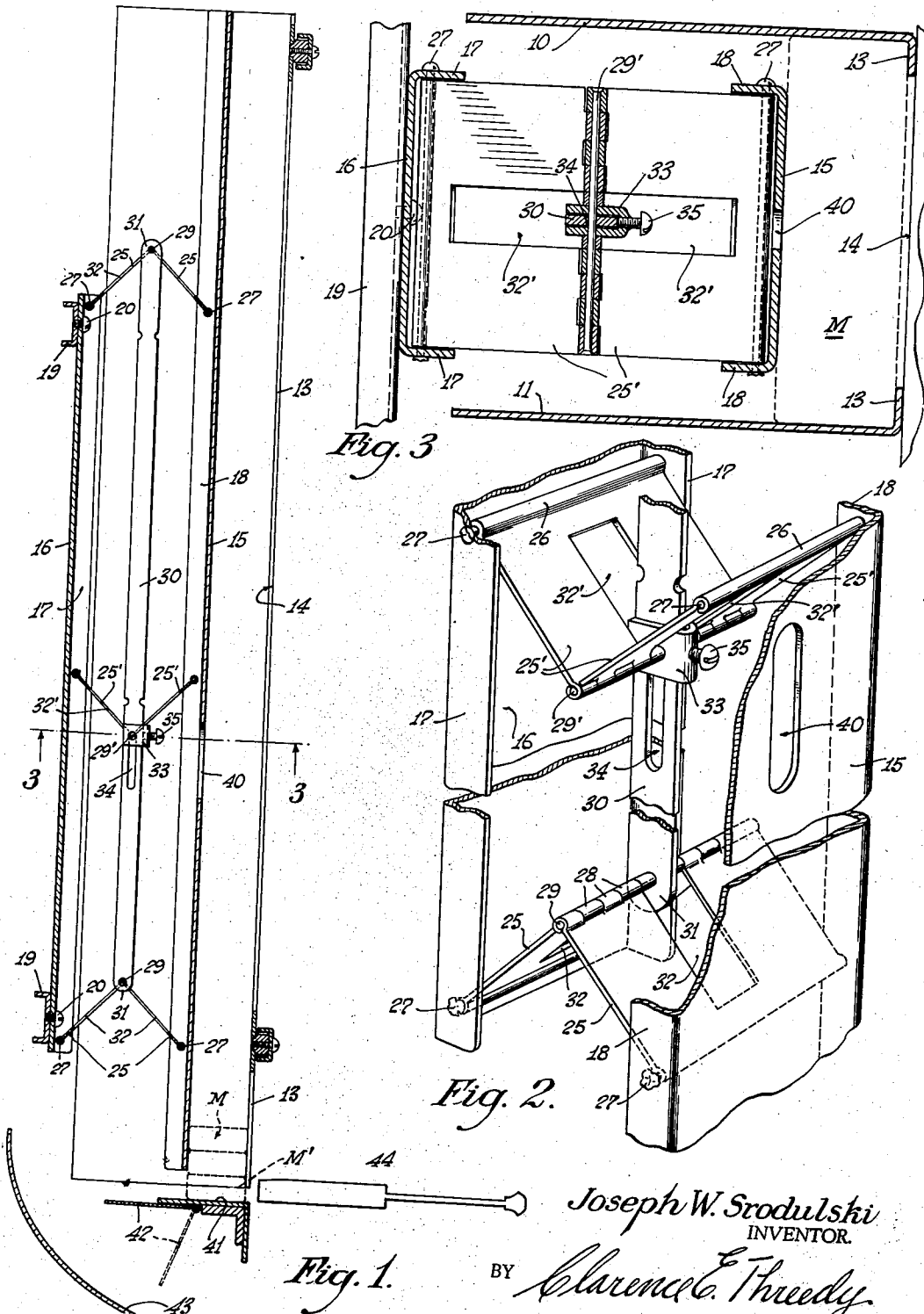


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VENDING MACHINE COMPARTMENT MEANS

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VENDING MACHINE COMPARTMENT MEANS

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8 Claims. (Cl. 312—42)

This invention relates to an adjustable compartment member for use in vending machines and the like adapted to dispense or vend packaged articles of different size, the principal object of the invention being the provision of an expansible wall member for use in an adjustable compartment structure, the wall member preferably, though not necessarily, being used as a back wall in cooperation with a pair of adjustable side walls, it being understood that the entire compartment wall structure may be formed from wall members such as described and claimed hereinafter.

