March 16, 1926. 1,577,301

E. SCHULTZ.

VENDING MACHINE

Filed Nov. 7, 1925 4 Sheets-Sheet 1

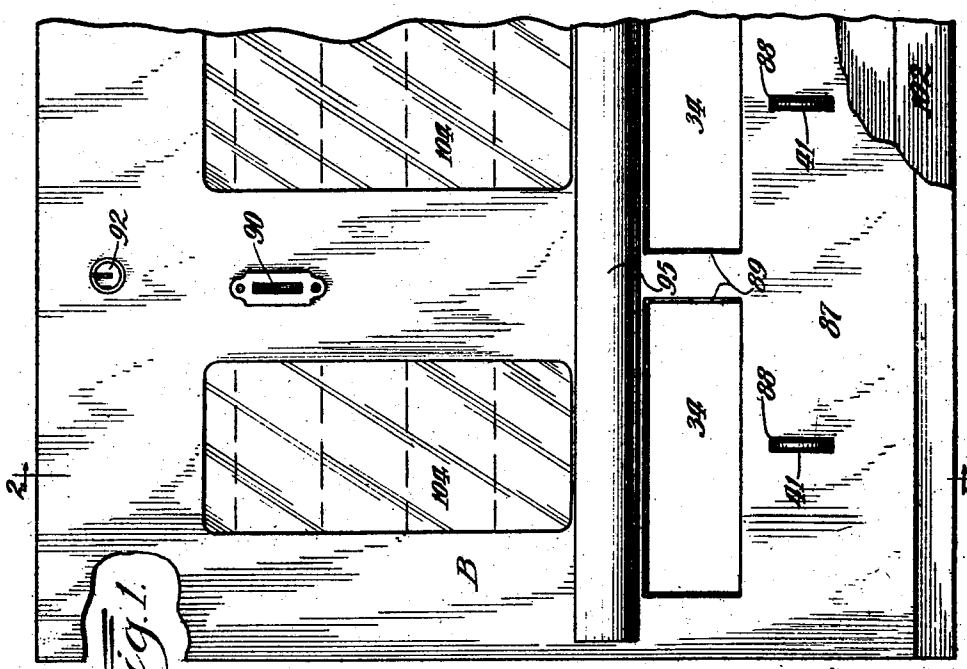


Fig. 1.

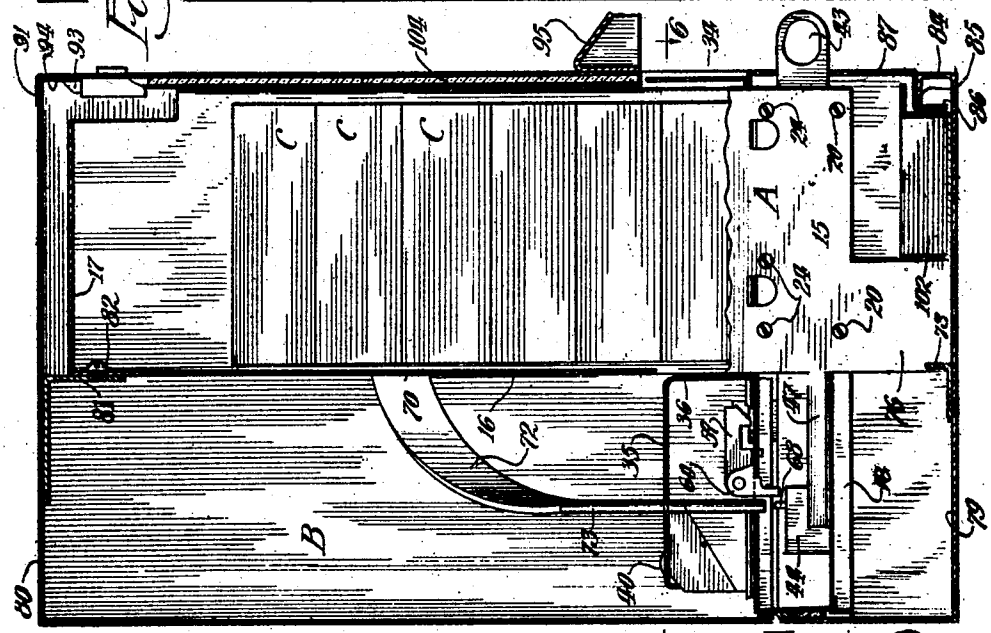


Fig. 2.

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VENDING MACHINE

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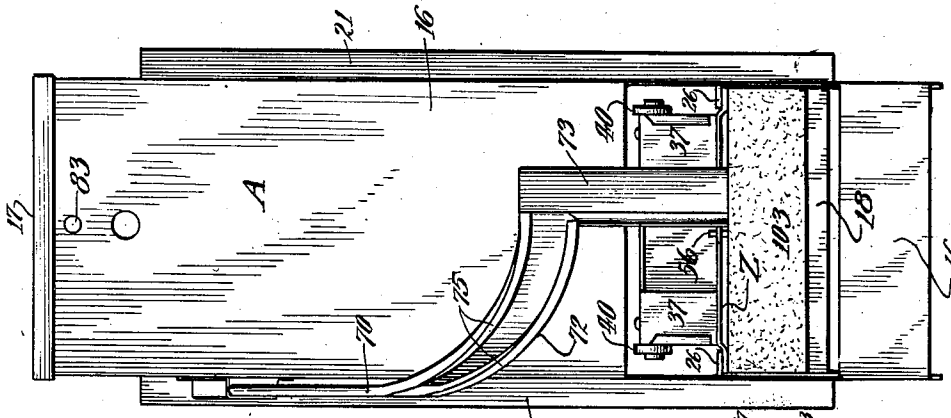


Fig. 4.

