Aug. 22, 1944. C. L. O'REILLY 2,356,687

VENDING MACHINE

Filed Oct. 30, 1941 3 Sheets-Sheet 1

Fig. 1.

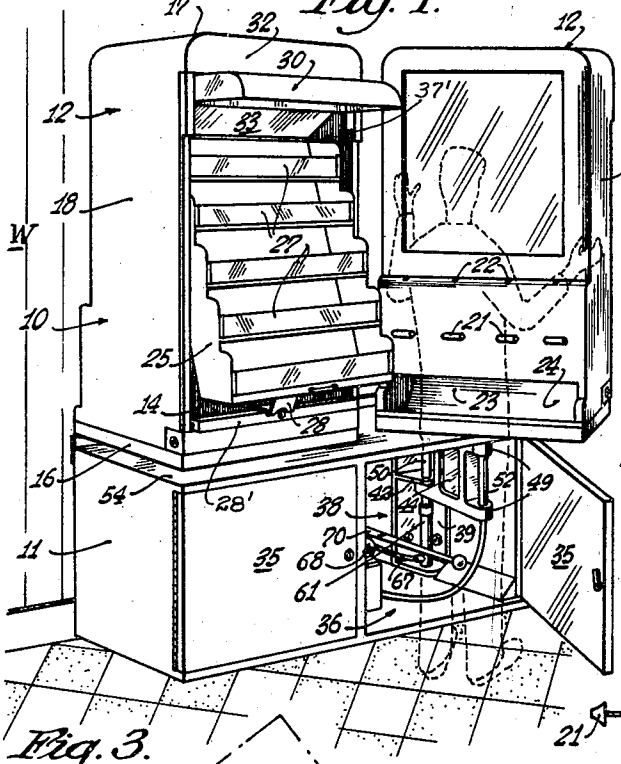


Fig. 2.

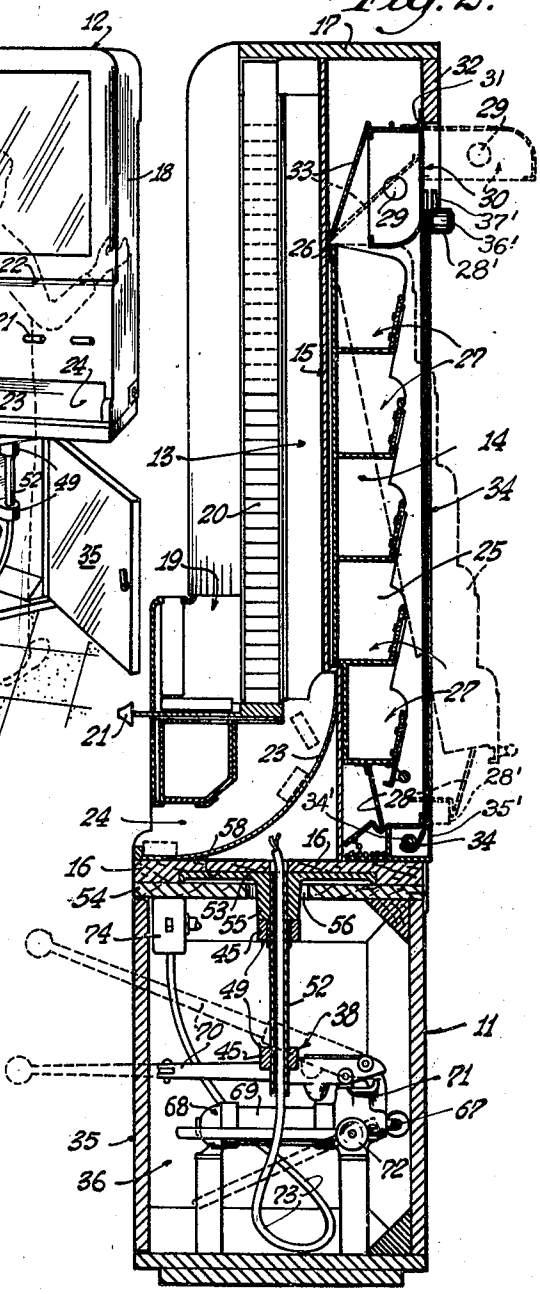
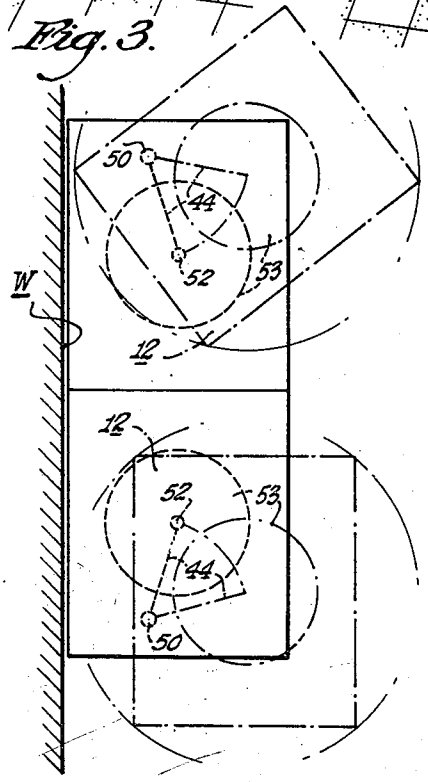


