

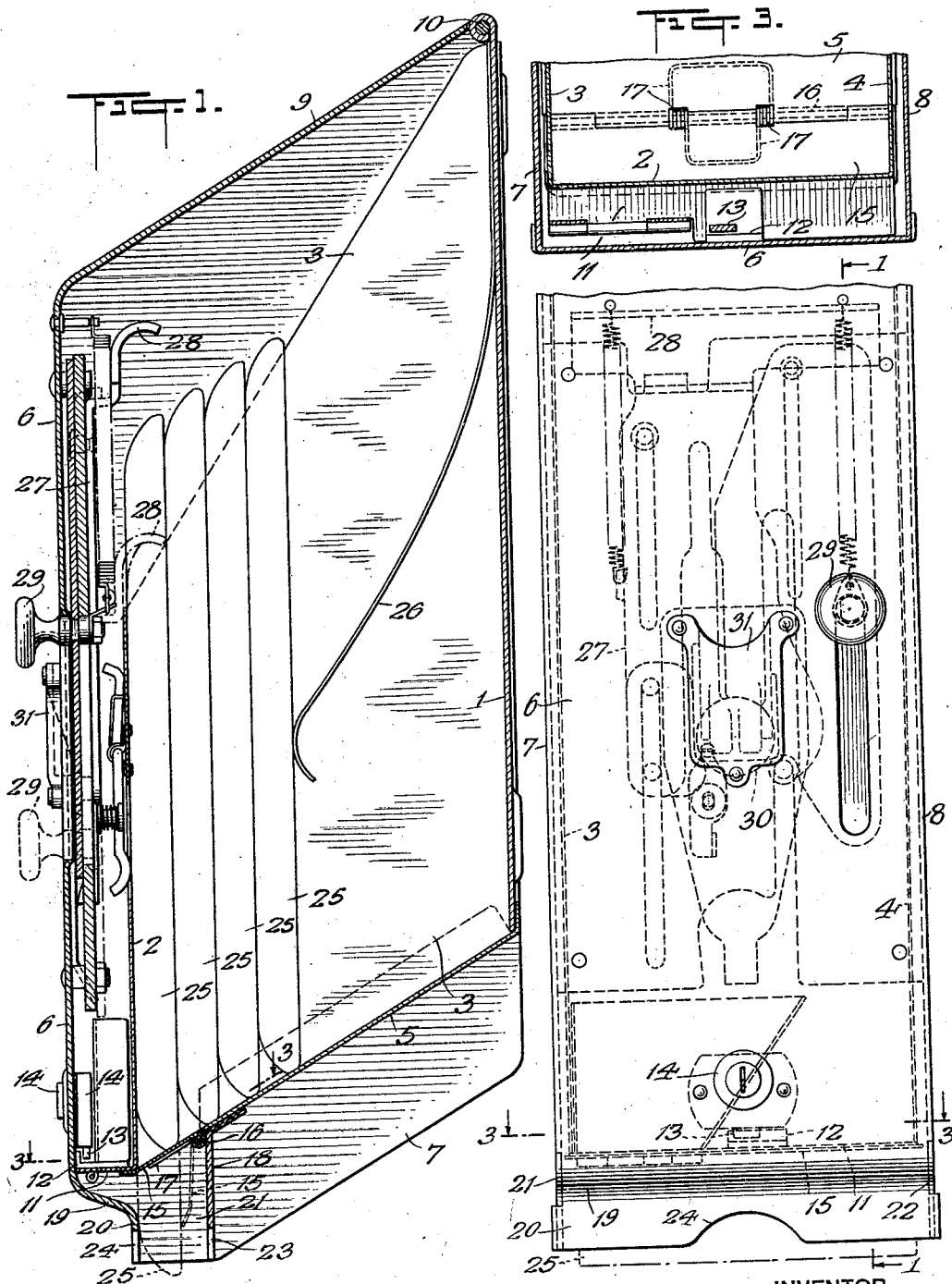
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M. M. MARCUSE

