Feb. 18, 1941. W. H. ROWE ET AL 2,231,952

COIN VENDING MACHINE

Original Filed June 15, 1935 3 Sheets-Sheet 1

Fig. 1.

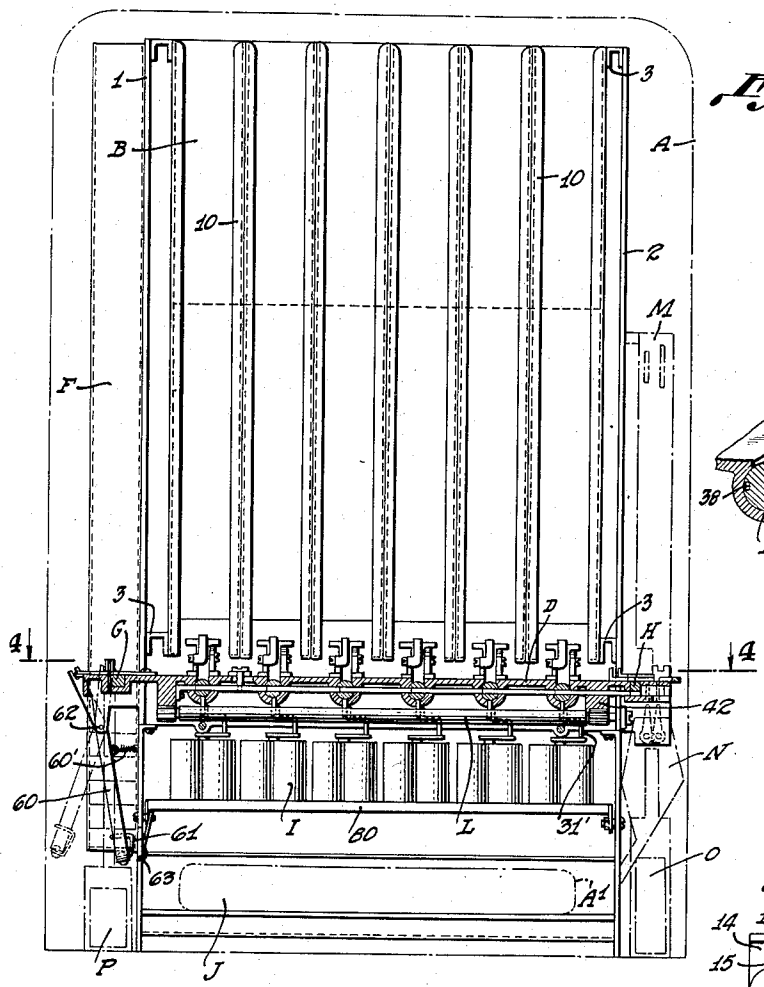

Fig. 13.

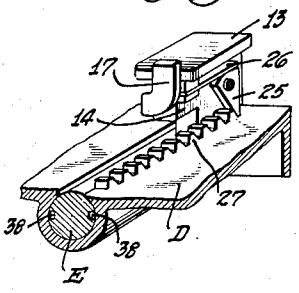

Fig. 14.

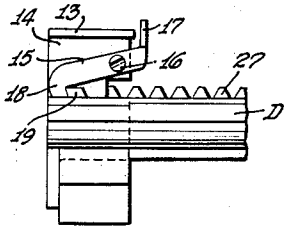

Fig. 2.

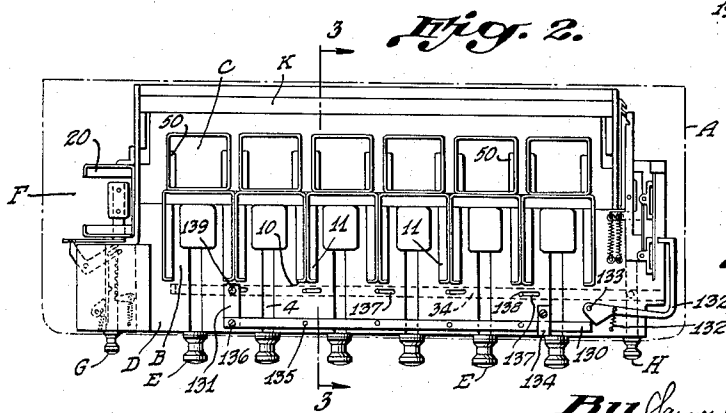

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Fig. 3.