Fig. 3.



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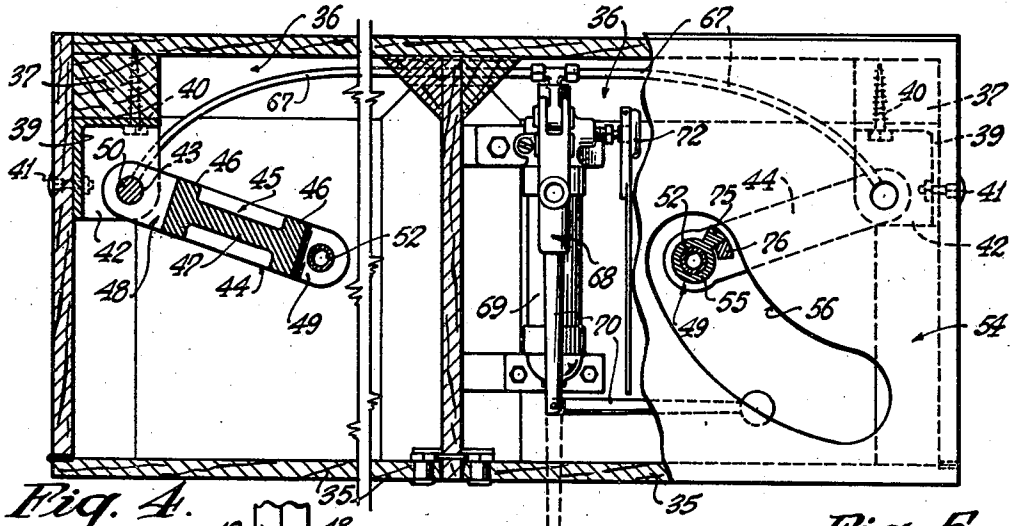


Fig. 4.