Viewed from another aspect, it is an object of the invention to provide an expansible wall member including a stationary mounting plate and a movable wall plate, and hinge means interconnecting the plates so that the movable plate will always be disposed in vertical parallel relation with the stationary mounting plate, there being a simple clamping means operable to maintain the movable plate in a desired position of adjustment.

Another object is the provision of a wall structure including a stationary mounting plate adapted to be disposed in a vertical plane and a movable wall plate attached to the stationary plate by a plurality of pairs of hinge members movable about horizontally extending axes, the hinge members being interconnected for joint operation by means of a connecting member disposed between the plates, an intermediate hinge member being provided with clamping means engageable with the connecting member to prevent relative movement of the plates, the clamping member having limited movement relative to the connecting member for the purpose of defining the limits of adjustability of the wall structure.

Other novel aspects, objects and economies residing in the invention relate to certain details of construction, location, and mode of operation of the parts of the illustrative embodiment described hereinafter in view of the drawing, in which—

Fig. 1 is a vertical median section through the adjustable wall structure;

Fig. 2 is a fragmentary perspective of the structure viewed from the front; while

Fig. 3 is a horizontal section looking up along line 3—3 of Fig. 1.

The adjustable wall structure of the present application is particularly suited for use in conjunction with the adjustable vending machine compartment structure described and claimed in

my copending application, Serial No. 291,962, which, it may be observed, includes a pair of upright opposite wall plates mounted for movement toward and away from each other to define the sides of an opposite substantially rectangular compartment, the present adjustable wall member being employed as a third or back wall, while the remaining or fourth side of the rectangular compartment remains open so that merchandise therein may be viewed by the public.

Whether used in conjunction with other adjustable wall members or whether used in cooperation with a plurality of similar expansible wall members, the device of the present invention is suitable particularly for employment in vending machines in which packaged articles, commonly candy bars, cigarettes, and the like, are arranged in a vertical stack, articles being ejected one at a time from the bottom of the stack, the wall structure being adjustable to accommodate the particular size of article to be stacked therein.

In Fig. 3 herein, there are shown a pair of opposite vertical side wall plates 10 and 11 each of which has an offset stop flange 13 disposed along one edge thereof opposite the stop flange in the companion member. The plates 10 and 11 constitute opposite side walls of the compartment, and the open space 14 between the flanges 13 constitutes, in a manner of speaking, a third wall which is open and through which the articles in the compartment may be viewed from the front of the vending machine. The remaining wall member of the compartment includes a movable wall member 15 which is arranged and constructed to move back and forth in vertical position toward a stationary mounting plate 16.

As viewed in Fig. 2, the stationary wall member 16 is an elongated metal plate having its opposite longitudinal edge portions struck up at right angles thereto to provide mounting flanges 17, the front wall member being a plate of similar shape and provided with oppositely extending vertical mounting flanges 18.

The stationary plate 16 is intended to be mounted in the cabinet of the vending machine on horizontal cross rails 19 (Fig. 1) by means such as the screws 20, and the movable plate 15 is mounted on the stationary plate by means of a plurality of pairs of hinge plates 25. The hinge plates have their outermost edge portions turned over to provide pintle sleeves 26 through

which are extended pintles 27 having their extremities secured in the flange portions 17 or 18 in the opposite wall plate members so that at their outermost edges the hinges of each pair pivot about horizontal axes. The inner edge portions of each of the hinge members 25 are slotted and turned over to provide interfitted hinge sleeveings 28 through which are extended pintles 29 in the manner of the usual hinge structure, and as a result of this arrangement the movable wall plate 15 may be collapsed and expanded relative to the stationary plate, and during both movements will be maintained in a substantially vertical plane as a result of the plural hinge connections.

Means interconnecting the several hinge members for conjoint movement includes the provision of a connecting member or rod 30, the opposite ends 31 of which extend into slots 32 cut in the endmost pairs of plates on opposite sides of the central pintle 29 and through which end portions the pintles extend so that the ends of the rod are hingedly coupled with the centrally hinged portions of the endmost hinge plates, with the result that movement of one pair of hinge plates is necessarily transmitted to the other pair.