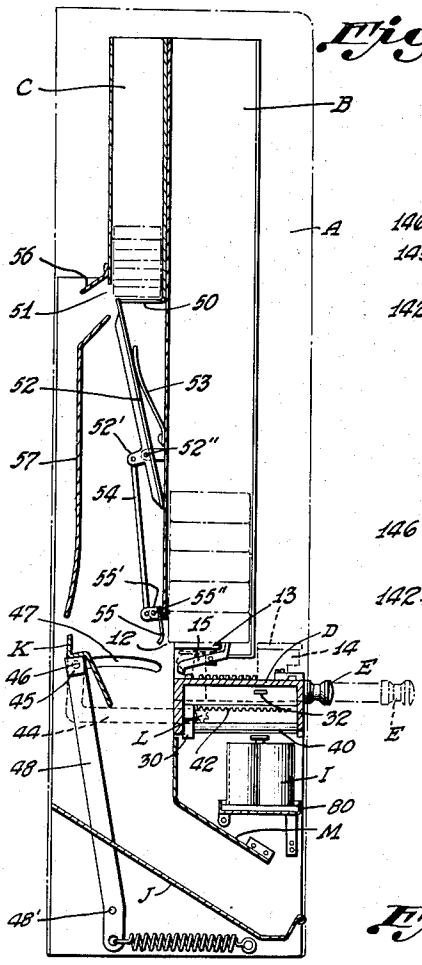

Fig. 6.

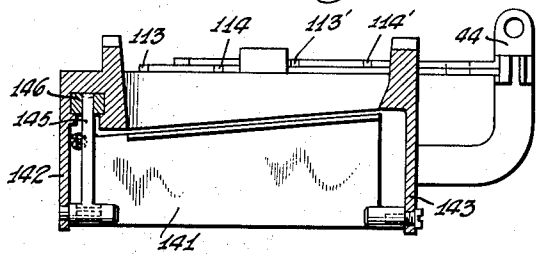

Fig. 7.

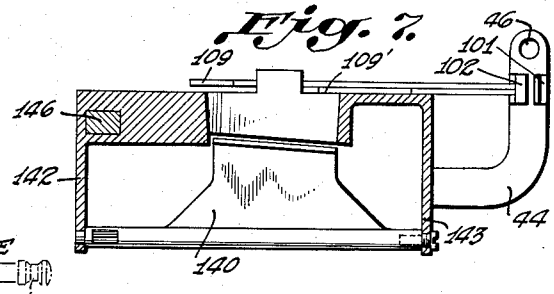

Fig. 8.

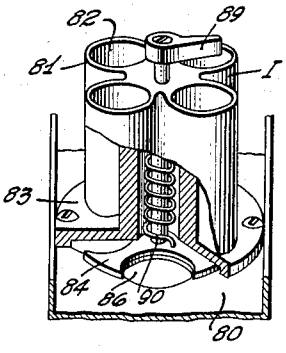

Fig. 9.

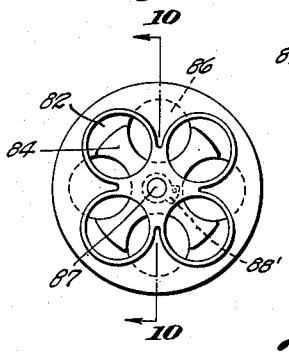

Fig. 10.

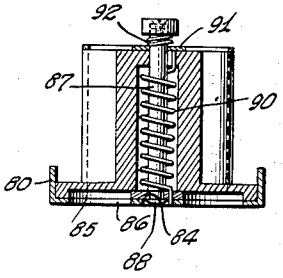

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Fig. 4a.

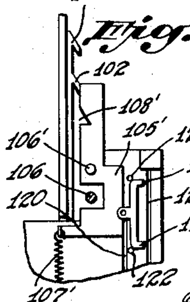


Fig. 4.

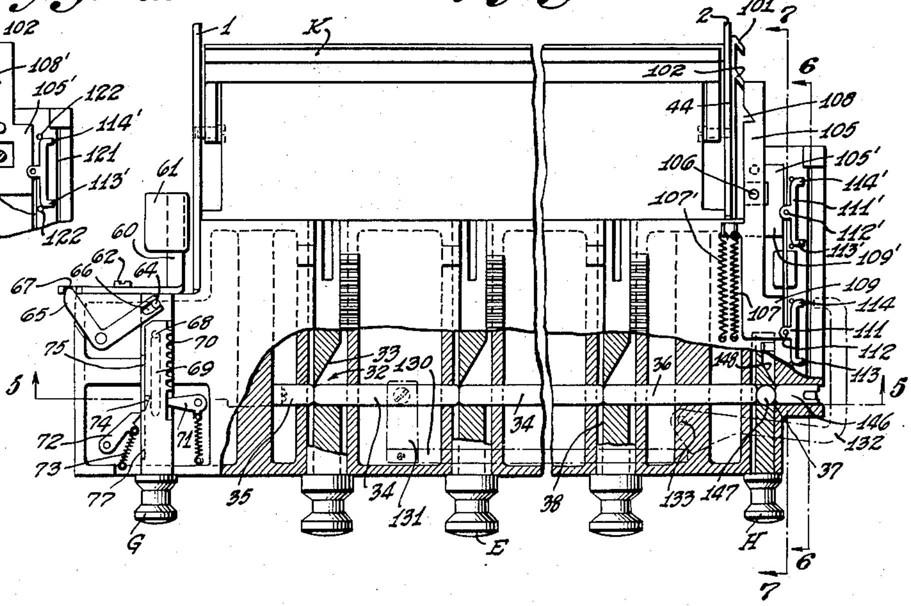


Fig. 5.

