United States Patent

Steeley

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[54] **SECURITY DOOR FOR VENDING MACHINES**

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[52] **U.S. Cl.** **312/138,** 49/383, 292/346

[51] **Int. Cl.**.....**A47f 3/00,** E05d 11/00, E05b 17/00

[58] **Field of Search**.....312/138; 49/383; 292/346; 70/418

[56] **References Cited**

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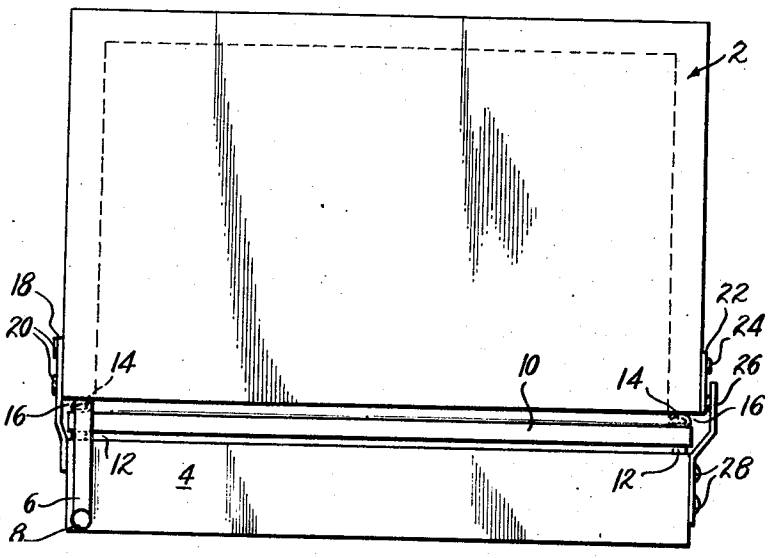
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[57] **ABSTRACT**

A vending cabinet having a front door defining a slit with the cabinet. Stiff metal strips are secured to the structure, on the cabinet and/or door to span the slit and deter vandals or thieves from prying the door open.

4 Claims, 3 Drawing Figures



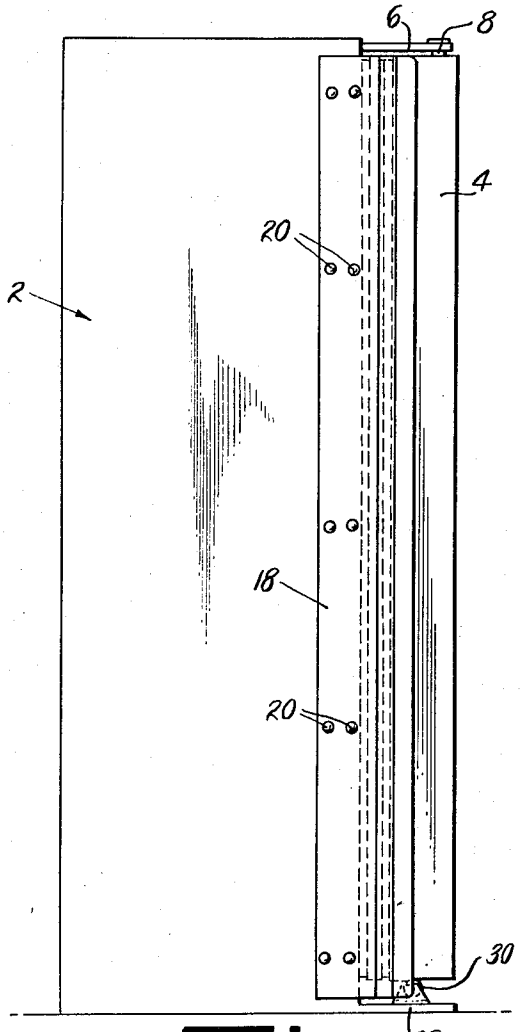


Fig. 1.

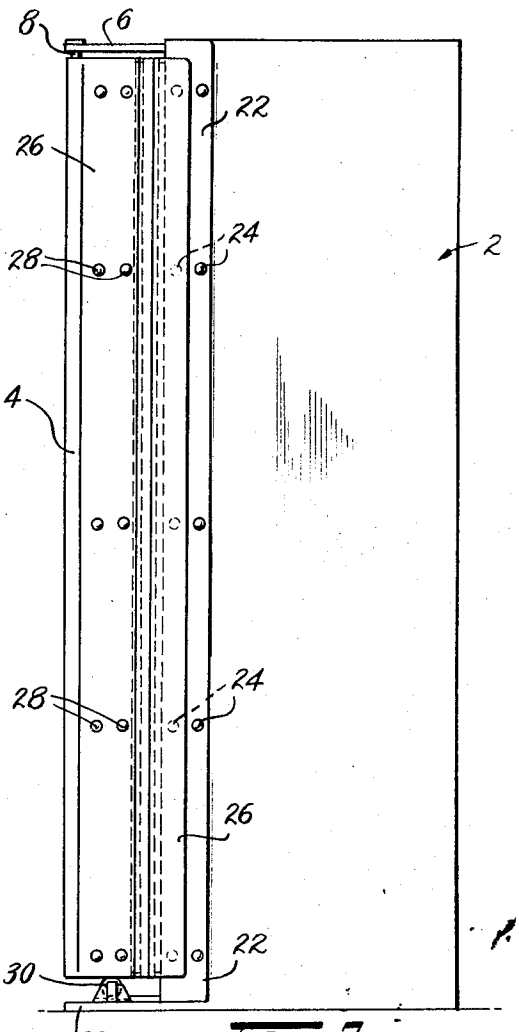


Fig. 2.

