May 19, 1936. W. H. ROWE 2,041,089

VENDING MACHINE CABINET

Filed March 26, 1934 2 Sheets-Sheet 1

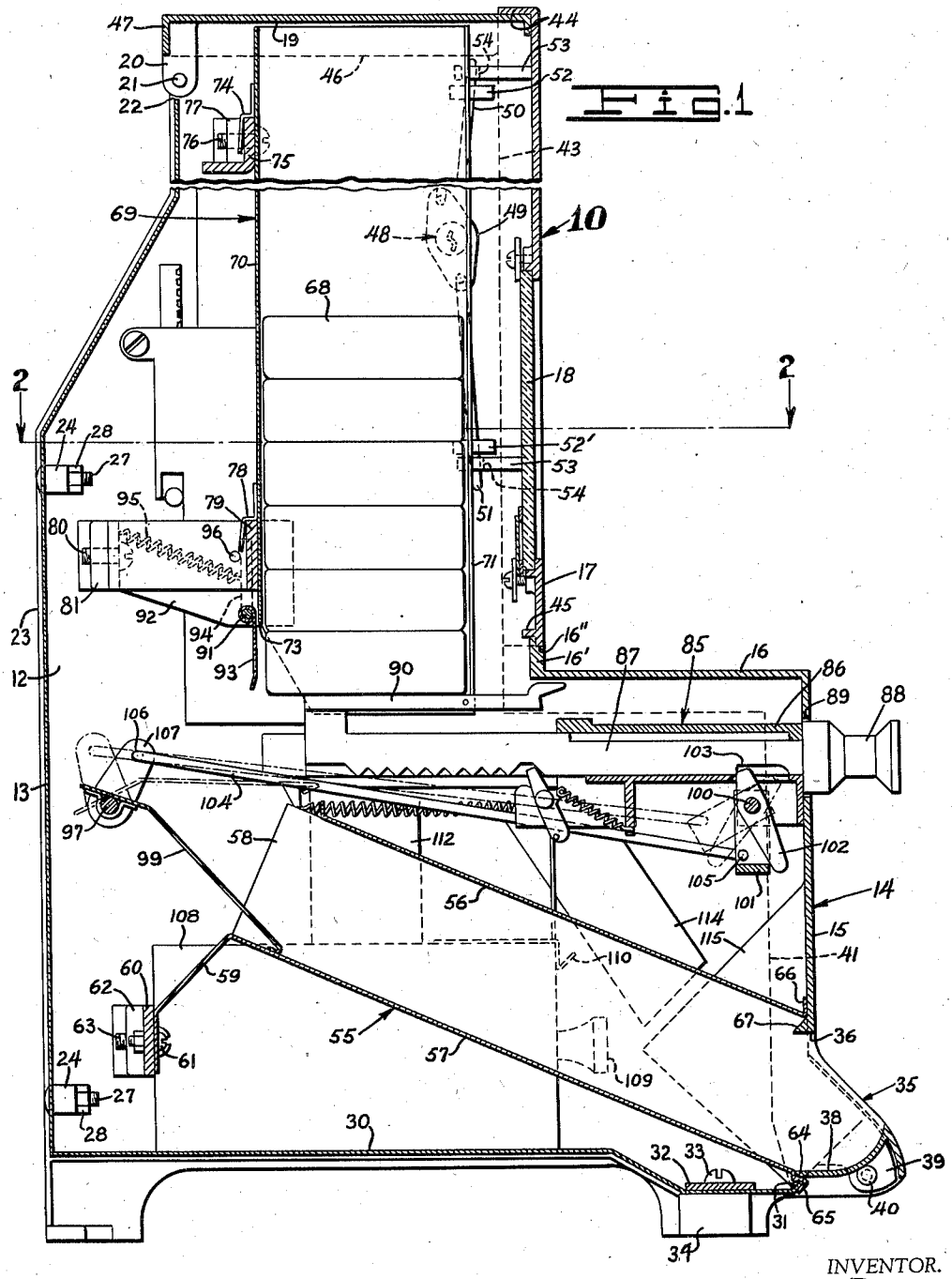


Fig. 1

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Fig. 2

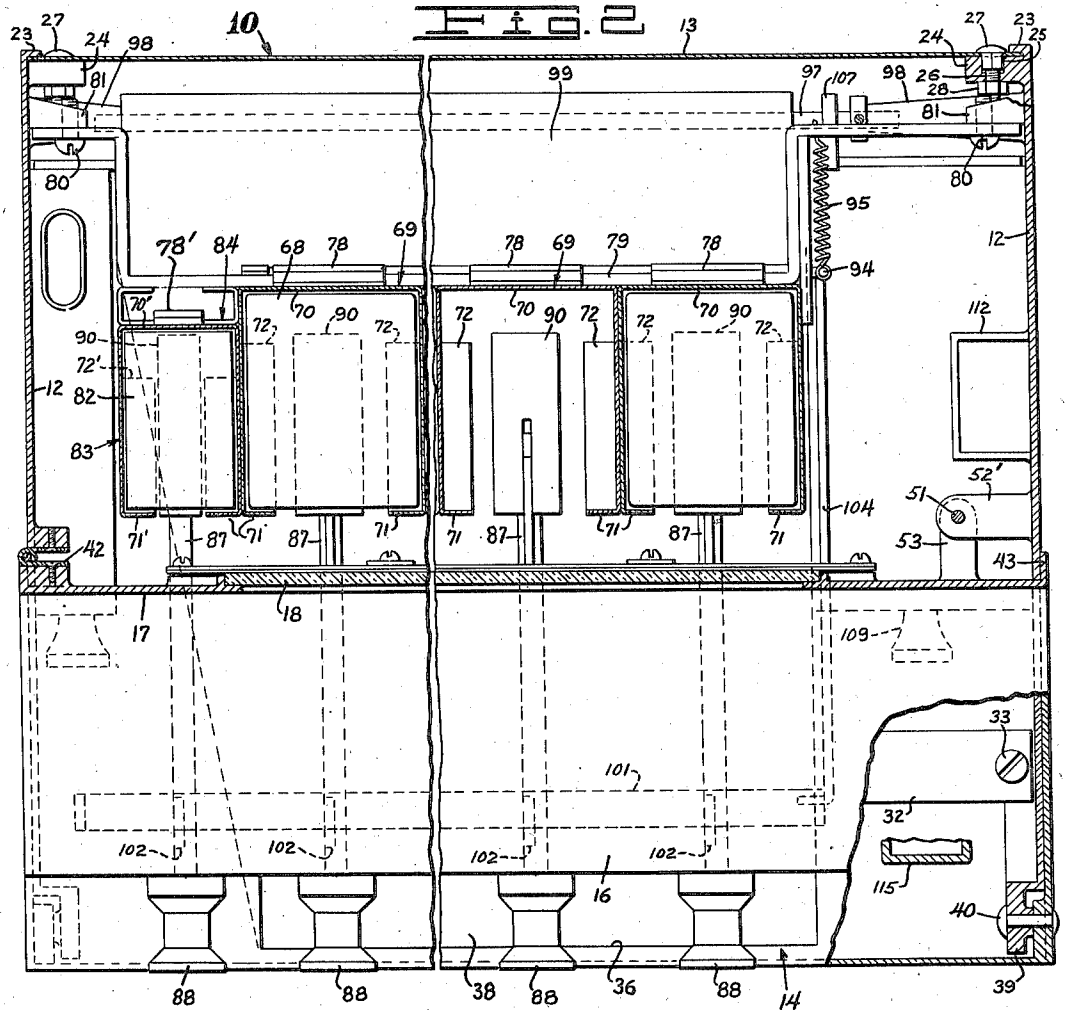


