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VENDING MACHINE COMPARTMENT STRUCTURE

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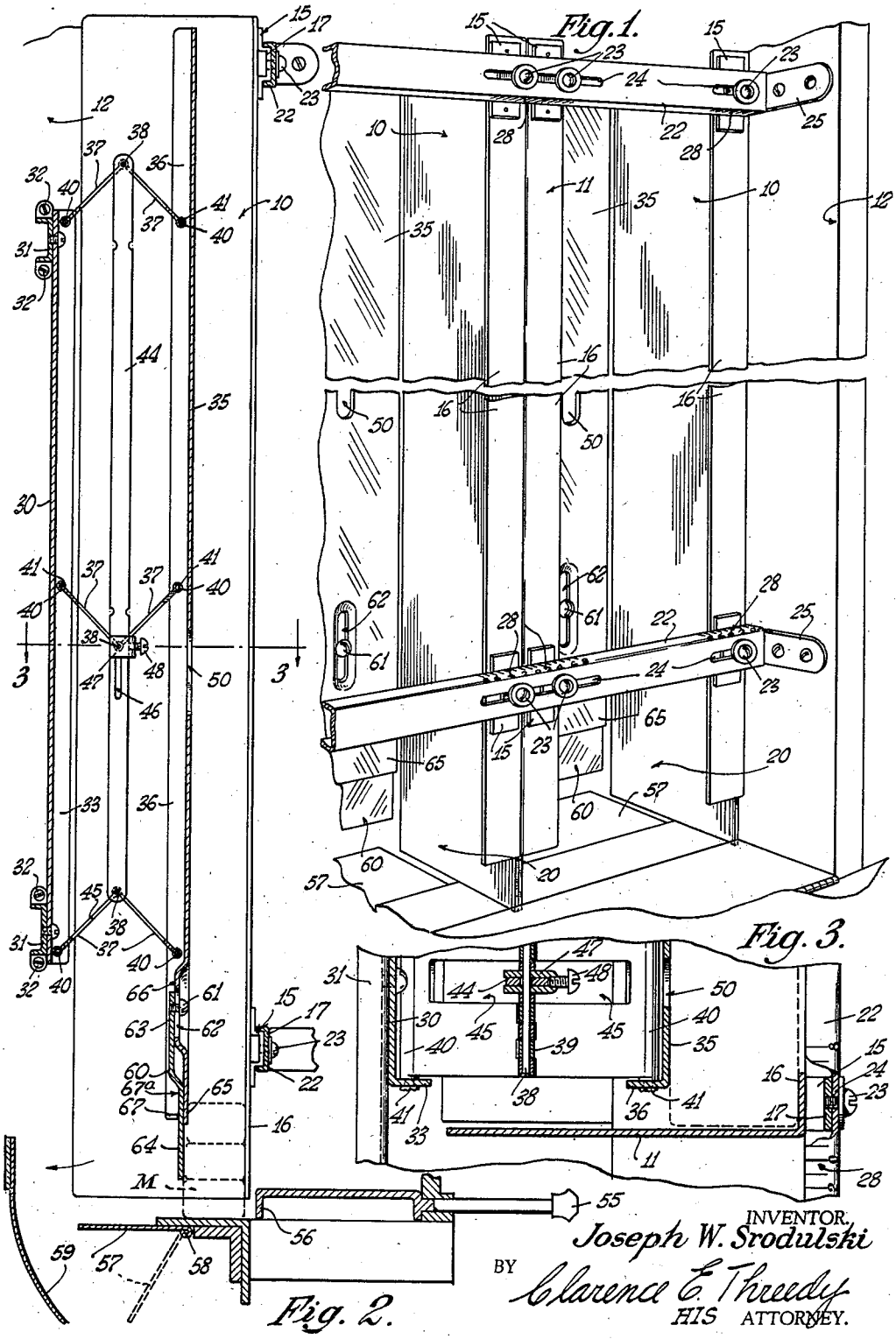


Fig. 1.

Fig. 2.

Fig. 3.

INVENTOR.
Joseph W. Srodulski
BY
Clarence E. Threedy
HIS ATTORNEY.

