Oct. 22, 1929. L. H. MORIN 1,732,853

UNIT VENDER

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Fig. 1.

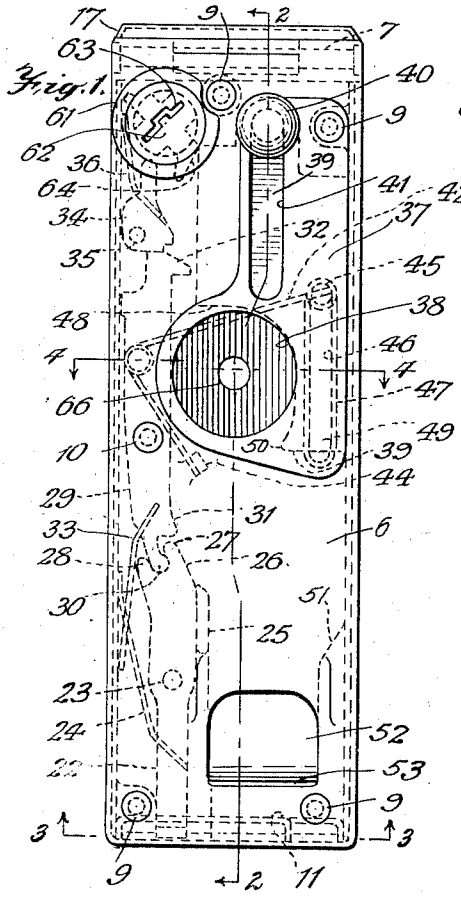


Fig. 2.

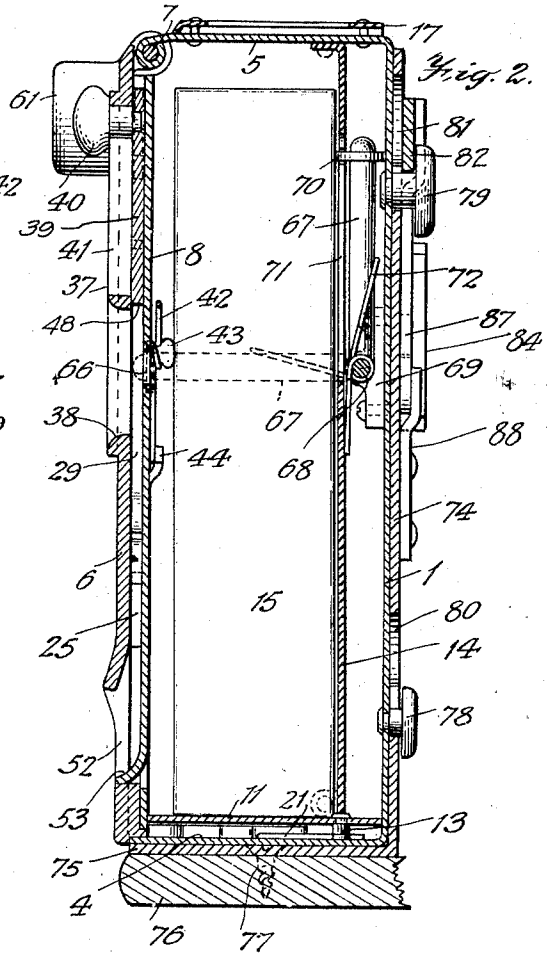


Fig. 3.

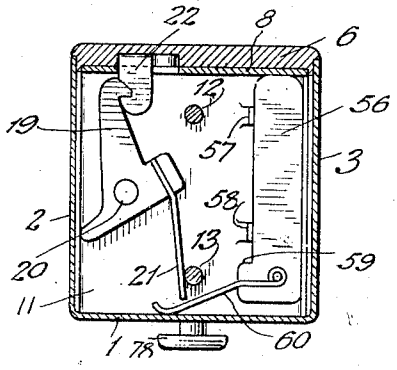
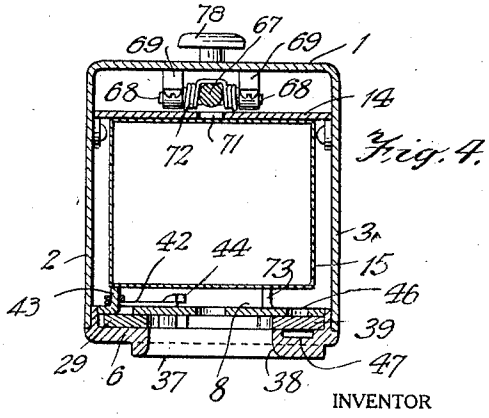


Fig. 4.



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Fig. 5.

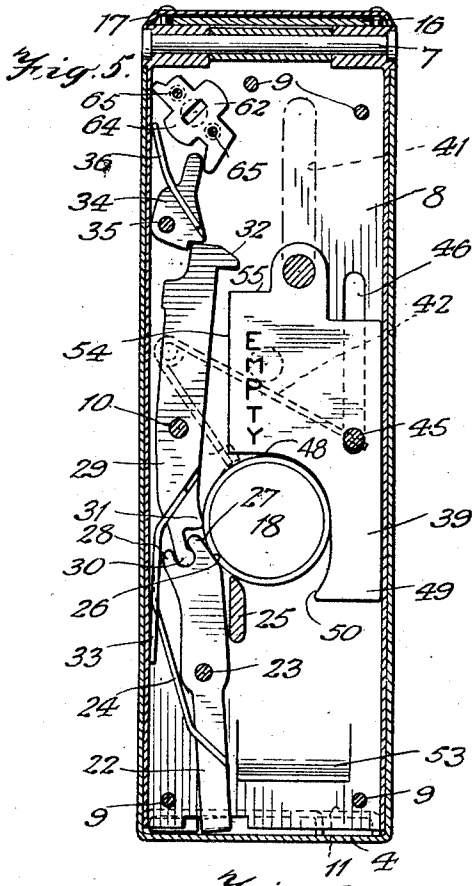
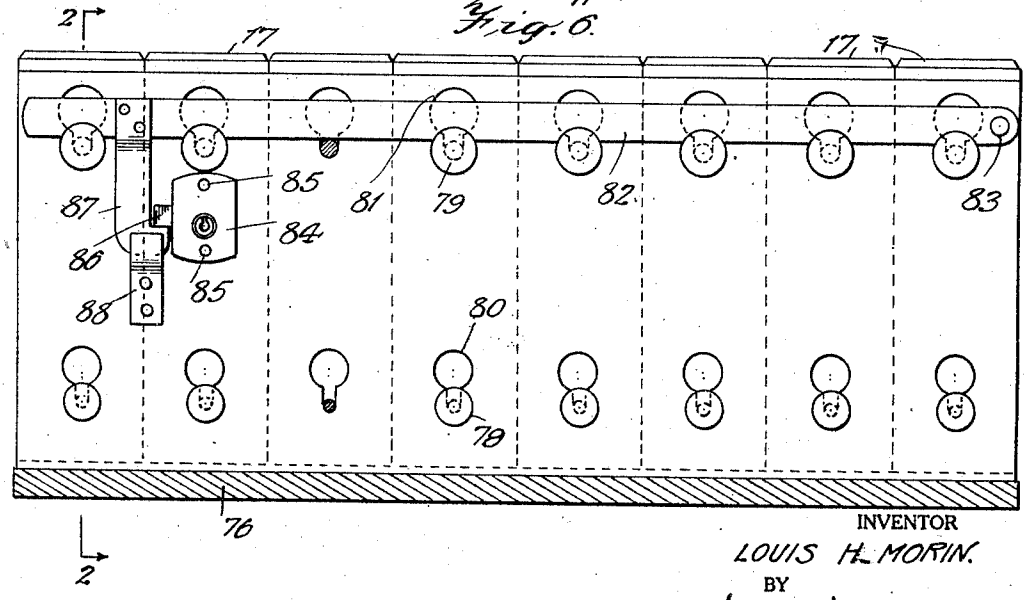


Fig. 6.