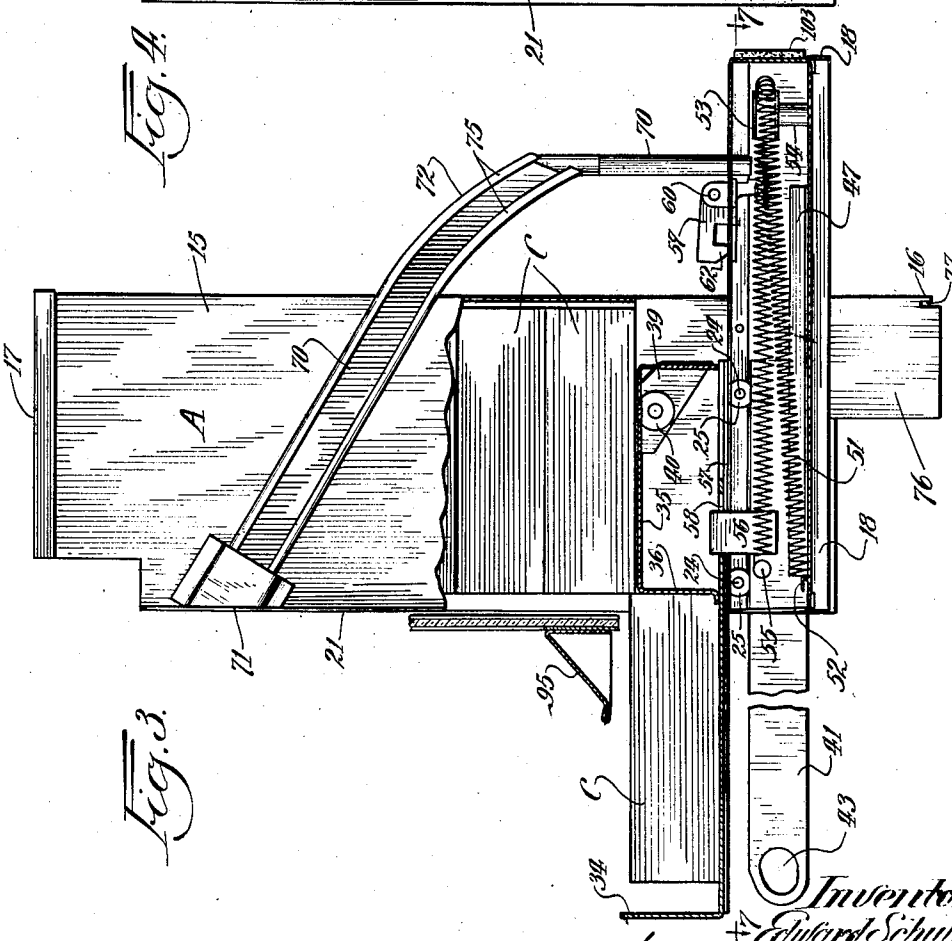


Fig. 3.

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E. SCHULTZ

VENDING MACHINE

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Fig. 5.

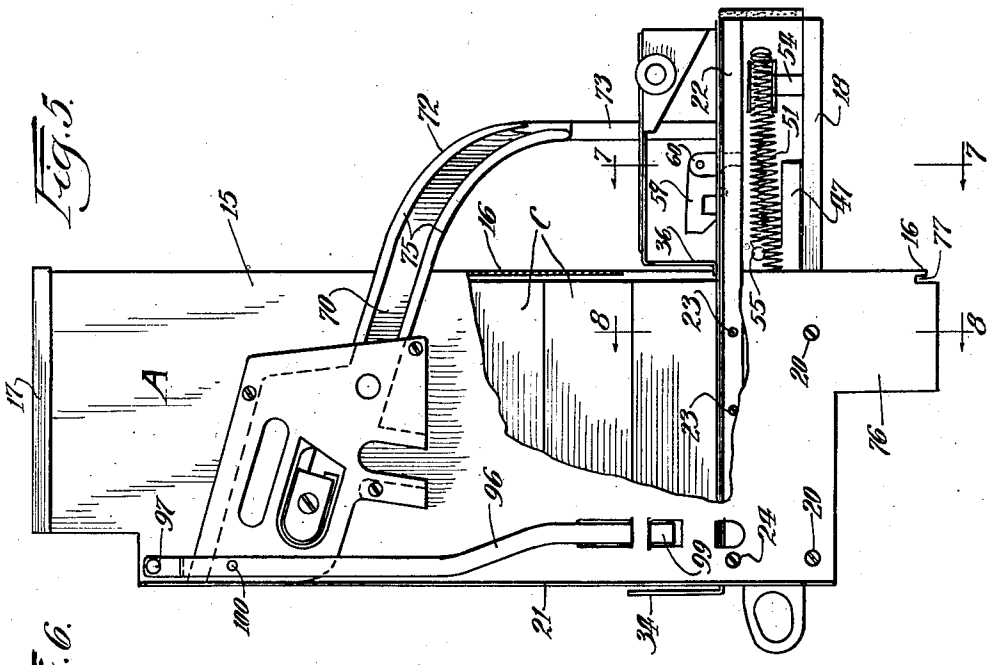


Fig. 6.