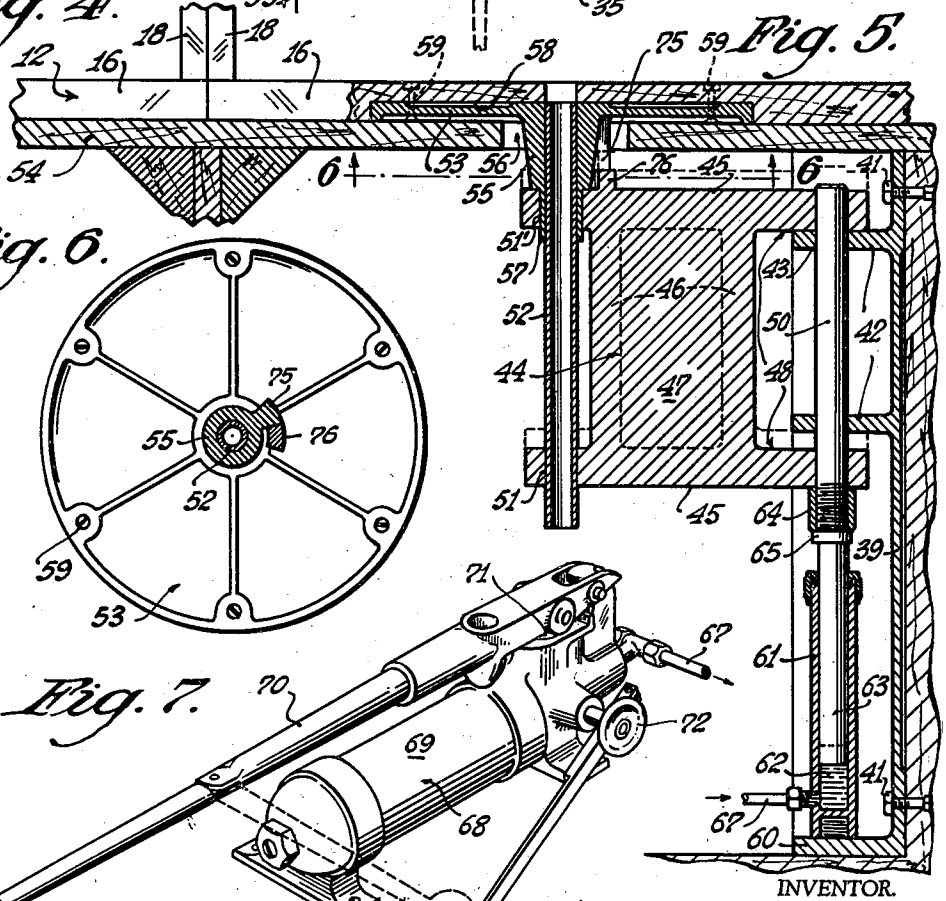


Fig. 5.

Fig. 6.

Fig. 7.

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Fig. 8.

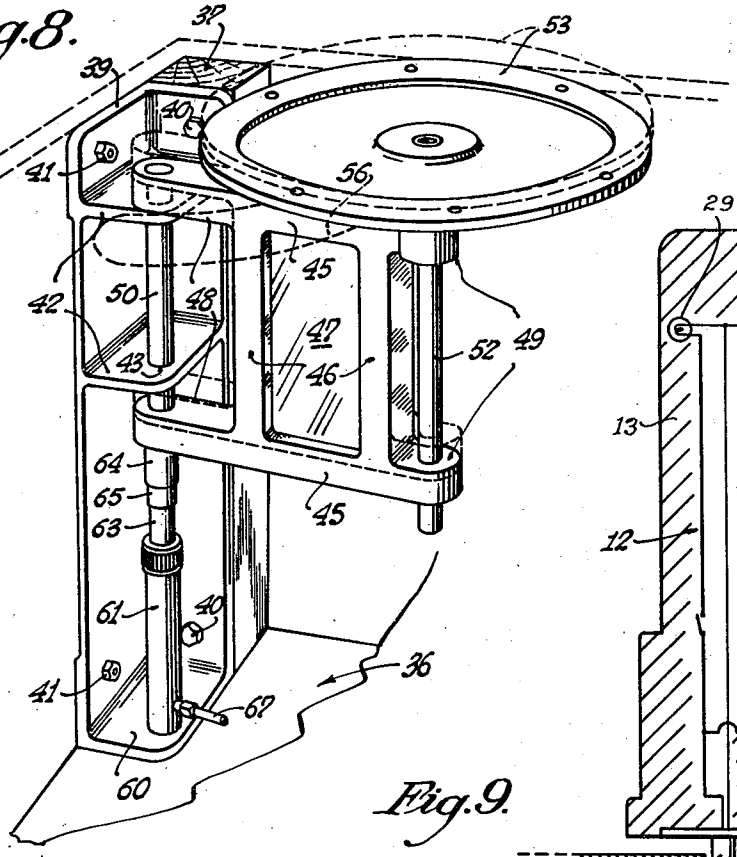


Fig. 9.

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UNITED STATES PATENT OFFICE

2,356,687

VENDING MACHINE

Charles L. O'Reilly, New York, N. Y.