Fig. 4

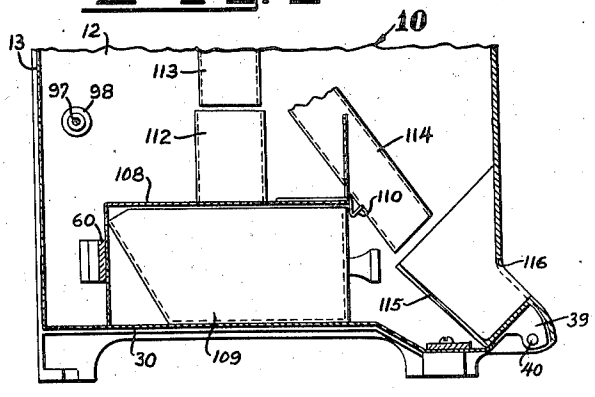
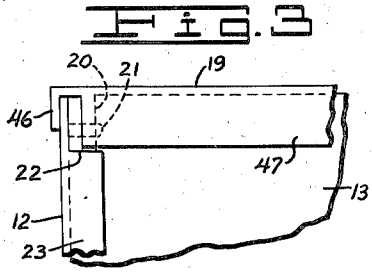


Fig. 3



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VENDING MACHINE CABINET

William H. Rowe, New York, N. Y.

