

June 25, 1963

L. M. KEEFE
CARD VENDING MACHINE

3,095,117

Filed July 10, 1959

5 Sheets-Sheet 1

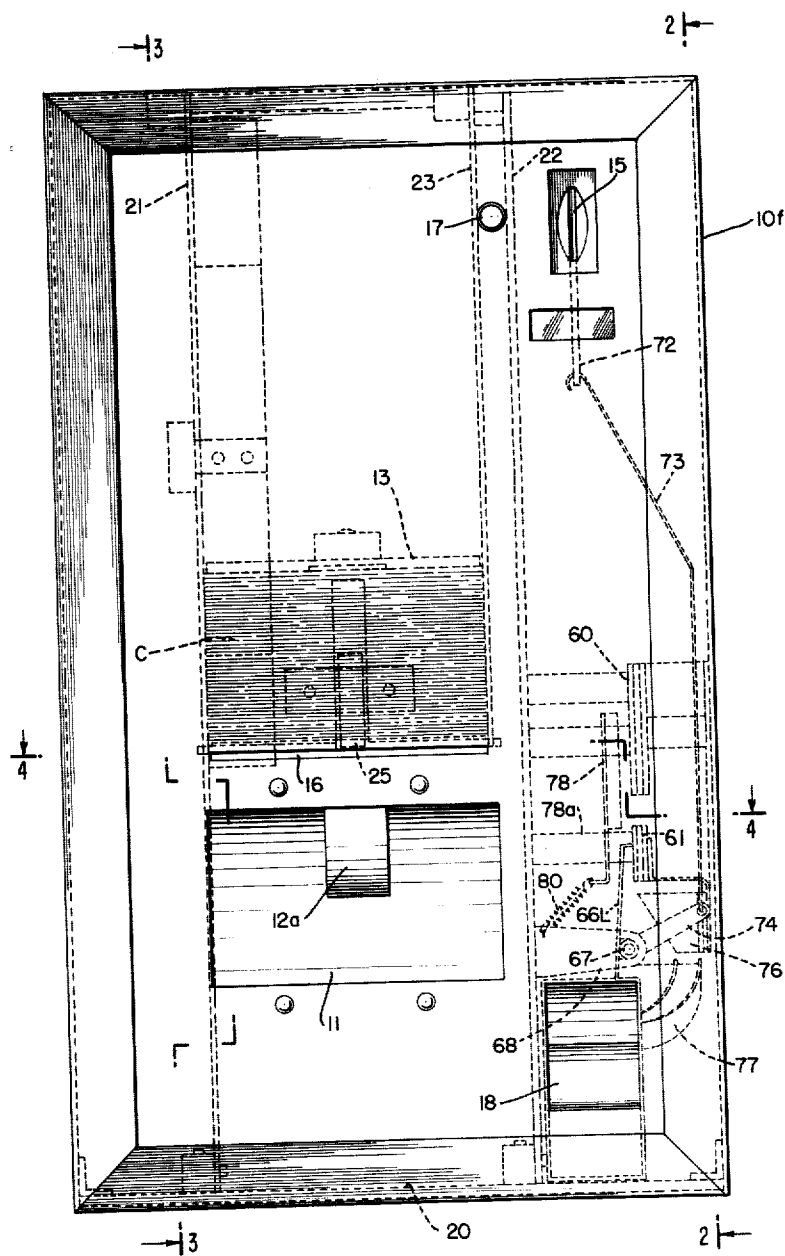


FIG. 1

INVENTOR
LINCOLN M. KEEFE
BY *Joseph M. Mohr*
ATTORNEY

June 25, 1963

L. M. KEEFE
CARD VENDING MACHINE

3,095,117

Filed July 10, 1959

5 Sheets-Sheet 2

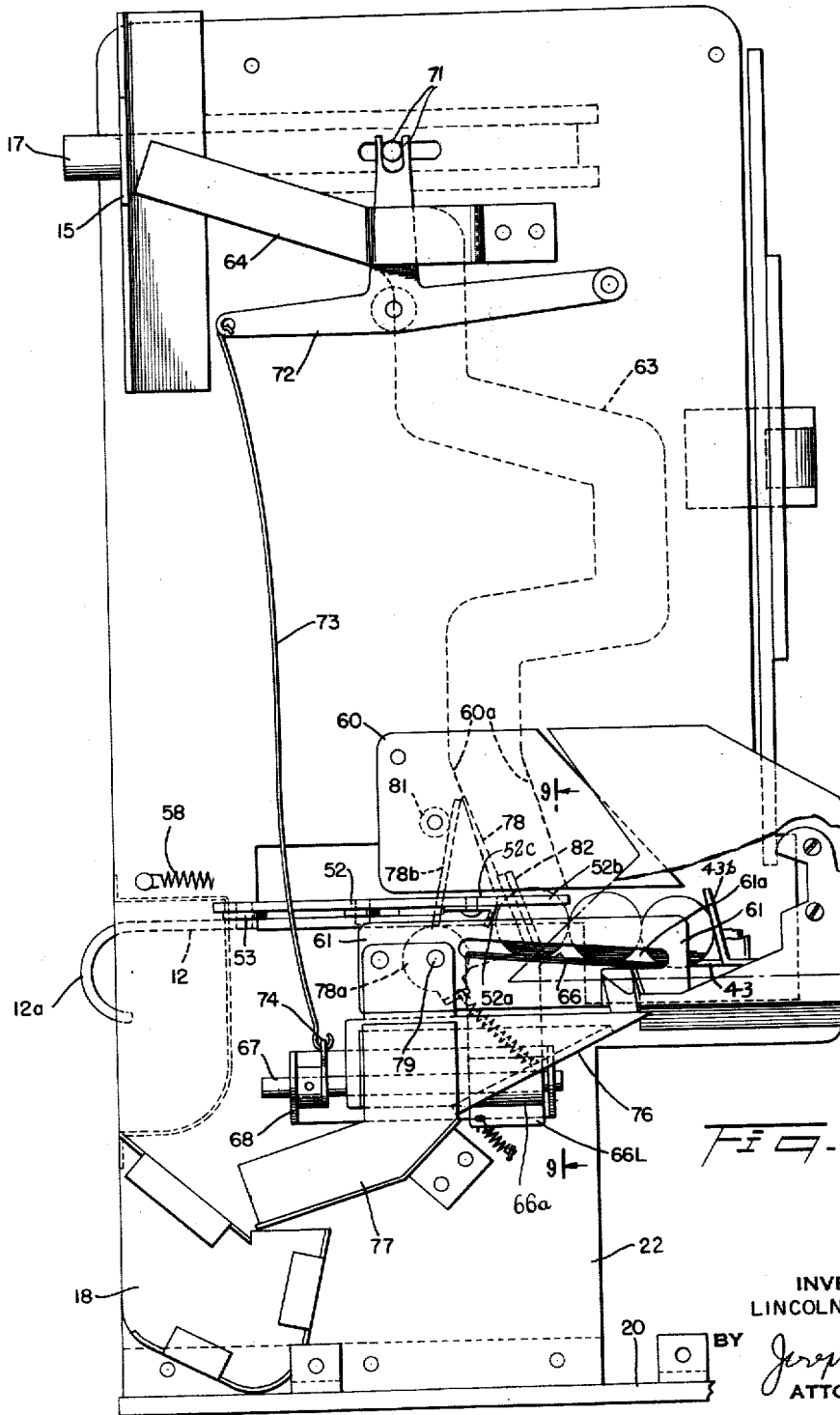


FIG. 2

INVENTOR
LINCOLN M. KEEFE

BY *Joseph M. Hobbs*
ATTORNEY

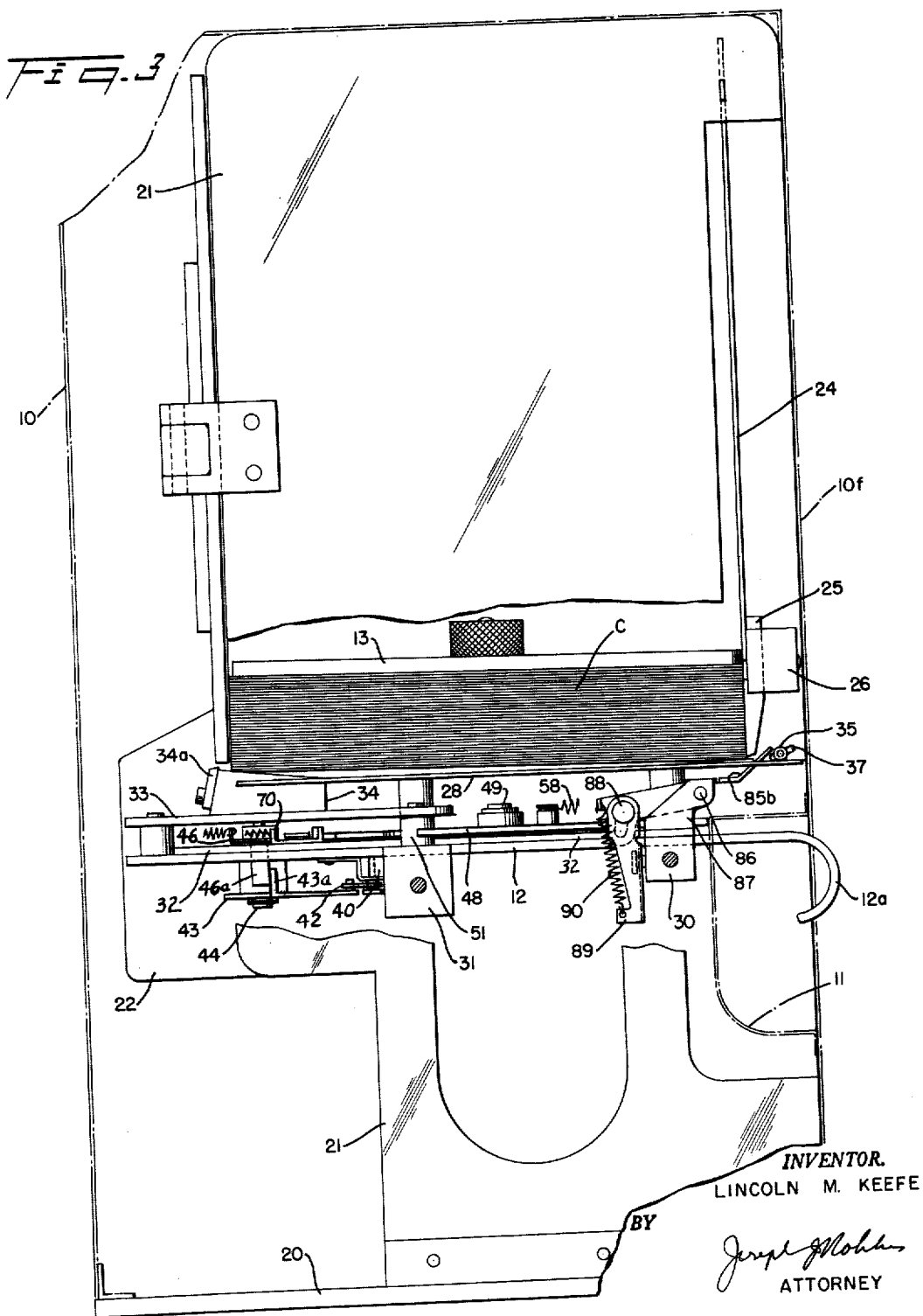
June 25, 1963

L. M. KEEFE
CARD VENDING MACHINE

3,095,117

Filed July 10, 1959

5 Sheets-Sheet 3



June 25, 1963

L. M. KEEFE
CARD VENDING MACHINE

3,095,117

Filed July 10, 1959

5 Sheets-Sheet 4

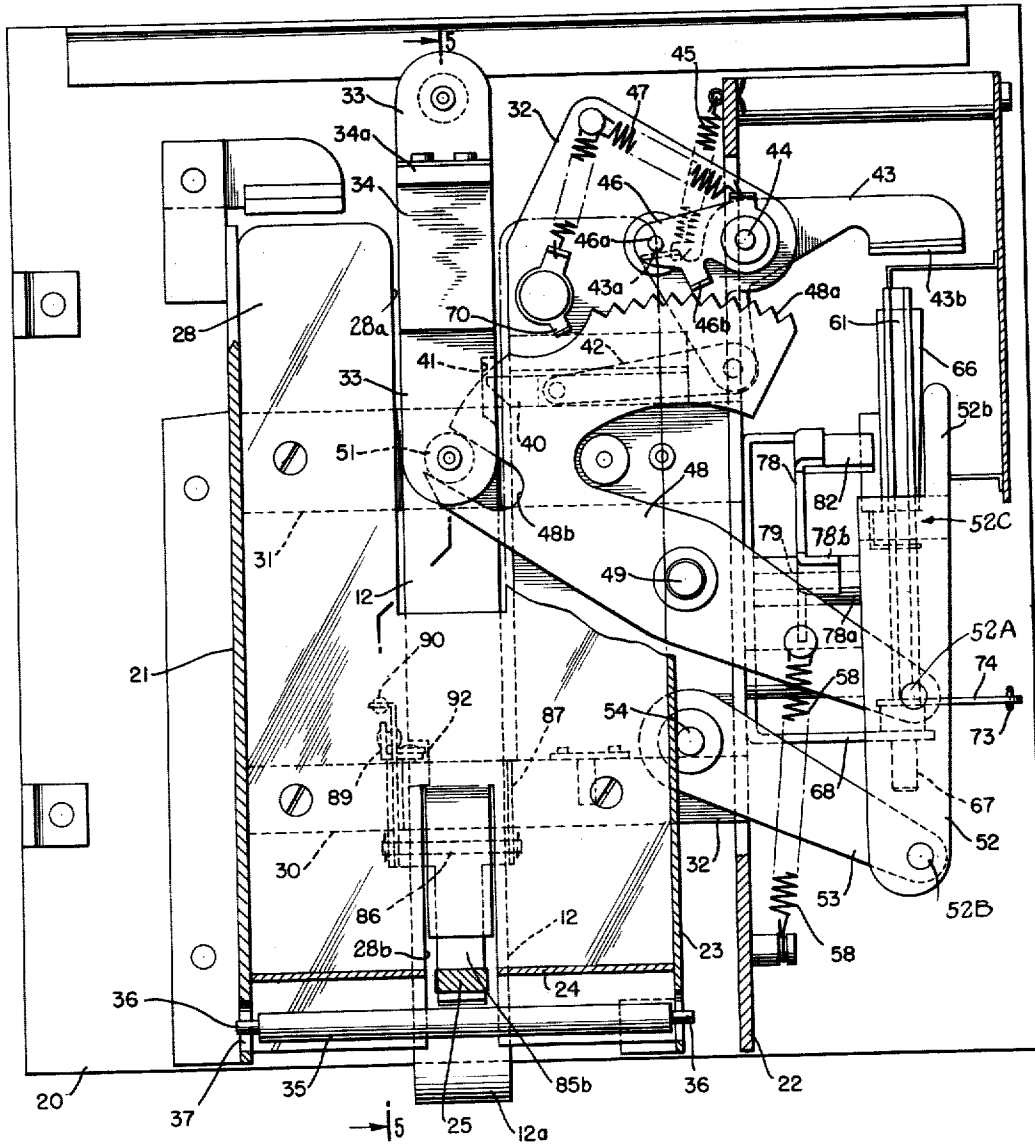


FIG. 4

INVENTOR
LINCOLN M. KEEFE
BY *Joseph Mohlen*
ATTORNEY

June 25, 1963

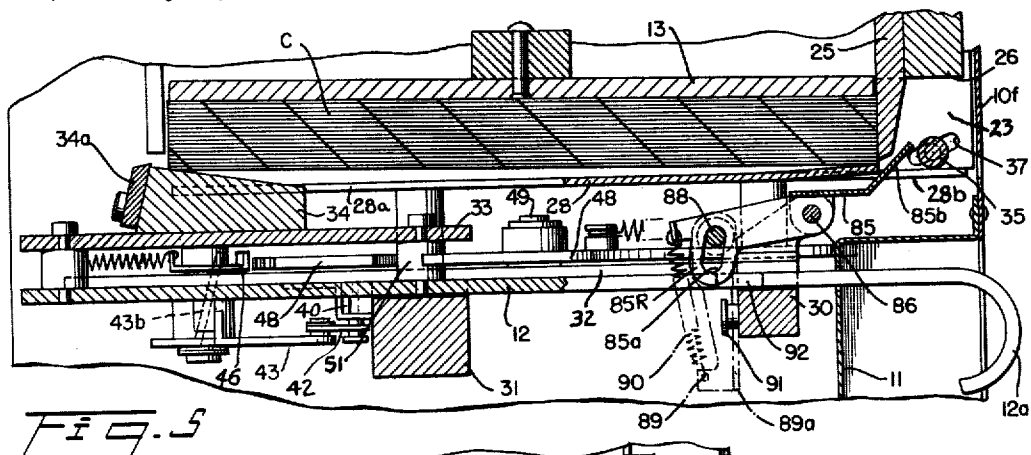
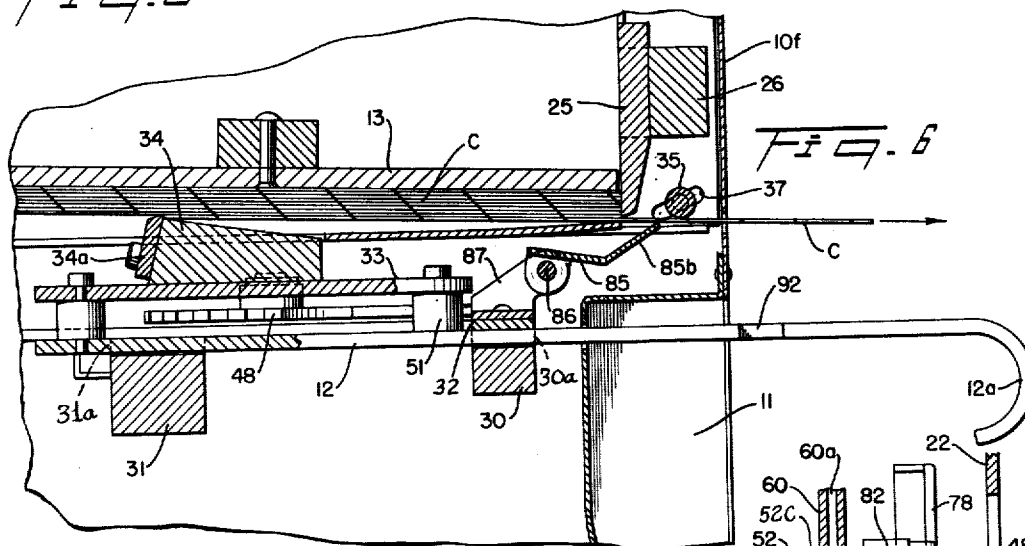
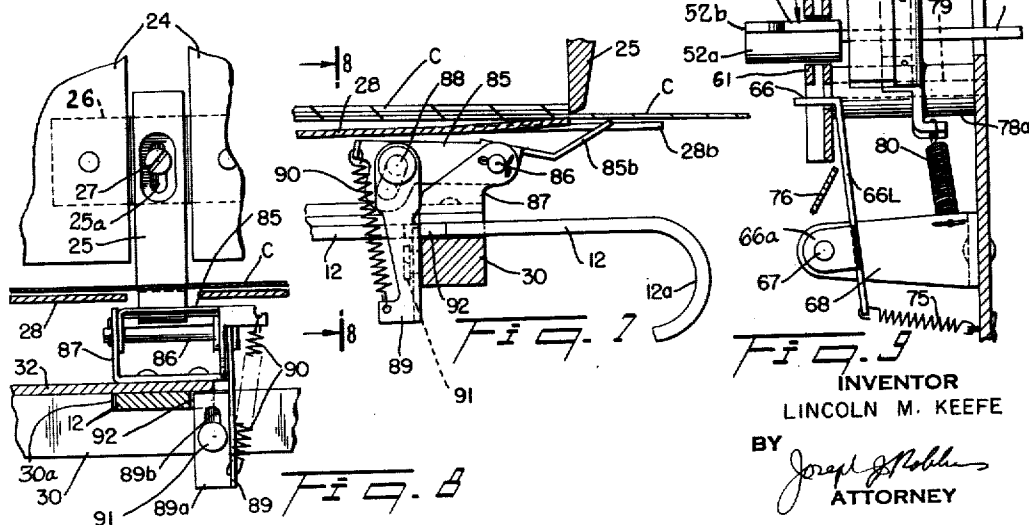
L. M. KEEFE

3,095,117

CARD VENDING MACHINE

Filed July 10, 1959

5 Sheets-Sheet 5



INVENTOR
LINCOLN M. KEEFE

BY *Joseph J. Robbins*
ATTORNEY

1

3,095,117

CARD VENDING MACHINE

Lincoln M. Keefe, Elmhurst, N.Y., assignor, by mesne assignments, to The International Postal Supply Corporation, a corporation of Massachusetts
