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VENDING MACHINE

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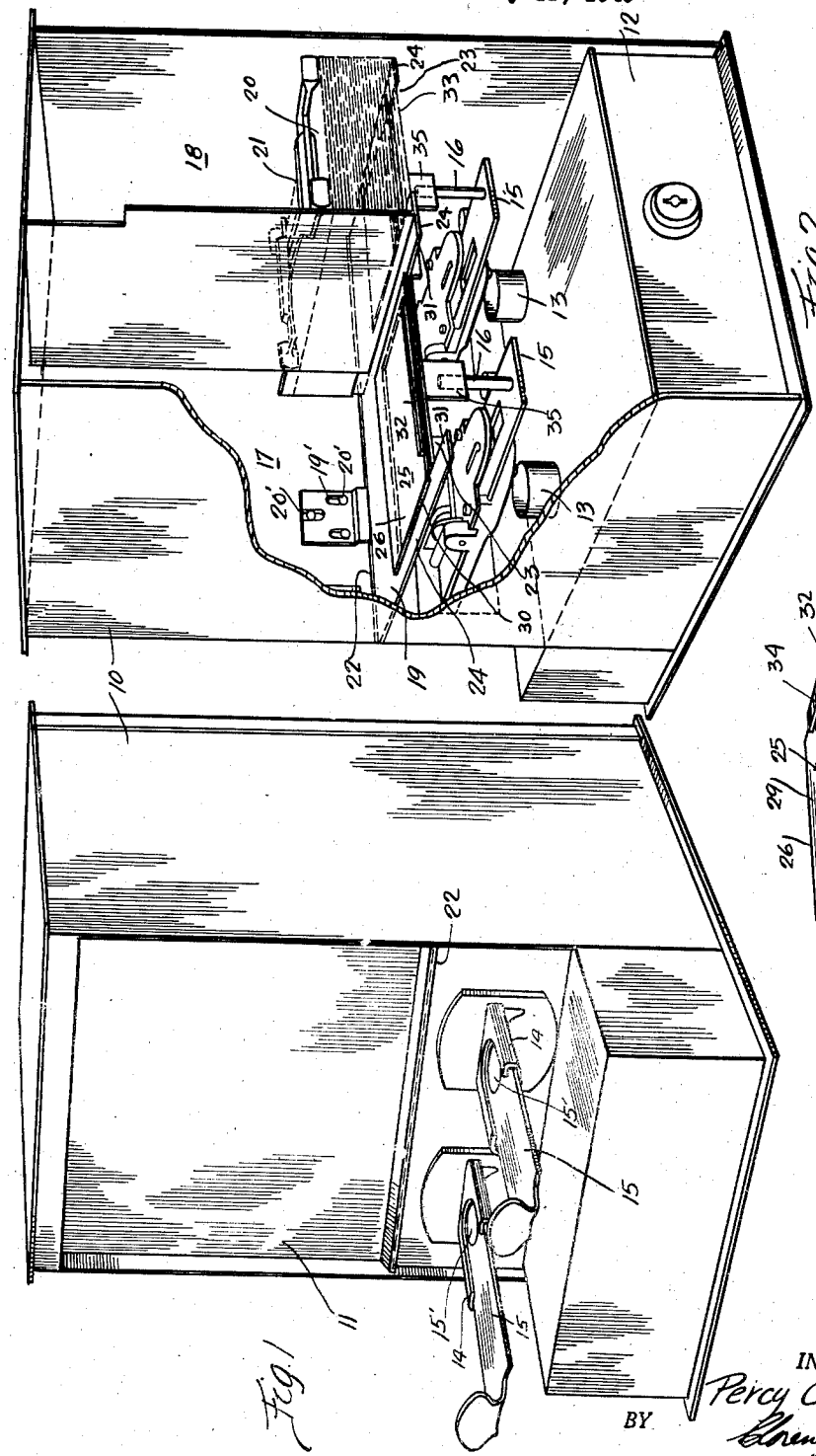


Fig. 2

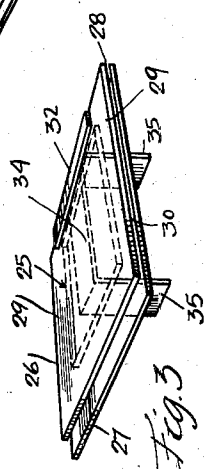


Fig. 3

Fig. 1

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VENDING MACHINE

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4 Claims. (Cl. 312—55)

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This invention relates to vending machines. More particularly the invention relates to a pusher for vending individual cards from a stack of cards in a manner such that only one card at a time will be vended from the bottom of the stack. In this aspect of the invention, a primary and principal object is to provide a pusher of this type which will be highly efficient in use, economical in manufacture, and simple in structure.

