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PROTECTIVE DEVICE FOR VENDING MACHINES

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Fig. 1.

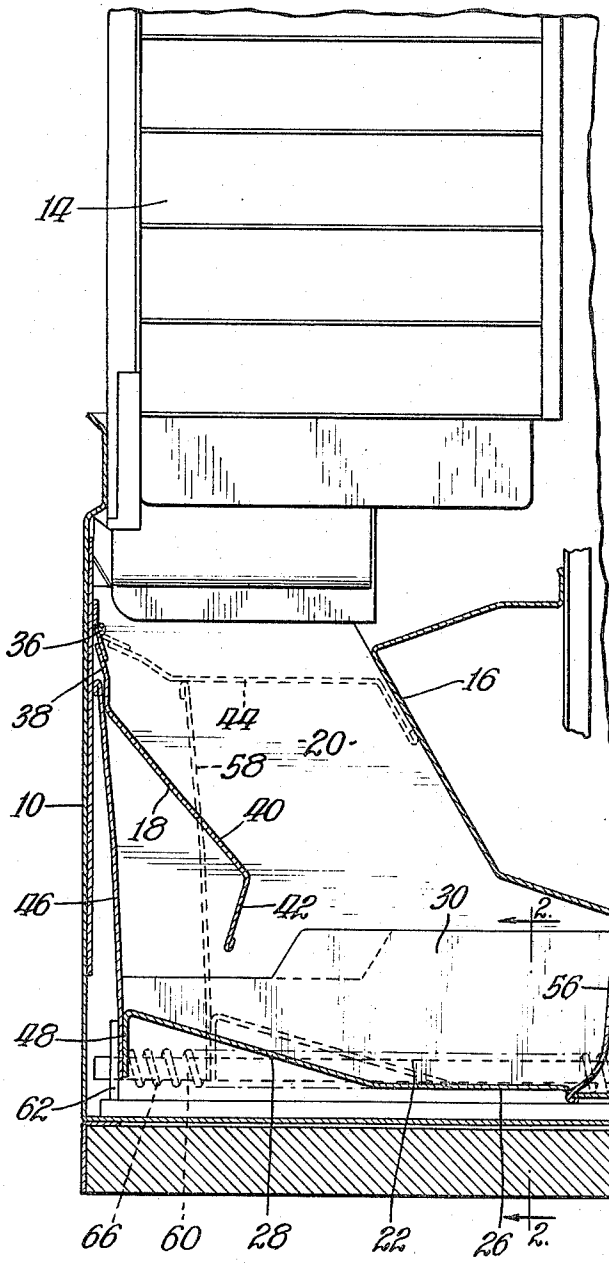
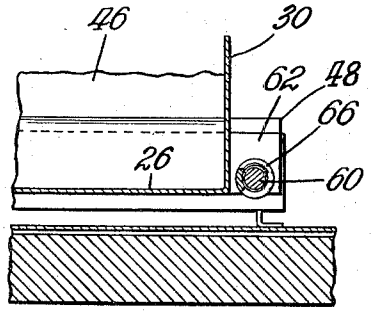


Fig. 2.



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PROTECTIVE DEVICE FOR VENDING MACHINES

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4 Claims. (Cl. 312—35)

This invention relates to a protective device for vending machines. More particularly, it relates to the device for circumventing theft of articles from vending machines by means of inserting wires and the like through a delivery opening into the mechanism.

Machines for vending packaged merchandise, such as candy, quite commonly deliver the merchandise to an open tray or the like from some point within the machine, usually by some sort of a chute arrangement. The opening is generally sufficiently small and the chute passageway sufficiently circuitous so that a hand and arm may not be passed through them to the magazines which store the merchandise. The opening, however, will, of course, permit the insertion of wires and ingenious thieves are able to enter the candy machine and in the process of doing this, seriously damage the mechanism. It is consequently desirable to provide means for preventing such activity. On the other hand, experience has shown that this type of vandalism occurs only in certain locations of vending machines, such as places where a thief may work undisturbed for a considerable length of time. Consequently, the protective device wanted is one which can be added to some machines and not to others and which is in no way dependent upon the functioning of the delivery mechanism.

One object of this invention is to provide a closure member within the delivery chute of a vending machine, which closure member is normally open, in conjunction with a drawer, which is normally closed and which is subjected to receive an article delivered by the vending machine. Means are provided for causing the closure member to close the chute completely so that wires cannot be passed up it, when the drawer is open.

A further object of this invention is to cause the closure member to completely close upon the partial opening of the drawer and in conjunction with this to provide a false inside forward wall for the drawer spaced from the front of the drawer by a distance sufficient to permit the complete closing of the closure member before a customer can actually reach into the drawer.

These and such other objects as may hereinafter appear are attained in one embodiment of the invention shown in the enclosed drawing, consisting of one sheet, wherein:

Figure 1 is a side view partly in elevation and partly in section of the inside of a vending machine showing applicants' invention; and

Figure 2 is a view of a portion of the front of the drawer showing the position of the guide rod and closure spring.

Continuing to refer to the drawing, the numerals 10 and 12 identify the back and front walls respectively of a vending machine case. In the upper part of the case is disposed a candy magazine having suitable mechanism for dropping merchandise downwardly through a chute formed by a wall 16 and a flap door or closure member 18. An article of merchandise passing down this chute, which bears the general numeral 20, is ultimately dropped into a drawer 22 comprising a front panel 24, a bottom 26, a downwardly sloping rear portion 28 and side walls, such as 30. The front panel may have an outer protection or decorative plate 32 and a handle means, such as 34.