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UNITED STATES PATENT OFFICE

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UNIT VENDER

Application filed January 7, 1927. Serial No. 159,528.

This invention relates to that type of vending machine which at one operation vends the entire contents of its magazine, most commonly a single package, and known as a unit vender. A machine of this type may be of small dimensions and yet vend a package of considerable size, and the operating mechanism of the machine may be simple in construction. For example, the machine of this invention may vend a package of razor blades, confections, or other suitable articles. Because of its small dimensions a bank or series of such machines may be conveniently arranged, all of which may vend the same kind of articles or a variety of articles of different kinds, as may be desired.

Heretofore vending machines of this type have been more or less complicated in construction, liable to derangement, expensive to manufacture, insecure against theft of the contents or of the machine itself, and in some cases inconvenient for the attendant to replenish the magazine and remove the coin.

Objects of this invention are to provide an improved vending machine of this type of simple and inexpensive construction, reliable and effective in operation, affording security against theft of the contained package or of the machine itself, and convenient and time-saving for the attendant to manipulate, together with other objects and advantages which will hereinafter appear.

The invention includes various features of construction and combination of parts, as will appear from the following description.

The embodiment of the invention shown in the accompanying drawings will now be described and thereafter the invention will be pointed out in claims, reference now being had to the drawings, in which:

Fig. 1 is a front elevation of a vending machine embodying the invention, parts of the concealed operating mechanism being shown in dotted lines;

Fig. 2 is a vertical section substantially on the lines 2—2 of Figs. 1 and 6, and further showing means according to the invention for protecting the vending machine against theft;

Fig. 3 is an inverted horizontal section on the line 3—3 of Fig. 1;

Fig. 4 is a horizontal section on the line 4—4 of Fig. 1;

Fig. 5 is a front view with the casing box in vertical section just at the back of the front wall thereof, and shows the operating mechanism in elevation, in the fully operated position;

Fig. 6 is a rear elevation drawn to a reduced scale as viewed from the right in Fig. 2 and shows a plurality of the vending machines arranged in a series and locked in position.

The vending machine construction by which the invention is carried out according to the embodiment thereof illustrated in the accompanying drawings will now be particularly described.

An upright rectangular casing box open at the front and having a rear wall 1, side walls 2 and 3, a bottom wall 4, and a top wall 5 may be formed by stamping and welding operations from suitable sheet metal such as steel. An outer front door plate or wall 6, which may be a die casting, is hinged at its top to the top wall 5 of the casing box by means of a hinge pin 7 which is headed at both ends to form a rivet. The door 6 carries an inner wall or plate 8 to form in effect a part thereof spaced therefrom somewhat more than the thickness of a proper coin and firmly secured thereto, such as by means of rivets 9 (Figs. 1 and 5), these rivets passing through bosses or lugs on the inner side of the outer door wall 6 against which the inner wall 8 abuts, the margins of this inner wall 8 fitting into an inner marginal flange provided on the outer wall 6, as will be clear from the drawings. The inner and outer walls 6 and 8 of the door are further secured together against possibility of spreading by means of a fifth rivet 10 adjacent the left side thereof and which also forms a pivot pin for an operating part of the machine, as will hereinafter appear. A lower inner bottom wall 11 for the casing box is spaced a short distance above its outer bottom wall 4 and at its lateral margins is flanged downwardly thus to rest by its flanges on the outer bottom wall, this inner bottom wall 11 being shown as held firmly in place by means of rivets 12 and 13 which pass across the intervening space between

these bottom walls, adjacent the front and rear and on a middle line between the side walls 2 and 3. An inner rear wall 14 for the casing box is spaced from the outer rear wall 1 thereof and its margins are firmly secured to the side walls 2 and 3 and top wall 5, as shown in Figs. 2 and 4, thereby providing a rear space which may be utilized, as will hereinafter appear. The rectangular space enclosed by the side walls 2 and 3, top wall 4, inner door wall 8, inner bottom wall 11 and inner rear wall 14 forms a magazine chamber to receive a package 15 (Figs. 2 and 4) of goods to be vended. Information as to the kind of goods contained in the package 15 may be supplied to customers by means of a suitable card (not shown) or slip of paper, which also may have thereon any other information or advertising matter desired, beneath a transparent name plate 16, which may be of celluloid, held in place by a frame or holder 17 secured to the top wall 5 and which may be a brass stamping.

Normally, or when the magazine chamber contains a package 15 to be vended, the door 6 is locked in closed condition, as shown in Figs. 1 to 4 inclusive of the drawings, and can only be unlocked to give access to the magazine chamber for the removal of the package 15 by means of a proper coin 18 (Fig. 5), which in the particular machine illustrated in the drawings is a twenty-five cent piece, but of course similar machines may be constructed to be operated by means of a coin of any denomination desired and to vend packages of proportionate size and value. In carrying out the invention improved means are provided to prevent the loss of a proper coin in the machine after the latter has been once operated and to prevent the loss of an improper coin in the machine at any time; to prevent the door being unlocked without the insertion of a proper coin; to prevent the removal of the inserted coin after the machine has been operated except by an authorized person; and to prevent the relocking of the door without the release of the coin and the insertion of another package into the machine.

The mechanism for locking and unlocking the door 6 will now be described. A forwardly extending outwardly cam-faced latch hook 19 is located between the bottom walls 4 and 11, so as to be inaccessible when the door 6 is locked in closed position, and is adjacent to the left side wall 2 with its outwardly cam-faced locking hook projecting towards the right. This latch hook is pivoted on a stud 20 (Fig. 3) which projects downwardly from the inner bottom wall 11, the movement of this latch hook towards its locking position being limited by a tail thereon abutting against the adjacent flange of the wall 11, and it is pressed towards its engaging position by a wire spring 21 carried thereby and engaging the rear rivet 13, this spring being rigidly secured to the latch hook, such as by being seated and firmly gripped in a saw-cut slot therein. This latch hook yields to permit the locking of the door 6, but is not moved in unlocking the door by means of a coin, and when the door is locked this hook is inaccessible, and hence there is no way or means by which this hook may be moved for thus in this way unlocking the door, without the insertion of a proper coin, as will now be described.

For locking the door 6 the latch hook 19 may yield and snap its hook into engagement with the inturned rounded hooked end of a substantially vertically arranged coin-operated latch lever 22, which, in the construction shown, is a cam lever to be moved by a moving coin, such as the coin 18, out of engagement with the hook of the latch hook 19 for thereby unlocking the door 6. Excepting at its lower inwardly cam-faced hooked end which projects inwardly through a slotted notch in the lower edge of the inner wall 8 of the door 6, the latch lever 22 is located between the inner and outer door walls 6 and 8 towards the left side of the casing box and is a substantially straight lever of the first order pivoted slightly above the middle of its length on a pivot stud 23 which projects rearwardly from the outer door wall 6 (Figs. 2 and 5). This lower lever or latch lever 22 is pressed towards its latch-engaging position by a wire spring 24 which at its lower end is rigidly secured thereto below its pivot, such as by means of being seated and firmly gripped in a saw-cut slot therein, and this spring extends upwardly above the lever pivot 23 and at its upper end abuts aginst the inner marginal flange of the outer wall 6 adjacent the left side wall 2 of the casing box. In the construction shown, the spring-pressed movement of the latch lever 22 is positively stopped both at the upper and lower ends of this lever, at the lower end by the above noted slotted notch in the lower margin of the inner plate 8 in cooperation with a slot or notch formed between two of the above noted inner lugs which are on the lower end of the outer wall 6 (Figs. 2 and 3), and near its upper end the latch lever 22 may abut against a stop lug 25 formed on the inner face of the outer wall 6 and which also forms a stop to limit the downward movement of a proper coin such as the coin 18, as shown in Fig. 5 and as presently will be made more clear. At its upper end projecting above the stop lug 25 the latch lever 22 is provided with an inclined cam face 26 to be engaged by the adjacent circularly inclined lower lateral portion of the edge of the coin 18 as the coin is moved downwardly, thereby to rock this lever in a counter-clockwise direction, as viewed in Figs 1 and 5, against the tension of its spring 24 as shown in Fig. 5, which movement of this

lever will disengage its lower end from the latch hook 19 and thus unlock the door 6 to permit the customer to remove the package 15. The upper end of the latch lever 22 is bifurcated to form spaced right and left teeth 27 and 28 for a purpose which will hereinafter appear.