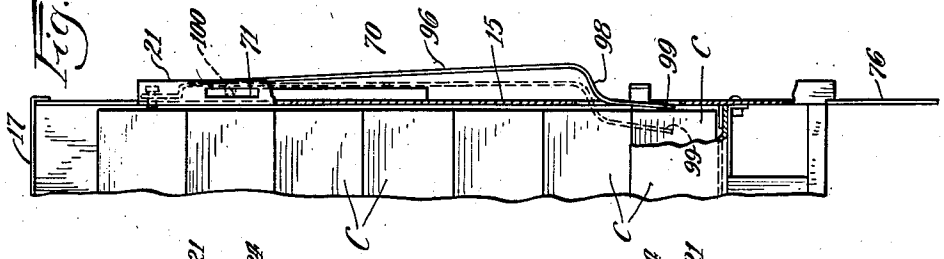


Fig. 7.

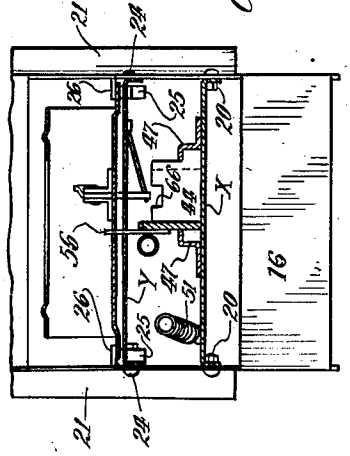
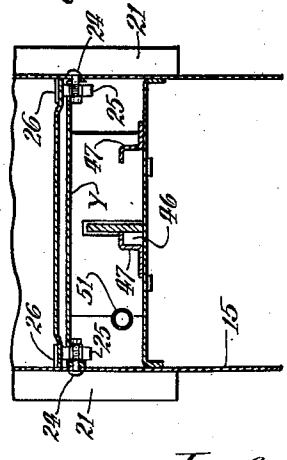


Fig. 8.



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March 16, 1926. 1,577,301

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VENDING MACHINE

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Fig. 9.

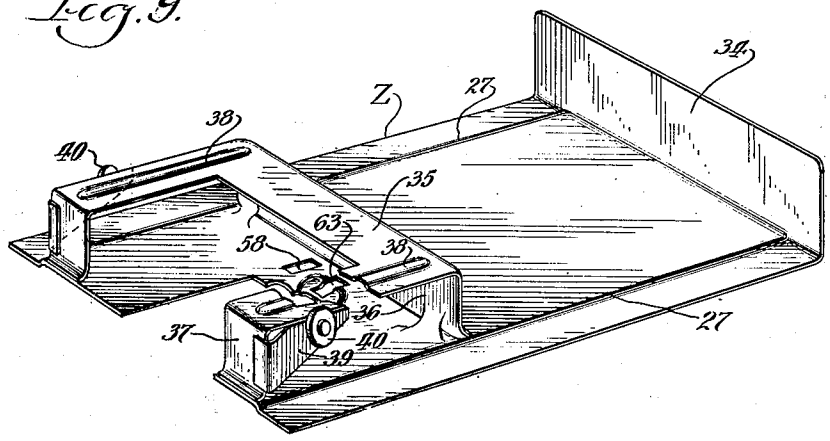


Fig. 10.

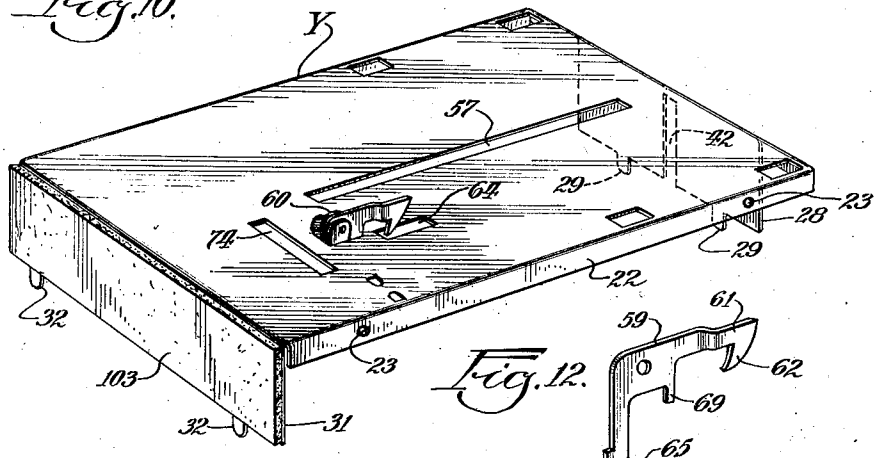
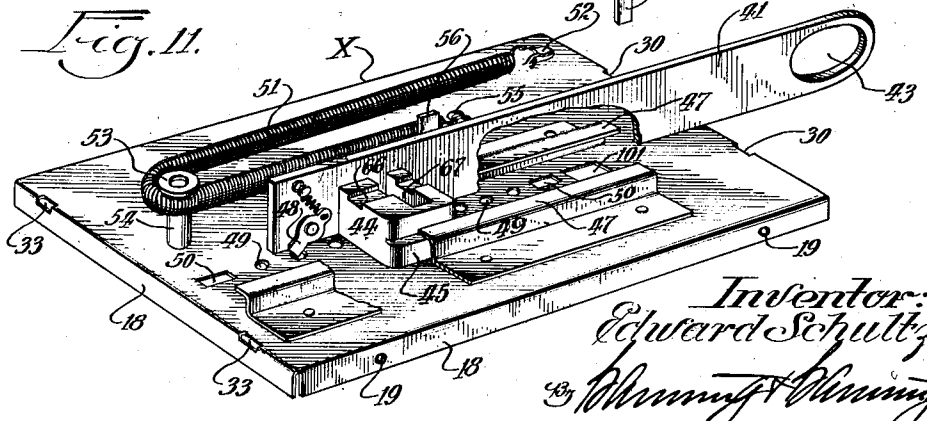