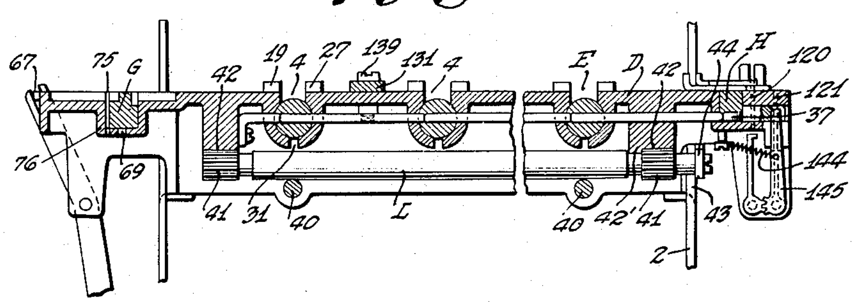


Fig. 11.

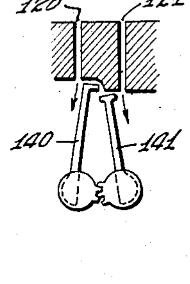
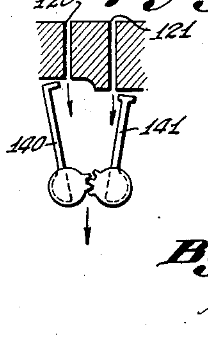


Fig. 12.



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UNITED STATES PATENT OFFICE

2,231,952

COIN VENDING MACHINE

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Original application June 15, 1935, Serial No. 26,734. Divided and this application August 19, 1938, Serial No. 225,734

3 Claims. (Cl. 312—35)

This invention relates to improvements in coin vending machines and has for its object, generally, to provide a machine of the class described which shall be rugged, simple in construction and operation, adaptable to changes in the price of articles sold, and substantially temper proof. Other objects will appear in the full description in the following specification.

This application is a division of our copending application, Serial No. 26,734, filed June 15, 1935 (Patent No. 2,159,603, granted May 23, 1939), and is directed particularly to the match delivery and associated mechanism.

With these general objects in view, the invention consists in certain features, combinations, arrangements and details of construction which will first be described in connection with the accompanying drawings and then more particularly pointed out in the appended claims.

In the drawings—

Fig. 1 is a front elevation of a cigarette and match vending machine constructed according to the preferred embodiment of the invention, with the exterior casing shown in phantom;

Fig. 2 is a plan view of the machine of Fig. 1;

Fig. 3 is a vertical section on the line 3—3 of Fig. 2;

Fig. 4 is an enlarged fragmentary horizontal section, with parts removed, taken on the line 4—4 of Fig. 1;

Fig. 4—A is a view of a fragment of Fig. 4 with parts removed;

Fig. 5 is a vertical section on the line 5—5 of Fig. 4;

Fig. 6 is a vertical section on the line 6—6 of Fig. 4;

Fig. 7 is a vertical section on the line 7—7 of Fig. 4;

Fig. 8 is an enlarged perspective view, partly broken away, of one of the change making devices shown generally in Figs. 1 and 3;

Fig. 9 is a plan view of the device of Fig. 8;

Fig. 10 is a vertical section on the line 10—10 of Fig. 9;

Fig. 11 is an enlarged detail of parts of Fig. 5, in position to return coins to the customer;

Fig. 12 is a view similar to Fig. 11 but showing the parts in position to discharge coins into a coin receptacle after a sale is made;

Fig. 13 is a fragmentary perspective partly in section of the ratchet mechanism of one of the plungers of Fig. 2; and

Fig. 14 is a fragmentary side view of one of said plungers, showing the stop mechanism for preventing operation of a plunger when the corresponding cigarette container is empty.

Referring now to Figs. 1 to 3, the exterior casing of the machine is indicated in phantom by the broken line A. This casing is provided with the usual slots for recovering coins, openings for plungers for delivering or controlling delivery of various articles and the return of coins, and delivery opening A_1, and is adapted, as usual, to be opened so as to furnish access to the interior of the machine for loading, adjustment and repairs. It forms no part of the present invention, but may be of any of the usual types.