Application October 30, 1941, Serial No. 417,095

8 Claims. (Cl. 312—35)

This invention relates to cabinets and more particularly to an improved type of cabinet which is relatively simple in construction, economical in manufacture and highly efficient in use.

It is an object of this invention to provide a manifold cabinet which may be interchanged for a number of different uses.

Another object of this invention is to provide in a dual purpose cabinet a novel means for reversing the facial exposure of such cabinet.

Yet another object of this invention is to provide in vending machine cabinets having an attendant-controlled open-faced display rack on one side and a coin-controlled automatic vending unit on its opposite side, a mechanism for facilitating a conversion of such cabinet into one or the other form of vending device at the option of the user.

A further object of the present invention is the provision, in cabinet structures, of a mechanism for elevating a dual purpose cabinet and rotatably supporting the latter in such condition for turning movement.

A still further object of my invention is to provide in a vending unit a dual purpose cabinet comprising a coin-controlled and a personally attended compartment mounted upon a utility cabinet, housing turntable mechanism for optionally changing the facial exposure of said compartments to the front of said vending unit.

Other objects and advantages reside in the structural arrangement of the component parts embodied in my invention and will become apparent as the description progresses in the light of the annexed drawings, in which:

Fig. 1 is a perspective view of my new convertible cabinet illustrating the process of converting the cabinet from one of its uses into another;

Fig. 2 is a vertical sectional detail view through my new cabinet;

Fig. 3 is a plan view of my cabinet arrangement and diagrammatically illustrates the course of movement followed in converting the same from one use to another;

Fig. 4 is a detail plan view of the lower portion of the cabinet, similar to that of Fig. 3 turned clockwise one-quarter turn with respect thereto, and is partly broken away to disclose the interior of such lower portion;

Fig. 5 is a fragmentary vertical sectional detail view through a movable support for the interchangeable cabinets;

Fig. 6 is a plan view of a supporting disc as seen from below along lines 6—6 in Fig. 5 with the intermediate wall of the cabinet removed;

Fig. 7 is a perspective view of a hydraulic pump mechanism employed in the system for elevating the convertible cabinets;

Fig. 8 is a perspective view of the movable support assembly in an adjoining chamber opposite to that illustrated in Fig. 5; and

Fig. 9 is a schematic diagram of the lift system and the swivel mounting for my convertible cabinets.

Referring to the drawings, my complete arrangement is best illustrated in Fig. 1 wherein there is shown a convertible cabinet 10 comprising a counter 11 upon which is arranged a number, in this instance two, of article vending cabinets 12. As seen in Fig. 2, the cabinet 12 includes dual chambers 13 and 14 separated by a partition 15 extending from a base or floor 16 thereof to a top wall 17 spanning side walls 18.

The chamber 13 in the present instance houses a conventional coin-controlled vending machine generally indicated at 19. Such automatic vending machines are well known in the art, the most common type usually including a stack of suitably supported articles of merchandise 20 adapted to be displaced one at a time from the bottom of the stack by a plunger released upon the deposit of a coin into a suitable coin aperture in a plunger 21; the plunger 21 being free to reciprocate once upon each deposit of a coin in the course of such movement will urge one article onto a chute 23 for gravitation therealong to a dispensing opening 24 accessible from the exterior of the cabinet.

The other chamber 14 provides a housing for a swinging rack 25 hingedly mounted upon the partition 15 as at 26 and comprising a plurality of open display shelves 27 adapted to support articles of merchandise for display to the public. The rack 25 when not in use is disposed as shown in Fig. 2, and when in use is arranged as seen in dotted lines in which condition the rack will appear as shown in the left-hand cabinet of Fig. 1 with a prop 28 supporting the lower edge of the rack on a top bar 28' of a shutter structure hereinafter referred to. There is likewise provided in the chamber 14 a lamp 29 for directing light down upon the display rack. This lamp 29 comprises a reflector 30 pivotally mounted as at 31 upon a head plate 32 extending downwardly from the top wall 17 of the cabinet. The reflector is adapted to be folded within the chamber 14 as seen in Fig. 2 and to be disposed in extended condition resting upon a supporting prop 33 so that

the rays of light from the lamp 29 are deflected down upon the rack (Fig. 1).