The flap door 18 is hinged to the back wall 10 of the vending machine at 36 and comprises a short camming surface 38, a main body portion 40 bent forwardly of the camming surface 38, and an end portion 42 having an angle with the main body portion 40, such that when the flap door 18 is moved into the dotted position identified by the numeral 44, the end portion 42 will be flush with the wall 16. Cooperative action between the flap door 18 and the drawer 22 is established by means of a plate or arm 46 which is mounted on a depending flange 48 of the sloped bottom portion 28 in the drawer 22 by any suitable means.

In operation, by moving the drawer into the dotted position 50, the upper end of the arm 46 swings the flap door 18 into closed position and then slides along the main body portion 40 of the flap door 18 when the drawer is further opened. By drawing the drawer open a comparatively short distance therefore, the door 18 is completely closed.

In order to make certain that a wire may not be inserted in the chute when the flap door is only partly closed, that is, when the drawer is moving from its normal closed position to the dotted line position 50, a false inside wall is provided on the drawer. This false inside front comprises a horizontal wall portion 52 and a vertical wall portion 54 with a plate 56 thereover. The distance of the vertical wall portion 54 from the front wall 32 is slightly in excess of the distance necessary to move the arm 46 in order to completely close the flap door 18. Thus, when the drawer has reached the dotted line position 50, the arm 46 is in the dotted position 58 and it is now engaging the main body portion 40 of the flap door 18 so as to hold it in dotted position 44. By further opening the drawer, the hand

may be inserted to remove whatever is in it, but at all times the flap door 18 will remain tightly closed.

While the protective devices of this invention will work satisfactorily without providing means for holding the drawer in a normal closed position, it is desirable to provide such means, for otherwise customers will leave the drawer open with the result that the merchandise will come to rest on the flap door 18. While a customer could obtain merchandise by the simple expedient of closing the drawer, it is better to keep the door normally closed so that when the machine is cycled the merchandise actually reaches the delivery drawer. Means for holding the drawer in closed position are suggested in the embodiment shown in this invention and consist of a rod 60 mounted on a front wall member 64 and on a bracket 62, the latter in turn being mounted on the base of the vending machine cabinet. The depending portion 48 extends to one side of the drawer and is provided with a hole so as to slide along rod 60 while a spring 66 around the rod is disposed between the front wall member 64 and the depending portion 48 of the drawer. By pulling the drawer to the right, the spring 62 is contracted and upon release of the drawer handle 34 the spring closes the drawer. It is customary practice to provide two rods, such as 60, one on each side of the drawer, and two springs, such as 66, with necessary connections to the drawer.

As shown in the drawing, the width of the drawer is not indicated, the reason being that it may be adapted for use on vending machines having one vertical magazine or a plurality of vertical magazines. In vending machines having a plurality of magazines, and a plurality of chutes, it would be within the contemplation of this invention to utilize a drawer for each magazine. In such a case there would be a separate chute above each drawer and a separate flap door, such as 18, for each chute. It is, however, less expensive to utilize one drawer which extends beneath all of the magazines, and this functions entirely satisfactorily in vending machines where there is but one coin mechanism and it is contemplated that only one article of merchandise shall be dispensed on each actuation of the machine. In further explanation of this, in the ordinary selective candy vending machine, upon each cycling of the machine only one delivery mechanism can be functioned, and consequently there is a tendency on the part of the customer to open the drawer after each cycling of the machine and withdraw the merchandise. There is, of course, nothing to prevent a customer from cycling the machine while he is opening the drawer to withdraw a package which he has just purchased, and under such circumstances if a single door with a single flap door 18 for closing the bottom of all of the magazines were in use, the merchandise delivered would be held on the flap door 18 until the delivery drawer was again pushed in and drawn out. These problems, however, are sufficiently minor so as not to impair the utility of applicants' invention when applied to a multiple selective vending machine by using a single drawer for a plurality of magazines.

Having thus described our invention, what we claim as new and desire to secure by Letters Patent of the United States is:

1. A protective device for that type of vending machine wherein merchandise is delivered down a chute to a zone accessible to a customer, comprising a drawer closing said zone, a closure member in said chute, an inside wall spaced from the front of the drawer, and means for completely closing said closure member upon an opening movement of the drawer before said inside wall has cleared the front of the vending machine.

2. A protective device for that type of vending machine wherein merchandise is delivered down a chute to a zone accessible to a customer, comprising a drawer closing said zone, a closure member in said chute, an inside wall spaced from the front of the drawer, and means for completely closing said closure member upon an opening movement of the drawer before said inside wall has cleared the front of the vending machine, said means comprising an arm on the back of the drawer engaging said closure member.

3. A protective device for that type of vending machine wherein merchandise is delivered down a chute to a zone accessible to a customer comprising a flap door pivotally supported at one side of said chute for closing the same, a drawer mounted in said accessible zone, an arm mounted on the rear of said drawer and engaging said flap member, a cam surface on said flap member bearing such a relationship thereto that moving the arm a limited distance will close the flap member, and a false inside front wall of the drawer spaced from the front of the drawer by a distance greater than the distance necessary to move the arm to engage the cam surface of the flap member so as to close the flap member completely, whereby opening the drawer to the false inside front wall will completely close the flap door in the chute.

4. A protective device for that type of vending machine wherein merchandise is delivered down a chute to a zone accessible to a customer, comprising a flap door pivotally supported at one side of said chute for closing the same, a cam surface on said flap door, a drawer mounted in said zone and an upwardly extending arm mounted on the rear of said drawer normally engaging said flap door on the cam surface thereof whereby an initial movement of the drawer to open position will immediately close said flap door in the chute and further opening of the drawer will permit said arm to ride along the remaining portion of said flap door.

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