Filed July 10, 1959, Ser. No. 826,354
7 Claims. (Cl. 221-152)

This invention relates to article vending machines and more particularly to a coin controlled machine for vending postal cards or other cards.

The subject invention provides an improved coin controlled machine for dispensing individual cards from a stack of such cards supplied in the machine. The machine embodying the invention contains a card magazine in which the cards are stacked surface to surface, the cards preferably being in a horizontal disposition and lying one on another. Card feed means, specifically a card picker, is provided to feed one card of the stack at a time through a magazine throat. Actuating means for the card feed means is rendered effective under coin control. In particular, a reciprocable manual actuator is permitted a testing or exploratory movement to ascertain whether correct coin-payment has been made. If the coin payment is correct, the actuator can be continued through a complete forward stroke during which it advances the card picker to protrude the bottom card of the stack through the magazine throat and through a card dispensing slot in the housing. The purchaser is then required to complete the transaction by removing the protruded card from the machine.

Novel means are provided to lock the dispensing actuator until correct coin-payment is made. Correct payment is sensed by means connected with the actuator, particularly by a pusher which acts upon testing movement of the actuator to cause the release of the actuator for a full stroke if the correct coins have been deposited on an escrow plate, the coins themselves serving as interponent means between the pusher and the lock release means provided a correct number of the required coins have been deposited and are resting edge to edge on the escrow plate. If the correct number of coins are not in position between the pusher and the lock release means, the coins will not be effective as interponent means and the actuator will remain locked so that a card will not be dispensed.

The card feed means when operated through a forward feed cycle will eject the bottom card of the stack in the magazine only partially from the magazine and into a protruding position in front of an outside panel of the machine. A feature of the invention is that a repeat actuation of the card feed means will be prevented until the previously protruded card has been removed from the machine. Thereby a jam of cards at the magazine throat will be avoided and the cards will not be damaged and the machine will not be put out of order. The card feed means is actuated by a manual plunger which is drawn through a feed effecting stroke to cause the feed means to dispense a card and then is restored to a home position. According to the invention, after causing the feed means to protrude a card to accessible position in front of a housing wall, the plunger upon returning to home position will be locked against a repeat feed stroke until the already protruded card is extracted from the machine.

The invention also provides means for preventing reverse movement of a card into the magazine and for preventing a card or sheet or other material inserted through an accessible card dispensing slot from being entered into the magazine. Were this allowed to occur, a card jam would be created and the machine would be out of order. According to the invention, a one-way gate, specifically a

2

one-way roller gate, is provided between the magazine throat and a card slot in the housing to permit a card free egress from the machine and from the magazine but to preclude retrograde motion of the card and reverse insertion of matter through the card slot into the magazine throat.

