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Chamberlin

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[54] **TAPE CARTRIDGE VENDING MACHINE WITH ROTATABLE PANEL**

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[52] **U.S. Cl.** **312/117,** 206/DIG. 36, 312/42

[51] **Int. Cl.** **A47f 3/02**

[58] **Field of Search** 221/133; 206/DIG. 36, 17, 206/42; 312/117, 42

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[57] **ABSTRACT**

A cabinet including multiple sides and the structure therein defining a plurality of horizontally and vertically spaced open-ended article receiving compartments opening in generally the same direction outwardly of one side of the cabinet. The cabinet includes a partition extending over and closing the open side of the cabinet outwardly of which the compartments open and the partition is spaced outwardly of the outer ends of the compartments. A large generally circular first opening is formed in the partition and closed by means of a circular closure panel rotatably supported in the opening and having a medium size opening formed in one sector of the closure panel. A second generally circular closure panel is disposed in and closes the medium size opening and the second closure panel has an access opening formed in one sector thereof of a size to receive the hand and lower arm only of a person wishing to vend articles from the cabinet. Also, the cabinet includes a passageway extending from the area between the partition and the open ends of the compartment to the exterior of the cabinet, which passageway is provided with a vending mechanism for controlling the passage of articles through the passageway.

8 Claims, 6 Drawing Figures

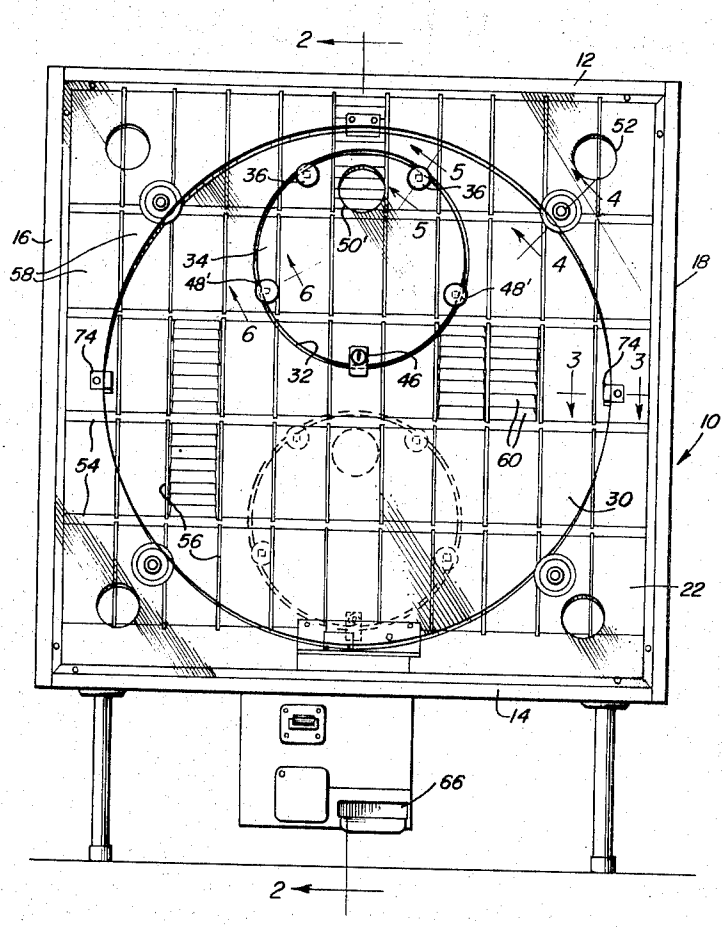


Fig. 1

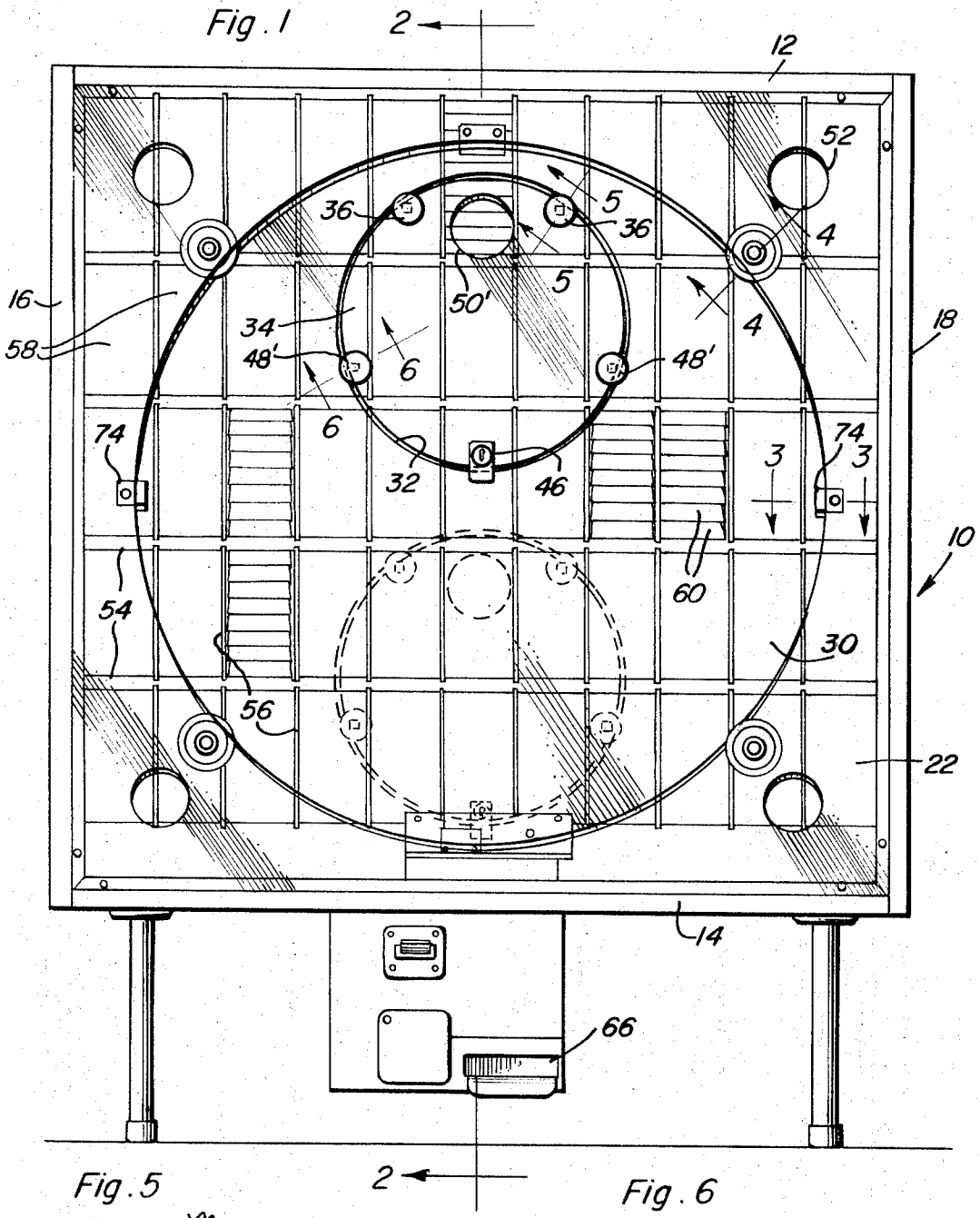


Fig. 5

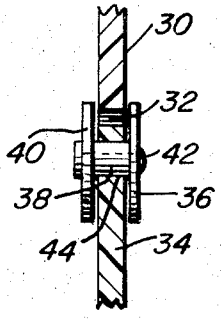


Fig. 6

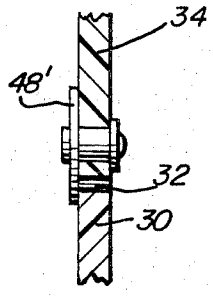


Fig. 2

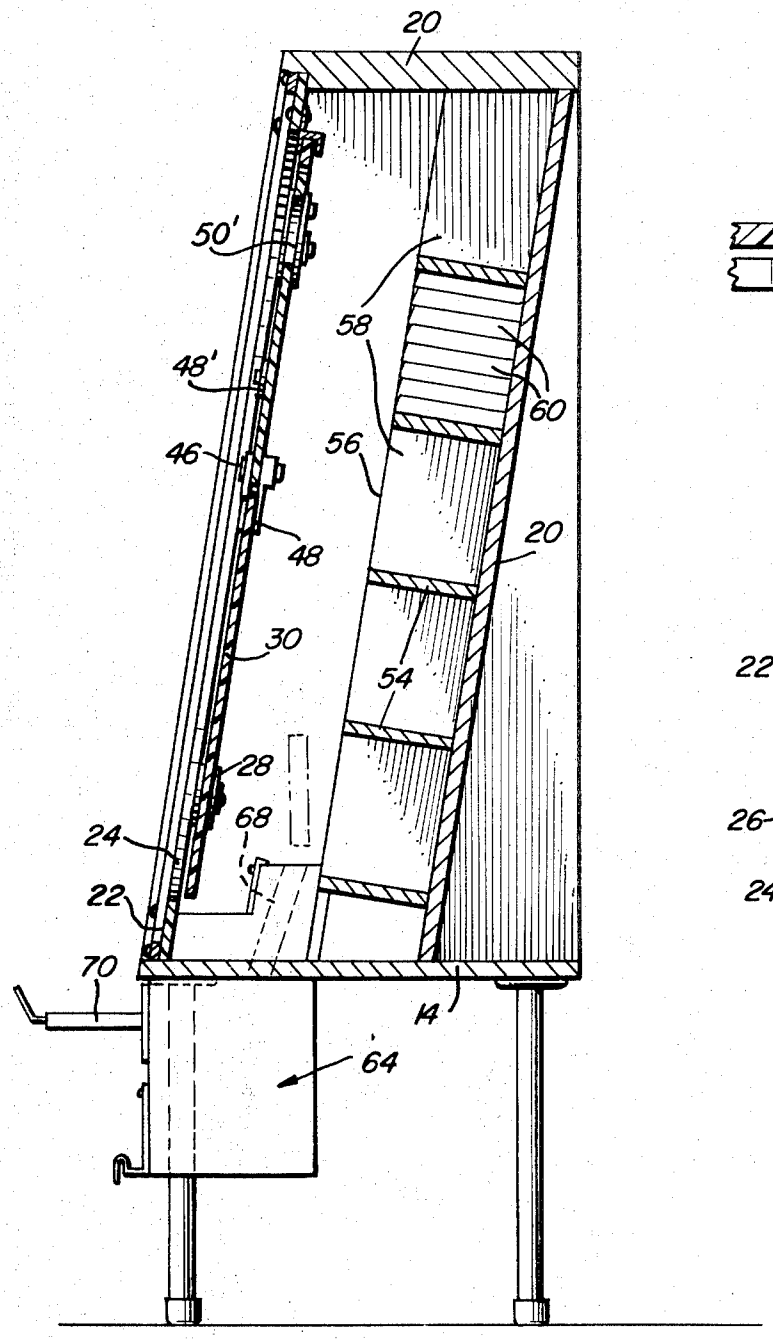


Fig. 3

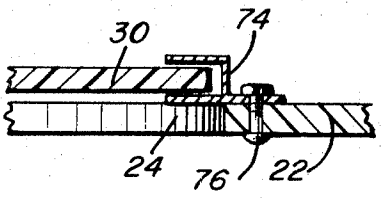
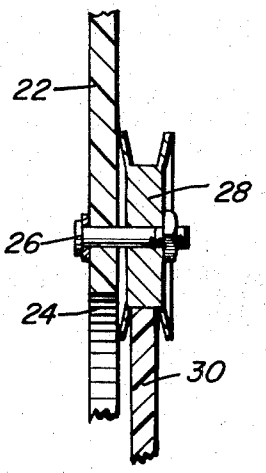


Fig. 4



TAPE CARTRIDGE VENDING MACHINE WITH ROTATABLE PANEL

This invention relates to a novel and useful vending cabinet specifically designed to vend tape cartridges and other similar articles.

Cabinets presently in use for displaying tape cartridges are provided with transparent front panels which may be opened to provide access to the interior of the cabinet, but which are locked in a closed position to prevent theft of the cartridges within the cabinet until such time as a sales clerk wishes to remove a tape cartridge from within the cabinet.

These conventional forms of cabinets include vertically and horizontally spaced open-ended compartments which open toward the inner side of the transparent front panel of the cabinet and the tape cartridges within these compartments are arranged so that the title edges of the cartridges (or boxes in which the tape cartridges are packaged) face forwardly and may be read through the transparent front panel of the cabinet.

