L. C. TARASCH.

VENDING MACHINE.

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1,254,085. Patented Jan. 22, 1918.

Fig. 1

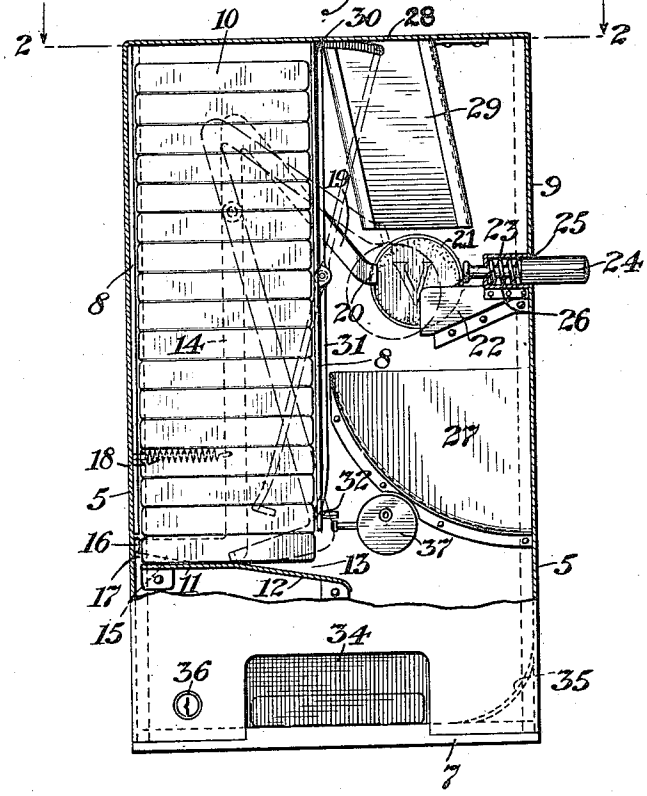
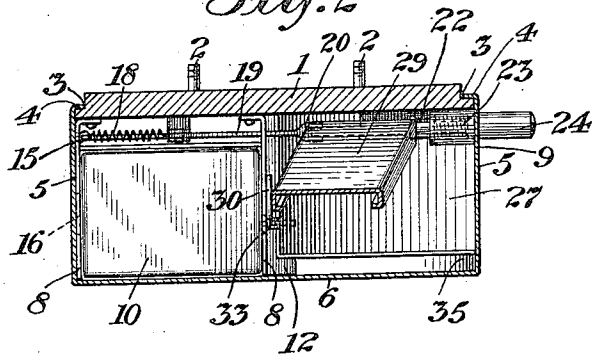


Fig. 2



WITNESSES

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VENDING-MACHINE.

1,254,085. Specification of Letters Patent. Patented Jan. 22, 1918.

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To all whom it may concern:

Be it known that I, LOUIS C. TARASCH, a subject of the Czar of Russia, residing in the borough of Brooklyn, county of Kings, and State of New York, have invented certain new and useful Improvements in Vending-Machines, of which the following is a specification.

My invention relates to a coin controlled package vending device of general application but particularly designed for vending small packages of chewing gum, chocolate and the like from the backs of theater chairs.

One of the objects of my invention is to provide a vending device of a simplified form designed to be constructed of a minimum number of structural parts so that it may be marketed at a low cost and at the same time insure a positive ejection of one package at a time when a proper coin is inserted therein.

It is a further object of my invention to provide a device of the above indicated character which is compact in construction, reliable in operation and providing ready access to the interior thereof for the purpose of emptying or re-filling it or to get at the operating mechanism.

It is among the other objects of the invention to provide means for closing the coin chute to prevent the insertion of a coin after all the packages have been vended and to provide means to prevent the return of the coin and thereby permit the unloading of the device by a single coin.

I attain these objects broadly by providing a single lever spaced from a manually controlled plunger and operatively connected to eject the lowermost package of a stack of packages to be vended. The space between the plunger and lever is bridged by an inserted coin positioned edgewise therebetween and arranged to transmit the tension on the plunger to trip the lever and thus eject the package from the stack. Further the plunger is caused to engage the coin below its center to assist in moving the coin into a suitably disposed coin receptacle as the several parts are automatically returned to their initial inoperative position.

Various other objects and advantages of the invention will be in part obvious from an inspection of the accompanying drawings and in part will be more fully set forth in the following particular description of one form of mechanism embodying my invention, and the invention also consists in certain new and novel features of construction and combination of parts hereinafter set forth and claimed.

In the accompanying drawings:

Figure 1 is a front elevation of a preferred embodiment of my invention with parts of the casing broken away to show internal construction; and

Fig. 2 is a transverse sectional view taken on the line 2—2 of Fig. 1 looking into the device.