A locking lever 29 which locks the latch lever 22 and also has other functions which will hereinafter appear, is a substantially straight lever of the first order substantially vertically arranged adjacent the left side wall 2 of the casing box between the outer and inner door walls 6 and 8 and is pivoted somewhat below the middle of its length upon the aforesaid pivot-forming rivet 10, which is located at about the middle of the vertical length of the casing box. The adjacent ends of the lower and upper levers 22 and 29 are pivotally locked together by means of the teeth 27 and 28 and a downwardly projecting tongue or tooth 30 on the lower end of the locking lever 29 which has a somewhat loose engagement in the slot formed between the teeth 27 and 28 on the latch lever 22. The inner edge of the locking lever 29 forms a lateral guide for the adjacent edge of the coin 18 as the latter is moved downwardly by means presently described. At its lower end this lever 29 is provided with an inclined cam toe 31 which projects into the path of the adjacent edge portion of a downwardly moving proper coin, such as the coin 18, prior to the engagement of the coin with the cam face 26 on the lower or latch lever 22, this cam toe projecting somewhat beyond the upper end of such cam face in slightly vertically spaced relation thereto (Figs. 1 and 5). At its upper end at the right the locking lever 29 has a laterally projecting stop or abutment lug 32 for a purpose which will presently appear. This upper lever is urged to rock in a counter-clockwise direction as viewed from the front by means of a downwardly extending wire spring 33 rigidly secured at its upper end to the lower end portion of the lever, such as by being firmly seated and gripped in a saw-cut slot, and at its lower free end abutting against the marginal flange of the outer door wall 6 adjacent the left casing wall 2. While the lower and upper levers 22 and 29 are positively connected together, it has been found desirable in the particular embodiment of the invention shown to have individual springs for these levers rather than one spring in common.

A locking pawl 34 automatically engages the upper end of the locking lever 29 to prevent return movement of this lever and of the latch lever 22 by their springs after these levers have been operated by a moving coin, as shown in Fig. 5. This pawl, which is between the door walls 6 and 8, is pivoted adjacent the left casing wall 2 on a stud 35 projecting from the wall 6. This pawl normally rests upon the upper end of the locking lever 29 (Fig. 1) and is notched as shown to engage the adjacent end corner of the lever and be stopped thereby in engaging position (Fig. 5), and the pawl is shown as having an upwardly projecting arm by which its release from the lever may be effected, as will be hereinafter described. The locking pawl 34, when it is so permitted by the coin-operated movement of the locking lever 29, is activated to locking position by an upwardly extending wire spring 36 rigidly secured thereto, such as by being firmly seated and gripped in a saw-cut slot, and at its upper free end abutting against the adjacent marginal flange of the outer door wall 6.

Towards its upper end and right side the outer wall 6 of the door has a raised portion 37 on its outer side (Figs. 1 and 2) by which this wall is thickened. A circular coin-receiving opening 38 of a size to receive a proper coin, such as the coin 18, is provided in the thickened portion 38, through the outer door wall 6 at a middle point transversely and having its lower edge at about a middle point vertically of the wall.

A manually operable depressible coin-carrying plate 39 is slidable vertically between the outer and inner door walls 6 and 8 and is guided at its right edge by the adjacent flange of the wall 6. A handle knob 40 fixed on the upper end of the slide plate 39 projects to the outside at the front through a vertical slot 41 in the thickened portion 37 of the front plate 6, this slot forming a guide and stops for the coin-moving plate 39. The coin-carrying plate 39 when set free at its lower position will be retracted or returned to its uppermost normal position by means of a two-armed wire spring 42 having an upper transversely extending long arm, a lower inclined shorter arm and an intermediate coil forming an eye. This spring is anchored to the back of the inner door wall 8 by means of a T-headed lug 43 and a hook lug 44 both shown as punched out from the material of the plate or inner wall 8, the headed lug 43 passing through the coil or eye of the spring adjacent the left casing wall 2 and the lower arm of the spring being engaged by the hook lug 44. The upper arm of the spring 42 at its end adjacent the right casing wall 8 passes freely through the inner end portion of a stud or pin 45 which is rigidly carried by and projects rearwardly from the coin-moving plate 39 through a vertical slot 46 in the inner door wall 8 and which also forms a guide and may provide additional stops for this plate. The inner or rear side of the outer door plate 6 is provided with a shallow vertically slotted groove 47 (Figs. 1 and 4) to accommodate a head on the pin 45 at the front of the slidable coin plate 39 for affording a firm and secure connection of the pin 45 to the coin plate 39.

The coin-carrying plate 39 is cut away or

recessed at its left side and lower end to receive the coin and to provide at the lower end of the main or body portion a coin-pushing shoulder 48 and a depending portion or leg 49 forming a lateral guide for the edge of the coin opposite to the other lateral guide formed by the locking lever 29. The lower end of the leg 49 is provided at the left with a downwardly inclined coin-engaging lateral toe 50 which projects beneath the adjacent lower portion of the edge of the coin in spaced relation thereto when the latter is engaged by the shoulder 48, as in Fig. 5.

When the coin-carrying plate 39 is at its normal retracted or uppermost position (Figs. 1 and 2) its coin-moving shoulder 48 clears and is immediately above the upper edge of the coin opening 38 and its inclined toe 50 is spaced below this opening at the right side thereof while the opposing coin-guiding edges of the leg 49 and locking lever 29 are substantially flush with the lateral edges of the opening 38. The space between the tip of the toe 50 and the edge of the lever 29 is such that a proper coin, such as the coin 18, inserted flatwise through the opening 38 against the inner wall 8 will drop down for a part of its width between the walls 6 and 8 and rest upon the toe 50, thus holding the coin in the machine preparatory to a vending operation thereof.

Should a smaller coin be inserted it will drop past the toe 50 down between the walls and will be directed by the stop lug 25 at one edge of the coin and by an upwardly extending terminally inclined portion 51 of the lower inner lug boss or thickened portion of the outer plate 6, at the other edge of the coin, to a rejection opening 52 in the plate 6 through which it will be finally guided by a concave outwardly inclined lip 53 on the inner wall 8 and punched out therefrom, thus returning any such coins to the depositor.