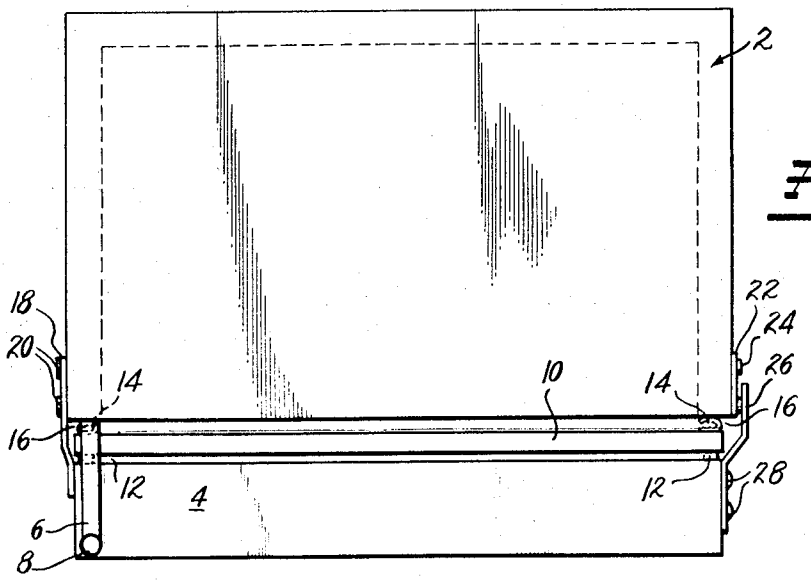


Fig. 3

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SECURITY DOOR FOR VENDING MACHINES

BACKGROUND OF THE INVENTION

This invention relates to vending machines having means for deterring vandals and thieves from attempting unauthorized access to the apparatus.

Vending machines, particularly for beverages or the like, heretofore have comprised a cabinet having a front door thereon. A coin changer mechanism, coin box, bottle cap catcher, flavor cards, pushbuttons, etc. are all conventionally mounted on the doors of such machines. Up to the present time the most common method of getting at these items for servicing and collection of money has been through access doors on the front of the machine. However, such access doors rendered it relatively easy for vandals or thieves to break into the machine and in doing so, considerable damage to the apparatus resulted.

Some manufacturers have made solid front doors provided with inner doors on the inner surface thereof so that the above-noted items could be reached by opening the inner door only after the main door is opened. It has been generally acknowledged that if a vandal or thief has a choice, he will generally break into the front mounted access door rather than attack a large main door of a solid front machine. Because of the high crime rate, there is a trend toward solid front doors providing access to the coin changer, etc., from the back of the front door and within an inner door that is hinged to the main front door. The continued use of access doors, accessible from the front is justified by the argument that a determined criminal with crowbars, etc., can get into the coin box on any machine. The relatively small access doors, in general, could be repaired without too much financial loss but if a thief were to break into a machine having a solid front door, he would be wrecking a relatively expensive main door which is usually of welded construction. As this type of door becomes more predominant, servicers of the machines will apparently have more and more expensive repairs to make.

SUMMARY OF THE INVENTION

The present invention is based on the fact that the solid front doors mentioned heretofore are customarily mounted so that a crack appears between the door and the main cabinet. Such cracks are readily visible and accessible and serve as a convenient entry point for crowbars or such devices. The present invention contemplates the provision of heavy gauge steel plates on the edges of the door and/or cabinet spanning and covering such cracks and lying in close surface relation to the adjacent member to thus render the mentioned cracks inaccessible. In addition, such steel plates are readily replaceable since any damage to the machine usually results in bending of the plates rather than in damage to the door or cabinet.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 is a schematic side view of one side of a vending machine provided with the present invention;

FIG. 2 is a schematic side view of the machine of FIG. 1, taken from the opposite side thereof; and

FIG. 3 is a schematic top plan view of the machine of FIGS. 1 and 2.

DESCRIPTION OF A PREFERRED EMBODIMENT

As shown, the invention is applied to a vending machine comprising a main cabinet **2** which may be of any conventional construction and adapted to hold a supply of articles to be vended to suitable discharge openings in a front door **4**, such openings not being shown.