Fig. 12.

Fig. 11.



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Edward Schultz
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Attys.

Patented Mar. 16, 1926. 1,577,301

UNITED STATES PATENT OFFICE.

EDWARD SCHULTZ, OF CHICAGO, ILLINOIS, ASSIGNOR TO WILLIAM N. JENKINS, OF CHICAGO, ILLINOIS.

VENDING MACHINE.

Application filed November 7, 1925. Serial No. 67,477.

To all whom it may concern:

Be it known that I, EDWARD SCHULTZ, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Vending Machines, of which the following is a specification.

This invention relates to a coin-controlled vending machine designed for dispensing stacked commodities. In its construction I have combined numerous improvements having to do with simplicity of the parts, facility in their assembly, durability in their operation, and protection against tampering. It includes also a number of container units, one for each stack of articles, each independent of the others, and all adapted for enclosure within a common housing.

My invention is further concerned with novel means for ejecting a false coin from the receiving chute whereby to prevent delivery of an article in such circumstances; with a delivery mechanism whose assembled parts co-operate to oppose discharge of an article except when operated in response to a proper coin; with an improved tension device of simple character by which the delivery mechanism is returned to its initial position; with a draw-bar which passes through to the exterior of the housing without interfering with movement of the cover plate through which it extends; and with numerous other features of construction which are also embodied in the present invention of which a preferred construction is set forth in the accompanying drawings in the manner following:

Figure 1 is a fragmentary front elevation showing one end of a machine which is equipped with a plurality of dispensing units;

Fig. 2 is a vertical section therethrough, taken on line 2—2 of Fig. 1:

Fig. 3 is a side elevation of the container unit with a portion of the near wall broken away to exhibit certain of the parts interiorly thereof which are moved to dispensing position;

Fig. 4 is a rear elevation of a single container unit;

Fig. 5 which is a view similar to Fig. 3, shows a modified coin chute mechanism;

Fig. 6 is a fragmentary front elevation of the container unit shown in Fig. 5, a portion of the view being in section;

Figs. 7 and 8 are transverse sections taken on lines 7—7 and 8—8 of Fig. 5;

Figs. 9, 10, and 11, which are perspective views, show in separated relation the three major parts comprising the delivery mechanism; and

Fig. 12 is a perspective view of the latch member by which the dispensing operations are controlled.

The machine of the present invention may comprise one or more units A each of which constitutes an independent container from which articles may be dispensed. These units are mounted without a suitable housing B having a proper length for the accommodation of a desired number of container units. In each of the units is arranged a stack of articles or commodities, designated individually as C. As each of the several units is a duplicate of the other, a description of but one is necessary.

In the form shown, each container unit comprises a pair of side walls 15 connected at the back by a wall 16 and at the top by a wall 17. Between the side walls in their lower region is a bottom plate X (see Fig. 11), the edges of which are downturned to provide flanges 18 having holes 19 for receiving bolts 20 which pass through the container side walls to support the plate removably in place. The front edges of the side walls may be outturned to provide flanges 21 the edges of which lie close to the corresponding flanges of the adjacent units when the same are assembled within a common housing.

A shelf Y is also arranged between the side walls of the container unit, slightly above the bottom plate X. As shown best in Fig. 10 this shelf is downturned along its sides to provide flanges 22 in each of which are holes 23 for the reception of bolts 24 which pass through the container side walls to thereby support the shelf in place. Associated with the shelf are certain rollers 25 (see Fig. 3) extending through openings therein so as to project to the upper side thereof, these rollers being mounted upon suitable studs or, if preferred, upon the bolts 24, as shown. Also I have struck inwardly from the side walls of the container unit certain ears 26 (see Fig. 8) spaced slightly above the rollers so as to co-operate therewith in providing a guideway for a drawer Z, which, by preference, is in the

form of a plate (see Fig. 9). The side edges of this plate are preferably offset as at 27 so as to longitudinally reinforce the drawer, these edges being disposed between the rollers 25 and ears 26 so as to confine the drawer to movements in a straight line.