Application March 26, 1934, Serial No. 717,292

1 Claim. (Cl. 312—35)

This invention relates to improvements in vending machine cabinets.

The general object of the invention is to provide an improved cabinet which is especially adapted for coin actuated vending machines.

A more specific object of the invention is to provide an improved vending machine cabinet wherein novel locking means is provided for locking the various parts.

Other objects and the advantages of this invention will be apparent from the following description taken in connection with the accompanying drawings wherein:

Fig. 1 is a fragmentary vertical cross section through my improved vending machine cabinet;

Fig. 2 is a fragmentary section taken on line 2—2 of Fig. 1;

Fig. 3 is a fragmentary rear view of the cabinet; and,

Fig. 4 is a view on a reduced scale similar to Fig. 1 but taken on a different plane.

Referring to the drawings by reference characters I have indicated a cabinet embodying the features of my invention generally at 10. The cabinet 10 includes L-shaped side members 12 joined in the rear by a back 13 and in the lower front by a front member 14. The front member 14 includes a front plate portion 15 and a horizontal shelf portion 16. The shelf 16 at the rear thereof includes a vertical flange 16' having a forwardly open rabbet 16'' therein at its upper edge. Above the front shelf 16 of the member 14 I provide a door 17 which includes a transparent panel 18 shown as a piece of glass.

The top of the cabinet is provided with a lid 19 which is provided adjacent each side with a depending lug 20. Each lug is pivoted as at 21 to the adjacent side member 12. Apertures 22 are provided in the back of the cabinet in which the lugs 20 are positioned (see Fig. 3).

The sides 12 each include a flange portion 23 which overlays the outer face of the back 13 and a plurality of spaced lugs 24 which engage the inner face of the back 13, (see Fig. 2). Each of the lugs 24 is provided with a square recess 25 and a coaxial reduced aperture 26. Positioned in the lug apertures I provide a carriage bolt 27 the head of which is positioned at the outside of the back with the square shank portion thereof positioned in the square recess 25 of the lug and the threaded portion positioned in the reduced aperture 26 of the lug with a nut 28 provided on the threaded stem for securing the bolt in position.

At its lower end the back member 13 includes a forwardly extending portion 30 which forms a bottom for the cabinet. The forward edge of the bottom 30 is inclined upward as at 31 and adjacent the forward edge of the bottom I provide a bar 32 which engages the upper face of the bottom 30 and extends from one side member 12 to the other and is secured at each end by a bolt 33 to a lug 34 provided on each of the side members.

Adjacent the lower portion of the front member 14 the front plate 15 is outwardly and downwardly inclined as indicated at 35 and in this portion I provide an elongated discharge aperture 36. Extending from the bottom of the aperture 36 inwardly I provide a tray portion 38 which is integral with the front plate 15. Each of the side members 12 includes a forwardly extending boss 39 to which the front member 14 is pivotally secured by a rivet 40 (see Figs. 1 and 2).

On the front plate 15 of the front member 14 and on the shelf portion 16 and the flange portion 16' thereof I provide side flanges 41 which overlie the adjacent outer faces of the side members 12.

The door 17 is hinged to one of the side members 12 as indicated at 42 in Fig. 2 and at each side includes side flanges 43 which overlie the adjacent outer faces of the side members 12 and at the top of the door I provide a similar flange 44 which overlies the adjacent outer face of the lid 19. The lower edge of the door 17 fits in the rabbet 16'' in the portion 16' and adjacent the lower edge of the door I provide an inwardly projecting flange 45 which overlies the upper edge of the portion 16'.

The lid 19 includes downwardly projecting side flanges 46 which overlie the adjacent portions of the side members 12 and at the rear includes a downwardly projecting flange 47 which overlies the adjacent portion of the back 13.

On one of the side members 12 I provide a suitable key actuated lock as indicated at 48 which is adapted to operate an arm 49. Pivotally connected adjacent opposite ends of the arm 49 I provide rods 50 and 51. The rod 50 extends upward and passes through an apertured boss 52 provided on the adjacent side plate 12 and the rod 51 extends downward and passes through a similar apertured boss 52'.

Integral with the door 17 adjacent the bosses 52 and 52' I provide inwardly extending lugs 53 each having an aperture 54 therein.