It is well known in the art of vending machines to employ pushers for vending or dispensing an article from the machine. In some instances, these pushers are operated by a coin slide, the slide having an upstanding or depending stud, as the case may be, which engages a portion of the pusher to move the pusher in opposite directions with respect to a partition upon which the articles to be vended are supported.

Unless these pushers are constructed in a proper manner, there is a likelihood that more than one card or article may be vended from the machine, and this is particularly true where the merchandise to be vended is of a relatively small thickness, such, for example, as postal or picture cards.

In vending machines of this type with which I am familiar, the follower comprises a substantially flat plate which rests upon a partition on which the cards are supported, and this partition usually has an elongated block member at one end of a thickness contemplated for engagement with but one card of the stack of cards. With such a pusher I have found that if the plate is warped transversely or if the partition upon which it slides is uneven or becomes buckled, the elongated block is displaced to an extent that instead of engaging only one card it will at times, and very frequently, engage two cards, thus effecting an improper vending operation.

It is therefore an object of the present invention to provide a pusher which will substantially eliminate these known difficulties.

Other objects will appear hereinafter.

The invention consists in the novel combination and arrangement of parts to be hereinafter described and claimed.

The invention will be best understood by reference to the accompanying drawings showing the preferred form of construction, and in which:

Fig. 1 is a perspective view of a vending machine with which my invention may be employed;

Fig. 2 is a perspective view partly in section with the rear wall removed and showing the interior of the vending machine, to illustrate the relationship of the pusher with other parts of the machine;

Fig. 3 is a perspective view of a pusher embodying my invention.

The drawings illustrate the preferred form of construction by which the several objects of this invention are accomplished.

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In the drawings I have illustrated a vending machine. Neither the design nor construction other than as hereinafter pointed out constitutes any part of this present invention, and therefore I do not wish to be limited to the precise design or construction shown but wish to avail myself of such modifications and variations as will bring about the best results.

In this connection the vending machine comprises a casing 10 including a front wall 11 and a back wall (not shown) usually locked in place by a suitable key-operated lock. Within this vending machine is arranged a coin box 12 having suitable coin funnels 13 to receive the coins from a coin chute 14 carried by the front wall 11, which coin chute includes a coin slide 15. This coin slide 15 at its interior end portion includes an upstanding stud 16.

In the present construction the casing 10 comprises two compartments 17 and 18, the bottom of which compartments constitutes a partition 19 separating the compartments 17 and 18 from the compartment of the casing 10 within which the coin box 12 is confined.

This partition 19 is adapted to support a stack of cards 20 on the top of which stack rests a block or weight 21. These cards are adapted to be individually vended from the bottom of the stack through vending slots 22 formed in the front wall 11 of the casing 10. The partition 19, within each compartment 17 and 18, has a cut-out portion 23 providing opposite parallel guide arms 24.

The pusher is indicated at 25 and includes superimposed plates 26 and 27 and an intermediate plate 28 of a less overall dimension than the superimposed plates, and disposed between these plates 26 and 27 to space them apart and to provide on opposite long edges 29 the parallel grooves 30 which receive adjacent edge portions 31 of the arms 24. Secured to the top plate 26 or made a part thereof, as may be convenient, is a ledge or raised portion 32 of a thickness less than the thickness of the individual cards of the stack of cards 20 and adapted to engage the rear edge 33 of each of the cards of the stack 20. The bottom plate 27 has secured thereto in any approved manner a U-shaped member 34 providing depending spaced lugs or plates 35, between which the stud 16 is movable and adapted to alternately engage the plates 35 for moving the follower 25 in opposite directions with respect to the partition 19.

On the back of the front wall 11 in each compartment 17 and 18 is a suitable gauge 19' adjustably connected to the front wall 11 by slot and screw connections 20'. By proper adjustment of this gauge relative to the slot 22 only the card to be vended will pass through the slot, the card above the one to be vended being held by the gauge, without which gauge the upper of the cards might by friction pass through the slot.