It is therefore the generally accepted practice for a prospective customer to read the titles of the tape cartridges through the transparent front panel of the cabinet and thereafter seek a sales person to open the cabinet for the purpose of giving the desired tape cartridges to the customer who thereafter pays for the cartridges at a check-out counter. However, in some instances one or more of the tape cartridges removed from the cabinet by a sales person and given to the prospective customer is concealed on the person of the customer and is therefore not paid for at the check-out counter. Also, it is inconvenient, in some instances, for a sales person to interrupt whatever task he is performing, move to the article vending cabinet, unlock the cabinet, give a prospective customer the desired cartridge tapes and then relock the cabinet before again returning to his previous task.

It is accordingly the main object of this invention to provide a vending cabinet for vending tape cartridges and the like including novel structure to enable a prospective customer to select the desired tape cartridges and place the desired cartridges in a position to be vended from the machine upon the placement of proper coins and/or tokens in the vending mechanism of the machine.

Another object of this invention, in accordance with the immediately preceding object, is to provide a system for vending tape cartridges from a display case and which will be relatively theft-proof.

A still further object of this invention is to provide a novel vending cabinet construction including a single access opening in one wall portion thereof through which access may be gained to the entire stock of articles to be vended from the cabinet.

A final object of this invention to be specifically enumerated herein is to provide a tape cartridge vending cabinet in accordance with the preceding objects which will conform to conventional forms of manufacture, be of simple construction and easy to use so as to provide a device that will be economically feasible, long lasting and relatively trouble-free in operation.

These together with other objects and advantages which will become subsequently apparent reside in the details of construction and operation as more fully hereinafter described and claimed, reference being had to the accompanying drawings forming a part hereof, wherein like numerals refer to like parts throughout.

FIG. 1 is a front elevational view of a vending cabinet constructed in accordance with the present invention;

FIG. 2 is a vertical sectional view taken substantially upon the plane indicated by the section line 2—2 of FIG. 1;

FIG. 3 is an enlarged fragmentary sectional view taken substantially upon the plane indicated by the section line 3—3 of FIG. 1;

FIG. 4 is an enlarged fragmentary sectional view taken substantially upon the plane indicated by the section line 4—4 of FIG. 1;

FIG. 5 is an enlarged fragmentary sectional view taken substantially upon the plane indicated by the section line 5—5 of FIG. 1; and

FIG. 6 is an enlarged fragmentary sectional view taken substantially upon the plane indicated by the section line 5—5 of FIG. 1.

Referring now more specifically to the drawings, the numeral **10** generally designates a vending cabinet constructed in accordance with the present invention. The cabinet **10** includes interconnected top and bottom walls **12** and **14** and opposite side walls **16** and **18.** In addition, a rear wall **20** extends between the side walls **16** and **18** and a front cover wall or partition panel **22** is secured between the forward marginal edge portions of the top and bottom walls **12** and **14** and the opposite side walls **16** and **18.** The panel **22** is constructed of transparent material and has a large diameter substantially circular opening **24** formed therein. A plurality of through fasteners **26** are secured through the panel **22** at points spaced circumferentially about the opening **24** and an equal number of double-flanged wheels **28** are journaled from the ends of the fasteners **26** disposed inwardly of the panel **22.**

A substantially circular closure panel **30** which is also constructed of transparent material is journaled from the wheels **28** in registry with the opening **24** to thereby close the latter. The closure panel **30** has a medium size opening **32** formed in one sector thereof and a second generally circular closure panel **34** is disposed within the opening **32** and includes circumferentially spaced double-flanged wheels **36** by which the second closure panel is journaled in and closes the medium size opening **32.** The wheels **36** may be defined by a center sleeve **38** and a pair of opposite end washers **40** disposed on a through fastener **42** secured through the sleeve **38,** the sleeve **38** being rotatably received in bores **44** formed in the second closure panel **34** and the washers **40** being disposed on the opposite ends of the through fastener **42** outwardly of the ends of the center sleeve **38** with the washers **40** disposed on opposite sides of the second closure panel **34** and the first-mentioned closure panel **30.** Accordingly, the first closure panel **30** is journaled in the opening **24** and the second closure panel **34** is journaled in the opening **32.**