The intermediate or middle pair of hinge plates 25' is associated with the connecting member in a somewhat different manner, there being a U-shaped clip or strap 33 fitted around the connecting rod 30 in the slotted portion 32', and through the opposite side legs of which the pintle 29' extends. By moving the clip 33 or the associated hinge plates 25' up and down, movement of all of the hinge plates is effected with a consequent expansive or retractive movement of the movable wall plate 15, and in this manner the wall structure may be conveniently adjusted.

Means for securing the movable wall member in a desired position of adjustment includes the provision of a set screw 35 threaded into the bight of the U-shaped clip 33 for bearing engagement against the edge of the rod 30 in those cases where the movable wall member 15 is to be disposed in certain predetermined positions.

Adjustment of the movable back wall member 15 may be conveniently effected by inserting a screw driver through an elongated opening 40 in the movable wall plate 15 opposite the open side 14 of the compartment, the screw 35 being loosened and the screw driver held in the screw slot and moved up or down until the wall plate 15 is disposed in the desired position, whereupon a simple turn of the screw driver will lock the wall member in the adjusted position.

In the illustrative embodiment, articles of merchandise M are shown stacked between the back wall plate 15 and the flange portions 13 in the compartment arrangement of Fig. 1, the lowermost article resting upon a shelf 41 at the rear (left) portion of which is a spring-urged trap 42 overlying a discharge chute 43. The patron of the machine deposits a coin in one of the commonly known forms of coin testing device, which is arranged to free the operating handle 44 for operation, and thereafter the handle is moved inwardly (toward the left) so that the lowermost article M' is slid from beneath the stack of articles onto the trap 42, and when the article is moved a predetermined distance onto the trap, the latter will spring and drop the article onto the chute 43 for delivery to the patron.

It will be understood that the folding wall structure described herein may be used in

arrangements other than the vending machine shown for purposes of illustration, and moreover changes may be effected in the structural and functional arrangement of the parts of the illustrative embodiment, all without departing from the spirit and scope of the invention, it being a condition of this disclosure that the appended claims are to include all equivalent means and arrangements.

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

1. An adjustable structural device including a stationary mounting plate and a movable plate and a plurality of hinge members attaching said movable plate to the mounting plate for movement toward and away from the latter in parallel planar relation therewith, and connecting means disposed between said plates and interconnecting said hinge members for joint hinge action, together with means coacting with a particular one of said hinge members and said connecting means to limit the movement of said particular hinge member for the purpose of limiting the movement of the movable plate with respect to the stationary mounting plate, and locking means coacting with said particular hinge member and said connecting means for preventing relative movement of the former with the latter whereby to lock said movable plate in a predetermined relation of adjustment with respect to the stationary mounting plate.

2. A device of the class described including a stationary mounting plate and a movable wall plate and a plurality of pairs of hinges each pivotally attached at points opposite to and parallel with the hinge axes thereof to said mounting plate and movable wall plate respectively, and a connecting rod disposed between said plates and pivotally attached in the region of the hinge axes to each pair of said hinges whereby the latter are connected for conjoint hinging movement so as to permit movement of the movable wall plate toward and away from said stationary plate in constant parallel relation with the latter, said connecting rod being arranged for coaction with a particular one of said pairs of hinges to limit the hinging movement thereof in opposite directions parallel with said plates.

3. A device of the class described including a stationary mounting plate and a movable wall plate and a plurality of pairs of hinges each pivotally attached at points opposite to and parallel with the hinge axes thereof to said mounting plate and movable wall plate respectively, and a connecting rod disposed between said plates and pivotally attached in the region of the hinge axes to each pair of said hinges whereby the latter are connected for conjoint hinging movement so as to permit movement of the movable wall plate toward and away from said stationary plate in constant parallel relation with the latter, said connecting rod being arranged for coaction with a particular one of said pairs of hinges to limit the hinging movement thereof in opposite directions parallel with said plates, together with clamp means coacting with said particular pair of hinges and said connecting rod for securing the latter against movement relative to the former whereby said movable plate may be maintained in a desired position of adjustment.