When the lock arm 49 is turned to one position the rod 50 projects through the aperture 54 in the upper lug 53 and the rod 51 projects through the aperture 54 in the lower lug 53 thus prevent-

ing the door 17 from being opened. When the lock arm is turned to a horizontal position the rods move out of the apertures 54 in the lugs 53 whereupon the door 17 may be swung about the axis of its hinges to an open position.

From the foregoing description it will be apparent that when the door 17 is in a closed position the lower edge thereof fitting into the groove 16'' prevents the front member 14 from being swung about its pivots 40 to an open position and the door flange 44 overlying the lid 19 prevents the lid from being swung about its pivots 21 to an open position.

Positioned in the lower portion of the cabinet 10 I provide a discharge chute 55 which includes a top member 56, a bottom member 57 spaced therefrom and side members 58 connecting the top and bottom members. The bottom 57 of the chute 55 includes a rearwardly and downwardly inclined portion 59 which is secured to a bar 60 by bolts 61. The bar 60 is secured to lugs 62 on the side plates 12 by bolts 63.

The forward portion of the chute bottom 57 is depressed as at 64 to receive the inner edge of the tray 38 and is then inclined rearwardly and downwardly as at 65 to fit over the inclined portion 31 of the cabinet bottom 30. The forward portion of the chute top 56 includes an upstanding flange 66 which engages the inner face of the front plate 15.

Adjacent the chute top 56 the front plate 15 includes an inwardly extending triangular flange 67 which projects into the chute 55 below the top 56 thereof.

For holding articles to be vended such as packages of cigarettes 68 I provide a plurality of hoppers 69. As shown each of the hoppers 69 is preferably made of thin sheet metal and includes a rear wall 70 and front walls in the form of spaced flanges 71. At the bottom and adjacent each side of the hopper spaced flanges 72 are provided which are adapted to support articles in the hopper. The supporting flanges 72 terminate forwardly of the rear wall 70 and in the rear wall adjacent the lower end thereof I provide a discharge aperture 73.

Secured to the rear wall 70 of the hopper as by welding I provide adjacent the top thereof a supporting hook 74 which is adapted to engage an angle bar 75 which is secured by bolts 76 to lugs 77 on the side members 12. Adjacent the lower end of the hopper I provide a similar hook 78 which engages a bar 79 which is secured by bolts 80 to lugs 81 on the side members 12.

When articles which are smaller than the packages of cigarettes 68, such as boxes of matches 82, are to be vended in the same cabinet as the cigarettes a smaller hopper 83 may be provided at one side as shown in Fig. 2. This small hopper 83 is similar in all respects to the hoppers 69 and similarly primed reference numerals indicate the like parts thereof. To retain the front of the hopper 83 in the same plane as the front of the hopper 69 extension brackets 84 are secured to the bars 75 and 79 which as shown at 78' engage.

For expelling the contents of the hoppers 69 and 83 I provide a delivery plunger mechanism indicated generally at 85. This delivery plunger mechanism may be of any suitable type but I have shown it as similar to that shown and described by me in my co-pending application Serial No. 703,708 filed December 23, 1933.

As shown the plunger mechanism 85 includes a frame 86 mounted in the cabinet below the shelf 16 of the front member 14. Slidably mounted in the frame 86 a plurality of delivery plungers 87 are provided, one associated with each of the merchandise hoppers. Each plunger 87 includes a head portion 88 which is positioned in an aperture 89 provided in the front plate 15 of the member 14. Furthermore, each plunger includes adjacent the rear thereof a raised platform 90 which extends upwardly in its associated hopper above the supporting flanges 72 of the hopper so that when the plunger is in a retracted or normal position the lowermost package of merchandise in the hopper rests on the platform 90.

The plungers 87 are normally locked against movement and are adapted to be released for actuation by a suitable coin release mechanism which may be of any desired type but I prefer to use the coin release mechanism shown and described by me in my co-pending application Serial No. 702,488 filed December 15, 1933.

When a plunger 87 has been released by the insertion into the device of the proper coins the operator pulls the plunger forwardly as far as it will go and then moves the plunger rearwardly to its normal position. When the plunger is moved forwardly the platform 90 thereof moves out from under the merchandise in its associated hopper whereupon the lowermost package therein comes to rest on the hopper flanges 72.

When the plunger is moved rearwardly to its normal position the rear end of the shelf 90 engages the lowermost package 68 and moves it rearwardly out through the aperture 73 and off the supporting flanges 72.