The invention also provides improved means for rendering coin return operation and card dispensing operation mutually exclusive. According to the invention, when the manual actuator has been started on a card feed stroke, then it blocks effective operation of the coin return means and when, on the other hand, the coin return means is being held operative it blocks effective card dispensing action of the manual actuator. Thus, one cannot insert the proper number of required coins to release the card picker means for action and then after actuating the released picker means also work the coin return means to obtain the coins.

Other objects of the invention reside in any novel feature of construction or operation or novel combination of parts present in the embodiment of the invention described and shown, irrespective of other specific statements as to the scope of the invention contained herein.

In the drawings:

FIG. 1 is an outside front elevation of the machine and also shows some of the interior parts in dotted lines.

FIG. 2 is a right side view with the right side of the housing omitted and is taken substantially along line 2-2 of FIG. 1.

FIG. 3 is a broken sectional view taken substantially along lines 3-3 of FIG. 1 and shows the left side of the machine interior, parts being broken away to show other parts more clearly.

FIG. 4 is a plan sectional view taken substantially along lines 4-4 of FIG. 1.

FIG. 5 is a fragmentary vertical sectional view taken substantially along lines 5-5 in FIG. 4, card feeding means and its actuator being shown in home positions.

FIG. 6 is a fragmentary sectional view similar to the FIG. 5 view but with the rear portion of the card magazine not shown, and with the card feed means and its actuator being shown in actuated positions at the end of a forward stroke.

FIG. 7 is a fragmentary sectional view of the front portion of the card magazine and of the actuator for the card feed means and shows the actuator latched in home position by card lever-operated latch means.

FIG. 8 is a section along a plane indicated by line 8-8 in FIG. 7.

FIG. 9 is a sectional view substantially along line 9-9 of FIG. 2.

The machine has a housing 10 indicated in dashed outline in FIG. 3 and including a front panel 10f (also see FIGS. 1 and 5). Covering an opening in the front panel is an attached inwardly cupped member 11 accommodating the external front hook end 12a of a plunger 12 passing through the cupped member. Behind the front panel is a card magazine supplied with a stack of cards C weighted down by a removable plate 13. In the present example, the cards may be assumed to be U.S. postal cards of 3¢ denomination. To purchase a card, the customer deposits three pennies through a coin slot 15 and then exerts finger pull on the hook end 12a of the plunger 12 to draw the plunger forwardly. This results in a manner later described in the partial ejection of the bottom card C from the magazine and the protrusion of the card through a card slot 16 in the front panel 10f. To complete the transaction, the customer grasps the protruding end of the card and extracts it completely from the machine. A coin return key 17 can be depressed to ask for return of deposited coins to a cup 18 and coin return will occur provided only that the plunger 12 has not already been

3

started forwardly. It will be shown later that concurrent actions of the plunger 12 and the coin return means are excluded; the coin return means does not work if the plunger has been actuated and the plunger cannot be actuated if the coin return means has been made effective.

The machine framework includes a base 20 (FIGS. 2 and 4) on which are mounted left and right hand side frame plates 21 and 22. The upper part of frame plate 21 serves as the left wall of the card magazine. The right side wall of the magazine is a plate 23 fixed in spaced relation to the right hand frame plate 22. The front wall 24 of the magazine is slotted centrally in the lower portion to accommodate a throat knife 25 set into a block 26 attached to the front wall. A cap screw 27 passes through a countersunk vertical slot 25a (FIG. 8) in the throat knife to fasten the knife to the block for possible vertical adjustment to provide the proper depth of throat between the knife and the magazine base plate 28 for passing only a single card thickness.

Magazine base plate 28 is above and fixed on front and rear cross beams 30 and 31 which straddle side frames 21 and 22. Notches 30a and 31a (FIGS. 6 and 8) in the tops of the beams 30 and 31, respectively, form guideways for slidably guiding plunger bar 12 for movement midway between the planes of the magazine side walls. The plunger bar is held down by means including a plate bracket 32 secured to the cross beams. Spaced above and fixed to the rear portion of the plunger bar is a shorter bar 33 which mounts a card picker 34—34a, 34 being a block and 34a a picker knife fixed to the back of the block. The magazine bottom plate 28 is formed at the rear with a slot 28a (FIGS. 4 and 5) to permit the card picker to reach upward into the magazine. The picker knife is adapted upon advance to engage the rear edge of only the bottom card in the magazine to push the card forwardly. It is to be noted that the plunger 12 here serves as a picker slide and its forward stroke is of such length as to cause the picker to eject the bottom card only partially from the magazine, the greater part of the card remaining within the magazine and a smaller part being protruded through card slot 16 in front panel 10f to be externally accessible for removal by the purchaser. During the feed of the card from the magazine throat to the card slot 16, it passes through a one-way roller gate including a roller 35 which freely allows forward movement of the card out of the magazine but prevents retrograde card feed and the insertion of a card or sheet or the like from outside the machine into the magazine by way of the accessible card slot 16. Roller 35 has trunnion pins 36 engaged in inclined slots 37 in forward extensions of the magazine side walls. The slots start at about the magazine base level and are slanted upwardly and forwardly away from the magazine throat. When a card is fed from the magazine, it turns and lifts the roller 35 and passes freely between the roller and the forward extensions of the base plate 28 of the magazine and into the card slot 16 to protrude in front of the panel 10f. Also, the upward and forward slope of the guide slots 37 for the roller 35 permits the card to be freely removed from the machine by grasping its protruding portion and pulling it forwardly. On the other hand, should one insert paper or a card or other such matter into the card slot and attempt to introduce such matter into the magazine, the engagement of the wrong-way matter with the roller 35 will force the roller downward and rearward into cammed pressure engagement with magazine base plate 28 and prevent passage of the matter into the magazine throat. Also, if one attempted to push a protruded card back into the magazine, the roller 35 would close down hard on the card and prevent its retrograde movement.

In the foregoing manner, the one-way roller gate which here includes roller 35 prevents reverse feed of matter into the magazine. Were such feed allowed to occur, the

4

result would be a card jam and damage to cards, and the machine would be put out of order.