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VENDING MACHINE COMPARTMENT STRUCTURE

Joseph W. Srodulski, Chicago, Ill.

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6 Claims. (Cl. 312—42)

The principal object of this invention is the provision of a compartment structure for vending machines and the like, the structure being adjustable so that the compartment may be easily enlarged or made smaller to accommodate packages of different sizes.

Another object is a compartment structure including opposite wall members arranged for adjusting movement toward and away from each other, and gauge means to assist in the proper positioning of the wall members.

Another object is an arrangement of mutually adjustable wall sections in a vending machine for the purpose of providing merchandise compartments of desired size.

A further object is the provision of a vending machine compartment structure including opposite wall members mounted for movement toward and away from each other, and an extensible back wall and mechanism for adjusting the same, whereby to permit changing the size of the compartment.

Other novel aspects, objects, and economies of the invention reside in certain particulars of construction and operation of the illustrative embodiment described hereinafter in view of the drawing in which:

Fig. 1 is a front fragmentary perspective of the adjustable compartment tiers in a vending machine;

Fig. 2 is a vertical side section through one tier;

Fig. 3 is a fragmentary horizontal section along line 3—3 of Fig. 2 at slightly larger scale.

In the preferred arrangement of Fig. 1, the compartment structure includes mutually adjustable side wall plates 10 and 11 movably mounted in the cabinet 12 of a vending machine by means including the provision of channel or U-shaped shoes 15 (Fig. 2) which are mounted by welding or the like on offset edge portions 16 (Fig. 3) of the wall plates with the bight portions 17 projecting outwardly for slidable mounting engagement with channeled supports.

The shoes 15 are mounted near the upper and lower parts of each wall plate, the lower shoes being attached to elongated offset flanges 16 which serve as back-stops in each compartment 20.

The bight portions 17 of the shoes fit slidably into the channel or recessed parts of channel brackets 22 (Fig. 2 particularly), and are secured therein by means of clamping screws 23 which are threaded into the bight part of the shoe through horizontally elongated slots 24 in the backs of the channel brackets, the latter being mounted to extend in horizontally parallel relation at the front of the machine cabinet by means of angle brackets 25.

Thus, the partition or side wall plates 10 and 11 are mounted in opposite vertical position for bodily movement toward and away from each other by virtue of the sliding disposition of the shoes 15 in the channels 22.

Gauge means for setting the wall members in desired positions of adjustment with the top as well as the bottom portions of the plate properly aligned in the same plane, includes the provision of indicia or graduated reference marks 26 (Figs. 1 and 3) on the top and under sides of the bottom and top channels, the graduations corresponding to positions of alignment with the main vertical wall portions of the wall plates.

To complete the compartment structure, there is provided an extensible back wall which includes a relatively stationary mounting plate 30 (Fig. 2) secured in vertical position, between the side plates or walls 10 and 11, on horizontal cross arms 31 attached by screw means 32 to the opposite side walls of the cabinet 12. Each back plate 30 has opposite offsets or flanges 33 along its vertical edges.

Each extensible wall unit includes a movable wall plate 35 also having opposite vertical edge flanges 36, and each movably attached to a corresponding mounting plate for uniform bodily displacement toward and away from the latter by means of pairs of hinge or toggle plates 37 pivotally joined along their inner edges by a pintle 38 extended horizontally through interfitted hinge sleevings 39 struck up therefrom, the remaining free edge of each hinge plate opposite the centrally hinged edge thereof being turned over to provide a pintle sleeve 40 through which is extended a pintle rod 41 (Fig. 3) secured at opposite extremities in the flange portion 33 of the stationary mounting plate, and to the flange portions 36 in the movable wall plate.

As a result of the foregoing arrangement, each movable back plate 35 can be pushed bodily toward or away from its mounting plate.

Means for adjusting the movable back wall includes the provision of a vertical connecting rod 44 pivotally attached at its opposite ends to the pintle rods 38 of the pairs of hinge plates at the top and bottom of the structure. The middle pair of hinge plates is slotted as at 45 to permit the rod 44 to pass therethrough, the rod having an elongated slot 46 through which

the pintle rod 38 passes. A U-shaped strap 47 is fitted onto the connecting rod at the slotted part of the middle hinge plates, and a set screw 48 is threaded into the bight of the U-shaped strap, and when the screw is loosened, the strap is free to move up and down on the connecting rod. The pintle 38 is extended through the strap 47 so that the up and down movement of the latter is limited by the abutment of the pintle 38 with opposite ends of the slot 46.