Adjacent the locking lever 29 the coin-carrying plate 39 has a straight vertical edge 54 terminating at the top in a square-cornered horizontal shoulder 55. With the coin-carrying plate 39 at its uppermost or normal position (Fig. 1) its left edge 54 is closely adjacent to and in the path of movement of the stop lug 32 on the upper end of the locking lever 29, thereby to lock and prevent any substantial rocking movement of this lever in a clockwise direction, as viewed in Fig. 1. By reason of the above described engagement of the tongue or tooth 30 on the lower end of this locking lever 29 with the right hand tooth 27 on the upper end of the latch lever 22, this locking of the locking lever 29 by the coin-carrying plate 39 causes this lever 29 to lock the latch lever 22 against disengagement from the latch hook 19 and thereby to lock the door 6 in closed condition, as shown most clearly in Fig. 3. This locking of the latch lever 22 prevents the possibility of its being operated to unlock the door by the insertion of a probe such as a wire or the like down through the coin opening 38.

When there is a package 15 in the magazine chamber of the casing box and no proper coin has been inserted the coin-carrying plate 39 may be moved freely downward to any extent and will be returned to its normal position by its spring 42, this being merely an idle movement which accomplishes no result. With a proper coin inserted through the opening 38, downward movement of the coin-carrying plate 39 will carry the coin downward resting upon the toe 50 of this plate until the edge of the coin comes into engagement with the cam toe 31 of the locking lever 29, whereupon further slight movement of the coin-carrying plate 39 will bring its shoulder 48 into engagement with the upper edge of the coin. Should the handle knob 40 be released at this point or at any point above this, the coin will merely be returned to its original position, to which it will be lifted by the coin plate toe 50 without operating the machine. In the particular construction shown and by reason of the relative position and relationship of the cam toe 31 on the locking lever 29 and the inclined cam face 26 on the latch lever 22, continued downward movement of the coin-carrying slide plate 39 will initiate a slight clockwise rocking movement of the locking lever 29 independently of the latch lever 22 and which is permitted by reason of the slight play or somewhat loose connection between these levers. Immediately after the lateral edge portion of the coin has thus engaged the cam toe 31 the continued downward movement of the coin-carrying plate 39 will bring the circularly inclined lower lateral edge portion of the coin into engagement with the sloping or inclined cam face 26 of the latch lever 22, whereupon both of the levers 22 and 29 will be rocked from their normal position shown in Fig. 1 to their coin-operated position shown in Fig. 5, in which they are locked by the spring-pressed locking pawl 34. This coin-operated movement of the latch lever 22 unlocks the door 6, as has already been described, while the locking of the latch lever 22 by the locking lever 29 and pawl 34 prevents the relocking of the door by reason of the fact that the latch hook 19 is now out of the path of the inturned hooked latch-engaging lower end of the latch lever 22.

In the final part of the downward movement of the coin-carrying plate 39 substantially as the edge of the coin comes into engagement with the cam toe 31 the top shoulder 55 on this plate comes even with the abrupt or substantially horizontal lower face of the stop lug or hook 32 of the locking lever 29 and this lug is shifted into the return path of the coin-carrying plate 39 in spaced relation above its shoulder 55 with the locking

lever 29 locked by the spring pawl 34. In Fig. 5 the coin-carrying plate 39 is shown at its lowermost position and any further downward movement of the coin 18 is prevented by the stop lug 25 with which the lower edge of the coin has been brought into engagement. As soon as the customer releases the handle knob 40, the coin-carrying plate 39 will be raised by its spring 42 to the limited extent which will bring its shoulder 55 against the stop lug 32 which will thus lock this plate against any further return movement. In this locked condition of the coin-carrying plate 39 it will cover and obstruct the coin-receiving opening 38 so that no other coin can be inserted, as will be clearly evident from an inspection of Figs. 1, 2 and 5. The plate 39 may then display the legend "Empty" (Fig. 5) through the opening 38. Also in this locked condition of the coin-carrying plate 39, its coin-moving shoulder 48 will be elevated somewhat above the position thereof shown in Fig. 5 and the toe 50 of this plate will have been brought substantially into contact with the edge of the coin 18 while the coin 18 may remain in the position shown with the shoulder 48 in spaced relation to the upper edge of the coin, in which case, in the particular construction illustrated in the drawings, the toe 50 of this plate will have been brought substantially into contact with the edge of the coin 18, however, so far as this part or the following parts of the complete operation are concerned, it is immaterial whether or not this toe lifts the coin somewhat. Although the door of the casing box is now in an unlocked condition and therefore accessible from both sides thereof, it is evident that the coin with which the machine was operated, such as the coin 18, will be retained between the door walls 6 and 8 against unauthorized removal.

It is desirable that the door 6 of the casing box when it has been unlocked as above described shall be automatically opened to some extent thus to apprise the customer that the machine has properly operated and that now the package 15 may be removed, and also for the convenience of the attendant in restoring the machine again to an operable condition with a package therein. For this purpose a flat slidable door-opening finger 56 is guided between the inner and outer bottom walls 11 and 4 along the right hand marginal flange of the inner wall 11 at one edge of this finger and at its other edge this finger is guided by means of spaced front and rear lugs 57 and 58 shown as punched downwardly from the inner plate 11. Forward door-opening movement of the finger 56 is limited by a shoulder 59 formed thereon to abut against the rear guide lug 58. The forward end or tip of the finger 56 is pressed against the inner wall 8 of the door 6 in the locked condition of the latter shown in Fig. 3 and when the door is unlocked, as shown in Fig. 5, sliding movement is imparted to the finger 56 to push the door open by means of a wire spring 60 which at one of its ends is fixed in a transverse slot in finger 56 near the rear end thereof while the free end of this spring abuts against the rear wall 1 of the casing box.

Means are provided operable only by an authorized person for restoring the machine to an operable condition to effect another sale, such means comprising a device for releasing the locking pawl 34 from its locking engagement with the locking lever 29. Such device may conveniently and inexpensively be a key-operated device similar in that respect to a key-operated lock or, so far as the present invention is concerned, such device could be of a kind rendered operable only through the carrying out of certain movements and being in that respect similar to a combination lock. In the construction shown in the drawings, the outer door wall 6 is provided at its upper left hand corner with an outwardly projecting tubular boss 61 to provide a supporting housing for the device which is to be operated for releasing the locking pawl 34. The casing boss 61 has fitted and secured therein a key-operated lock 62 having a key-hole 63, and this lock per se may be of any suitable construction which has a rotatable element, and the lock 62 is of a standard commercial type having a rotatable element which may be unlocked and rotated by means of a key. In the construction shown, a lever 64, located between the inner and outer door walls 8 and 6, is carried by the inner end of the rotatable key-operated element of the lock 62 and may be secured thereto by means of a pair of screws 65 (Fig. 5). In carrying out the invention, the function of the lock 62 and its lever 64 is to unlock the operating mechanism of the machine when such mechanism is in its locked condition shown in Fig. 5, thereby to restore such mechanism to its normal operable condition shown in dotted lines in Fig. 1, and as also shown in part in Figs. 2, 3 and 4. In both the normal or operable condition of such mechanism shown in Fig. 1 and the locked condition thereof shown in Fig. 5 the lock lever 64 is in the same or normal position thereof which is shown in dotted lines in Fig. 1 and in full lines in Fig. 5. In this normal position of the lock lever 64 its upper end abuts against the adjacent flange of the outer door wall 6 and its lower or operating end projects downwardly at the right hand side of and in overlapping relation to the upstanding releasing arm of the locking pawl 34. It will be noted that in Fig. 1 the operating end of the lock lever 64 and the releasing arm of the released locking pawl 34 are in spaced relation, thereby to provide for the automatic spring-pressed movement of this pawl to its locking or engaging position shown in Fig. 5, in