4. An adjustable wall structure including an elongated mounting plate having opposite flange portions struck up along the longitudinal sides thereof, a movable wall plate having similar

flange portions struck up along its longitudinal edges, a plurality of hinge plates each having pivotal connection with the flange portion of one of the aforesaid mounting or movable wall plates, hinge plates which are attached respectively to said mounting plate and movable plate being pivotally joined in pairs for relative movement about axes parallel with their respective pivotal connections with said mounting and movable plate whereby said movable plate may be moved toward and away from the mounting plate in parallel planar with the latter at all times.

5. An expansible structural device of the class described comprising a stationary mounting plate and a movable wall plate and means supportably attaching the movable wall plate to the mounting plate for movement toward and away from the same in substantially parallel planar relationship therewith, said means including hinge members in pairs pivotally joined to each other, and one member of each said pair being pivotally connected to one of said mounting or movable wall plates, and a connecting rod disposed between said mounting and movable plates and having pivotal connection adjacent its opposite extremities with the pivotal connection between the hinge members of pairs disposed adjacent the extremities of said rod, there being an intermediate pair of hinge members disposed between the extremities of said rod and the pivotal connection between the hinge members of which is disposed for limited movement in slot means provided in said rod and extending in the direction of the length of the latter whereby the displacement of the movable wall plate with respect to the mounting plate is limited.

6. An expansible structural device of the class described comprising a stationary mounting plate and a movable wall plate and means supportably attaching the movable wall plate to the mounting plate for movement toward and away from the same in substantially parallel planar relationship therewith, said means including hinge members in pairs pivotally joined to each other, and one member of each said pair being pivotally connected to one of said mounting or movable wall plates, and a connecting rod disposed between said mounting and movable plates and having pivotal connection adjacent its opposite extremities with the pivotal connection between the hinge members of pairs disposed adjacent the extremities of said rod, there being an intermediate pair of hinge members disposed between the extremities of said rod and the pivotal connection between the hinge members of which is disposed for limited movement in slot means provided in said rod and extending in the direction of the length of the latter whereby the displacement of the movable wall plate with respect to the mounting plate is limited,

and a strap member arranged to move up and down closely adjacent said rod and having pivotal connection with the pivotal connection between the members of said intermediate pair of hinge members, said strap member being provided with set screw means engageable with said rod to prevent relative movement of the latter with respect to said intermediate hinge members.

7. An adjustable structural device of the class described including an elongated mounting plate and means along the opposite longitudinal edge portions thereof providing attachment for pintle members to extend transversely of said plate in parallel relation thereto, an elongated movable wall plate having similar pintle attaching means on opposite longitudinal edge portions thereof, hinge members in pairs pivotally joined between opposite extremities thereof and each member of each said pair being hingedly attached at their respective opposite extremities to pintle means disposed in the aforesaid pintle mounting means of each of said mounting and movable plates, an elongated connecting rod having pivotal connection at its opposite ends with the pivotal juncture between pairs of hinge members disposed at said ends, there being a pair of intermediate hinge members disposed between said ends of the connecting rod and the latter having a longitudinally extensive slot through which is extended pivot means pivotally connecting the hinge members of said intermediate pair, said pivot means being movable in said slot in opposite directions relative to said rod when the latter is moved oppositely in the direction of its length whereby the hinge members at the opposite extremities of the rod are connected for joint action, and strap means substantially embracing said rod and pivotally attached to the pivotal connection between said intermediate hinge members, and screw means on said strap means engageable with said rod to prevent relative movement of said intermediate hinge members with respect to the connecting rod.

8. An adjustable structural member comprising a pair of plate members, a connecting rod extended between said members substantially parallel thereto, a hinge member pivotally joined to each of said plate members near the opposite ends of said rod, the hinge members at the respective ends of the rod also being pivotally interconnected with said rod, such that shifting of said rod will effect joint action of said hinge members to move said plate members toward and away from each other, and adjusting hinge means arranged between said opposite ends of the rod to interconnect said plate members and movable to effect movement of the plate members as aforesaid, and securing means arranged to coact with said adjusting hinge means and said rod to prevent relative movement of the adjusting hinge means with respect to said rod.

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