The shelf Y and bottom plate X are rigidly connected together, as well as to the walls of the container unit. For this purpose, the shelf is provided with a depending front wall 28 which carries a pair of lugs 29 each adapted for insertion through a slot 30 that is formed through the bottom plate adjacent the front edge thereof. In like manner I provide the rear edge of the shelf with a depending wall 31 having a pair of lugs 32 receivable through slots 33 which are formed through the bottom plate at the rear edge thereof. When the shelf and bottom plate are finally assembled, the lugs 29 and 32 are laterally bent so as to clinch upon the under side of the bottom plate.

The drawer is provided along its front edge with an upwardly extending wall 34. At the rear end of the drawer is an elevated U-shaped plate 35 supported by front and rear walls 36 and 37 respectively. As by means of longitudinal ribs 38 this supported plate is reinforced from front to back. Upon a pair of bracket plates 39, of which one is provided adjacent each side of the supported plate, I have mounted rollers 40 each of which protrudes slightly thereabove for a purpose which will presently appear.

The movements of the drawer plate are controlled by a coin mechanism which is disposed mostly between the shelf and bottom plate. This consists in part of a flattened draw bar 41 extending through a slot 42 in the front wall 28 of the shelf, a non-protruding finger grasp, here represented as an eye 43, being formed at the operating end of the bar; a block 44 connected to the bar at one side thereof near its rear end and provided with a laterally extending base 45; a pin or stud 46 extending laterally from the opposite bar side; and a pair of gibs 47 which overhang the block base and stud to provide a guideway which confines movements of the draw bar to a straight line lengthwise of the bottom plate. A spring-actuated pawl 48 is carried on the draw bar in such manner that its acting end may co-operate with any one of a plurality of aligned holes 44 which are formed in the bottom plate, a slot 50 being provided at each end of the row of holes to permit the pawl to reverse its position. By this means I have provided a full stroke mechanism which assures a complete movement of the draw bar each time it is actuated.

A novel means of returning the draw bar to its initial position is provided in a coiled pull spring 51 one end of which may be hooked beneath an ear 52 struck upwardly from the bottom plate. The spring is led around a grooved roller 53 loosely mounted upon a stud 54 which upstands from the bottom plate, thus permitting the proximate spring end to hook over a stud 55 which is extended laterally from the draw bar. The advantage of this construction is that a relatively short spring may be kept under constant tension in any position throughout the working stroke of the draw bar, without excess of strain, or exhausion of spring tension.

Upon the draw bar is carried a lug 56 which upstands through an elongated slot 57 extending longitudinally of the shelf plate, and also through a second slot 58 formed in the drawer plate. The length of the latter slot is such that the lug may have only a slight longitudinal play therein. When the draw bar is pulled against the tension of the spring 51, the lug 56 serves as a connecting medium by which the drawer is also pulled outwardly, its movement limits being determined by the two ends of the elongated slot 57 in the shelf. The drawer movements are controlled by a latch member 59 pivoted between a pair of ears 60 which upstand from the shelf plate adjacent a slot therein through which the latch member depends in part. As shown, the latch member comprises an offset head 61 provided with a depending hook 62 which normally is disposed within a slot 63 formed in the drawer, with which slot registers a second slot 64 in the shelf; the hook may thereby engage with the drawer to prevent its outward movement at all times except when the latch member is moved to disengaging position. Depending from the latch is a tail 65 the extremity of which is movable through a groove 66 formed longitudinally in the top face of the block 44. As shown best in Fig. 11, I have also provided in this block a transverse pocket 67 wherein may be received a coin 68 of proper size when conducted thereto by chute means presently to be described. Forwardly of the tail piece 65 a lug 69 may depend from the latch member to extend through slots (not shown) in the drawer and shelf proximate to the ears 60 to which the latch member is pivoted.

With a mechanism of the general kind described, I associate a coin chute 70 which is mounted upon the container unit with its receiving end 71 extending through one of the front flanges 21 thereof (see Figs. 3 and 6). This chute which is downwardly inclined along one side wall of the container is descendingly curved at 72 to a point rearwardly thereof, so that its lower end may connect with a vertically disposed chute 73 whose lower end is affixed to the shelf plate in surrounding relation to a slot 74. This vertical chute portion which extends up-

wardly through a cut-out in the rear end of the drawer plate is adapted to deliver coins 68, one at a time, to the pocket 67 within the block 44 (see Fig. 2). The inclined chute portion is provided on its outer side with a pair of flanges 75 facing toward each other whereby to slidingly confine a coin of proper size. Owing to the inclined disposition of the chute, however, any coin of less than the proper diameter will be thrown out laterally by centrifugal action as it travels downwardly around the curve 72 at the rear side of the container unit. By this simple means I have provided for ejecting improper coins at the commencement of their travel within the machine.

The side walls of each container unit which extend downwardly, as at 76, below the bottom plate, remain connected by the rear wall 16. At the bottom edge of each side wall, adjacent the rear connecting wall, I have provided a notch 77 (see Figs. 3 and 5) which interlocks with a flange 78 extending upwardly from the housing bottom 79. By this means, the lower end of each container unit is correctly positioned within the housing. From the housing top 80 depends a second flange 81 against which the back wall of each container unit may be rested. As by means of a single screw 82 passing through a hole 83 in the container rear wall for threaded connection with this flange 81, each container unit may be fixedly secured within the housing.

