(No Model.) 2 Sheets—Sheet 1.

F. M. LEAVITT.

COIN CONTROLLED VENDING MACHINE.

No. 393,162. Patented Nov. 20, 1888.

Fig. 1.

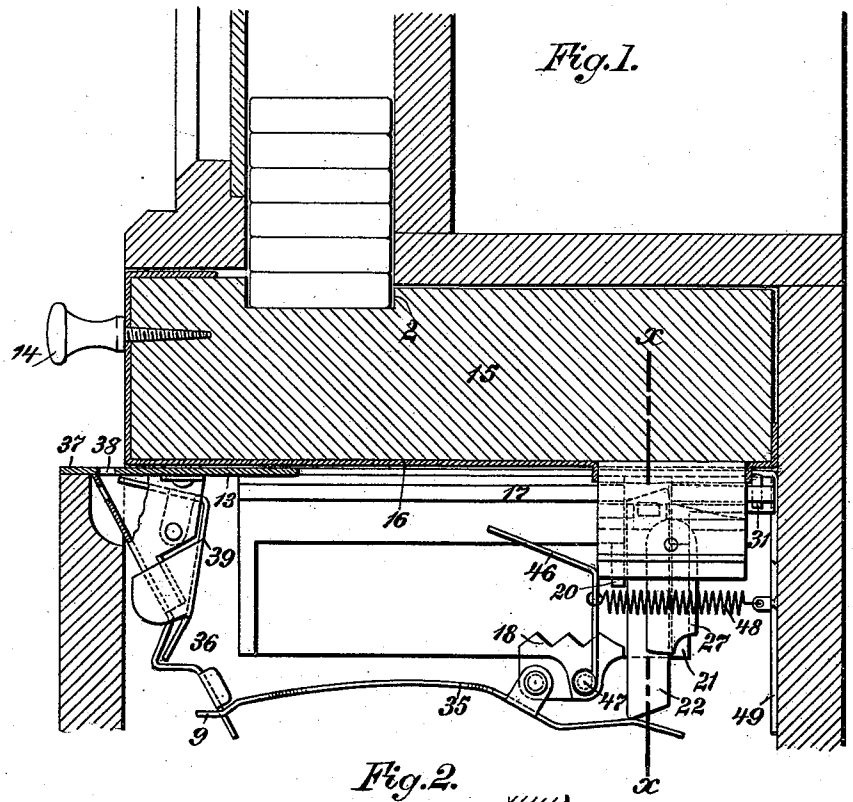
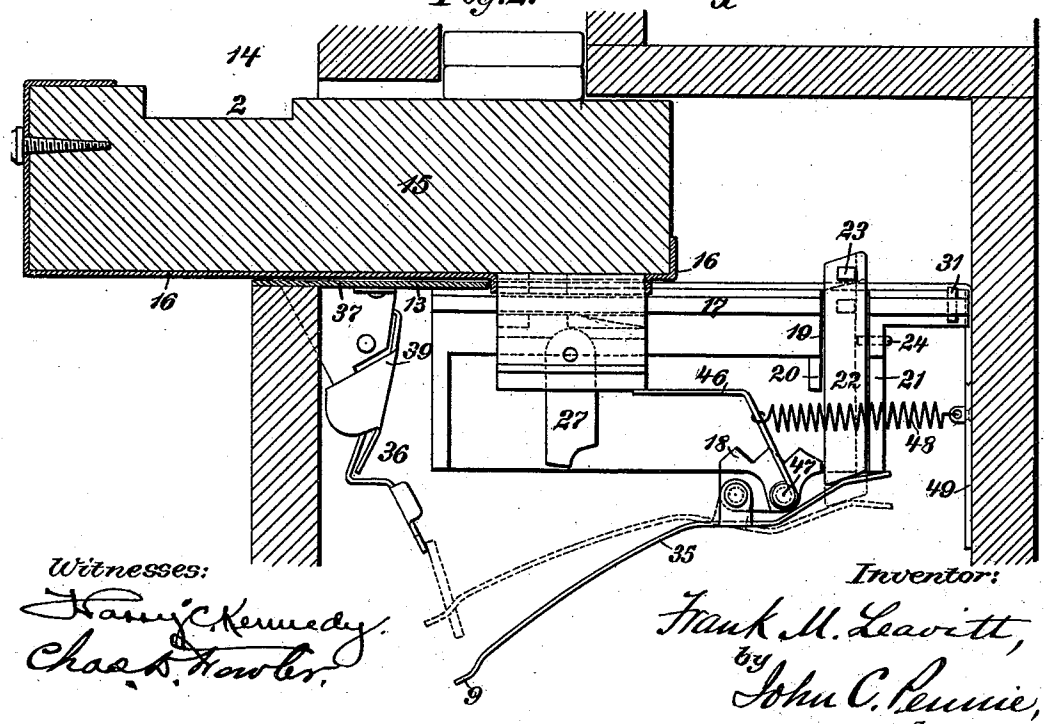


Fig. 2.