The picker slide-plunger 12 is normally in rear position and can be moved forwardly to dispense a card C from the magazine only after correct coin-deposit has been made. In absence of required payment, plunger 12 is latched against an operative forward actuation by a lock 40 slidably mounted to the bottom of bracket 32 for movement transversely of the plunger into or out of a notch 41 in the side of the plunger. In home positions of the plunger and lock, the back of the notch 41 is at exploratory or test distance from the abrupt stop surface of the lock. Advance of the plunger through this distance is not enough to bring the card picker knife 34a into contact with a card. The lock 40 is connected by a link 42 to an arm of a lock release lever 43 mounted under bracket 32 on a pivot 44. Lever 43 is biased by a spring 45 between the frame and an upwardly bent tab 43a of the lever in direction for bottoming lock 40 in notch 41 of plunger 12. Mounted above the bracket 32 on the same pivot as the lock release lever 43 is a pawl 46 which is an element of full stroke means for the plunger and the parts actuated therewith. A spring 47 urges pawl 46 in a direction to cause its dependent pin 46a to follow the tab 43a of lever 43. In normal or home positions of the parts, a lug tooth 46b of the pawl 46 is at clearance spacing from teeth 48a of a full stroke toothed segment integral with a lever 48. Lever 48 is in horizontal disposition and extends into the space between the magazine bottom plate 28 and the bracket 32 and is mounted to the bracket on a pivot stud 49. The end of lever 48 has a slot 48b receiving a spacer bushing 51 between the rigidly connected plunger bar 12 and the picker mounting bar 33. At its opposite end, lever 48 is pivotally connected by a pin 52A to a payment sensing pusher bar 52. Also pivotally connected by a pin 52B to bar 52 is a link 53 pivoted at 54 on bracket 32. The radius arms of link 53 and of lever 48 with respect to pusher bar 52 are parallel and equal, forming a parallelogram linkage supporting the pusher bar for translational movement lengthwise to and from the lock release lever 43. Lever 48 has equal moment arm connections with the pusher bar 52 and the plunger 12 so that both will have equal but opposite movements. A strong spring 58 restores lever 48 and the parts connected therewith, including plunger 12 and pusher bar 52, to home positions.

The pusher bar 52 lies in flat horizontal disposition between relatively upper and lower frame-carried coin guides 60 and 61. These and other coin guiding means in the machine are constructed and arranged to guide the coins in vertical or edgewise disposition. Leading into coin passage 60a of coin guide 60 are coin guide means 63 schematically indicated in FIG. 2 by dotted lines. In practice, coin guide means 63 will involve a common slug and unwanted coin rejector to permit only genuine 1¢ U.S. coins to enter the coin guide 60. Coins inserted in coin slot 15 drop down a chute 64 into the guide means 63 and thence into coin passage 60a. In home position of the coin payment sensing pusher bar 52, it has an open front corner located directly under the outlet end of coin passage 60a, so that a coin will drop from the latter coin passage past the pusher bar and into the coin guide 61 below the pusher bar. Coin guide 61 is slotted lengthwise at 61a to enable an escrow plate 66 to extend transversely therethrough and across the coin passages therein above and below the escrow plate. The escrow plate slopes down toward the rear of the machine and in the present embodiment is an integral and laterally bent upper leg of a plate lever 66L the hub 66a (FIGS. 2 and 9) of which is fixed to a shaft 67. This shaft is supported in a U-shaped bracket 68 having its base fixed to the right side frame plate 22.

A first 1¢ coin dropping from coin guide 60 past pusher bar 52 into the upper coin passage in coin guide 61 falls edgewise on the escrow plate 66 and rolls down the plate

to stop against an upright abutment end 43b of the lock release lever 43. A second coin dropping on the escrow plate rolls down until stopped by the first coin. A third coin dropping from the guide 60 will just fit with working clearance between the second coin and a vertically dependent pusher lug or nose 52a of the pusher bar 52. If additional coins are deposited, they will wait in the guide means until the three coins on the escrow plate 66 have been discharged. In the instant case, the distance between the nose 52a of bar 52 and the abutment 43b accommodates just three pennies. In other cases requiring different coin-payment, the distance between the nose 52a and the abutment 43b will be suitably changed.

The three pennies resting on edge, one behind another, upon the escrow plate 66 function as interponent means between the pusher bar nose 52a and the abutment end 43b of the lock release lever 43. In the home position of the plunger 12, the back of its notch 41 is at testing or exploratory distance from the stop surface of the lock 40. This allows the plunger to be drawn forwardly an exploratory distance before being stopped by the lock, but if the lock has been released meanwhile, then the plunger can complete its forward stroke and dispense a card C from the card magazine. The release of the lock 40 from the plunger 12 is effective under control of the plunger itself during its exploratory movement, provided that the three pennies have been deposited on escrow plate 66 to pay for a card. During the exploratory movement of the plunger, it acts through lever 48 to produce a similar but opposite exploratory movement of the pusher bar to sense whether the three pennies are on the escrow plate. If the three pennies are not present, the exploratory movement of the pusher bar 52 is idle and lock 40 remains effective to prevent further movement forwardly of the plunger. But if the three pennies are present edge to edge between the pusher bar nose or lug 52a and the abutment end 43b of lock release lever 43, then the pusher bar upon its exploratory movement is effective through the three coins as interponent means in rocking lever 43 sufficiently counterclockwise (FIG. 4) to withdraw the lock 40 from the notch 41 in the plunger 12. Release of the lock from the plunger preferably should be completed slightly before the back of the notch 41 in the plunger reaches the lock position, so that no break shall occur in the continuity of the forward stroke of the plunger. Once the plunger has been released, the pawl 46 and then a spring-loaded toggle action pawl or dog 70 coact with the toothed segment 48a of lever 48 to compel full stroke action of the plunger and connected parts before reversal of the movements of the plunger and connected parts is allowed to occur. Thus the plunger has to complete its forward stroke before it can be restored and must complete its return stroke before it can be moved forwardly again.