A plurality of cigarette containers B, shown as six in number, are provided, forming an integral member fastened between a pair of side plates 1 and 2, as by means of the channel irons 3. To each of these is attached a book-match container C. Cigarettes and matches are stacked in these containers as indicated in Fig. 3. Running across the machine is a horizontal bed plate D which carries slidably, in a groove 4, a manually-operable delivery plunger E for each cigarette container B. Withdrawing one of these plungers E to the dotted line position of Fig. 3 and returning it to full line position serves to deliver a package of cigarettes from the corresponding container B and a book of matches from the corresponding container C. At the left of the machine (Fig. 1) is a container F fastened to side plate 1 and holding boxes of matches for separate delivery by means of a manually-operable plunger G (Fig. 2). At the right of the machine is a manually operable coin return plunger H (Fig. 2). A change maker I (Figs. 1 and 3) is provided for each plunger E, and may be loaded to deliver from one to four cents change with each purchase, each change maker having four coin receptacles (Fig. 8). All purchases, change, and coins returned are delivered to the customer at the forward edge of the slanted plate J where they may be removed through the usual opening A_1, in the casing A (Fig. 1). Each of the containers B is formed with continuous side and rear walls and is open at the front except for flanges 10 so as to permit a view of the contents through the usual windows in the casing in the front of the machine. It is open at the top for loading and also open at the bottom except for flanges 11 which support the stacks of cigarettes during delivery (Fig. 2). At the rear of the container is an aperture 12 through which the lowermost package of cigarettes may be ejected. The column of cigarettes is normally supported by a plate 13 which is carried by support 14 on the plunger E (Figs. 3, 13 and 14).

When the plunger E is pulled out from supporting position to the dotted position of Fig. 3 this plate 13 comes in front of the cigarette container B and the column is permitted to descend until the lowermost package rests upon the flanges 11 in line with plate 13. Upon return of the plunger to the full line position of Fig. 3 the rearward end of the plate 13 pushes the lowermost package of cigarettes out rearwardly through the opening 12 against plate K; thereafter it falls upon guide plate J, slides down to the front of the machine for removal by the purchaser. Plate K moves back and forth with the plunger E, in a manner described below, so that the rearward end of the package being ejected rests in the angle at the top of this plate until clear of the flanges 11, whereupon the forward end of the package drops and it slides off plate K, dropping on plate J for delivery.

Each plunger E is provided with catch 15, as best shown in Fig. 14, pivoted to support 14 at 16 and having one end formed into an upward projection 17 and the other into a hook 18. If the cigarette container B corresponding to any plunger E is emptied the arm 15 will occupy the position shown in Fig. 14, as the hook end thereof is the heavier. In this position the hook 18 will engage a stop 19 upon the plate D and thus prevent pulling of any plunger E when there are no cigarettes in the corresponding container B. If, however, there are cigarettes in any container B the lowermost package will rest upon plate 13 and will push projection 17 down so that hook 18 is lifted clear of the stop 19 as shown in Fig. 3 and the plunger mechanism will be permitted to operate.

At the other side of support 14 is pivoted a pawl 25, the upper surface of which forms a cam to cooperate with a strap spring 26 as shown in Fig. 13. Carried on plate D is a rack 27, and as the plunger E is withdrawn the pawl 25 presses against the teeth of this rack and is rotated rearwardly against the pressure of spring 26. This prevents return of the plunger until after it has been pulled out completely, as the pawl will catch against one of the teeth of the rack 27. When, however, the plunger has been pulled out to the limit the pawl 25 will have passed the last tooth on the rack 27 and will be returned to a vertical position by the spring 26. Return of the plunger can now be effected as the pawl is free to rotate forwardly against the pressure of the spring 26. After the plunger has been returned to its original position the pawl 25 will have passed the rearmost tooth on the rack 27 and will be returned to a vertical position in readiness for the next operation. This ratchet arrangement serves to prevent movement of the plunger in either direction after a partial movement in the other.

Each of the plungers E carries a projection 30 (Fig. 3) which rides in a slot 31 (Fig. 5) in the plate D and serves to operate the pinion bar L, the purpose of which will hereafter appear. Attached to this projection 30 is a finger 31' which serves to operate the change maker I (Fig. 1).

Each of the plungers E has a slot 32, the rear wall 33 of which is beveled, as shown in Fig. 4. Extending through these slots 32 is a series of slides 34, the length of which is the same as the distance between the center lines of the plungers. The left hand one of these slides 34 abuts a stop 35 and the right hand slide abuts a slide 36. When any plunger is withdrawn even partially its slot 32 becomes out of register with the slide 34 to the left of it and withdrawal of any plunger to the left is thus prevented. At the same time, the bevel 33 moving with the plunger, moves all the slides to the right of the plunger towards the right and thus prevents withdrawal of any plunger to the right. This prevents more than one plunger E being operated at the same time. Slide 36 is also moved into a slot 37 in the coin return plunger H and prevents withdrawal of this plunger so that no coin return can be made after a delivery plunger E has been pulled out. Conversely, withdrawal of the coin return plunger H brings slot 37 out of registry with slide 36 and prevents operation of any of the plungers E. As shown in Fig. 13, the plungers E are grooved along each slide, as at 38, these grooves engaging suitable means, not shown, to prevent rotation of the plungers while permitting withdrawal and return.