In the drawings there is shown a rear supporting wall 1 provided with means 2 for attaching the device to the back of a theater chair or other suitable support. The side edges of this back plate are undercut as shown at 3 to contain the inturned flanges 4 projecting from the side faces 5 of an inclosing casing 6 slidably inserted into position on the rear wall. This casing may be inserted from the top of the device in which case a bottom wall 7 is fixed to the rear wall 1 to support the bottom of the casing. A pair of spaced apart walls 8 project from the rear wall 1 opposite one of the side faces 5 hereinafter referred to as the plunger face 9, and together with the rear wall and casing constitute a reservoir for the stack of packages 10 to be vended. The stack of packages rest upon a bottom plate 11, the side of which adjacent the face 9 is extended toward said face and slightly depressed to form a chute 12 for the ejected packages. The wall 8 adjacent this chute has an opening 13 therein of a depth sufficient to permit the passage of the lowermost package in the stack but not sufficient to permit the passage of the next package in the stack.

A vertically disposed lever 14 is fulcrumed adjacent its upper end to the rear wall 1, has its lower end formed into a horizontally disposed arm 15 extending in a direction away from the opening 13, the end of which arm is bent forwardly to form a package ejector 16. This arm and ejector are disposed to surround the rear side and the side opposite the opening of the lowermost package and are of a height less than the height of this package. The ejector is normally positioned out of line of the stack of packages and for this purpose the outside wall 8

has its lower portion recessed as shown at 17 to contain the ejector. A spring 18 acts on the lever to maintain the ejector within the recess in position to eject the lowermost package when the lever is actuated. An arm 19 extends from the upper end of the lever toward the face 9 and preferably has its free end vertically slotted as shown at 20 to contain an edge of an operating coin 21 resting within the same. Positioned below the slotted end 20 is a coin cradle 22 fixed to the rear wall 1 and designed to support the coin edgewise in vertical position against the rear wall. This cradle supports a guiding tube 23 in which is mounted a plunger 24 normally maintained in position ejected through an opening 25 in the plunger face 9 by means of a spring 26. The inner end of the plunger is arranged to bear on the edge of the coin 21 and to act thereon in a line above the center of the coin and to force the coin from its cradle 22 into a coin receptacle 27 positioned therebelow and fastened to the rear wall 1. The top wall of the casing 6 has a coin slot 28 and supports a coin chute 29 slanting therefrom rearwardly toward the rear wall in a position to guide the inserted coin into its position resting on the cradle and between the end 20 and plunger 24. This coin chute is positioned above the receptacle 27 and is in the form of a channel having an open under side arranged so that the insertion of coins of a smaller diameter than the width of the opening will not operate the device, but the small coins will fall directly into the coin receptacle.

When the receptacle is emptied of its packages the coin slot 28 is closed by means of a finger 30 fixed to the upper end of a lever 31 pivoted to the rear wall 1 and having its lower arm bearing on the package next above the lowermost package in the stack. The end of this lower arm is weighted by means of a projection 32 extending through an opening 33 in the wall 8 and arranged to move into the receptacle when the last package is dropped onto the bottom plate 11 thereby to swing the finger 30 across the coin slot.

The front wall of the casing 6 is provided with a discharge opening 34 through which the packages are directed by a curved chute 35 after they have fallen from the chute 12.

The casing is fastened to the rear wall 1 by any suitable means, such as the spring actuated lock 36, which may be moved into unlocking position by a key or other suitable unlocking member. The fastening provided by this lock 36 is assisted by the plunger 24 which may have a close fit in the opening 25 thereby to prevent any material movement of the casing until the plunger is collapsed therein as when inserting the casing in position.

The top edge of the ejector 16 is preferably rounded so as to present a smooth bearing for the stack of packages and thus prevent damage to the wrappings about the packages as the ejector is moved back and forth.

Should it be desired to register the number of packages ejected some suitable form of register 37 may be mounted on the rear wall 1 in position to be actuated by the lever 14 as the packages are successively ejected from the stack.

In operation and with the casing removed, the package receptacle is filled with the blocks of confections as is usual with devices of this character. The manually controlled plunger is depressed and the casing slid into position on the guideways provided in the back wall until it is automatically locked by the fastening device, in which position the plunger will project through the opening in the casing.

In this position the plunger may be depressed idly without actuating the mechanism in any way but should a coin of the proper diameter be inserted in the slot it will slide down the incline coin channel into resting position on the support provided by the cradle and positioned between the free slotted end of the lever arm and the inner end of the plunger. Should the plunger be depressed into the casing with the coin in this position the tension on the plunger will be transferred through the coin to the projecting arm of the lever causing the lever to swing on its fulcrum and eject the lowermost package from its stack through the opening and thus permit the package to fall by gravity onto the succeeding chutes to the bottom plate opposite the discharge opening. The ejector has a limited movement less than the length of the package so as to remain under the stack of packages while ejecting the lowermost package. Releasing tension on the plunger will permit the spring to return the plunger into its initial position uncovering the top opening to the cradle so as to permit the next succeeding coin to drop thereinto. As soon as the coin in the cradle has performed its function as a spacing member between the plunger and lever it will be cleared of the cradle and will automatically fall into the coin receptacle as soon as the tension thereon is released. This dropping of the coin is facilitated by causing the plunger to engage the edge of the same in a direction through the coin above the center thereof. This action causing the coin to be acted upon by a force, one component of which will cause the coin to be projected downwardly. Releasing pressure upon the lever will permit the same to be acted upon by its spring to return the ejector into its initial position cleared of the stack thus permitting the stack to fall by its own weight into position with the next suc-

ceeding lowermost package in ejecting position opposite the ejector and the ejector ready to be again actuated.