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(No Model.) 2 Sheets—Sheet 2.

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Fig. 3.

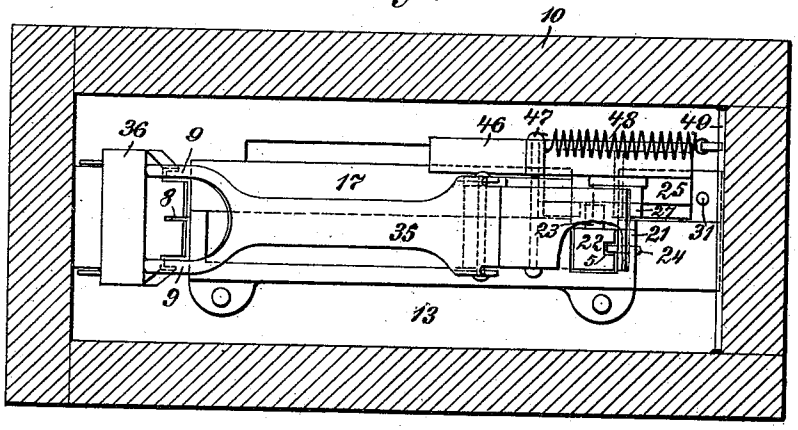


Fig. 4.

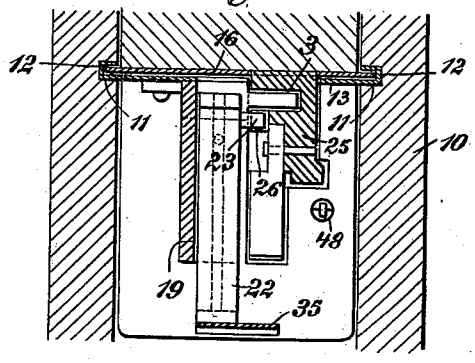


Fig. 5.

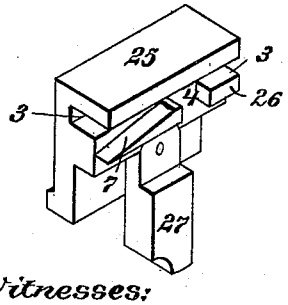
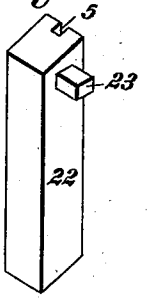


Fig. 6.



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UNITED STATES PATENT OFFICE.

FRANK M. LEAVITT, OF BROOKLYN, NEW YORK.

COIN-CONTROLLED VENDING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 393,162, dated November 20, 1888.

Application filed March 2, 1888. Serial No. 265,957. (No model.)

To all whom it may concern:

Be it known that I, FRANK M. LEAVITT, a citizen of the United States, residing at Brooklyn, in the county of Kings and State of New York, have invented certain new and useful Improvements in Coin-Controlled Vending-Machines; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to that class of apparatus wherein articles or packages of goods are stored in such a manner that upon the deposit of a coin of specified value a single article or package of goods may be withdrawn.

My present invention consists in improvements upon the vending-machines shown and described in Letters Patent No. 384,770, granted to me June 19, 1888, and in application for Letters Patent, Serial No. 257,323, filed by me December 8, 1887.

The present improvements relate, chiefly, to the mechanism for locking the delivery slides or drawer.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar figures of reference indicate corresponding parts in all the views.

Figure 1 is a side view of my improved vending-machine, the case, the delivery drawer or slide, and a portion of the fixed frame being shown in section, the parts being represented as they appear when the drawer is in its closed locked position. Fig. 2 is a view similar to the one given in Fig. 1, except that the parts are shown in full lines in the position they assume when the drawer is open, while the tilting releasing-lever is shown in dotted lines as it appears just after the deposit of a coin. Fig. 3 is an inverted plan view of the machine. Fig. 4 is a cross-sectional view taken on line *x x* of Fig. 1. Fig. 5 is a perspective view of the way-block, and Fig. 6 is a perspective view of the locking-bar.