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PACKAGE VENDER

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INVENTOR
MOSES M. MARCUSE.
BY *Vicente D. Bonk*
ATTORNEY

UNITED STATES PATENT OFFICE

MOSES M. MARCUSE, OF NEW YORK, N. Y., ASSIGNOR TO WEST DISINFECTING
COMPANY, A CORPORATION OF NEW YORK

PACKAGE VENDER

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While this invention relates in general to vending machines it relates more particularly to means for preventing the theft of packages therefrom. The invention further more specifically relates to the embodiment of this idea in a particular kind or type of vending machine. An object of the invention is to carry out this idea in a simple, effective and inexpensive construction. Other objects and advantages of the invention will hereinafter appear.

The invention is embodied in that type of vending machine in which an ejector pushes a package out of a casing through an exit opening provided in the casing for that purpose. According to the invention a normally closed door is provided for this exit opening, together with means to prevent this door from being opened except in the normal operation of the machine. More particularly, the exit opening is provided in the bottom wall of an enclosing casing immediately adjacent to one of its upright walls and the door is in the form of a hinged flap or trap door arranged to open downwardly and to be automatically closed and kept closed by means of a spring. This door may be pushed open by the lower end of a package which is propelled by an ejector, this door being immediately surrounded by the walls of a downwardly projecting chute which provides a guard for the door at the outside of the bottom of the casing and prevents such access to the door as would permit it to be pulled open from the outside. The invention further includes various features of construction and combinations of parts, as will appear from the following description.

One embodiment of the invention is shown in the accompanying drawing and this will now be particularly described, after which the invention will be pointed out in claims, reference now being had to the drawing, in which:

Fig. 1 is a complete vertical longitudinal

section on the line 1—1 of Fig. 2, of a package vender in which the invention is embodied;

Fig. 2 is a front elevation with the extreme upper portion of the casing broken away to save space; and

Fig. 3 is a transverse section on the line 3—3 of Figs. 1 and 2.

In carrying out the invention according to the embodiment thereof shown in the drawing, the vending machine has an upright transversely rectangular casing which may be conveniently made up from suitable sheet metal, such as steel, by usual stamping and welding or other suitable operations. This casing comprises two principal or main parts, one of which is a casing box or container part and the other of which is a cover part. The casing box or container comprises a rear wall 1, a front wall 2, which may have side walls 3 and 4 formed in the same piece therewith, and a bottom wall 5. The cover part of the casing comprises in general a front wall 6, which has outer side walls 7 and 8, together with a top wall 9, all of which may be formed in the same piece. The rear edge of this top wall 9 is hinged at 10 to the top edge of the rear wall 1 of the container part, this rear wall 1 being adapted to be detachably secured to any convenient upright support, such as a wall of a building.

The bottom 5 of the casing box inclines downwardly and forwardly at a rather steep angle, while the top 9 of the cover has a similar slope parallel with the bottom 5, which provides for wide upward opening movement of the cover part. The top edges of the side walls 3 and 4 of the casing box incline sharply downward and forward to the upper edge of the front wall 2, which accordingly is at a considerable distance below the top wall 9 of the cover part, for reasons which will presently appear. The front wall 6 of the cover part is spaced forwardly or outwardly from the front wall 2 of the

casing box, thereby to accommodate operating mechanism which is mounted upon the inner side of this outer front wall 6. The lower edge of the inner front wall 2 has a forwardly projecting flange 11, shown as forming a stop for the outer front wall 6. The flange 11 is shown as provided with a keeper 12 to be engaged by the bolt 13 of a lock 14 which is mounted upon the outer front wall 6.