The pinion bar L serves as a lock-bar and is round and rolls back and forth along a pair of rods 40. It bears at each end a pinion 41 which meshes with a rack 42 carried by the plate D. Its right hand end extends through a slot 43 in the side plate 2 and is rotatably journaled in one end of a link 44. The other end of this link 44 is attached to a cross-bar 45 (Fig. 3) by a pin 46 which extends through a slot 47 in the side plate 2. This cross-bar carries the plate K, above referred to, and in consequence the plate K moves back and forth at the same rate of travel with any of the plungers E. Bar 45 is carried by a pair of arms 48 pivoted to the side walls of the machine at 48' and biased rearwardly by a spring 49, as shown in Fig. 3. To maintain the bar L and link 44 in proper position, the bar L is recessed at one or both ends adjacent the pinions 41 and one of the racks 42 will be formed with a rib 42' entering one of these recesses as shown in Fig. 5.

This pinion bar L is of substantial and rigid construction and the pinions 41, at each end thereof, which mesh with the racks 42, positively maintain parallel motion of the bar at all times. As the bar rolls upon the rods 40 and its weight is not carried by the rack 42 through the pinions 41, proper meshing of the pinions with this rack and easy motion of the bar are secured.

A book-match container C is attached to each of the cigarette package containers B and will customarily be loaded with the same number of articles as the corresponding cigarette container so that one book of matches may be delivered with each package of cigarettes. As shown in Figs. 2 and 3, the containers are formed with straight sides and are of the general shape of the books of matches and slightly larger. They are open at the top for loading and also open at the bottom except for flanges 50 which support the column of match books during delivery. At the bottom and rear of each container C is an aperture 51 through which the books are ejected. The ejector mechanism consists of an arm 52 pivotally mounted at 52'', biased rearwardly by a spring 53 and actuated through link 54 and bell crank arms 52' and 55' by a flap 55, pivotally mounted at 55''. When a package of cigarettes is ejected from a container B the corresponding flap 55 is lifted, which pushes arm 52 forwardly until its upper extremity is moved to an ejecting position in front of the lowermost book of matches in the corresponding container C. After the package of cigarettes has passed the flap 55 the arm 52 is snapped back by spring 53 and ejects the lowermost book of matches from the

container. A deflecting plate 56 is provided to direct the matches downwardly and they fall through a chute formed by a plate 57 and the back wall of the casing of the machine so that they land on plate J and are delivered to the purchaser along with the cigarettes. As book matches differ in thickness, it may be found desirable to adjust the length of arm 52, and this may be done in any of the usual ways, as by adjustably securing a piece to its upper end.

At the left side of the machine (Fig. 1) is provided a container F for boxes of matches so that these boxes may be purchased separately. The match box delivery mechanism is best shown in Figs. 1, 2, 4 and 5, and includes arm 60 biased by spring 60' and carrying an angular support 61. As is shown in the full line position of Fig. 1, the support 61 supports the column of match boxes in the container F. The arm 60 is pivoted at 62 and when rotated clockwise to the dotted position of Fig. 1 permits the column of match boxes to the bottom of the chute where the lowermost one is supported by a pair of flanges 20 (Fig. 2), as in the case of the book-match containers C. When this arm 60 returns to the full line position of Fig. 1 the lowermost match box is ejected through an opening 63 in side plate 1, lands upon the guide plate J, and is delivered to the purchaser. The delivery mechanism is actuated by plunger G which is provided with a pin 64 for rotating the bell crank 65 (Fig. 4). This bell crank has a slot 66 for engaging the pin 64 and the other end engages a slot 67 at the upper end of arm 60. When the plunger G, therefore, is pulled out the arm 60 is rotated to the dotted line position of Fig. 1, permitting the boxes of matches to descend until the lowermost is resting upon the flanges at the bottom of the container F preparatory to ejection. When the plunger G is returned to the position of Fig. 4 the lowermost box is ejected. Plunger G carries a pin 68 which rides in a a slot 69 and serves to limit its motion. One edge of this plunger is formed into a rack 70 which cooperates with the spring biased pawl 71 to prevent return of the plunger until it is completely pulled out. As the plunger is pulled out the pawl 71 is turned counterclockwise by the rack 70 and will engage the teeth thereof to prevent return of the plunger. After the last tooth on the rack 70 has passed this pawl 71 the spring returns it to the position of Fig. 4 and the plunger G can now be returned as the pawl is free to rotate in a clockwise direction. When the plunger has been returned to the position of Fig. 4 the spring returns the pawl to the position shown in readiness for another operation. Withdrawal of the plunger G is normally prevented by a dog 72 which is biased clockwise by a spring 73 and will engage in a notch 74 if the plunger is partially withdrawn, preventing further motion thereof. However, at the side of the plunger G is a slot 75 of suitable size to accommodate a penny and if this slot is occupied by a penny it will withhold dog 72 and prevent engagement in the notch 74 so that the plunger can now be withdrawn. The penny is supported in this slot by member 76 formed in the plate D which, however, has an opening 77 forward of the end of dog 72 as shown in Fig. 4. When the plunger G is pulled forward so that slot 75 registers with this opening 77 the penny will fall through the opening into a receptacle P (Fig. 1) provided for this purpose.