When the clip or strap 47 is moved up or down, the middle pair of hinge plates, between which it is disposed, is likewise moved and the effort is transmitted to the movable plate 35 and particularly the hinge means 37 at the upper and lower ends thereof.

As a result of the foregoing arrangement, plate 35 may be collapsed against its stationary plate 30, or withdrawn therefrom until the hinge plates straighten out in horizontal position.

The movable back wall plate 35 is provided with slots 50 through which a screw driver may be inserted to loosen or tighten the set screws 48.

In operation, the attendant may open the vending machine from the front (front panel not seen in Fig. 1), and by loosening the screws 23 of one or more compartments, the vertical side walls 10 and 11 may be spread apart or moved closer together, the exact positioning of the wall plates being effected by reference to the gauge markings 28 at the top and bottom of the compartment. Thereafter the screws 23 are tightened.

If it is necessary to change the depth of the compartment, a screw driver is inserted through the hole 53 in the corresponding back wall plate 35 to loosen the set screw 48, the attendant working the screw driver up or down to move the strap 47 and shift the plate 35; or he may in some instances employ his fingers for this purpose. Thereafter the screw 48 is tightened and the compartment is ready for use.

An important feature of the invention, particularly as applied to vending machines, resides in the adjustability of the bottom deflecting skirt on the movable back wall member 35.

In operating the vending machine, a coin is deposited in some suitable form of coin tester (not shown) which is arranged to free the control handle 55 in the customary manner familiar to those engaged in this art. The handle 55 is pushed inwardly and the rear flange portion 56 of a slide plate bears against the front side of the lowermost pack M of a stack of merchandise and slides the same toward the left (Fig. 2) until it rests on a spring trap 57 pivoted as at 58 and which drops into dotted line position to permit the article M to gravitate down a discharge chute 59 to the patron.

In order to prevent more than one package being vended at a time, a vertically adjustable skirt or wing 60 is mounted at the bottom of each movable back plate 35 by means of a set screw 61 which extends through a vertically elongated slot 62, provided in each movable back wall plate, and into an upper offset part 63 of the skirt plate. The lower offset portion 64 of the skirt or apron bears against the lower edge part 65 of the movable back plate, the material around the opening 62 for the set screw being embossed to provide a protuberance 66 against which the upper offset 63 of the apron or skirt bears.

The adjustable apron or skirt is further guided in slots 67a cut into horizontal projections 67 at the bottom of each vertical side flange 36 on the movable back plate.

The importance of the adjustable skirt lies in the fact that the ejecting clearance at the bottom of each movable back plate may be changed to accommodate merchandise packages of different height, in addition to the ready adjustments permitted in the other two dimensions.

The appended claims are not intended to be confined to any details of construction or operation of the specifically described illustrative embodiment except as may be expressely provided therein.

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

1. An adjustable article compartment for use in vending machines and the like and including a pair of channel members and means mounting the same in vertically spaced horizontally parallel relation with the channel portions thereof facing and lying substantially in the same vertical plane, a pair of side wall plates each having offset portions arranged along corresponding vertical edge portions thereof and each having U-shaped shoe means attached in vertically spaced relation to said offset portions in positions to fit respectively into channel portions of said channel members whereby said side wall plates are mounted in upright position in substantially parallel planes, said channel members being provided with horizontally extensive slot portions, and attaching means extended through each of said slots into one of said U-shaped shoe means to secure the latter in the channel portions for horizontal movement of the same and said plates in the manner aforesaid, means providing a compartment bottom in the region neneath said side wall plates, a back wall member mounted in upright position for movement back and forth between said side wall plates for cooperation with the latter to define a compartment of adjustable size.