When the receptacle is emptied of its packages the finger 30 which is normally offset from the coin slot will be permitted to fall across the slot thus intercepting the insertion of coins so long as there are no packages in the receptacle.

By means of a device of this character there is provided a simple form of mechanism for ejecting the packages arranged so that a short push on the manually controlled plunger may be caused to eject the packages for a material distance without the necessity of providing cumbersome mechanism to attain this result. The device contains but two actuating parts, a plunger and a lever both of which may be cheaply constructed and installed within parts which may be formed of pressed metal members designed to be manufactured in large numbers. The coin receiving part is so arranged that only a coin of the proper diameter can be used to operate the device. A coin of larger diameter would not fit in the coin slot and a coin of smaller diameter would fall through the opening of the coin chute without effecting the operation of the mechanism. Any attempt to manipulate the plunger even with a coin in position could not cause more than one package to be ejected and the lever must be returned to its initial position before the next package can be ejected, but this return can only take place when the coin receiving device is emptied of the preceding coin. As all of the mechanism is carried by the rear wall it is possible to make the casing of thin gage metal and thus economize in cost of construction, which is a desirable feature forming the primary advantage of a device of this character.

While I have shown and described and have pointed out in the annexed claims, certain novel features of my invention, it will be understood that various omissions, substitutions and changes in the form and details of the device illustrated and in its operation may be made by those skilled in the art without departing from the spirit of the invention.

Having thus described my invention, I claim:

1. A coin controlled vending machine, comprising a reservoir for a stack of packages to be ejected, a vertically disposed lever, a horizontally disposed pivot constituting the fulcrum of said lever, the lower arm of said lever being relatively long and having its lower end operatively disposed relative to said reservoir to eject the packages therefrom, the upper arm of said lever being relatively short with the free end thereof positioned offset from a vertical line passing through the fulcrum and positioned below the level of the fulcrum, a plunger mounted for horizontal movement and having one end thereof spaced from the free end of the short arm a distance sufficient to accommodate a coin disposed in vertical edgewise position therebetween, the plunger having a movement toward said free end whereby when a coin is inserted between the plunger and said free end, pressure on the plunger will operate said lever to cause the same to eject a package from the stack and to cause said relatively short arm to move away from the plunger thereby to clear the path of movement of the coin to permit the same to fall away gravitationally from the plunger.

2. A coin controlled vending machine comprising a reservoir for a stack of packages to be ejected, a vertically disposed lever, a horizontally disposed pivot constituting a fulcrum of said lever, said lever having its lower end operatively disposed relative to said reservoir to eject the packages therefrom, a portion of the upper end of said lever being offset to provide a coin engaging part, a plunger having a coin engaging part spaced from said upper end of the lever a distance sufficient to accommodate a coin disposed in vertical edgewise position therebetween, the plunger having a movement toward said upper end whereby when a coin is inserted between the plunger and said upper end pressure on the plunger will operate said lever to cause the same to eject a package from the stack and cause said upper end of the lever to move away from the plunger and away from the coin thereby to clear the path of movement of the coin and permit the same to fall gravitationally away from the plunger.

3. A coin controlled vending machine, comprising a reservoir for a stack of packages to be ejected, a vertically disposed lever, a horizontally disposed pivot constituting the fulcrum of said lever, the lower arm of said lever being relatively long and having its lower end operatively disposed relative to said reservoir to eject the packages therefrom, the upper arm of said lever being in the form of an inverted V and relatively short with a side thereof designed to have a coin disposed edgewise against the same, a support for the coin when so positioned, a manually actuated coin engaging member designed to engage the edge of the seated coin on the side thereof opposite the lever and to act through the seated coin to cause the lever to swing across the reservoir and eject one of the packages, said manually actuated coin engaging member designed to unseat the coin at the end of its package ejecting stroke and means acting on the lever to return the same to normal position when freed of the holding effect of the coin.

4. A coin controlled vending machine

having a discharge outlet and including a reservoir for a stack of packages to be ejected, a bottom plate for supporting the packages, the discharge end of said plate being depressed to permit the advanced end of the packages to dip as they are ejected, a curved wall disposed below the discharge end of the bottom plate and designed to turn the packages as they are discharged and direct them toward said discharge outlet, a lever having a package ejecting end movable across said bottom plate to force the packages toward said curved wall, a plunger and means for positioning a coin between said lever and plunger.

Signed at Brooklyn in the county of Kings and State of New York, this 11th day of December, A. D. 1914.

LOUIS C. TARASCH.

Witnesses:
LOUIS A. FALK,
LOUIS BERNSTEIN.

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