There is provided for each plunger E a change maker I (Figs. 1 and 3), these being carried on the channel iron 80 which is supported by the side plates 1 and 2. Each of these change makers is adapted to deliver from one to four coins with each purchase and the detailed construction is shown in Figs. 8 to 10. The body portion 81 is formed with four cylindrical coin containers 82, arranged in a square and open at both ends. Any number of these may be filled with pennies and the device when operated will discharge the lowermost coin from each stack, so that the change maker may be made to deliver any number of coins from one to four with each purchase, depending upon how many of the containers are loaded. The body portion 81 is formed with a flange 83 which is bolted to the channel iron 80 and the lower surface of which is recessed to accommodate a rotatable disk 84. The disk 84 is formed with circular cut-outs 85 which are adapted to register with the four receptacles 82. The channel iron 80 also has four circular cut-outs 86 which are adapted to register with those in the disk 84, but are displaced through an angle of 45° with relation to the containers 82. It will be seen that when disk 84 is rotated to register with containers 82, the lowermost coin in each container will be permitted to fall down into a cut-out 85 and will rest upon the channel iron 80. If now the disk 84 is rotated back through an angle of 45° the cut-outs 85 will be brought into registry with the cut-outs 86 in the channel iron and the pennies will be permitted to fall through the channel iron onto guide plate M (Fig. 3) whence they drop onto plate J and are delivered with the cigarettes and matches. Disk 84 is rotated by a shaft 87, the lower end of which is formed into a rounded head 88 which is carried in a circular opening in the channel iron 80. The upper end of this shaft is rotatably journaled in the body 81 and carries at its top an arm 89. A spring 90 whose ends are fastened to body member 81 and disk 84, as shown, is provided to bias the shaft 87 counterclockwise to the position of Fig. 8. A rotatable cover 91 having openings adapted to register with the receptacles 82 may be provided, and in this event a spring 92 will be employed to hold it down against the body member 81. When a plunger E is pulled out the finger 31' attached thereto will rotate the arm 89 through 45° until the cut-outs 85 register with the four containers 82, in which position the disk is loaded with one coin for each receptacle. When the plunger E is returned the disk 84 will be returned by spring 90 to the position of Fig. 8 and the coins will drop through the openings 86 in the channel iron. Stop means are provided to limit the motion of disk 84 to rotation between positions of registry with containers 82 and with cut-outs 86. For this purpose, the lower end of spring 90 is extended below disk 84, as shown in Fig. 10, and serves as a pin to abut the walls of a 45° sector enlargement of the circular cut-out accommodating the head 88. In Fig. 9 the arm 89 has been omitted and this enlargement is indicated at 88'.

A latch mechanism is provided for controlling operation of the plungers E and is generally of the type in which biased interfering means are withheld upon insertion of proper coins. Link 44 carries a pair of pawls 101 and 102. Pawl 101 engages detents 105 and 105' (Figs. 4 and 4a), and pawl 102, which is slightly longer, serves to hold the detents in non-interfering position except when opposite the notches 108 and 108' therein. These pawls are so spaced that pawl 102 will come opposite the notches before pawl 101 has reached the ends of the detents.

Detents 105 and 105' are pivoted at 106 and 106', biased counterclockwise by springs 107 and 107', and notched at 108 and 108' to accommodate pawl 102. Unless these detents are held back by insertion of the proper coins in the machine, they will rotate into interfering position with pawl 101 as soon as the pawl 102 comes opposite the notches and will thus prevent operation of any of the plungers E. Movement of either detent into interfering position will, of course, be sufficient to prevent such operation.

The detents are provided with shoulders 109 and 109' to engage dimes and swivels 111 and 111' pivoted at 112 and 112' to engage nickels. These swivels are formed each with two projections 113 and 114 and 113' and 114', respectively, to engage nickels, and are recessed between these projections sufficiently to permit rotation of a detent into interfering position when only one projection on its swivel is engaged by a nickel. A pair of pins 122 are provided for each swivel, as shown, to maintain this alignment but permit rotation of either swivel when pawl 102 comes opposite the notch 108 or 108' in its detent 105 or 105', and in consequence it moves slightly to the right.

A pair of slots 120 and 121 are provided to receive dimes and nickels, respectively, and the coins are directed into these slots by means of the usual chutes. The specific type of slug ejector employed forms no part of the present invention and this mechanism is indicated in outline on Fig. 1 and designated by the reference letter M. As will appear, slot 120 is so arranged that the coins will enter at the forward end and roll backward, so that the rearward location in the slot is occupied by the first dime and the forward location by the second. Similarly, slot 121 is so arranged that nickels will enter at the rearward end and roll forwardly. This slot is adapted to hold four coins and the first coins placed in it will occupy the forward locations.

