

Nov. 21, 1950

W. A. SCHNEEMAN

2,530,543

LATCH STRUCTURE FOR MERCHANDISE RECEPTACLES

Filed Feb. 20, 1948

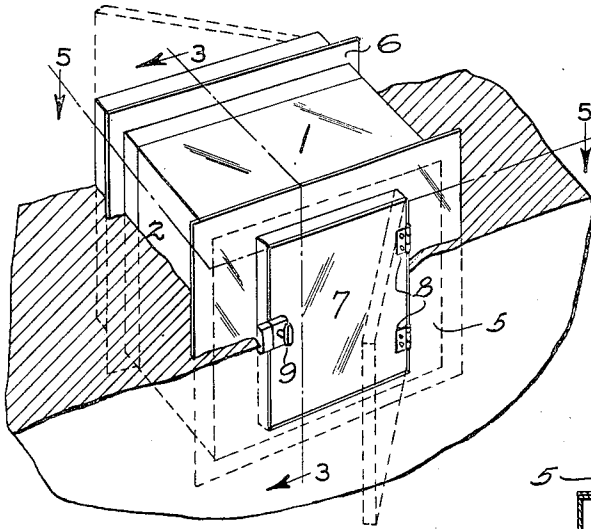


FIG. 1.

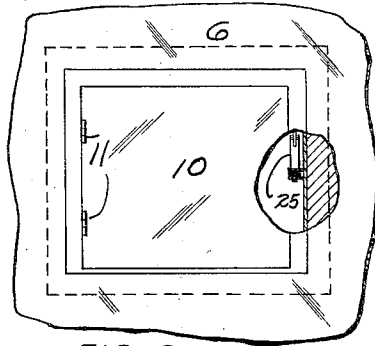


FIG. 2.

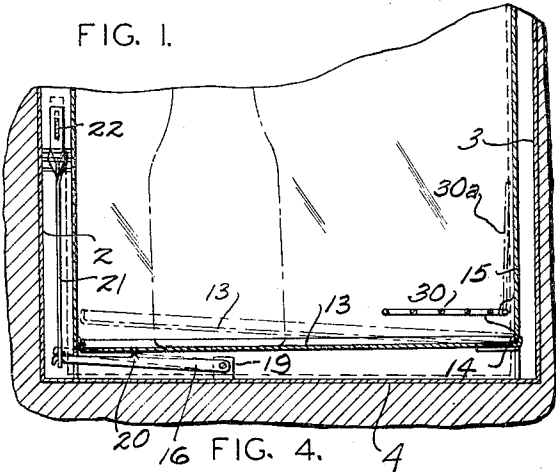


FIG. 3.

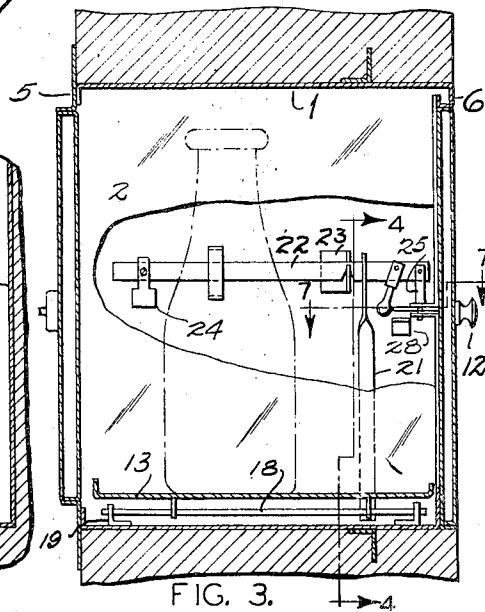


FIG. 4.

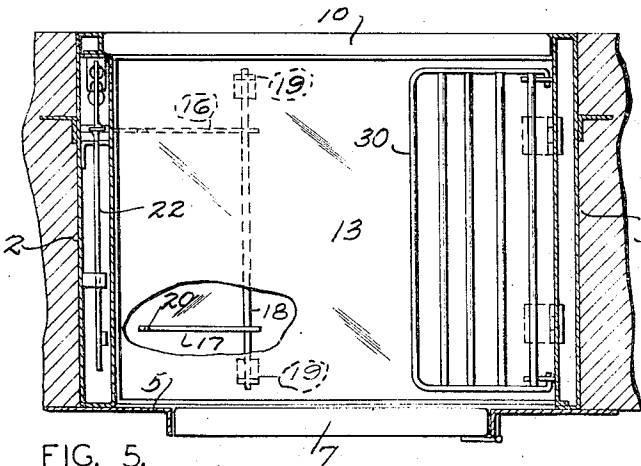


FIG. 5.