which its releasing arm is in close proximity to the operating arm of the lock lever 64. The usual locking mechanism of the lock 62 is effective to lock the operating lever 64 at the normal position thereof shown in Figs. 1 and 5. When the lock 62 per se has been unlocked by means of a proper key inserted therein, then such key may be rotated thereby to impart rotative movement to the operating lever 64 in a clockwise direction as viewed in Figs. 1 and 5. Obviously this clockwise rocking movement of the lock lever 64 will rock the locking pawl 34 in an opposite or counter-clockwise direction against the tension of its spring 36 from the engaged or locking position thereof shown in Fig. 5 to the released or disengaged position thereof shown in Fig. 1. When the lock lever 64 is thus operated to cause it to operate and disengage the locking pawl 34 from the upper end of the locking lever or controlling lever 29, all of the other parts of the operating mechanism, hereinbefore described, between the door walls 6 and 8 will be automatically returned from their operated and locked positions shown in Fig. 5 to their original normal positions shown in Fig. 1, in readiness for a subsequent vending operation, as will presently more clearly appear. Thus it will be seen that the key-operated lock 62, together with the lock lever 64 operated thereby, constitutes a device operable only by an authorized person to enable the operating mechanism of the machine to be restored again to its original normal operable condition. It should be noted that when the key is removed from the lock 62 the lock lever 64 will be left at its normal position, as shown in Fig. 1, so as to permit the automatically acting pawl 34 to perform its locking function as shown in Fig. 5.

When the locking pawl 34 is released, as above described, thereby to release the locking lever 29, the springs 24 and 33 will jointly cooperate, because of the interengaging connection between the adjacent ends of the lower and upper levers 22 and 29, to rock both of these levers away from the coin-operated position thereof shown in Fig. 5 to their normal operable positions shown in Fig. 1. It will be remembered that with the stop shoulder 55 of the coin-carrying plate 39 abutting against the stop lug 32 of the locking lever 29, the lower shoulder 48 will be spaced above the upper edge of the coin 18, which, in the construction shown, then remains at the position thereof appearing in Fig. 5. When the levers 22 and 29 are set free to be activated by their springs the inclined cam face 26 on the upper end of the lower lever 22 will exert a cam action against the edge of the coin 18 and thereby will lift the coin towards the spaced shoulder 48. During this initial lifting of the coin 18 by the cam face 26 the stop lug or locking lug 32 of the locking lever 29 is being withdrawn from the shoulder 55, this spring-actuated movement of the locking lever 29 continuing until its locking lug 32 releases the coin-carrying plate 39, whereupon the latter will be immediately returned by its spring 42 to its uppermost or normal position shown in Fig. 1. In this spring-actuated movement of the coin-carrying plate 39 its toe 50 engages the lower right hand edge portion of the coin 18 and lifts the latter back to its original position in which it is largely exposed through the coin-receiving opening 38, as will be readily understood by an inspection of Fig. 1. When the coin has been returned to its upper position, it may be readily removed by the authorized attendant through the coin opening 38, and such removal of the coin may be facilitated by inserting, from the back of the open door, any simple device or instrument through an aperture 66 provided centrally of the outer opening 38 in the inner wall 8 of the door, this opening 66 also serving another purpose, as will presently be explained.

It will now be evident that the space appearing in Fig. 5 between the coin plate shoulder 55 and the locking lever stop lug 32 serves a double purpose, in that it provides for the gradual inward movement of the locking lug 32 while the coin-carrying plate 39 is still moving downward and operating this lever by means of the coin 18, and also in that such space, by permitting a slight return movement of the coin-carrying plate 39, provides for the initial lifting of the coin 18 by the cam face 26, as above described. It is further to be noted that with the locking lever 29 locked by the locking pawl 34 (Fig. 5), this lever, by reason of the engagement of its tongue or tooth 30 with the left hand tooth 28 of the latch lever 22 will thereby lock the latter lever against independent return movement to its locking position, thus rendering it impossible for the door 6 to become accidently or inadvertently relocked in closed condition prior to the operation of the lock lever 64 by means of the proper key inserted into the lock 62, as above described, and in the meantime the door 6 will be held partly open by the spring pressed door-opening finger 56 so that the door cannot be kept closed. This may save the attendant the possible trouble of having first to pull down the handle knob 40 to unlock the door of the empty machine and also will serve as a reminder to him to operate the lock 62.

Means are also provided to prevent the possibility of the closing and relocking of the door 6 prior to the replenishing of the magazine chamber with another package to be vended, such means possibly saving the attendant having to reinsert the coin and operate the machine in order to open the locked door, and also serving as a reminder to him to insert another package into the magazine

chamber. In the embodiment of the invention shown, a stop bar 67 (Figs. 2 and 4) is pivoted at one of its ends, by means of journals 68 thereon, between a pair of spaced bearing brackets 69 shown as secured by means of screws to the inner side of the outer rear casing wall 1. This swinging stop bar 67 may occupy either of two positions, one of which is its upstanding position between the outer and inner rear walls 1 and 14 of the casing box, as is shown in full lines in Figs. 2 and 4, and the other position of which is the horizontal forwardly extending or projecting position thereof shown in dotted lines in Fig. 2. The free end portion of the bar 67 carries a stop collar 70 and has a rounded end projecting beyond this collar as shown.

The rear inner wall 14 is provided with a long vertical slot 71 to provide for the forward and downward swinging movement of the stop bar 67 and also forms a stop therefor at the horizontal position of this bar, the upper end portion of this slot being of T shape for the free passage of the stop collar 70. The stop bar 67 is continually urged to move from its upright to its projected horizontal position by means of a coiled three-armed wire spring 72, the coils of which encircle the journals 68, the upper double or looped arm of which engages at the back of the stop bar 67, and the lower ends of the downwardly extending free arms of which abut against the back of the inner wall 14.

The package 15 holds the stop bar 70 in its upright position against the tension of its springs 72 by the engagement of the back of the package with the forward edge of the stop collar 70, as shown in Fig. 2. When the package 15 is removed from the casing box the stop bar 67 then being set free, will automatically assume its forwardly projecting position, and it is of a length sufficient to engage the inner wall 8 of the open door 6 and will act as a positive abutment to prevent the door from being fully closed, so that then the door cannot be locked and will be held partly open by the spring-pressed door-opening finger 56. In the particular construction shown, the rounded free end of the stop bar 67 will enter and project through the aperture 66 in the inner wall 8 of the door, while the stop collar 70 will form an abutment at the back of this wall to prevent the locking of the door. It will thus be seen that the door 6 after having been unlocked and the package 15 removed cannot again be relocked until another package has been placed in the magazine chamber of the casing box to hold up the stop bar 67.

When the door 6 is in the locked condition, shown in Figs. 1 to 4 inclusive, the inner wall 8 of the door holds the package 15 back against or in proximity to the rear inner casing wall 14, with the stop bar 67 held at its upright position (Fig. 2). In the particular construction shown, the T-headed spring-holding lug 43 which projects from the rear face of the inner door wall 8 engages the front of the package 15, and an additional lug 73 (Fig. 4) of equal length and similarly punched back from the wall 8 may be provided to be engaged by the front of the package 15 adjacent its other side, for thereby holding the package 15 squarely in position against the tension of the spring 72 of the stop bar 67. Obviously any desired number of the lugs 73, located wherever desired, may be provided.

In carrying out the invention, as a feature thereof and according thereto, means are provided for effectively guarding against the theft of the vending machine as a whole, together with its contained package 15, or with its contained coin, such means also, according to the invention, providing for supporting and guarding against the theft of a plurality of these machines arranged side by side in a horizontal series and including cooperating features of the machines themselves and of a support in common therefor. This feature of the invention has been made the subject of a copending divisional application, Serial No. 231,311, filed November 5, 1927, which became Patent No. 1,718,249, dated June 25, 1929.