Adjacent the rear of the hoppers I provide a rod 91 which is pivotally supported on brackets 92 secured to the bar member 79. Mounted on the rod 91 I provide a downwardly extending skirt 93 which extends across the apertures 73 in the hoppers. One end of the rod 91 extends upwardly as at 94 and has one end of a coiled spring 95 secured thereto, the opposite end of the spring being anchored to the bar member 79. To restrict movement of the rod portion 94 I provide a stop pin 96 on the bracket 92.

When a package of merchandise 68 is discharged from a hopper by a delivery plunger the package engages the skirt 93 and swings it rearwardly against the action of the spring 95. The skirt 93 acts to prevent surreptitious operation by persons inserting wires in the cabinet through the discharge opening 36 and working out the contents of the hoppers.

Below and at the rear of the hoppers I provide a shaft 97 which is supported in bearing bosses 98 (see Fig. 4) on the side plates 12. Mounted on the shaft 97 I provide an apron 99 which in its normal position is inclined forwardly and downwardly into the delivery chute 55 and rests on the bottom portion 57 thereof.

Below the plungers 87 adjacent the front of the cabinet I provide a rod 100 which is supported on the frame 86. Pivotally mounted on the rod 100 I provide a U-shaped member 101 which depends therefrom. Adjacent each of the plungers 87 I provide an arm 102 which is pivotally mounted intermediate its length on the rod 100. The upper ends of each of the arms 102 are positioned in recesses 103 provided in the plungers 87. The rear face of the lower portion of the arm 102 engages the forward portion of the U-shaped member 101 so that when the lower end of the arm 102 moves rearwardly the U-shaped member 101 will be swung rearwardly.

One end of a rod 104 is pivotally connected to the U-shaped member 101 as at 105 and the opposite end is pivotally connected as at 106 to an arm 107 mounted on the shaft 97.

When one of the plungers 87 is moved forwardly the rear end of the recess 103 therein engages the upper end of the associated arm 102 and swings it forwardly thereby swinging the lower end rearwardly which in turn swings the U-shaped member 101 rearwardly which through the medium of the rod 104 and the arm 107 rocks the shaft 97 and moves the apron 99 upward to a substantially horizontal position as indicated by the broken lines in Fig. 1.

The apron 99 is retained in this position until the plunger returns to its initial position thus as the package is discharged from its hopper before the plunger completely returns to its initial position the discharged package will fall onto the apron 99. When the plunger 87 has completely returned to its initial position the lower end of the associated arm 102 is free to swing forwardly whereupon the weight of the package on the apron 99 swings the apron downwardly into engagement with the bottom 57 of the chute whereupon the package slides off the apron 99 into the chute 55 which directs it towards the discharge aperture 36.

Positioned in the cabinet adjacent one side thereof I provide a housing 108 having an open front in which a coin drawer 109 is positioned. The drawer 109 is shown as retained in the housing 108 by a spring clip member 110.

Communicating with the interior of the housing 108 and extending upwardly therefrom I provide a coin chute 112 into which coins are directed from a coin chute 113 after the coins have operated the coin release mechanism which releases the plungers 87.

Coins to be returned to the operator are directed by a coin chute 114 into a coin tray 115 which is integral with the front member 14 and extends inwardly from the front plate. Access to the coin tray 115 from the exterior of the cabinet is through an aperture 116 provided in the front plate 15 of the front member 14.

From the foregoing description it will be apparent that I have provided an efficient and serviceable vending machine cabinet which is simple in construction and includes many novel features.

Having thus described my invention I claim:

A vending machine including a cabinet having sides, a bottom, a top, and a back, said cabinet having a frame therein, said frame including a front part extending transversely of said cabinet, said front part having a plurality of spaced apertures therein, a plurality of plungers supported on said frame, each plunger including an operating portion passing through one of said apertures and projecting beyond said frame, said cabinet including an open front portion, a front member pivotally mounted on said cabinet and movable to a position to close said open front portion, said front member including a shelf portion disposed above said frame and a front plate portion below said shelf portion and disposed in advance of said front part of said frame, said front plate portion below said shelf portion having a plurality of apertures therein, said apertures being aligned with said plungers, said front plate portion having side flanges at each side thereof, each of said side flanges being connected to said shelf to reinforce the shelf, said front member having an elongated aperture therein and said cabinet having a discharge chute disposed in the rear of said elongated aperture.

WILLIAM H. ROWE.