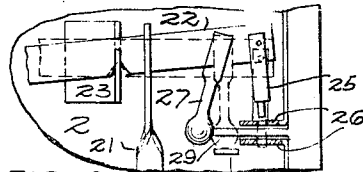


FIG. 6.

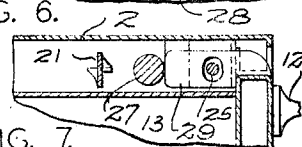


FIG. 7.

INVENTOR:
William A. Schneeman
BY *Rodney Bedell*
ATTORNEY.

UNITED STATES PATENT OFFICE

2,530,543

LATCH STRUCTURE FOR MERCHANDISE RECEPTACLES

William A. Schneeman, Webster Groves, Mo.

Application February 20, 1948, Serial No. 9,827

4 Claims. (Cl. 232—43.4)

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The invention relates to receptacles such as are adapted to be placed in the wall of a house with a door on at least the outer side of the wall, normally unlocked to permit the door to be opened freely by a delivery man, there being mechanism to lock the door when merchandise is placed within the receptacle and the door is closed.

A receptacle of this type is described in Patent 1,831,467 issued November 10, 1931, and the present invention comprises improvements on the structure disclosed in that patent. The receptacle described in the above mentioned patent included a spring supported "false bottom" or platform or floor upon which the merchandise would be placed. When merchandise was placed upon the floor, the floor would be lowered and if the merchandise were heavy enough to lower the floor a substantial depth, it would cause a latch to descend into a position where it might be engaged by a projecting catch on the door and lock the door shut.

The main object of the present invention is to avoid the use of springs and the relating the weight of the merchandise involved to the springs, thereby simplifying the construction of the device and rendering its operation more certain.

This and other detailed objects are attained by the structure illustrated in the accompanying drawing in which:

Figure 1 is a perspective view of the device showing it built into a house wall, the view being taken looking towards the inner door.

Figure 2 is an elevation of the device looking towards the outer door, a portion of the receptacle being sectioned to indicate the latching elements when the door is closed.

Figure 3 is a vertical section taken transversely of the wall on the line 3—3 of Figure 1.

Figure 4 is a vertical section taken longitudinally of the wall on the line 4—4 of Figure 3.

Figure 5 is a horizontal section taken on the line 5—5 of Figure 1.

Figure 6 is a detailed view of the locking mechanism shown in Figure 3 but with the latching elements in unlocked position.

Figure 7 is a detailed horizontal section taken on the line 7—7 of Figure 3.

While the receptacle and the operating parts associated therewith may be built into the house wall, it is preferred to make the receptacle a self-contained unit which may be made and sold separately for installation in the house wall and as shown in the drawing it comprises a top wall

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1, side walls 2 and 3, a bottom wall 4, an inner wall 5, and an outer wall 6.

Inner wall 5 is provided with a delivery door 7 having hinges 8 and an ordinary spring latch 9.

5 The outer wall 6 is provided with a receiving door 10 having hinges 11 and a knob 12 which has no latching or unlatching function.

The receptacle includes a false bottom or merchandise carrying floor 13 pivoted along one edge 14 to an inner wall 15 and supported near its opposite edge on knife-like elements 20 on a pair of bars 16 and 17 fixed to a pintle 18 journaled in brackets 19 on bottom wall 4. Bar 16 extends forwardly of its element 20 and engages the lower end of a link 21 the upper end of which is slotted to receive a lever 22 pivoted on a bracket 23 and provided near its left hand end with a counter weight 24 which may be shifted lengthwise of the lever. The right hand end of lever 22 carries a latch element 25. Cooperating stationary catch elements 26 project inwardly from the receptacle side wall 2 and are apertured to receive the lower end of latch 25.

25 A swinging strut 27, weighted at its lower end, is suspended from lever 22 and when the right hand end of the lever is raised as is shown in Figure 6 the lower end of strut 27 will swing over a support ledge or stop 28 on the receptacle side wall 2 and will hold lever 22, at least temporarily, in the raised position with the lower end of latch 25 above the upper catch 26. Lever 22, counter weight 24, bars 16, 17 and floor 13 are so proportioned that when the floor is unloaded it is tilted upwardly as indicated in dot-dash lines in Figure 4 and the latching mechanism is in the position shown in Figure 6.