The bottom wall 5 of the casing box is incomplete at the front, at its forward edge terminating forwardly in rearward spaced relation from the front wall 2, so as to provide an oblong rectangular bottom opening, as shown in Figs. 1 and 3. A door flap or trap door 15 is provided for closing this opening and along its rear edge is hinged to the forward edge of the bottom wall 5 by means of a hinge pin 16. This door 15, which is of transversely elongated rectangular shape, extends at an inclination forward and downward in alignment with the bottom wall 5 and at its free forward edge has a horizontal marginal portion which may abut upwardly against the adjacent portion of the front flange 11 on the front wall 2 of the casing box (Fig. 1). This door 15 may swing open downwardly and rearwardly and is normally urged towards and maintained at its closed position shown in full lines in the drawing, by means of a wire torsion spring 17 having its coils surrounding the hinge pin 16 and having arms engaging respectively with the lower side of the bottom wall 5 and the lower side of the door 15 (Figs. 1 and 3).

A guard is provided for this exit door 15 to prevent it from being pulled open from the outside, this guard being in the form of a downwardly extending chute which surrounds the exit opening and its door 15. The rear wall of this chute is formed by a vertical plate 18 having a rearwardly and upwardly inclined flange by means of which it is secured to the lower side of the bottom wall 5 of the casing box, from which this plate 18 projects downwardly just at the rear of the hinge 16 of the door 15. The front wall of this guard chute is formed by means of a downward extension on the front wall 6 of the cover comprising an turned slightly downwardly and rearwardly inclined portion 19 and a vertical terminal portion 20, the rear or inner face of which is in vertical alignment with the inner face of the front casing box wall 2 (Fig. 1). The lateral or end walls of this guard chute are formed respectively by downward extensions 21 and 22 from the side walls 7 and 8 of the cover part. All of the vertical walls, 18, 20, 21 and 22, of this chute are downwardly coterminus, as appears in Fig. 1, the rear and front walls 18 and 20, however, being provided at the middle of their

lower edges with finger notches 23 and 24. For contributing to a neat appearance, the side walls 7 and 8 of the cover part are extended downwardly as free portions throughout their full width rearwardly from the downwardly extending portions 21 and 22 which form the end walls of the chute, as appears in Fig. 1 for the left hand side wall 7.

Packages 25 are contained on end in the casing box or container part so as to move therein forwardly and downwardly along the inclined bottom 5, and are forced forwardly and pressed into frictional engagement with one another and with the inner side of the front wall 2 by means of a leaf spring 26 secured at its upper end to the rear wall 1 and having a reversely curved lower end portion pressing against the rear face of the adjacent package 25, as shown in Fig. 1.

It will be noted that the front or foremost package 25 is in line with the exit opening and immediately above the downwardly opening door 15. While of course this package could be supported by the spring 17 of the door 15, as a matter of fact it is really supported by its frictional engagement with the front wall 2 and the next adjacent package 25, or should this be the only package remaining, then by frictional engagement at its back with the curved lower end of the spring 26. The particular packages 25 shown in the drawing are relatively light in weight, comprising sanitary napkins enclosed in paper envelopes. Without the closed door 15, and even with the surrounding downwardly projecting chute as above described, it might be possible to withdraw the front package 25 from the bottom, and then to keep on withdrawing other packages successively in the same manner. However, with this closed door 15, together with the guard chute, no access can be had to the lower end of this package, while the guard chute prevents the possibility of the door 15 being pulled open from the outside of the casing.

In the normal operation of the machine the foremost package 25 is pushed downward from the inside of the casing substantially to the position thereof indicated in broken lines for its lower end portion in Fig. 1. As it moves downward the lower end of this package pushes open the door 15, which accordingly swings downward and rearwardly substantially to the position of this door also indicated in broken lines in Fig. 1. It is obvious that this downwardly projecting package 25 may then be easily pulled out of the casing merely by grasping its lower end. When this has been done, the door 15 for the exit opening will immediately be automatically closed by its spring 17. In this closed position of the door 15 the edges of its ends laterally overlap upon the lower

edges of the inner side walls 3 and 4 and approach closely to the inner faces of the outer side walls 7 and 8 of the cover part, while the free front margin or edge portion of this door 15 is held against the lower side of the flange 11 of the front wall 2, with its free front edge above the inturned portion 19 of the chute wall and forwardly from the vertical portion 20 of this chute wall. Thus it will be seen that this door 15 cannot be opened with the fingers and also it is practically impossible to open it by using any ordinary kind of tool.