In the construction shown (Figs. 2, 4 and 6) the rear wall 1 of the casing of each of the vending machines (shown in Fig. 6 as eight in number) fits against the front side or face of an upright supporting and securing plate 74, the rear side or back of which is openly and freely accessible; and the bottom wall 4 of each of the vending machines rests upon a horizontal supporting plate 75 which is formed in one piece with the upright plate 74, thereby to form an L-shaped supporting and securing plate for all of the machines. This L-shaped plate is secured in fixed position upon the top of a fixed support 76 which may be, for example, the top of a counter or a shelf or the like, by means of suitable securing devices shown as screws 77, one of which appears in Fig. 2, passing downwardly through the horizontal plate 75 into the support 76 and having their heads covered by the bottom wall 4 of the machine casing, so that these screws are inaccessible for removal while the machine is in place on the plate 75.

The rear wall 1 of the vending machine is provided with a lower rearwardly projecting flat-headed stud 78, the head of which is spaced from this wall to an extent equal to or a little more than the thickness of the upright plate 74, and the inner reduced or shouldered end of the shank of this stud passes through and is riveted or upset at the inner side of the casing wall 1. The rear casing wall 1 of each vending machine is also provided with an upper flat-headed stud 79 of somewhat larger dimensions and of

greater strength than the lower stud 78 and the head of which is spaced a greater distance, for example, about twice the distance of that of the lower stud 78, from the back of the rear casing wall 1, thereby to provide a longer shank for this upper stud, the inner reduced end of the shank of this stud also passing through and being riveted at the inner side of the casing wall 1.

The upright supporting and securing plate 74 has therein a lower horizontal series of key-hole slots 80 which are shown as equidistantly spaced from one another a distance substantially equal to the width of the rectangular casing box of any one of the vending machines (Fig. 6), these key-hole slots having their small ends directed downwardly and being equal in number to the number of the vending machines to be accommodated on the vertical plate 74. This upright plate 74 is also similarly provided with an upper horizontal series of key-hole slots 81 with their small ends also directed downwardly. The distance or spacing between the centers of the enlarged circular upper ends of the lower key-hole slots 80 and the enlarged circular upper ends of the upper key-hole slots 81 is the same as the spacing or distance between the centers of the lower studs 78 and the upper studs 79 carried by the rear wall 1 of the respective vending machines. The lower stud 78 passes through and interlocks in the lower key-hole slot 80 while the upper stud 79 passes through and interlocks in the upper key-hole slot 81, with the bottom 4 of each vending machine resting upon the horizontal supporting plate 75 (Figs. 2 and 6), it being noted that the head of the upper stud 79 is then spaced rearwardly from the upright supporting plate 74.

Locking means are provided to prevent the unauthorized disengagement of the studs 78 and 79 from the key-hole slots 80 and 81, and in the embodiment of the invention shown in the drawings, such means is common to all of the vending machines in the series thereof. In the particular construction shown, a straight locking bar 82 normally extends horizontally at the back of the upright plate 74 immediately above and in locking engagement with the shanks of the upper studs 79 within the space provided between the flat heads of these studs and such plate (Figs. 2 and 6). This locking bar is shown as pivoted at one of its ends on the upper right hand corner portion of the upright plate 74 by means of a pivot stud or rivet 83, so that thereby this locking bar may be swung upwardly out of engagement with the upper studs 79 or downwardly into engagement therewith, as is shown in the drawings.

A key-operated lock 84 secured, for example, by means of rivets 85, on the back of the upright plate 74 below and adjacent to the other or free end of this locking bar, has a bolt 86 which may be withdrawn by means of a key for the lock 84 or it may be horizontally projected as shown in Fig. 6. The locking bar 82 carries a downwardly projecting catch or keeper 87, shown as a separate piece riveted to the bar, and having at its lower end a hook or shoulder to be engaged by the lock bolt 86 or to be disengaged thereby. A clip 88 on the back of the plate 74 and shown as riveted thereto is engageable by the outer side of the lower end of the catch 87 to prevent the possibility of this catch being sprung outwardly out of its engagement with the lock bolt 86. It will now be evident that only an authorized person having a proper key for the lock 84 will be able to remove any one of the vending machines from its support.

It is obvious that various modifications may be made in the construction shown in the drawings and above particularly described, within the principle and scope of the invention as defined in the appended claims.

I claim:

1. In a vending machine of the type for vending its entire contents at a single operation, the combination of a casing having therein a magazine chamber the entire contents of which are to be vended at one operation and the casing having spaced guide walls, one of which is an outer wall provided with an opening to receive a coin into the space between the walls, a manually operable coin-pushing plate guided for sliding movement between said spaced walls and normally in position to engage a coin inserted through said opening, a spring for returning the coin-pushing plate to its normal retracted position, means to prevent lateral edgewise movement of the coin as it is advanced by the coin-pushing plate, one of the walls of the casing constituting a door to be opened to permit the delivery of the contents of the magazine chamber, a lock for the door including a latch lever pivoted between said spaced walls and having an end portion to be engaged by the advancing coin for rocking said lever thereby to unlock the door, a locking lever pivoted to rock between said spaced walls and operated by the advancing coin to prevent return movement of the coin-pushing plate and thereby to prevent the insertion of a second coin through said opening, spring means tending to return said coin-operated levers to their original positions, an automatically acting pawl for locking said locking lever against such return movement, and a device operable only by an authorized person to release said pawl for thereby permitting said coin-operated levers and coin-pushing plate to be returned by their springs to their original normal positions.

2. In a vending machine of the type for vending its entire contents at a single opera-

tion, the combination of a casing having therein a magazine chamber the entire contents of which are to be vended at one operation, one of the walls of the casing constituting a door to be opened for effecting delivery of the contents of the magazine chamber to a customer, a wall spaced inwardly from one of the outer vertical walls of the casing to form therewith a guide for a coin and a space to contain operating mechanism, said outer vertical wall of the casing being provided with an opening through which a coin may be inserted against said inner wall, a manually operable coin-moving plate slidably guided for downward movement between said walls having a coin-moving body portion normally above said opening and having a leg extending downwardly below said opening adjacent one edge thereof to prevent lateral movement of the coin in that direction, said leg being provided with a lateral toe projecting in part below the said opening to form a coin rest, a spring for returning the coin-moving plate to its upper normal position of operativeness, a locking lever for the coin-moving plate which is a substantially vertically arranged upper lever of the first order pivoted between said spaced walls and which forms a guide for the edge of the coin opposite to said leg on the coin-moving plate and which together with said toe permits coins of smaller than the proper denomination to drop freely downward between said walls beyond said toe, a rejection opening for returning such small coins being provided in said outer wall, the upper end of said lever having a stop lug to be moved into the path of the coin-moving plate to permit only a limited return movement of the latter, a spring acting upon said lever to urge its stop lug out of the path of the coin-moving plate and to urge the lower end of this lever towards said leg of the coin-moving plate, a locking device for said door including a substantially vertical lower lever of the first order pivoted between said spaced walls below said first named lever and at its upper end being engaged by the lower end of said first named lever to be moved thereby to its door-locking position when said first named lever is moved by its spring out of engagement with the coin-moving plate and the upper end of said lower lever having a cam surface to be engaged by the edge of the coin as the latter is moved by the coin-moving plate thereby to rock both of said levers in opposite directions for concomitantly unlocking the door and preventing a full return movement of the coin-moving plate, a spring-pressed pawl automatically engageable with the upper end of the upper lever to maintain the said stop lug of the latter in engagement with the coin-moving plate, a device operable only by an authorized person to release said pawl thereby permitting the upper lever to disengage the coin-moving plate and the said toe of the latter to lift the coin back to its original position so it can be removed through said opening through which it was inserted, the coin-moving plate then being in the path of the said stop lug on the upper end of the upper lever thereby to prevent movement of the lower lever away from its door-locking position, and a spring-pressed latch within the lower part of the casing for yieldingly engaging the lower end of the door-locking lever thereby to permit the open door to be closed and locked while the door-locking lever is thus locked at its door-locking position.