In the drawings above referred to I have shown a portion of a case or cabinet, 10, in which there are formed substantially horizontal grooves 11, adapted to receive the overturned edges 12 of the base-plate 13. This plate 13 serves as the support for the reciprocating delivery drawer or slide 15, which is preferably made from a block formed with a recess, 2, and secured to a plate, 16, having upturned ends, between which the block rests, the edges of the plate extending beyond the sides of the block to enter the grooves or ways formed by turning over the edges of the base-plate 13.

To the under side of the plate 13, I secure a casting formed with a laterally-extending rib, 17, a laterally-extending rack, 18, and a substantially vertical way, 19, the way proper being in the body of the casting and through the rib 17, the way, however, being extended laterally by ribs 20 and 21.

Within the way 19, I mount a gravity locking-bar, 22, that is formed with a projection, 23, of a width about equal to that of the rib 17, the gravity locking-bar being held from displacement by a pin, 24, which passes through the rib 21 to enter a vertical groove, 5, formed in the rear face of the bar. To the plate 16 I connect a block, 25, in which there is formed a groove, 3, that is entered by the rib 17, and a vertical groove or recess, 4, which extends through the flange 26 beneath the groove 3, the vertical groove 4 being arranged to receive the projections 23 of the gravity locking-bar 22.

From the construction described it will be seen that if the projection 23 of the gravity locking-bar 22 be held within the groove or recess 4 of the block 25 the reciprocating delivery drawer or slide 14 will be locked; and it will also be seen that if the gravity locking-bar 22 be raised so as to carry its projection 23 into register with the rib 17—that is, within the groove 3 of the block 25—the drawer may be drawn out. To provide for the raising of the gravity locking-bar 22, as just set forth, I pivotally connect a tilting releasing-lever, 35, to the projection upon which the rack 18 is formed, the upper face of the inner arm of this lever normally resting against the lower end of the gravity locking-bar 22, while the other or forward end of the lever, which is formed with fingers 9, extends to a point just beneath a coin-chute, 36, connected to the extending end 37 of the base-plate 13, in a position such that it will register with a cam-slot, 38, formed in said extending end. The chute 36 is preferably formed from a sheet-metal blank that is cut and bent to the form

best shown in Fig. 1. To the side flanges of this chute I pivotally connect an escapement-guard, 39, which normally rests in the position in which it is shown in the drawings, the object of the escapement-guard being to prevent the tilting of the lever 35 by means of a wire or a knife-blade, as has been fully set forth in my prior application, No. 257,323, in which application the chute and the escapement-guard are specifically described.

To the block 25, I pivotally connect a pawl or fly, 27, which rides over the rack 18, engaging such rack in a manner such that if the drawer be started in either direction it must be moved to about the end of its path in that direction before the direction of the movement of the drawer can be changed, the pawl acting to prevent the pumping of the machine upon the deposit of a single coin. The construction and operation of this pawl and rack are the same as in my above-named application, No. 257,323, with the exception that in the present case these parts do not effect the permanent locking of the reciprocating delivery slide or drawer, but only prevent the delivery-slide being pushed back when it has once been started out, or from being pulled out after being pushed nearly in. Reference is made to my said application for a detailed description of the pawl and slide.

To insure the return of the reciprocating delivery-drawer to its full inward line of travel after it has been drawn out, I provide an angular arm, 46, that is loosely mounted on a stud, 47, and to this arm I connect a spring, 48, which spring in turn is connected to a leaf, 49, bent downward from the base-plate 13, the spring acting to hold the upper portion of the lower length of the arm against the forward face of the block 25, and thus force the drawer back against its stop 31. The parts just described are so mounted and proportioned that as the drawer is pulled out the arm 46 will be carried forward until its upper length rests flat against the under face of the block 25; but just before the drawer reaches its inner position the lower length of the arm will be brought to bear against the lower forward edge of the block 25, and the spring will then act to throw the drawer home.