When the lock release lever 43 has been rocked back far enough to release lock 40 from plunger 12, the gap between the abutment end 43b of the lever and the lower terminus of the escrow plate 66 is long enough to permit the coins to roll off the escrow plate into a coin collector (not shown). A forwardly extending finger 52b of the pusher bar 52 engages the abutment end 43b of the lock release lever to maintain the abutment backed away until all the coins on the escrow plate have had adequate time to roll off the plate into the gap between the end of the plate and the abutment. It may be noted that when the pusher bar 52 is advanced from its home position, its upper surface 52c, following the coin pusher nose 52a, moves under and closes the outlet end of the coin passage 60a in coin guide 60 (see FIGS. 2 and 9), so that no coins can leave this passage until the pusher bar is back to home position.

After depositing one or two or even three pennies on the escrow plate 66, the return of the coin or coins may be obtained provided the plunger has not been actuated forwardly. Further, if the coin return means is being op-

erated, then no forward action of the plunger for dispensing a card can be effected. The coin return means includes the coin return key 17 (see FIGS. 1 and 2). A lever 72 pivoted to the frame plate 22 has a pin and slot connection with the key 17 and connects via a stiff wire link 73 with an arm 74 on the shaft 67. When the coin return key 17 is pressed in, it tends through the lever 72, link 73 and arm 74 to rock the shaft 67, against the resistance of a spring 75, in a direction for withdrawing the escrow plate from coin supporting position within the coin guide 61. Provided the plunger 12 has not been actuated out of home position to any appreciable extent, the depression of the coin return key 17 is fully effective to rock the shaft 67 clockwise (FIG. 9) for removing the escrow plate 66 from coin supporting position. A coin or coins which have been resting on the escrow plate will drop from the upper coin passage in the coin guide 61 into the lower section of the coin guide and thence via a funnel 76 and a chute 77 into the coin return cup 18 (see FIGS. 1 and 2).

To prevent coin return once the plunger 12 has been actuated any appreciable extent forwardly, means including a rocker plate 78 are provided. The hub 78a of the rocker is rotatably carried by a stud 79 which is also used for mounting the lower coin guide 61 to the right side frame plate 22. A spring 80 biases the rocker counterclockwise (FIG. 2), normally maintaining the back flange 78b of the rocker plate against a limit stud 81 which is also employed for mounting of the upper coin guide 60 to the right side frame plate. Secured to the right or front side of the rocker plate 78 is a transverse plate 82 (see also FIG. 9). When the plunger 12 has been moved forward slightly, then the connected lever 48 has engaged its back edge with the flange 78b of the rocker 78 and further movement of the plunger and lever results in actuating the rocker 78 clockwise (FIG. 2) sufficiently to bring the plate 82 on the rocker down into edge confrontation with the lever arm 66L of the escrow plate 66. The plate 82 is then effective to block the withdrawal of the escrow plate from its coin supporting position within coin guide 61 and no coin can be released from the escrow plate for return to the cup 18. Thus once the plunger is appreciably away from its home position, the escrow plate is maintained in coin supporting position and the coin return means therefore is incapable of effective operation. Conversely, if the coin return key 17 is depressed before the plunger 12 is actuated, then the coin or coins on the escrow plate 66 will be returned and effective actuation of the plunger will be blocked. Thus, with the plunger in home position, the lever 48 is not engaged with the rocker 78 and the rocker is in the counterclockwise position shown in FIG. 2 and has the plate 82 above the retraction path of the escrow plate. When the coin return key is pressed in, it retracts the escrow plate to position beneath the lower edge of the plate 82 of the rocker 78 and thus the escrow plate prevents clockwise actuation of the rocker which blocks the lever 48 and hence prevents forward movement of the plunger 12. In the above manner, the return of deposited coins and the actuation of the plunger to dispense a card are made mutually exclusive.

It has been explained that the forward stroke of the plunger 12 results in the card picker 34-34a feeding the bottom card C partially out of the card magazine and into accessible protruding position through the card slot 16 in the front panel 10f, the protruding position being shown in FIGS. 6 and 7. When the purchaser releases the handle end 12a of the plunger 12 after actuating the plunger through a forward stroke, the spring 58 (FIG. 4) restores the plunger to home position. It is possible that coins already have been or will be deposited to pay for a next card and that the purchaser will attempt to move the plunger 12 forward again to cause card feed before the preceding dispensed card has been extracted from the magazine and the machine. If the plunger were allowed to move forwardly, causing card feeding, while the pre-

viously protruded card were still not removed, a card jam would occur at the magazine throat defined by the throat knife 25 and the front extension of the magazine base plate 28. Such jam would damage the cards and render the machine inoperative. To avoid this, the machine provides means including a card lever 85 and a latch connected therewith to prevent forward action of the plunger 12 while a card is still in protruding position in front of panel 10f. The card lever 85 is pivoted on a pin 86 carried by a saddle 87 which is mounted on plate bracket 32 in a location above the plunger guiding notch in the cross beam 30. A rear leg 85R of the card lever has a vertically elongated slot 85a through which is loosely passed a stud 88 provided at the upper end of a latch slide 89. A spring 90 between the rear leg of the card lever 85 and the latch slide 89 biases the stud 88 toward the upper end of the slot 85a. The lower part of the latch slide has a right angularly bent lug 89a formed with a vertical slot 89b loosely receiving a guide stud 91 which is fixed to the back of the cross beam 30. The latch slide 89 thus is slidably guided for vertical movement. When the plunger 12 is at home position, a notch 92 in the side of the plunger is directly over the latch lug 89a of slide 89. If there is no card pressing on the card lever, the latch lug 89a will be clear below the notch 92 and will not hinder the plunger 12. The card lever 85 together with the latch slide 89 and the spring 90 are so balanced about the pivot 86 that the card lever normally will be in the counterclockwise position shown in FIGS. 3 and 5. With the card lever in that position, its front upwardly and forwardly inclined tab 85b extends through a slot 28b (FIGS. 4, 5 and 7) in the magazine base plate 28 into the path of a card issuing from the magazine throat. An issuing card engages the front tab 85b of the card lever and rocks the lever clockwise, holding the lever down until it has been removed from the magazine and the machine. As the lever is rocked down by the card, it acts through the spring 90 to draw the latch slide 89 and its latch lug 89a upwardly. By the time the card has rocked the card lever down, the plunger 12 has already advanced far enough to take its notch 92 out of the reach of the latch lug 89a; hence the upward movement of the latch lug is stopped by engagement of the latch lug with the solid bottom of the plunger, the spring 90 stretching to allow the card lever 85 to be rocked to its clockwise limit by the card though the rise of the latch lug 89a is arrested.