The front door **4** is hingedly mounted to the cabinet **2** along one edge thereof by being pivotally supported at the outer ends of suitable hinge brackets **6** arranged to pivotally mount the door **4** to the cabinet on a hinge axis at **8**. In the form of the invention shown, the door **4** is of the solid front door type heretofore referred to and on its inner face has an inner or secondary door **10** hinged thereto by suitable hinging means, not shown. It is also contemplated that the main door **4** be provided with suitable latch and lock means (not shown) as is conventional. The inner door **10** bears against suitable sealing gaskets **12** between its edges and adjacent portions of the main door **4**. The combination of the main door **4** and inner door **10** can then swing as a unit about the hinge axis **8** between open and closed positions and further sealing gaskets **14** are provided between the inner door **10** and the adjacent edges of the cabinet **2**. Many such cabinets are refrigerated to maintain the beverages therein at a low temperature and the gaskets **12** and **14** serve to prevent entry of warm air and thus assist in insulating such refrigerated cabinets. In addition, the gasket means prevent entry of dust and dirt which could be detrimental to internal mechanisms.

The provision of such gasket means, however, results in the existence of a crack or space **16** between the inner door **10** and the cabinet **14** and also between the inner door **10** and the main door **4**. If such cracks were left exposed and readily accessible, that would constitute an inviting means for positioning a crowbar or similar prying device to force the doors open, which would obviously result in considerable structural damage to the doors and/or cabinet.

According to the present invention that side of the cabinet **2** adjacent the main door hinge is provided with an elongated heavy gauge steel plate **18** riveted thereto by rivets **20**. The plate **18** spans the cracks between the doors and cabinet and is offset so that its outer end portion lies close to the adjacent edge of the door **4**, all as clearly shown in FIG. **3**. As will be obvious, the door **4** may readily be opened without interference from the plate **18**.

On the side of the cabinet opposite the door hinge an elongated heavy gauge steel plate **22** is mounted on the cabinet by means of rivets **24**. This plate extends only to the adjacent edge portion of the cabinet and a second elongated heavy gauge steel plate **26** is secured to the adjacent edge of the door **4** by means of carriage bolts **28**. The plate **26** is offset in the manner shown so that its free edge will overlie the plate **22** when the door is closed and will be positioned in close proximity thereto. It is thus apparent that the plates **18**, **22** and **26** span and substantially close the cracks or spaces between the doors and cabinet, rendering it difficult or impossible to directly pry the door open with a lever or the like. The space between the free edge of the plate **18** and hinged edge of the door **4** and the space between the plates **22** and **26** at the opposite side of the

apparatus are so small that it is difficult to insert any prying tool therebetween. Even if a prying tool is forced into such small space and manipulated to ultimately force the door open, the main damage to the apparatus will be bending of the plates **18** or **26**. Such damage can readily be repaired by merely replacing those plates. The plate **26** can be removed by releasing the carriage bolts **28**, since the interior of the door **4** is usually readily accessible. If the plate **22** is damaged, the rivets **24** can be drilled out and a new plate riveted thereon. The same mode of replacement applies to the plate **18**. Vandals or thieves will usually attack the edge of the door **4** opposite the hinge mounting thereof since much less force is required to open the door in that manner.

As is usual in vending machines of this type, a roller support device **30** is mounted on an extension **32** of the cabinet base to support the door **4** when in closed position and to render the opening and closing thereof relatively easy without the necessity of providing bulky or heavy-duty hinges for the door.

No plate corresponding to plate **18**, **22** or **26** is shown across the top of the cabinet since that location is usually quite high and not likely to be attacked by a vandal or thief. However, if desired, such could be provided. In any event it is usually desirable to attach a rain and/or dust guard plate (not shown) to the door **4** to substantially span the space **16** across the top of the cabinet.

While a single specific embodiment of the invention has been shown herein, the same is merely illustrative of the principles involved and other embodiments may be resorted to within the scope of the appended claims.

I claim:

1. In a vending machine having a cabinet, a door hinged to the front thereof along one edge thereof and defining a relatively wide peripheral slit between said cabinet and door, and a resilient gasket in said slit between the door and cabinet, the improvement comprising:

a first elongated stiff metal strip secured to and extending along the outside edge of said door opposite said hinged edge, the full length thereof, said strip spanning said slit and having an edge portion overlying an adjacent surface of said cabinet, in close proximity thereto, to render said spanned portion of said slit substantially inaccessible to a prying tool; and

a second elongated stiff metal strip secured to said cabinet adjacent the hinged edge of said door, said second strip extending along the length of said hinged edge, spanning said slit and having an edge portion overlying an adjacent surface of said door, in close proximity thereto, to render said spanned portion of said slit substantially inaccessible to a prying tool.

2. The improvement defined in claim **1** including a further elongated stiff metal strip secured to said cabinet to define said adjacent surface of said cabinet.

3. The improvement defined in claim **2** wherein said strips are secured to said door and cabinet, respectively, by means whereby said strips may be removed without damaging said cabinet or door.

4. The improvement defined in claim **3** wherein said means are fasteners from the group consisting of rivets and carriage bolts.

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