A package pusher or ejector is provided for thus pushing the foremost package 25 downward to the above described projecting position. This ejector comprises a vertically movable plate 27 provided at its upper end with an inturned hook 28 which is directly above the upper end of the foremost package 25 and which, when moved downward from the full line position shown in Fig. 1 to the broken line position there shown, will push this package down until it can be grasped and pulled out as above described. The ejector plate 27 may be operated from the outside of the front of the outer wall 6 by means of a vertically slidable handle knob 29. This normal operation, however, is coin controlled and for that purpose a coin 30 may be inserted into the upper open end of a coin chute 31. The coin controlled mechanism, some parts of which appear incidentally in the drawing, may be of any suitable construction so far as this present invention is concerned. It will be noted that the inwardly rounded corner formed between the inturned portion 19 and the vertical portion 20 of the front wall of the guard chute provides clearance for the front edge of the door 15 in its opening and closing movements. It will also be noted that this downwardly projecting chute around the exit opening and its door 15 forms a package guide as well as also forming an effective guard for the door 15, as hereinbefore described.

It is obvious that various modifications may be made in the construction shown in the drawing and above particularly described, within the principle and scope of the invention as defined in the appended claims.

I claim:

1. In a package vender, the combination of an enclosing casing comprising upright back and front and side walls, a top wall and a forwardly inclined bottom wall terminating forwardly in spaced relation to the front wall thereby to provide an exit opening for a package, the lower edge of said front wall having thereon a forwardly extending flange, a door flap hinged along its rear edge to the forward edge of the casing bottom and extending forwardly and downwardly at an inclination in alignment therewith and at its forward edge having a horizontal margin to lie flat against the bottom of said flange on the front wall, a spring automatically urging said door flap upwardly to its closed position and permitting said door flap to be pushed open downwardly by a package passing downwardly through said opening, and a downwardly projecting chute on the casing surrounding said opening and door flap with the lower portion of the front wall of said chute in alignment with the front wall of the casing and with the upper portion of this front wall of the chute extending forwardly and upwardly thereby to give clearance to the front edge of the door flap, said chute forming a guard for the door flap to prevent the door flap from being pulled open from the outside of the casing, a package ejector within the casing at its front, an operating handle at the outside of the front of the casing, and operating connections between the handle and the package ejector for causing the latter to push a package downwardly through said opening until said package projects sufficiently below said chute to be grasped and pulled out of the casing.

2. In a package vender, the combination of an enclosing casing comprising upright back and front and side walls, a top wall and a forwardly inclined bottom wall terminating forwardly in spaced relation to the front wall thereby to provide an exit opening for a package, the lower edge of said front wall having thereon a forwardly extending flange, a door flap hinged along its rear edge to the forward edge of the casing bottom and extending forwardly and downwardly at an inclination in alignment therewith and at its forward edge having a horizontal margin to lie flat against the bottom of said flange on the front wall, a spring automatically urging said door flap upwardly to its closed position and permitting said door flap to be pushed open downwardly by a package passing downwardly through said opening, a downwardly projecting chute on the casing surrounding said opening and door flap with the lower portion of the front wall of said chute in alignment with the front wall of the casing and with the upper portion of this front wall of the chute extending forwardly and upwardly thereby to give clearance to the front edge of the door flap, said chute forming a guard for the door flap to prevent the door flap from being pulled open from the outside of the casing, a package ejector within the casing at its front, an operating handle at the outside of the front of the casing, and operating connections between the handle and the package ejector for causing the latter to push a package downwardly through said opening until said package projects sufficiently below said chute to be grasped and pulled out of the casing.

In witness whereof, I hereunto subscribe my signature.

MOSES M. MARCUSE.