In operating the machine above described the goods to be delivered are placed above the reciprocating delivery-drawer in the ordinary manner, and then if a coin of the prescribed value be dropped into the coin-slot 38, which is only just large enough to receive such coin, it will pass downward through the coin-chute and onto the fingers 9 of the tilting releasing-lever 35, carrying said lever to the position in which it is shown in dotted lines in Fig. 2; but if the coin be of less diameter than the one in connection with which the machine is designed to operate it will pass through between the fingers 9, and the lever will not be tripped. As soon as the tilting releasing-lever moves, as above described, the gravity locking-bar 22 will be carried upward to the position shown in dotted lines in Fig. 2, and the delivery-drawer may be pulled out, the projection 23 of the gravity locking-bar 22 being at this time in register with the rib 17 and within the groove 3 of the block 25. Until the drawer has been moved some distance forward the coin will be held, as shown in the figure last referred to; but after the plate 16 passes from above the upper end of the gravity locking-bar 22 the weight of the coin will move the lever 35 to the position in which it is shown in full lines in Fig. 2, and the coin will drop into the box provided for its reception. Upon the return of the drawer the under side of the projection 23 will be borne upon by an inclined face, 7, formed on the flange 26 of the block 25, and the gravity locking-bar 22 will be raised, so that when the recess or groove 4 comes in register with the projection 23 said projection will drop into the groove or recess, and the drawer will be locked to place until another coin is dropped in to trip the lever 35 and raise the gravity locking-bar 22.

To prevent the possibility of repeatedly operating the mechanism by means of a coin tied to a string or fine wire, I construct the coin-chute with an inclined plate at its lower or delivery end and provide said plate with a centrally-located vertically-extending open-mouthed slot, 8, into which slot the string will slip after the coin has dropped from the fingers 9, and when the string has so slipped into the slot it will be readily understood that if an attempt be made to draw the coin upward the string will be broken and the coin will fall into the cash-box.

Having thus fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a vending-machine, a reciprocating delivery-slide and a tilting releasing-lever pivoted beneath said delivery-slide, in combination with a gravity locking-bar resting on but disconnected from the rear end of said lever and normally engaging with and locking said slide, and a coin-chute for directing the coin to the front end of said lever, whereby said lever is tilted and said locking-bar is disengaged from said slide, substantially as set forth.

2. In a vending-machine, a reciprocating delivery-slide and a gravity locking-bar, said slide and said bar having an interlocking projection and recess adapted to each other, in combination with a tilting releasing-lever, on one end of which said locking-bar rests, substantially as set forth.

3. In a vending-machine, the combination, with a fixed frame provided with a laterally-extending rib, of a locking-bar provided with a laterally-extending projection and held to slide within a groove formed in the frame, a drawer or slide mounted upon the fixed frame, a block carried by the drawer or slide and formed with a slot in which the frame-rib rides, and a recess in which the locking-bar projection normally rests, and a means, substan-

tially as described, for raising the locking-bar, as and for the purpose stated.

4. In a vending-machine, a reciprocating slide having a lateral recess, 4, and a rib having an inclined face, 7, leading to said recess 4, in combination with a vertically-movable locking-bar having a projection, 23, which normally fits in said recess 4, and is directed thereinto by said inclined face 7, substantially as set forth.

5. In a vending-machine, the combination, with a fixed frame provided with a laterally-extending rib, of a locking-bar provided with a side projection and mounted to slide in the fixed frame, a drawer or slide mounted upon the fixed frame, a block connected to the drawer or slide and formed with a groove in which the fixed frame-rib rides, a recess in which the locking-bar projection normally rests, and with an inclined face, 7, arranged to bear against the under side of the locking-bar projection, and a means, substantially as described, for throwing the locking-bar projection out of the block-recess, as and for the purpose stated.

6. In a vending-machine, the combination, with a fixed frame, of a locking-bar provided with a side projection and held to slide in a groove or way formed in the frame, a drawer or slide mounted on the fixed frame, a block carried by the drawer or slide and formed with a recess in which the locking-bar projection normally rests, a releasing-lever mounted in connection with the locking-bar, a chute, substantially as described, for delivering a coin to the releasing-lever, an angular arm pivotally connected to the fixed frame, and a spring arranged in connection with the angular arm, as and for the purpose stated.

7. In a vending-machine, the combination, with a fixed frame provided with a rack, of a locking-bar provided with a side projection and held to slide in a groove or way formed in the frame, a drawer or slide mounted on the fixed frame, a block carried by the drawer or slide and formed with a recess in which the locking-bar projection normally rests, a releasing-lever mounted in connection with the locking-bar, a chute, substantially as described, for delivering a coin to the releasing-lever, and a pawl pivotally connected to the drawer-block and arranged to engage the rack, as and for the purpose stated.

8. In a vending-machine, a coin-chute having at its lower end an inclined plate provided with a centrally-located vertically-extending open-mouthed slot, substantially as set forth.

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

FRANK M. LEAVITT.

Witnesses:
OTTO BEYER,
EDWARD KENT, Jr.