3. A vending machine comprising a rectangular casing box to contain a single package to be vended, a front door for the casing box forming a vertical outer wall thereof and hinged thereto at the top, an inner wall for the door secured to its outer wall and spaced therefrom for the reception of a proper coin flatwise, a rear inner wall for the casing box spaced from its outer wall, an inner bottom wall for the casing box spaced above its outer bottom wall, a spring-pressed latch for the door pivoted between said bottom walls to be inaccessible when the door is closed, a slidably guided spring-pressed door-opening finger between said bottom walls, a substantially vertical coin-operated latch lever which is a lower lever of the first order pivoted between the walls of the door and at its lower end engageable with the latch through the yielding of the latter to lock the door and movable out of engagement with the latch to unlock the door, the upper end of said lever having an inclined cam face to be engaged by the circularly inclined edge of a downwardly moving proper coin for thus unlocking the door to permit the removal of the package, a stop to limit the downward movement of the coin after it has operated said lever, a manually depressible coin-carrying slide plate guided between the walls of the door and shaped to have a coin-moving shoulder to engage above the edge of the coin and a depending lateral guide leg for the edge of the coin substantially opposite to the cam face on said lever and having a coin-engaging toe projecting from the lower end of the guide leg in spaced relation to a lower portion of the edge of the coin when the latter is engaged by said shoulder, a handle knob on the slide plate, the outer wall of the door having a vertical slot through which the knob projects, a coin-operated locking lever for the latch lever and for the depressed coin-carrying plate which is a substantially vertical upper lever of the first order pivoted between the walls of the door and at its upper end having a projecting stop lug to abut against the adjacent edge of the coin-carrying plate in the upper position of the latter thereby to lock said lever and to be moved

by the downwardly moving coin into the return path of the coin-carrying plate at the lower limit of movement of the latter in spaced relation thereto to permit a slight return movement only of said plate, said upper lever being positioned to form a lateral guide for the edge of the coin opposite to the guide leg on said plate, the lower end of said upper lever having an inclined cam toe to be engaged by the adjacent edge of the downwardly moving coin prior to the engagement of the coin with a cam face on the lower lever, the adjacent ends of said levers being pivotally interlocked together, the outer wall of the door having a coin-receiving opening for the insertion of a coin beneath the shoulder and above the toe of the coin-carrying plate in the uppermost position of the latter and to be closed by such plate when the latter is depressed, the space between said toe and the upper lever being such as to retain a coin of proper denomination upon the toe while permitting smaller coins to drop through, an exit opening for such smaller coins being provided in the outer wall of the door, a spring tending to return the coin-carrying plate to its uppermost position, spring means tending to return said coin-operated levers to their original positions in which the upper lever is disengaged from and locked by the coin-carrying plate thereby to lock the lower lever at its door-locking position, a spring-pressed pawl pivoted between the walls of the door for automatically engaging the upper end of and locking the upper lever in position to lock the coin-carrying plate against return movement and in which the upper lever locks the lower lever in position to maintain the door unlocked, a device carried by the door and operable only by an authorized person to release said pawl thereby to unlock the door and to permit the released coin-carrying plate with its said toe in cooperation with said levers to lift the coin back to its original position in which it may be removed through said opening, and a spring-pressed stop bar pivoted between the rear walls of the casing box in engagement with the package and when the package is removed then to form a positive abutment for the door and hold it open to prevent the door being locked without the insertion of a package into the casing box.

4. A vending machine comprising a rectangular casing box to contain a single package to be vended, a front door for the casing box forming a vertical outer wall thereof and hinged thereto at the top, and inner wall for the door secured to its outer wall and spaced therefrom for the reception of a proper coin flatwise, an inner bottom wall for the casing box spaced above its outer bottom wall, a spring-pressed latch for the door between said bottom walls to be inaccessible when the door is closed, a spring-pressed door-opener between said bottom walls, a substantially vertical coin-operated latch lever which is a lower lever of the first order pivoted between the walls of the door and at its lower end engageable with the latch through the yielding of the latter to lock the door and movable out of engagement with the latch to unlock the door, the upper end of said lever having an inclined cam face to be engaged by the circularly inclined edge of a downwardly moving proper coin for thus unlocking the door to permit the removal of the package, a stop to limit the downward movement of the coin after it has operated said lever, a manually depressible coin-carrying slide plate guided between the walls of the door and shaped to have a coin-moving shoulder to engage above the edge of the coin and a depending lateral guide leg for the edge of the coin substantially opposite to the cam face on said lever and having a coin-engaging toe projecting from the lower end of the guide leg in spaced relation to a lower portion of the edge of the coin when the latter is engaged by said shoulder, a handle knob on the slide plate, the outer wall of the door having a vertical slot through which the knob projects, a coin-operated locking lever for the latch lever and for the depressed coin-carrying plate which is a substantially vertical upper lever of the first order pivoted between the walls of the door and at its upper end having a projecting stop lug to abut against the adjacent edge of the coin-carrying plate in the upper position of the latter thereby to lock said lever and to be moved by the downwardly moving coin into the return path of the coin-carrying plate at the lower limit of movement of the latter in spaced relation thereto to permit a slight return movement only of said plate, said upper lever being positioned to form a lateral guide for the edge of the coin opposite to the guide leg on said plate, the lower end of said upper lever having an inclined cam toe to be engaged by the adjacent edge of the downwardly moving coin prior to the engagement of the coin with the cam face on the lower lever, the adjacent ends of said levers being pivotally interlocked together, the outer wall of the door having a coin-receiving opening for the insertion of a coin beneath the shoulder and above the toe of the coin-carrying plate in the uppermost position of the latter and to be closed by such plate when the latter is depressed, the space between said toe and the upper lever being such as to retain a coin of proper denomination upon the toe while permitting smaller coins to drop through, an exit opening for such smaller coins being provided in the outer wall of the door, a spring tending to return the coin-carrying plate to its uppermost position, spring means tending to return said coin-operated levers to their original positions in

which the upper lever is disengaged from and locked by the coin-carrying plate thereby to lock the lower lever at its door-locking position, a spring-pressed pawl pivoted between the walls of the door for automatically engaging the upper end of and locking the upper lever in position to lock the coin-carrying plate against return movement and in which the upper lever locks the lower lever in position to maintain the door unlocked, and a device carried by the door and operable only by an authorized person to release said pawl thereby to unlock the door and to permit the released coin-carrying plate with its said toe in cooperation with said levers to lift the coin back to its original position in which it may be removed through said opening.