The present cabinet is adapted for use in theater lobbies as shown in Figs. 1 and 3 with the counter section 11 arranged against a wall W of the lobby. During the rush period when crowds of people are making their entrance into the theater, an attendant is put in charge of the sale of merchandise such as candy or the like and when such is the case the vending cabinets 12 are arranged with the open display rack 25 facing the lobby proper; that is, both the cabinets 12 are arranged as is the left-hand cabinet 12 of Fig. 1 so that the attendant can negotiate the sale of the articles and make change for the purchaser without any unnecessary delay.

As soon as the rush period has subsided and the possibility of sales diminished, the cabinets 12 are turned around to present the coin-controlled automatic vending machine 19 to the interior of the lobby. In the course of converting the cabinet from an attendant-controlled vending device to a coin-controlled device, the rack 25 is swung back into the chamber 14 as is the reflector 30, and a roll screen shutter 34 is unwound from a roller 24' within a housing 35' (Fig. 2) to provide a closure for the chamber 14, the said shutter structure being provided with a suitable lock structure 36' of any approved design, carried by the bar 28' and having elements (not shown) engageable with keeper slots 37' (Fig. 2) to maintain the shutter 34 in its raised position with respect to the chamber 14.

Means for turning the cabinets 12 about is housed in the counter 11 which is provided with hinged doors 35 through which access may be had to the interior of the counter. The cabinet 11 is best illustrated in Fig. 4 wherein there is shown a plurality of compartments 36, there being one of such comparments for each of the cabinets 12. A mounting block 37 is provided in one corner of each of the compartments 36 and is adapted to provide a mounting for a cabinet lifting and turning device now to be explained.

The means for turning the cabinet 12 is generally indicated at 38 and includes a standard 39 in the form of an angle adapted to be attached to the mounting block 37 by means of lag screws 40 and having its opposite flange fastened to an adjacent side wall of the counter 11 with carriage bolts 41. The standard 39 is provided with a number of horizontally disposed webs extending between the flanges of the angle. Two of such webs indicated at 42 are disposed on the upper portion of the standard and each has an annular opening 43 formed therein in vertical alignment with each other to provide a pivot mounting for a swinging bracket 44.

The bracket 44 comprises a pair of horizontally disposed arms 45 joined by a pair of struts 46 and a central reinforcing web 47 to provide a unitary bracket member with laterally extending trunnions 48 and 49 respectively at each end. The trunnions 48 are connected to the webs 42 of the standard 39 by means of pivot pin 50 extending through the aligned openings 43 with the upper arm 45 normally resting upon the upper web 42. The opposite trunnion 49 has vertically aligned openings 51, 51 formed therein and is adapted to rotatably support a tubular shaft 52 for swinging movement relative to the pin 50. A turntable in the form of a disc 53 is affixed to the upper end of the tubular shaft 52 for rotative movement therewith and is arranged above the top wall 54 of the counter 11 with a hub portion 55 of the disc 53 extending through an arcuate slot 56 formed in the wall 54 on a radius equal to the distance between the pivot pin 50 and the tubular shaft 52. A sleeve 57 is formed as a part of the hub 55 and extends down through the opening 51' formed in the upper arm 45 of the bracket 44 to brace the disc for rotative movement for reasons presently to become apparent.

The bottom wall or floor 16 of the cabinet 12 is recessed as at 58 to receive the disc 53 which is fastened to the floor 16 of the cabinet 12 by means of bolts 59 or the like, so that the cabinet may rest upon the upper wall 54 of the counter 11 under normal conditions.