The machine, as shown in Fig. 4 is arranged to operate on twenty cents. If two dimes be placed in the machine, they will occupy both positions in slot 120 and hold back both detents by means of shoulders 109 and 109', so that link 44 is free to move forwardly and a plunger E may be operated. Similarly, if four nickels are placed in slot 121, they will engage all four projections 113 and 114 and 113' and 114' and hold both the detents back from interfering position. If one dime and two nickels be placed in the machine, the dime will occupy the rearward location in slot 120 and engage shoulder 109', thus holding back detent 105'. It is necessary, however, for operation of any of the plungers E that the other detent 105 also be held back, and this is accomplished by the two nickels which will occupy the forward locations in slot 121, engage projections 113 and 114, and so withhold detent 105 from interfering position.

The machine will not operate upon less than twenty cents. If one dime or two nickels be placed in the machine, only detent 105' or 105 will be held back and the other will move into interfering position and prevent operation. The machine will not operate upon fifteen cents, since a dime and one nickel will hold back arm 105' by engaging shoulder 109' but will not hold back arm 105 since only projection 113 will be engaged and the swivel 111 will be free to rotate clockwise, so that detent 105 may move into interfering position. Similarly, three nickels will hold back detent 105 by engaging projections 113 and 114, but member 111' will be free to rotate as projection 114' will not be engaged and consequently detent 105' will move into interfering position.

It will be observed that, regardless of what combination of coins is employed (as, two dimes, a dime and two nickels, or four nickels), each of the detents operatively engages some of the coins so as to be held back. Also, all coins of each combination are engaged by the detents. In consequence, no coin is employed merely as a "spacer," and the machine cannot be operated when a coin is stuck or held in an improper position or is moving past one of the coin engaging portions of a detent, unless positions which should be filled earlier are occupied.

It may be desired to operate some of the containers B upon five cents less than the others, as where a cheaper brand of cigarettes is carried. Means is provided to permit this and is shown in Figs. 2 and 4. As there shown, the left-hand container is designed for such operation and to this end the left-hand slide 34 has a bar 130 attached to it by means of a piece 131. If this plunger be pulled, the bevel 33 will move this slide and the bar 130 to the right. The right-hand end of the bar engages a cam at the end of a lever 132 pivoted at 133 and will rotate the lever counter-clockwise. The other end of the lever 132 is adapted to engage the projection 114 so that plunger E may be operated upon the insertion of a dime and a nickel, as the end of the lever 132 will engage projection 114, the nickel will engage projection 113, and the detent 105 will thus be held back. Detent 105' will be held back by the dime. The lever 132 is normally maintained in the non-engaging position of Fig. 2 by means of a suitable bias such as the spring 132'.

The machine may be readily set for operation on fifteen cents by the insertion of a piece in the foremost position in slot 121. This piece will hold back projection 113 at all times, so that the machine will operate upon two dimes, a dime and a nickel, or three nickels. When the machine is so set the extreme left-hand plunger E will be operable upon one dime.

As it may be desired to operate a number of the plungers E on five cents less than the remainder, the piece 131 is made detachable and may be moved to connect any of the slides 34 to the bar 130, so that all plungers to the left of this slide will so operate. To permit this, bar 130 and piece 131 are positioned above bed plate D in an accessible position and the bar is kept in position by a guide 134 leaving its upper surface unobstructed. As best shown in Fig. 2, this bar has a series of threaded holes 135 to which the piece 131 may be secured by a screw 136. Opposite each of these holes is a slot 137 in plate D above one of the slides 34, and each of the slides has a threaded hole 138 positioned beneath one of these slots. The other end of the piece 131 may thus be secured to any of the slides by the screw threaded pin 139 which as shown in Fig. 5 has a spacing shoulder at its lower end to maintain its head at the proper height above plate D to accommodate the piece 131.

Underneath slots 120 and 121 are a pair of vanes 140 and 141 constituting coin supports and pivoted in a pair of supports 142 and 143 which depend from the plate D. As best shown in Figs. 11 and 12, these vanes are provided with interlocking gear teeth, so that motion of vane 141 results in a corresponding motion of vane 140 but in the opposite sense. The vanes are biased toward the position of Fig. 11 by a spring 144, attached to arm 145 carried by vane 141, as shown in Fig. 5,

and are normally held in the position of Fig. 5, against the bias, by the arm 145, the upper end of which engages in a slot at the right-hand end of an end slide or stop 146. The other end of this stop abuts a disk 147 which passes against the right-hand end of slide 36 and so prevents the rotation of the vanes to the position of Fig. 11. These parts are so dimensioned and arranged that the vanes are normally held in the position of Fig. 5 and their tops come under the slots 120 and 121, serving as supports for coins placed therein. As shown in Figs. 6 and 7, the top of vane 141 is slanted forwardly and the top of vane 140 is slanted rearwardly, so that coins placed in slot 120 roll downward toward the rearward location and those placed in slot 121 roll downward toward the forward location.