As shown best in Figs. 1 and 2, the housing bottom is upturned as at 84 along the forward edge and is then inturned at 85 to provide a square bead with which interlocks the lower offset edge 86 of a door 87 which forms a closure for the housing front. The door is provided with slots 88 through which extend the operating ends of the several draw bars. Also openings 89 in the door are provided for the several drawers to slide through, these openings being normally closed by the front walls 34, as shown. In addition other slots 90 are provided in the door, one in register with the receiving end of each coin chute, whereby to permit insertion of coins therein. The upper edge of the cover may be inwardly flanged as at 91 to overlie the housing top. A key-controlled lock 92, including a bolt 93 for engaging with the inner face of a flange 94 depending from the housing top, completes the connection for the door. When a proper key is employed to retract this bolt, the door may be swung out preliminary to disengaging its lower edge from the housing, after which it may be removed. To attach the door in place, a reversal of this procedure is followed.

It is contemplated that a vending machine of the kind described shall dispense articles which are pre-stacked within each container unit, as suggested in Figs. 1 and 2. Delivery of these several articles, one at a time, is effected when the drawer is pulled outwardly. The lowermost article in this stack normally rests upon the drawer plate so as to be moved out from underneath the stack with movement of the drawer. The remaining articles remain stationary within the container due to confinement by the front door 87. The height of the elevated drawer plate 35 relative to the lower drawer plate may be slightly less than the vertical thickness of one of the articles which is to be dispensed (see Fig. 3). From this it results that the forward wall 36 will act as an ejector to displace laterally the lowermost article from the stack when the drawer is outwardly pulled, the remaining articles in the stack being sustained by the drawer plate 35 throughout this operation. It is only when the drawer has completed a full movement cycle that the stack may drop down to rest upon the lower drawer plate, as shown in Fig. 5.

With the drawer outwardly pulled to its limit, the parts will be related about as shown in Fig. 3. Here the article displaced from the bottom of the stack is arranged conveniently for grasping so that its removal may be easily effected. It is desirable that means be provided for preventing tampering with the remaining articles both during and after the delivery operation, and for this purpose the door 87 carries a shield 95 just above each drawer which is extended outwardly to a point which prevents effective tampering with the remaining articles. By this means it is impossible to reach in to displace any of the articles which remain stored in the several container units. When the drawers are retracted under the action of the spring 51, the upstanding front walls 34 close the entrances to the articles within the housing, thereby opposing any tampering therewith. Also in the event that any implement be inserted beneath the drawer, the depending lug 69 will afford an obstacle to manipulation of the latch member.

Referring now to Figs. 5 and 6, I have shown therein certain mechanism which is applicable to the construction heretofore described, although not appearing generally in the drawings. This includes a pendulum bar 96 whose upper end is pivotally supported by a pin 97 near the top of a container side wall 15 closely behind one of the front flanges 21; this bar is offset as at 98 to pass through a slot in the container wall, its lower extremity 99 being disposed upon the inner side thereof; and extended laterally from the bar is a stud 100 adapted to pass through a hole in the chute 70 close to its receiving end. The mounting and disposition of this bar is such that it tends by gravity to swing in to the dotted line posi-

tion shown in Fig. 6, this movement, however, being normally prevented by the lowermost article C which is engaged therewith. Should the contents of any container unit become sold out, however, then this bar will take up the inner position which is represented by dotted lines, the result being that the stud 100 is also moved into the path of coins entering the chute whereby they are refused admittance.

From the preceding description, the operation of the present machine should be plain. A coin of proper denomination when introduced in the chute will travel into the block pocket 67. By pulling upon the draw bar, this block will be advanced, together with the coin, to trip the latch member whereby the drawer is permitted to slide out with the draw bar. This movement takes place in response to engagement of the lug 56 with the drawer plate, the result being that the lowermost article is displaced from the stack to a position available for manual removal from the container; thereafter, when the draw bar is released, the spring 51 will return the parts to their normal position, and the commodity stack will drop down a distance equal to the height of the article which was withdrawn. The parts are now ready to repeat the dispensing operation when another coin of proper denomination is inserted. I would have it noted that the drawer cannot execute a return stroke until the displaced article is removed therefrom, due to engagement of the upper rear edge of the article with the lower front edge of the next higher article, which engagement takes place the moment the drawer completes its outward stroke. Also, because the top face of the displaced article is slightly above the lower face of the adjacent article, it is impossible to pry under the latter when the drawer is fully opened, as shown in Fig. 3. Because of these peculiarities of construction, it is difficult, if not impossible, to tamper successfully with the present machine.

A machine of the kind described may be mounted conveniently, either upon a vertical or horizontal support. Whenever it is desired to refill any of the container units, the door is removed freely without interference from any of the draw bars projecting therethrough. The coins used in the operation of the machine may drop out of the pocket 67 through a slot 101 in the bottom shelf, into a coin tray 102 which extends longitudinally of the housing, as shown. By removing this one tray all of the coins may be collected in one operation so that the work of looking after the machine is reduced to a minimum.