There is further provided in the compartments 36 a means for lifting the cabinets 12 off the top wall 54 of the counter 11 so that the cabinet may be rotated with the turntable provided by the disc 53. To this end the standard 39 is provided with a third web 60 forming a footing for the standard and a fixed base upon which a lift of any one of a number of known types may be set to exert a lifting action against the under side of the swinging bracket 14. I have found a hydraulic lift employing a column 61 to be well adapted for the purpose. This column 61 comprises a cylinder 62 having a piston 63 slidably arranged therein and having its upper end attached to the lower threaded end of the pivot pin 50 by means of a coupling collar 64 which is threaded down upon a collar 65 formed on the piston 63. The coupling collar 64 bears against the under side of the trunnion 48 and is adapted to lift the latter and the bracket 44 when sufficient pressure is permitted to enter the cylinder 62 below the lower end of the piston 63.

A pressure system 66 is provided for supplying fluid pressure to the cylinder 62, which system 66 includes a suitable conduit 67 having communication with a pump 68 comprising a supply drum 69 and a hand-operated lever 70 for operating an air injector valve 71 to create a pressure in the system and force the fluid thereof into the cylinder 62 for lifting purposes. It is obvious that the conventional jack screw is equally well adapted to the purpose of lifting the piston 62. I therefore do not desire to be bound to the precise method employed but seek to avail myself of such equivalents as are adapted for the purpose at hand.

It is apparent that several turntable and lifting units may be combined in a system with one single pressure creating means such as the pump 68. In the present disclosure two such units are shown in a single system with the conduit 67 branching off into each of the lifting columns employed. Increased leverage is gained by providing an extension on the lever 70 which is shown pivotally sectioned at its mid section so that the lever may be folded back into the chamber 36 when the door 35 thereof is closed.

With the cabinets 12 elevated as before explained, the weight of the cabinets 12 is removed from the top wall 54 of the counter and the cabinets are now supported solely by the rotatable discs 53 which are swingingly supported on the brackets 44. The open display rack 25 having been previously folded inward and the shutter 34 drawn up to close the chamber 14, the entire cabinet 12 is then swung away from the wall W (Figs. 1 and 3) such that the cabinet may be rotated 180° and thus place the coin-controlled vending unit to the front. When all the cabinets

12 are properly arranged with the coin chutes accessible to the public, the pressure is released from the system 66 in order to lower the cabinets down upon the counter 11.

Pressure release on the system 66 consists of a release valve 72 having an elongated lever attached thereto so that the attendant can easily grasp the same and watch the descent of the cabinets 12. The cabinet may now be left unattended by reason of the coin-controlled device being present to the potential customers.

By reason of the need for electrical appliances such as the lamp 29 in the cabinet 12, there is provided an electrical conductor in the form of a wire 73 which is adapted to supply electrical energy to such appliances. This cord 73 extends down through the tubular shaft 52 into the compartment 36 within the counter 11 and connects to a main switch 74 which controls the supply of electric current from a main line not shown. The disc 53 has means thereon for preventing its rotative movement beyond 360° and this means comprises a lug 75 formed as a part of the hub 55 for movement therewith. A stop 76 is formed on the upper surface of the swinging bracket 44 in the path of movement of the lug 75 so as to provide a stop which prevents the continued rotation of the disc 53 and cabinet 12 in one direction. This is done to prevent a constant twisting of the cord 73 which communicates between the fixed counter 11 and the movable cabinet 12. If desired, in some suitable preselected position there may be arranged in the chamber 13, as diagrammatically illustrated in Fig. 9, a lamp 29' similar to the lamp 29.

While the present disclosure is directed to vending machine cabinets it is apparent that the convertibility of the cabinet extends to a wide number of uses wherein dual type cabinets are employed and are changed about from time to time at the option of the user. I therefore do not wish to be limited to the precise units disclosed but seek to avail myself of such variations and modifications as rightfully come within the scope of my invention.

While I have illustrated and described the preferred form of construction for carrying my invention into effect, this is capable of variation and modification without departing from the spirit of the invention. I therefore do not wish to be limited to the precise details of construction set forth, but desire to avail myself of such variations and modifications as come within the scope of the appended claims.