40 Door 10 is provided with a tongue 29, positioned to move between catches 26 when the door is closed and to contact the lower end of strut 27 and thrust it off its support 28 whereupon, when floor 13 is loaded, the floor may tilt downwardly to the full line position shown in Figure 4, moving lever 22 into the position shown in Figure 3 in which the lower end of latch 25 passes through catches 26 and door tongue 29, securely locking door 10 against being opened until latch 25 has again been raised which can only be effected by access through inner door 7 by someone who removes the merchandise.

55 Preferably, but not necessarily, a rack 30 may be attached to wall 15 so that it may be positioned as shown in full lines in Figure 4 to carry an empty container which is to be removed by the delivery man. This will avoid any weight on the floor and accidental locking of door 10

before incoming merchandise is placed in the receptacle. If rack 30 interferes with merchandise being delivered it may be turned up out of the way as indicated at 30a.

With this construction the parts may be made without sliding fits and without close attention to their relative weights, since counter weight 24 may be adjusted after the assembly is completed. The locking mechanism is well above the floor where it will not be affected by split or melted merchandise. When strut 27 is dislodged from its support 28 the action of the locking mechanism is instantaneous and sure and is effected by movement of one end of the floor only. It is not necessary to lift the floor to cause the locking mechanism to operate.

The details of the construction may be varied substantially without departing from the invention and the exclusive use of those modifications of the structure shown which come within the scope of the invention is contemplated.

I claim:

1. In a merchandise receptacle of the class described, a door, a tongue on said door having an aperture, a pivotally mounted lever, a latch mounted on said lever and receivable in said aperture, a strut swingable on said lever and engageable by said tongue when said door is closed, a stop in the path of said strut when said strut is free of engagement with said tongue, said stop, strut, latch, and tongue being arranged so that when said strut engages said stop, said strut is in the path of said tongue and said latch is spaced from the path of said tongue, means associated with said lever to hold said latch in spaced relation to the path of said tongue, a merchandise carrying floor operatively connected to said lever so that, when merchandise is placed upon said floor, said means is overbalanced and said lever pivots until said strut engages said stop, said tongue engaging said strut and disengaging said strut from said stop as said door is closed, whereupon said lever pivots farther under the weight of the merchandise and said latch moves into said tongue aperture.

2. In a merchandise receptacle of the class described, a door opening outwardly, a tongue on said door having an aperture, a lever fulcrumed between its ends, a latch depending from one of its lever arms and receivable in said aperture, a strut suspended from said lever arm, a support underlying the lower end of said strut when said strut is freely suspended from said arm, a counter weight on the other arm of said lever overbalancing the weight of said first-mentioned arm, latch and strut to hold said latch above the level of said tongue when said door is closed, a merchandise carrying floor operatively connected to said lever so that when merchandise is placed upon said floor, said counterweight is overbalanced and said lever pivots until said

strut rests on said support and in the path of said tongue and supports the corresponding lever arm with the latch above the level of the path of said tongue, said strut being dislodged from said bracket by said tongue when said door is closed, whereupon said latch arm pivots about its fulcrum and said latch moves into said tongue aperture.

3. In a merchandise receptacle of the class described, a door opening outwardly, a tongue on said door having an aperture, a movable floor, a bar associated with said floor and actuated by its movement, a link connected to said bar, a lever fulcrumed between its ends and connected by one of its arms to said link, a latch depending from said lever arm and receivable in said aperture, a strut suspended from said lever arm, a support underlying the lower end of said strut when said strut is vertical, a counterweight on the other arm of said lever overbalancing the combined weight of said first-mentioned arm, link, latch and strut and the empty floor to hold said latch above the level of said tongue, said counterweight being overbalanced when a substantial load is placed upon said floor and said door is open so that said strut rests on said support and supports the corresponding lever arm with said latch above the level of said tongue, said strut being in the path of said door tongue so that said strut is dislodged from said bracket by said tongue when the door is closed and said latch falls into said tongue aperture.

4. A merchandise receptacle of the class described, including a body having a door, a floor hinged to said body, a bar pivoted to said body and having an element spaced from its pivot for supporting the floor, a lever fulcrumed to said body, a link connecting said bar and one arm of said lever, a latch carried by said lever arm and including a vertically disposed pin, a catch on said body apertured to receive said pin, a strut depending from said lever arm adjacent said latch, a shelf for engaging the lower end of said strut as said latch pin is lowered, and a member projecting inwardly of the body from said door and disposed to dislodge said strut from said shelf as the door is closed, and an aperture in said member to receive said latch pin when said strut is dislodged.

WILLIAM A. SCHNEEMAN.

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