The coin return plunger H is formed with a transverse slot 37 through which the slide 36 may pass when the plunger is in the position of Fig. 4, and this slot accommodates the disk 147, already referred to. Toward the rearward end of this plunger is a bevel 148 which permits slide 146 to move to the left when the plunger is withdrawn. Accordingly, when this plunger is pulled, arm 145 will be rotated by the spring 144 and the vanes 140 and 141 will assume the position of Fig. 11. This removes the support from whatever coins may be in the slots 120 and 121 and the coins will fall down outside the vanes into a chute N and be delivered to the customer on the plate J.

On the other hand, operation of any of the plungers E will move the slide 36 to the right and will rotate arm 145 through disk 147 and slide 146 against the bias of spring 144, so that the vanes 140 and 141 assume the position of Fig. 12. In this position the coins in slots 120 and 121 are again left unsupported but will fall down between the vanes 140 and 141 and will be directed into a receptacle O, instead of being returned to the purchaser.

As has been seen, even a partial withdrawal of any of the plungers E will lock the coin return plunger H and after the pawl 25 has engaged the rearmost tooth on the rack 27 it will be impossible to return the plunger E until a complete forward motion of it has been made. In consequence, the coin return plunger cannot be returned until the vanes 140 and 141 have already assumed the position of Fig. 12 and the coins are deposited in the proper receptacle. Conversely, even a partial motion of the coin return plunger H will prevent withdrawal of any of the plungers E, as the slot in the plunger H will not longer register with the end of the slide 36. In consequence, none of the plungers E can be operated unless plunger H is in the position of Fig. 4.

As is apparent, a machine of great flexibility in operation has been provided. Without employing the lever 132, and with the mechanism arranged as shown in the drawings to operate on twenty cents, it is possible by properly loading the various change makers I to have any of the six plungers E deliver cigarettes for any net price ranging from sixteen to twenty cents. By connecting the bar 130 to one of the slides 34 in the manner already described, some of the plungers may be made to operate at net prices ranging from eleven to fifteen cents and the remainder at net prices ranging from sixteen to twenty cents, allowing the selection of up to six different prices for cigarettes to be vended, ranging from eleven to twenty cents.

When a piece has been inserted, as described, in the foremost position in the nickel slot 121, a net price ranging from eleven to fifteen cents may be selected for operation of any of the plungers. With the assistance of the lever 132, up to six different net prices ranging from six to fifteen cents may be selected. The piece to be inserted in slot 121 may of course take any convenient form and it is even possible to insert a piece which occupies the two foremost positions in this slot so that the detents 105 and 105' will be held back by a dime or two nickels and the six plungers E may then be operated at net prices ranging from six to ten cents. If such a piece is inserted, the lever 132 would, of course, not be employed.

We claim:

1. In a coin operated vending machine and in combination, a container for packages of cigarettes having an aperture for successive ejection of such packages, delivery means for said container comprising means for ejecting a package of cigarettes through said aperture, a container for packages of matches adjacent said first mentioned container, an ejector for successively ejecting packages of matches from said second mentioned container and operable by movement from a normal position into position for ejection and return to said normal position, a bias toward normal position for said ejector, actuating means for said ejector comprising a member extending transversely of said aperture and movable by a package of cigarettes passing through said aperture to force said ejector into ejecting position against said bias and releasable upon passage of the package beyond said aperture to permit said bias to return said ejector to normal position.

2. In a coin operated vending machine and in combination, a container for packages of cigarettes having an aperture for successive ejection of such packages, delivery means for said container comprising means for ejecting a package of cigarettes through said aperture, a container for packages of matches adjacent said first mentioned container, an ejector for successively ejecting packages of matches from said second mentioned container and operable by movement from a normal position into position for ejection and return to said normal position, a bias toward normal position for said ejector, actuating means for said ejector comprising a member extending transversely of said aperture and movable by a package of cigarettes passing through said aperture to force said ejector into ejecting position against said bias and releasable upon passage of the package beyond said aperture to permit said bias to return said ejector to normal position, and a support movable toward and away from said aperture during operation of said delivery means to support said package of cigarettes during ejection.

3. In a coin operated vending machine and in combination, a plurality of containers for packages of cigarettes each having an aperture for successive ejection of such packages, delivery means for each said container comprising means for ejecting a package of cigarettes through each said aperture, a container for packages of matches adjacent each said first mentioned container, an ejector for successively ejecting packages of matches from said last named container and operable by movement from a normal position into position for ejection and return to said normal position, a bias toward normal position for said ejector, actuating means for said ejector comprising a member extending transversely of the aperture of the adjacent container for packages of cigarettes and movable by a package of ciga-

rettes passing through said aperture to force said ejector into ejecting position against said bias and releasable upon passage of the package beyond said aperture to permit said bias to return said ejector to normal position, a member movable upon operation of any of said delivery means, a support movable by said member toward and away from said aperture and extending across said aperture, said support being adapted to support one end of a package of cigarettes during ejection from an aperture, and the extent of travel of said support away from said aperture being greater than the length of a package of cigarettes, whereby a package of cigarettes is permitted to fall off said support upon clearing said aperture during ejection.

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