Having thus described my invention, what I claim as new and desire to protect by Letters Patent is:

1. In a device of the class described comprising a dual purpose cabinet having an open side formed in one side thereof and a normally coin-latched dispensing means formed in the opposite side thereof, the combination therewith of means for lifting and freeing said dual purpose cabinet for twisting action to dispose one or the other side portions thereof to the front of said cabinet, said means comprising a counter structure normally supporting said cabinet, a swinging bracket disposed beneath said cabinet, means pivotally supporting the latter in said counter structure, and means operatively connected to said swinging bracket and adapted to urge the latter upwardly to urge said cabinet in a direction upwardly with respect to said counter.

2. In a device of the class described comprising a dual purpose cabinet having an open side formed in one side thereof and a normally coin-latched dispensing means formed in the opposite side thereof, the combination therewith of means for lifting and freeing said dual purpose cabinet for rotation to dispose one or the other side portions thereof to the front of said cabinet, said means comprising a base structure normally supporting said cabinet, a swinging bracket, means pivotally supporting the latter within said base structure, means operatively connected to said swinging bracket for urging the latter upwardly with respect to said base structure, and swivel means extending downwardly from said cabinet and arranged for rotative movement on said swinging bracket.

3. In a device of the class described including a dual faced cabinet normally resting upon a fixed base with one of the faces of the cabinet disposed against a stationary wall, means for permitting reversal of the facial exposure of said cabinet with respect to said base, said means comprising a turntable for rotatably supporting said cabinet, means for supporting said turntable for vertical and swinging movement, and means for urging said turntable supporting means upwardly to remove the weight of said cabinet from said fixed base.

4. In a vending machine, a convertible cabinet normally disposed with one side thereof adjacent a wall structure and comprising an attendant-controlled chamber and a coin-controlled chamber, one of which is adapted to be disposed for access to the public upon a fixed base, means for freeing said convertible cabinet for rotation and permitting the facing of the opposite one of said chambers to the position aforesaid, said means comprising a rotatable disc for supporting said cabinet, a bracket arranged to support said disc, means supporting said bracket for swinging movement and for vertical movement whereby to raise said cabinet off said fixed base for rotative movement with said disc.

5. In a vending machine, a convertible cabinet normally disposed with one side thereof adjacent a wall structure and comprising an attendant-controlled chamber and a coin-controlled chamber, one of which is adapted to be disposed for access to the public upon a fixed base, means for disposing the convertible cabinet into a condition whereby to face the opposite one of said chambers to the position aforesaid, said means comprising a turntable connected to the bottom of said cabinet, a bracket arm supporting said turntable for rotative and swinging movement, means pivotally mounting said bracket for swinging movement and adapted to permit vertical movement thereof, weight lifting means operatively connected to said bracket and adapted to raise the latter and the cabinet carried thereby above said fixed base.

6. In a vending machine, a convertible cabinet normally disposed with one side thereof adjacent a wall structure and comprising an attendant-controlled chamber and a coin-controlled chamber, one of which is adapted to be disposed for access to the public upon a fixed base, means for freeing said convertible cabinet for rotation whereby to permit facing of the opposite one of said chambers to the position aforesaid, said means comprising a pressure lift, a swinging bracket operatively engaged by said pressure lift, a standard arranged in said base to support said swinging bracket for vertical movement, a tubular shaft arranged on said bracket and supporting a disc for rotative movement, said disc having

operative connection with said cabinet whereby when said bracket is raised by said pressure lift the cabinet will be free to rotate with said disc.

7. In a device of the class described comprising a dual purpose cabinet having an open side formed in one side thereof and a normally coin-latched dispensing means formed in the opposite side thereof and a base means for supporting the dual purpose cabinet closely adjacent a vertical wall, the combination therewith of bracket means in said base for supporting said dual purpose cabinet for swinging and rotative movement when the latter is raised above said base means, and means for lifting said bracket means relative to said base means.

8. In a device of the class described comprising a dual purpose cabinet having an open side formed in one side thereof and a normally coin latched dispensing means formed in the opposite side thereof and a base means for supporting the dual purpose cabinet closely adjacent a vertical wall, the combination therewith of bracket means in said base for supporting said dual purpose cabinet for swinging and rotative movement when the latter is raised above said base means whereby to permit rotation of said dual purpose cabinet to dispose one or the other side side portions thereof to the front of said cabinet, and means for lifting said bracket means relative to said base means.

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