2. An adjustable article compartment for use in vending machines and the like and including a pair of channel members and means mounting the same in vertically spaced horizontally parallel relation with the channel portions thereof facing and lying substantially in the same vertical plane, a pair of side wall plates each having offset portions arranged along corresponding vertical edge portions thereof and each having channel shoe means attached to said offset portions in positions to fit into the channel parts of both said channel members whereby said side wall plates are mounted in upright position in substantially parallel planes, said channel members being provided with horizontally extensive slot portions, and attaching means extended through each of said slots into one of said shoe means to secure the latter in the channel portions for horizontal movement of the same and said plates in the manner aforesaid, means providing a compartment bottom in the region beneath said side wall plates, a back wall member mounted in upright position for movement back and forth between said side wall plates for cooperation with the latter to define a compartment of adjustable size, said back wall member having a vertically movable bottom portion arranged and constructed for movement into predetermined spaced relation with said compartment bottom to provide a discharge passage of desired height leading from said compartment.

3. An adjustable article compartment for use

in vending machines and the like and including a pair of channel members and means mounting the same in vertically spaced horizontally parallel relation with the channel portions thereof facing and lying substantially in the same vertical plane, a pair of side wall plates each having offset portions arranged along corresponding vertical edge portions thereof and each having U-shaped means attached to said offset portions in positions so that the bight portions thereof fit into channel portions of said channel members whereby said side wall plates are mounted in upright position in substantially parallel planes, said channel members being provided with horizontally extensive slot portions, and attaching means extended through each of said slots into one of said U-shaped means to secure the latter in the channel portions for horizontal movement of the same and said plates in the manner aforesaid, means providing a compartment bottom in the region beneath said side wall plates, a back wall member mounted in upright position for movement back and forth between said side wall plates for cooperation with the latter to define a compartment of adjustable size, said offset portions of the side wall plates extending toward each other in a predetermined region between the top and bottom portions of said plates and constituting stop means for preventing movement of articles horizontally out of said compartment in a predetermined region above said compartment bottom when said side wall plates have been moved toward each other into predetermined spaced relation with opposite extremities of an article or articles.

4. An adjustable article compartment for use in vending machines and the like and including a pair of channel members and means mounting the same in vertically spaced horizontally parallel relation with the channel portions thereof facing and lying substantially in the same vertical plane, a pair of side wall plates each having offset portions arranged along corresponding vertical edge portions thereof and each having U-shaped shoe means attached to said offset portions in positions with the bight portions thereof fitting into channel portions of said channel members whereby said side wall plates are mounted in upright position in substantially parallel planes, said channel members being provided with horizontally extensive slot portions, and attaching means extended through each of said slots into one of said shoe means to secure the latter in the channel portions for horizontal movement of the same and said plates in the manner aforesaid, means providing a compartment bottom in the region beneath said side wall plates, a back wall member mounted in upright position for movement back and forth between said side wall plates for cooperation with the latter to define a compartment of adjustable size, said channel members being provided with scalar indicia extending in a horizontal direction between the limits of horizontal displacement of the side wall plates toward and away from each other and with reference to which said side wall plates may be correspondingly positioned in predetermined aligned relation.

5. In an adjustable article compartment structure for vending machines, opposite side wall plates each having a longitudinal edge offset laterally toward the other and disposed in spaced relation thereto, to constitute a combination article confining means and mounting means for the plates, parallel channel bars mounted to extend transversely opposite said offset edge parts of the plates, and U-shaped shoes arranged in spaced relation on said offset edge parts and each fitting slidably into one of said channel bars to support the corresponding plate for adjustable movement relative to the opposite plate, and means for releasably fixing said shoes in positions of adjustment in said channel bars.

6. In a compartment structure including opposite wall plates, the combination with said plates of means mounting the same for adjusting movement toward and away from each other, said means comprising upper and lower horizontal channel bars lying in a plane at substantially right angles to both plates with the channels thereof facing in the direction of said plates, together with upper and lower shoes on each of said plates and each provided with a projection fitting into the channel of a corresponding upper or lower channel bar, each of said channel bars being provided with a longitudinally extensive slot in the bottom portion thereof generally opposite one of said shoes, and retaining means extended through said slots into the corresponding shoes for maintaining the latter in the channel, said shoes being slidable horizontally in the channel to permit adjusting movement of the plates toward and away from each other.

JOSEPH W. SRODULSKI.