The assembly of the operating parts presents special advantages. The container bottom and shelf, which are connected together, provide between them a chamber in which is contained the mechanism which controls the drawer movements. Upon the rear face of the back flange 31 a cushion pad 103 may be carried so as to fill up any space intervening between the rear wall of the container and the proximate wall of the housing. The full stroke mechanism is also exceedingly simple, inasmuch as it avoids the necessity of any separate rack bar to co-operate with the spring pawl 48. The several holes 49 may readily be punched through the bottom plate so as to act as teeth for the pawl to engage with, thereby assuring a full movement to the drawer with each dispensing operation. As these drawer movements are attended with considerable friction, owing to the weight of the article stack, I have provided roller means to reduce to a minimum the operating force required. Also other roller means are carried by the drawer which engage with the lowermost stationary article in the stack.

With a machine of this general character other minor features may be combined, such as glass panels 104 in the door, one for each dispensing unit, the same affording a view of the articles within the housing. It is only with the novel combination, arrangement, and organization of parts, as are hereinafter claimed, that my invention is concerned, although manifestly it may be variously embodied to meet any particular desires or requirements.

I claim:

1. A dispensing apparatus, comprising a housing having a removable door, a flange secured within said housing and extending from side to side thereof parallel to said door, a removable dispensing unit, insertable through the doorway, and having a notched support engaging with said flange to position said unit parallel with said door, and detachable means for securing said unit to said housing.

2. In a dispensing apparatus, the combination of a housing having an open front, there being an upturned and inwardly bent wall extending along the housing bottom adjacent the front, a door removably fitted to the housing front having its lower edge inwardly and downwardly bent to lie to the inside of the wall adjacent the housing bottom, means adjacent the upper door edge for connecting with the housing, a dispenser unit movable through the door into the housing, and means for detachably securing the dispensing unit within the housing, substantially as described.

3. In a dispensing apparatus, the combination of a housing, a front door having interlocking connection with said housing and having walls defining openings therein, a dispensing unit removably secured within the housing relative to said door, said unit hav-

ing an article dispensing drawer reciprocable to delivery position through an opening in said door, and operating means for said drawer extending forwardly from said unit and projecting through another opening in said door.

4. In a dispensing apparatus, the combination of a housing, a front door having interlocking connection with said casing and having walls defining openings therein, a dispensing unit removably secured within the housing relative to said door, said unit having an article dispensing drawer reciprocable to delivery position through an opening in said door, and operating means for said drawer comprising a flattened draw-bar reciprocably mounted in said unit and extending forwardly thereof to project through another opening in said door, said drawer and draw-bar being constructed to normally close the openings in said door and permit the removal of the door without interference.

5. In a dispensing apparatus, the combination of a housing within which is a depending flange, a second flange upstanding from the housing bottom, a container unit within the housing having a notch for interlocking with the lower flange, and screw means extending through the container unit to engage with the upper housing flange whereby the unit is fixedly secured in place, substantially as described.

6. In a dispensing apparatus, the combination of a housing having an open front, a door removably fitted to the housing front, a support extending longitudinally adjacent the housing bottom, a second support parallel to said first mentioned support and located in an elevated position within the housing, a removable dispensing unit insertable through the housing front and constructed at its lower end to interlock with said first mentioned support and engage said last mentioned support adjacent its upper end, and detachable means for fixedly securing the upper end of said unit to said last mentioned support.

7. In a dispensing apparatus, the combination of a housing having an open front, a door normally closing said housing having walls defining openings therein, a removable dispensing unit insertable through the front to a position within the housing, means providing an interlocking connection between the housing and the lower end of the unit, said unit having an article dispensing drawer reciprocable to delivery position through an opening in said door, operating means for said drawer extending forwardly from said unit through another opening in said door, a chute carried by said unit having its receiving end adapted to register with a slot opening in said door, and detachable means fixedly connecting the upper end of the container unit to the housing in a definite position which registers the drawer, operating means and chute relative to the associated door openings.

8. In a dispensing apparatus, the combination of a housing having a movable door in which is formed walls defining three openings one above the other, a dispensing unit removably positioned within the housing having manual operating means extending forwardly therefrom to project through the lower door opening, an article delivery drawer operably connected with said operating means and reciprocable to delivery position through the intermediate door opening, a chute carried by the unit provided with a receiving end to register with the upper door opening, and means for fixedly securing said unit in predetermined position within said housing relative to said door openings.

9. In a dispensing apparatus, the combination of a housing having an open front, a door removably fitted to the housing front, said door having walls defining openings therein arranged in groups, a plurality of interchangeable dispensing units each insertable through the doorway to a position within said housing, means within said housing receiving said units and fixedly securing each unit relative to said door, each of said units being provided with a receiving chute and reciprocable dispensing means adapted to register with the grouped openings in said door when the units are assembled within said housing.

10. In a dispensing apparatus, the combination of a housing having an open front, a door removably fitted to the housing front, said door having walls defining openings therein arranged in groups, a support extending longitudinally adjacent the housing bottom, a second support parallel to the first support and located in an elevated position within the housing, a plurality of dispensing units each adapted to interlock with the lower housing support, screw means connecting each unit fixedly with the upper housing support, a chute associated with each unit having their receiving ends adjacent one line of openings in the door, an article dispensing drawer carried by each unit and reciprocable to delivery position through a second line of openings in the door and operating means for the drawer extending forwardly from each unit through a third line of openings in the door, said chute, drawer and operating means being so constructed as to normally close the associated openings in said door without interfering with the removal of the door from or its attachment to the housing.