5. A vending machine comprising a rectangular casing box to contain a single package to be vended, a front door for the casing box forming a vertical outer wall thereof and hinged thereto, an inner wall for the door secured to its outer wall and spaced therefrom for the reception of a proper coin flatwise, a spring-pressed latch for the door within the casing box to be inaccessible when the door is closed, a spring-pressed door-opener, a manually depressible coin-carrying slide plate guided between the walls of the door and shaped to have a coin-moving shoulder to engage above the edge of the coin and a depending lateral guide for the edge of the coin and having a coin-engaging toe projecting from the lower end of the guide in spaced relation to a lower portion of the edge of the coin when the latter is engaged by said shoulder, a handle knob on the slide plate, the outer wall of the door having a vertical slot through which the knob projects, a coin-operated locking lever for a latch lever and for the depressed coin-carrying plate which is a substantially vertical upper lever of the first order pivoted between the walls of the door and at its upper end having projecting stop lug to abut against the adjacent edge of the coin-carrying plate in the upper position of the latter thereby to lock said lever and to be moved by the downwardly moving coin into the return path of the coin-carrying plate at the lower limit of movement of the latter in spaced relation thereto to permit a slight return movement only of said plate, said upper lever being positioned to form a lateral guide for the edge of the coin opposite to the coin guide on said plate, a substantially vertical coin-operated latch lever which is a lower lever of the first order pivoted between the walls of the door and at its lower end engageable with the latch through the yielding of the latter to lock the door and movable out of engagement with the latch to unlock the door, the adjacent ends of said levers being pivotally interlocked together, the end of at least one of said levers adjacent the other lever being provided with an inclined cam face to be engaged by the adjacent lower lateral portion of the edge of the downwardly moving coin for thereby unlocking the door to permit the removal of the package and for concomitantly moving the stop lug of the upper lever into the return path of the coin-carrying plate, a stop to limit the downward movement of the coin after it has operated said levers, the outer wall of the door having a coin-receiving opening for the insertion of a coin beneath the shoulder and above the toe of the coin-carrying plate in the uppermost position of the latter and to be closed by such plate when the latter is depressed, the space between said toe and the upper lever being such as to retain a coin of proper denomination upon the toe while permitting smaller coins to drop through, an exit opening for such smaller coins being provided in the outer wall of the door, a spring tending to return the coin-carrying plate to its uppermost position, spring means tending to return said coin-operated levers to their original positions in which the upper lever is disengaged from and locked by the coin-carrying plate thereby to lock the lower lever at its door-locking position, a spring-pressed pawl pivoted between the walls of the door for automatically engaging the upper end of and locking the upper lever in position to lock the coin-carrying plate against return movement and in which the upper lever locks the lower lever in position to maintain the door unlocked, and a device carried by the door and operable only by an authorized person to release said pawl thereby to unlock the door and to permit the released coin-carrying plate with its said toe in cooperation with said levers to lift the coin back to its original position in which it may be removed through said opening.

6. A vending machine comprising a rectangular casing box to contain a single package to be vended, a front door for the casing box forming a vertical outer wall thereof and hinged thereto, an inner wall for the door secured to its outer wall and spaced therefrom for the reception of a proper coin flatwise, a spring-pressed latch for the door within the casing box to be inaccessible when the door is closed, a substantially vertical coin-operated latch lever which is a lower lever of the first order pivoted between the walls of the door and at its lower end engageable with the latch through the yielding of the latter to lock the door and movable out of engagement with the latch to unlock the door, the upper end of said lever having an inclined cam face to be engaged by the circularly inclined edge of a downwardly moving proper coin for thus unlocking the door to permit the removal of the package, a stop to limit the downward movement of the coin after it has operated said lever, a manually depressible coin-carrying slide plate guided

between the walls of the door and shaped to have a coin-moving shoulder to engage above the edge of the coin and a depending lateral guide for the edge of the coin substantially opposite to the cam face on said lever and having a coin-engaging toe projecting from the lower end of the guide in spaced relation to a lower portion of the edge of the coin when the latter is engaged by said shoulder, a handle knob on the slide plate, the outer wall of the door having a vertical slot through which the knob projects, a coin-operated locking lever for the latch lever and for the depressed coin-carrying plate which is a substantially vertical upper lever of the first order pivoted between the walls of the door and at its upper end having a projecting stop lug to abut against the adjacent edge of the coin-carrying plate in the upper position of the latter thereby to lock said lever and to be moved into the return path of the coin-carrying plate at the lower limit of movement of the latter in spaced relation thereto to permit a slight return movement only of said plate, said upper lever being positioned to form a lateral guide for the edge of the coin opposite to the coin guide on said plate, the lower end of said upper lever having an overlapping engagement with the upper end of the lower lever at the back of the cam face on the lower lever, the outer wall of the door having a coin-receiving opening for the insertion of a coin beneath the shoulder and above the toe of the coin-carrying plate in the uppermost position of the latter, the space between said toe and the upper lever being such as to retain a coin of proper denomination upon the toe while permitting smaller coins to drop through, an exit opening for such smaller coins being provided, a spring tending to return the coin-carrying plate to its uppermost position, spring means tending to return said coin-operated levers to their original positions in which the upper lever is disengaged from and locked by the coin-carrying plate thereby to lock the lower lever at its door-locking position, a spring-pressed pawl pivoted between the walls of the door for automatically engaging the upper end of and locking the upper lever in position to lock the coin-carrying plate against return movement, a device carried by the door and operable only by an authorized person to release said pawl thereby to unlock the door and to permit the released coin-carrying plate with its said toe to lift the coin back to its original position in which it may be removed through said opening, and an automatically acting device within the casing box in engagement with the package and when the package is removed then to form a positive abutment for the door and hold it open to prevent the door being locked without the insertion of a package into the casing box.

7. A vending machine comprising a rectangular casing box to contain a single package to be vended, a front door for the casing box forming a vertical outer wall thereof and hinged thereto, an inner wall for the door secured to its outer wall and spaced therefrom for the reception of a proper coin flatwise, a spring-pressed latch for the door within the casing box to be inaccessible when the door is closed, a substantially vertical coin-operated latch lever which is a lower lever of the first order pivoted between the walls of the door and at its lower end engageable with the latch through the yielding of the latter to lock the door and movable out of engagement with the latch to unlock the door, the upper end of said lever having an inclined cam face to be engaged by the circularly inclined edge of a downwardly moving proper coin for thus unlocking the door to permit the removal of the package, a stop to limit the downward movement of the coin after it has operated said lever, a manually depressible coin-carrying slide plate guided between the walls of the door and shaped to have a coin-moving shoulder to engage above the edge of the coin and a depending lateral guide for the edge of the coin substantially opposite to the cam face on said lever and having a coin-engaging toe projecting from the lower end of the guide in spaced relation to a lower portion of the edge of the coin when the latter is engaged by said shoulder, a handle knob on the slide plate, the outer wall of the door having a vertical slot through which the knob projects, a coin-operated locking lever for the latch lever and for the depressed coin-carrying plate which is a substantially vertical upper lever of the first order pivoted between the walls of the door and at its upper end having a projecting stop lug to abut against the adjacent edge of the coin-carrying plate in the upper position of the latter thereby to lock said lever and to be moved into the return path of the coin-carrying plate at the lower limit of movement of the latter in spaced relation thereto to permit a slight return movement only of said plate, said upper lever being positioned to form a lateral guide for the edge of the coin opposite to the coin guide on said plate, the lower end of said upper lever having an overlapping engagement with the upper end of the lower lever at the back of the cam face on the lower lever, the outer wall of the door having a coin-receiving opening for the insertion of a coin beneath the shoulder and above the toe of the coin-carrying plate in the uppermost position of the latter, the space between said toe and the upper lever being such as to retain a coin of proper denomination upon the toe while permitting smaller coins to drop through, an exit opening for such smaller coins being provided, a spring tending to return the coin-carrying plate to its uppermost position, spring means tending to return said coin-operated levers to their

original positions in which the upper lever is disengaged from and locked by the coin-carrying plate thereby to lock the lower lever at its door-locking position, a spring-pressed pawl pivoted between the walls of the door for automatically engaging the upper end of and locking the upper lever in position to lock the coin-carrying plate against return movement, and a device carried by the door and operable only by an authorized person to release said pawl thereby to unlock the door and to permit the released coin-carrying plate with its said toe to lift the coin back to its original position in which it may be removed through said opening.

In witness whereof, I hereunto subscribe my signature.

LOUIS H. MORIN.