making apparatus, the said vending and change-making elements being directly connected and actuated by a pressure applied from the exterior of the vending machine upon the coin or coins for which change is desired.

What I claim is:

1. A vending machine for newspapers or similar articles, comprising in combination, a shutter movable to uncover the vending opening, a single chute for receiving coins for causing vending, and a plurality of means projecting into the said chute and each engageable with coins of different denominations therein, means for urging the coins through the chute to actuate one of the said first named means which is engaging the same, and operable connections between each of said plurality of means whereby each independently controls the operation of said shutter.

2. A vending machine for newspapers or similar articles, comprising a shutter movable to uncover a vending opening, means operable for actuating said shutter, means for engaging said shutter operating means, and a plurality of coin-controlled means for causing actuation of said last named means, one of said means being actuated by a coin of one denomination, means for causing the coins to effect said actuation and the other by a coin of another denomination, and one of said means being arranged so as to be unaffected by coins of a given denomination.

3. A vending machine for newspapers or similar articles, comprising means movable to permit vending, a coin chute, a plurality of means for supporting coins of different denominations in said chute, each operably associated with the said movable means, and means operable from the exterior of said vending machine for forcing said coins past said supporting means which is supporting the same to cause actuation of said vending means.

4. A vending machine for newspapers or similar articles, comprising in combination means movable to permit vending of the article, a single coin chute, means for supporting one or more coins in said chute of the correct denomination for vending, means for engaging said coins to cause actuation of the vending means, and means for supporting in the said chute one or more coins of a larger denomination than necessary for the vending, said coin or coins being actuated by said engaging means to effect operation of the supporting means therefor, devices operably connecting the supporting means and vending means, means for simultaneously discharging change from the vending machine, and means operably connecting said last named means with the support for the coins of larger denomination.

5. A vending machine for newspapers or similar articles, comprising in combination vending mechanism, a chute for receiving coins of a plurality of denominations, a container positioned below said chute for receiving coins of a certain denomination for making change, means registering with the lower end of said chute and adapted in normal position to direct coins of a certain denomination into the said container, and means controlled by coins of a larger denomination but unaffected by coins of smaller denomination which is movable to deflect said last named means out of its former position to direct coins of a large denomination away from said change container and means operably connecting the vending mechanism with the said means which is controlled by the coins of larger denomination.

6. A vending machine for newspapers and similar articles, comprising vending means movable to effect vending, a single coin chute, movable means for positioning the coins of one denomination in said chute, and separate movable means for positioning coins of another denomination in said chute, means for forcing said coins past said positioning means to move the same and connections between the said positioning means and vending means to cause actuation of said vending means.

7. A vending machine for newspapers and similar articles, comprising means movable to effect vending, a coin chute, means for positioning the coins of one denomination in said chute, and separate means for positioning coins of another denomination in said chute, and means for forcing said coins past said positioning means to cause actuation of said positioning means, operable connections between the positioning means and

the vending means for actuating the vending means, a change container positioned beneath said coin chute, movable means positioned between said coin chute and said container, and means connected to one of said coin positioning means for actuating said movable means for directing coins of a large denomination away from said change container and for simultaneously discharging coins from said change container.

In testimony whereof we have affixed our signatures.

ALEX LEICHTMAN.
JESSE J. SOMERGARY.