11. A dispensing apparatus comprising a housing, a unit within said housing having an article drawer reciprocable to delivery position through an opening in said hous-

ing, a shelf on which the drawer is slidably mounted, a plate below the shelf in spaced relation thereto, operating means for the drawer reciprocably mounted on said plate, and means connecting said shelf and plate providing a guide for said operating means.

12. A dispensing apparatus comprising a housing having an article drawer reciprocable to a delivery position through an opening therein, a shelf on which said drawer is slidably mounted, a plate below said shelf, a draw-bar slidably mounted on said plate, means connecting said draw-bar and drawer through a slot in said shelf, and means connecting said shelf and plate providing a guide for said draw-bar.

13. A dispensing apparatus comprising a housing having an article drawer reciprocable to a delivery position through an opening therein, a shelf on which said drawer is slidably mounted, said shelf comprising a slotted sheet metal plate having its ends turned down at substantially right angles to said shelf, a support below said shelf, said support comprising a sheet metal plate connected at its ends to the down-turned ends of said shelf, a draw-bar slidably mounted on said support and extending in part through the slot in said shelf to engage said drawer.

14. In a dispensing apparatus having a base and a movable article delivery means, a reciprocable operating device mounted on said base and projecting from said apparatus, a coiled spring connected at one end with the enclosed portion of said device and at its other end with the forward portion of said base, and a pulley mounted on the rear portion of said base and disposed intermediately of the spring ends around which the spring is required to travel, whereby its effective length is increased and uniform tension may be exerted on said operating device during operation.

15. In a dispensing apparatus, the combination of a casing having an article dispensing means reciprocable to delivery position through an opening therein, a plate below said means, a draw-bar operably connected to said means and slidably mounted on said plate, a pulley secured within said casing adjacent the rear thereof, a coiled spring connected at one end adjacent the forward end of said casing and at the other end with said draw-bar, said spring extending rearwardly from said end connections around said pulley, whereby the effective length of said spring is increased to provide substantial uniform tension on said draw-bar in operation.

16. In a dispensing apparatus comprising a casing having an article delivery apparatus including a reciprocable operating device, a plate on which said operating device is slidably mounted, said plate having a row of openings extending therethrough, a pawl carried by said operating device adapted to successively engage the walls of said openings during reciprocation thereof, the end openings of said row being elongated to provide a clearance for said pawl, whereby the pawl may reverse its operating position, and a spring for normally holding said operating device in retracted position.

17. An article delivery apparatus including a casing in which is mounted a reciprocable operating device, a full stroke mechanism comprising a spring actuated pawl carried by the device, and a sheet metal supporting plate for the device, said plate having a row of openings extending therethrough with which the pawl may successively engage, and elongated slots adjacent the end openings affording a clearance wherein the pawl may reverse its position, substantially as described.

18. In a dispensing apparatus, the combination of a reciprocable article delivery drawer of sheet metal having an offset adjacent its side edges whereby to provide a longitudinal reinforcement, an article container having upwardly extending side walls forming an enclosure for the drawer, ears inwardly struck from the container walls to overlie the offset edges of the drawer, and means providing a roller support whereon the drawer may be slid in and out, substantially as described.

19. In a dispensing apparatus, the combination of a reciprocable article delivery drawer of sheet metal having a downward offset adjacent its side edges whereby to provide a longitudinal reinforcement, an article container having upwardly extending side walls forming an enclosure for the drawer, ears inwardly struck from the container walls to overlie the offset edges of the drawer, the ears being flush with the remainder of the drawer, means providing a roller support whereon the drawer may be slid in and out, and operating means whereby the drawer may be reciprocated, substantially as described.

20. In a dispensing apparatus, the combination of a reciprocable article delivery drawer of sheet metal having a downward offset adjacent its side edges whereby to provide a longitudinal reinforcement, an article container having upwardly extending side walls forming an enclosure for the drawer, ears inwardly struck from the container walls to overlie the offset edges of the drawer, the ears being flush with the remainder of the drawer, and operating means whereby the drawer may be reciprocated, substantially as described.

21. In a dispensing apparatus, the combination of a reciprocable article delivery drawer, an article container having upwardly extending side walls forming an en-

closure for the drawer, ears inwardly struck from the container walls to overlie the drawer edges, and means providing a roller support whereon the drawer may be slid in and out, substantially as described.

22. In a dispensing apparatus, the combination of a housing, a front door having interlocking connection with said housing and having walls defining openings therein, a dispensing unit removably secured within said housing relative to said door, said unit having an article dispensing drawer reciprocable to delivery position through an opening in said door, a support adjacent the inner end of said drawer and elevated thereabove a distance slightly less than the height of a single article adapted to be dispensed thereby, the support serving to sustain the remainder of an article stack during movement of said drawer to delivery position, and operating means for said drawer extending forwardly from said unit and projecting through another opening in said door.

EDWARD SCHULTZ.