After the plunger 12 has performed its forward stroke to protrude the leading portion of a card in front of the panel 10f of the machine housing, the plunger should be released for restoration to home position by the spring 58. When the plunger reaches its home position, its notch 92 is back in position directly over the latch lug 89a. If the card protruded through the card dispensing slot 16 in the panel 10f has not been removed by the customer, it is still holding the card lever 85 down and therefore when the plunger returns to home position the latch lug 89a immediately is snapped upwards by the tensioned spring 90 into the notch 92, thereby locking the plunger against a repeat card dispensing stroke. Even if the coin payment for a next card has been deposited, the customer will be unable to move the plunger forwardly until the previously dispensed card is extracted from the magazine and the machine. Upon removal of the protruded card, the card lever 85 returns to its normal counterclockwise position and brings the latch lug 89a down out of the notch 92 in the plunger 12, thus freeing the plunger for a next card picking operation, provided that the correct coin payment, three pennies in the illustrative case, have been deposited on the escrow plate 66.

It is to be understood that while the fundamental novel features of the invention have been pointed out as applied to a preferred embodiment, omissions and substitutions and changes may be made by those skilled in the art without departing from the spirit of the invention. It is in-

tended therefore to be limited only as indicated by the scope of the claims which follow.

What is claimed is:

1. A vending machine comprising a magazine for a stack of pliable cards, the magazine having a throat affording clearance for edgewise exit of the leading card alone of the stack, card ejecting means manually actuated to eject the leading card partially from the magazine and advance it via the magazine throat to a manual seizure position, detent means normally disengaged from the ejecting means, and card-actuated means engaged by a face of the card, being ejected, and actuated by this card, under the confining restraint of the magazine throat on the opposite face of the card, during the advance of the card to the seizure position and while the card remains in seizure position, for causing the detent means to engage the ejecting means to block a repeat card ejecting actuation thereof after removal of the card from the seizure position.

2. A vending machine as in claim 1, the ejecting means including a member with an abutment edge, and the detent means comprising a latch normally out of the path of the abutment edge and moved into its path under control of the card-actuated means.

3. A vending machine comprising a magazine for a stack of thin flat articles, the magazine having an outlet affording clearance for edgewise exit of the leading article alone of the stack, reciprocable article ejecting means manually movable through a forward stroke from a start position to eject the leading article, via the magazine outlet, partially from the stack and magazine to a manual seizure position, means returning the ejecting means after article ejection to the start position, detent means capable of arresting coaction with the ejecting means at start position, and means responsive to surface engagement with the article at seizure position for effecting such arresting coaction between the detent means and the ejecting means after return of the ejecting means to start position so as to prevent a new forward stroke of the ejecting means until after removal of the article at seizure position.

4. A vending machine as in claim 3, the article responsive means including a lever rocked by engagement with a surface of the article at seizure position and yieldable means by which the rocked lever moves the detent means into arresting coaction with the ejecting means upon the return of the ejecting means to its start position.

5. A vending machine comprising a magazine for a stack of flat thin pliable cards, the magazine having an outlet affording clearance for edgewise exit of the leading card alone of the stack, reciprocable card ejecting means manually advanced through a forward stroke from a start position to eject the leading card, via the magazine outlet, partially from the stack and magazine to a manual seizure position, means returning the ejecting means after card ejection to the start position, a latch operable upon return of the ejecting means to start position into arresting engagement with the ejecting means, and means responsive to surface engagement with the card at seizure position for moving the latch, after return of the ejecting means to start position, into said arresting engagement with the ejecting means to block a new forward stroke of the ejecting means until after removal of the card at seizure position.

6. A vending machine comprising a magazine for a stack of cards, the magazine having an outlet affording clearance for edgewise exit of the leading card alone of the stack, coin controlled reciprocable card ejecting means manually movable from a start position through a forward stroke to eject the leading card, via the magazine outlet, partially from the magazine to a manual seizure position, means returning the ejecting means after card ejection to the start position, detent means operable upon the return of the ejecting means to start position for arresting the ejecting means thereat, and means respon-

sive to surface engagement with the card at the seizure position for rendering said detent means effective, upon the return of the ejecting means to start position, to arrest the ejecting means at the start position against a repeat coin controlled reciprocation until the card at the seizure position is removed. 5

7. A vending machine comprising a magazine for a stack of cards, the magazine having a throat affording clearance for edgewise exit of the leading card alone of the stack, coin controlled manual, reciprocable actuating means, an article feeder operated by said actuating means during a reciprocation for feeding the leading card, via said throat, partially from the stack and the magazine to a manual seizure position, a device operable to prevent a coin controlled reciprocation of the feeder actuating means, and means actuated by engagement with a face of the card feeding from the magazine, under the confining restraint of said throat on the opposite face of the card, during the advance of the card to seizure posi- 10 15

tion and until the card is removed from seizure position, for operating said device to prevent a new coin controlled reciprocation of the feeder actuating means.

References Cited in the file of this patent

UNITED STATES PATENTS

481,816	Perry	Aug. 30, 1892
1,054,449	Sanders	Feb. 25, 1913
1,083,608	Gatling	Jan. 6, 1914
1,184,153	Weisner	May 23, 1916
1,603,576	Beelman	Oct. 19, 1926
1,724,297	MacGregor	Aug. 13, 1929
1,765,108	Somergary et al.	June 17, 1930
1,816,341	Petersen	July 28, 1931
2,017,817	Perry	Oct. 15, 1935
2,211,511	Melzer et al.	Aug. 31, 1940
2,707,066	Stegeman	Apr. 26, 1955
2,806,631	Van Vactor	Sept. 17, 1957