In operation a coin is deposited in the coin aperture 15' of the slide 15. The slide 15 is then moved inwardly, bringing the stud 16 into contact with the depending plate 35 in its path of movement. Upon engagement with this plate 35, the pusher will be moved to its rearmost position to dispose the raised portion 32 to the rear of the stack of cards 20. After moving the pusher to this position the slide 15 is moved in an opposite direction to bring the stud 16 into engagement with the plate 35 in the path of its outward movement, and upon engagement with the plate 35 the pusher will be moved toward the front of the casing 10, moving with it the bottom card from the stack of cards 20 by reason of engagement of the raised portion 32 with the edge of such card. This movement of the pusher will project a portion of the card through the vending slot 22 where it can be grasped by the operator, to be withdrawn from the casing 10.

The purpose of spacing the plates 35 is to allow movement of the slide 15 without moving the pusher when no coin is deposited in the coin aperture 15'.

By employing a pusher wherein there are the opposite parallel grooves receiving the opposite long edges of the partition 19, it is manifest that a jarring of the machine will not jam the pusher upwardly so as to cause the raised portion to engage more than one card. It will also be seen that the position of the raised portion is substantially maintained, notwithstanding medial buckling of the partition 19 or the plates constituting the pusher.

By the construction hereinbefore described, I have provided a pusher effective for vending one card at a time from beneath a stack of cards.

While I have illustrated and described the preferred form of construction for carrying my invention into effect, this is capable of variation and modification without departing from the spirit of the invention. I, therefore, do not wish to be limited to the precise details of construction set forth, but desire to avail myself of such variations and modifications as come within the scope of the appended claims.

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

1. In a vending machine, the combination with a pusher-operating member including an upstanding stud, a partition spaced from and disposed above said pusher-operating member for supporting a stack of cards and having a cut-out portion providing opposite guide arms, of means for moving the bottom card of said stack of cards comprising a pusher having oppositely disposed parallel grooves receiving adjacent long edges of said guide arms, spaced plates depending from said pusher between which said stud is adapted to move for alternately engaging said plates, for moving said pusher in opposite directions relative to said partition, said pusher having along one edge thereof a substantially elongated flat raised portion of a thickness adapted to permit engagement with an edge of only the bottom card of said stack of cards, for moving said bottom card from beneath said stack upon movement of said pusher in one direction.

2. In a vending machine, the combination with a pusher-operating member including an upstanding stud, a partition spaced from and disposed above said pusher-operating member for supporting a stack of cards and having a cut-out portion providing opposite guide arms, of means

for moving the bottom card of said stack of cards comprising a pusher having oppositelly disposed parallel grooves receiving adjacent long edges of said guide arms, spaced plates depending from said pusher between which said stud is adapted to move for alternately engaging said plates, for moving said pusher in opposite directions relative to said partition, said pusher having along one edge thereof a raised portion of a thickness less than the thickness of a card of said stack of cards and adapted to engage an edge of the bottom card of said stack to move said bottom card from beneath said stack when said pusher is moved in one direction.

3. In a vending machine, the combination with a pusher-operating member including an upstanding stud, a partition spaced from and disposed above said pusher-operating member for supporting a stack of cards and having a cut-out portion providing opposite guide arms, of means for moving the bottom card of said stack of cards, including a pusher comprising superimposed plates and an intermediate plate spacing said superimposed plates and providing together with said superimposed plates opposite parallel grooves receiving adjacent long edges of said guide arms, spaced plates depending from said pusher between which said stud is adapted to move for alternately engaging said plates, for moving said pusher in opposite directions relative to said partition, said pusher having along one edge thereof a substantially elongated flat raised portion of a thickness adapted to permit engagement with an edge of only the bottom card of said stack of cards, for moving said bottom card from beneath said stack upon movement of said pusher in one direction.

4. A pusher for a card vending machine in which cards are adapted to be vended individually from the bottom of a stack of cards, said pusher comprising superimposed plates and an intermediate portion between said plates and providing together with said plates opposite parallel grooves, and members depending from the bottom of said superimposed plates in spaced relation with respect to each other, the top plate of said superimposed plates having a raised portion of a thickness less than the thickness of a card to be vended, in combination with a partition for supporting said stack of cards and having guide arms received in said grooves, and a slide member having an upstanding stud movable between said depending members and adapted for alternate engagement with said depending members to move said pusher in opposite directions with respect to said partition.

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