From FIG. 1 of the drawings it may be seen that the wheels **36** are disposed in approximately the eleven and 1 o'clock positions of the second closure panel **34** and that a lock structure **46** is carried by the 6 o'clock position of the closure disk **34** in FIG. 1 and includes a pair of inner and outer flange portions **48** and **50** which overlie the inner and outer surfaces of the closure panel **30.** Of course, when the lock **46** is unlocked with an ap-

propriate key the flange portions **48** and **50** are swung to positions received within the boundaries of the opening **32** whereby the closure panel **34** may be removed from the opening **32.**

In addition to the wheels **36,** the closure panel **34** includes a second pair of wheels **48'** supported from the 4 and 8 o'clock positions of the closure panel **34** as illustrated in FIG. **1.** The wheels **48'** are single flange wheels with the flanges thereof disposed on the outer side of the closure panel **34** and closure panel **30.** Accordingly, when the lock **46** is unlocked, the lower peripheral portion of the closure panel **34** may be lifted forwardly from the closure panel **30** and thereafter shifted downwardly to disengage the double flange wheels **36** from the closure panel **30.**

The second or small closure panel **34** includes a small diameter access opening **50'** formed in one sector thereof. The access opening **50'** is of a diameter too small to enable the standard size tape cartridge to be passed therethrough. However, the opening **50'** is of a size to receive a customer's hand and his lower arm portion therethrough. Accordingly, upon proper positioning of the closure panel **30** and the closure panel **34** a customer may insert his hand and lower arm portion through the opening **50'** and gain access to all of the interior of the cabinet **10** except the corner portions thereof, which corner portions are provided with access openings **52** in the partition or panel **22.** If a person having his arm engaged through one of the openings **52** selects a tape cartridge from one of the corner portions he may then insert his other hand and arm through the opening **50',** move the opening **50'** adjacent the corner opening through which his other arm is extended and transfer the selected tape cartridge from the hand disposed inwardly of the opening **52** to the hand disposed inwardly of the opening **50'.**

The interior of the cabinet **10** is provided with a plurality of horizontal shelves **54** and vertical partitions **56** so as to define a plurality of horizontally and vertically spaced compartments **58** in each of which a plurality of tape cartridges **60** may be placed with their title edge portions facing forwardly. As for example, the cabinet **10** illustrated in FIG. **1** is capable of displaying four hundred and forty tape cartridges for viewing of each of the titles of the cartridges through the transparent front of the cabinet **10.**

The lower portion of the cabinet **10** includes a token controlled vending mechanism referred to in general by the reference numeral **64** and the mechanism **64** defines a passage extending from the bottom of the interior of the cabinet **10** disposed forwardly of the compartments **56** to an exterior outlet opening **66.** The vending mechanism may be of any suitable construction and it is believed that it may be readily appreciated that a tape cartridge **60** which has been selected from an upper portion of the cabinet **10** may be readily placed in the inlet end **68** of the vending passageway merely by rotating the panels **30** and **34** to positions with their openings **32** and **50'** disposed lowermost. Thereafter, the customer utilizing the cabinet **10** may withdraw his lower arm and hand from the opening **50'** and actuate the vending mechanism **64** by the placement of the proper token within the token receiving mechanism **70** of the vending mechanism **64.**

It is herein pointed out that the mechanism **64** will be so designed to receive special tokens which may be purchased by the customer at a check-out counter prior to the customer removing the desired tape cartridges **60** from the compartments **58.** Thereafter, the customer proceeds to the cabinet **10** and selects and vends the desired tapes to himself by utilizing the prepurchased tokens. In this manner, it will be substantially impossible for tape cartridges **60** to be removed from the cabinet **10** or the store in which the cabinet **10** is placed without the tape cartridges **60** being paid for.

Also, in order to provide additional insurance against unpaid for removal of tape cartridges **60** from the cabinet **10,** the partition **22** includes a pair of brackets **74** supported therefrom in the 3 and 9 o'clock positions about the opening **24** by means of fasteners **76.** The brackets **74** loosely embrace corresponding marginal portions of the closure panel **34** and thereby prevent lateral deflection of the latter sufficient to remove cartridges **60** therepast.

The foregoing is considered as illustrative only of the principles of the invention. Further, since numerous modifications and changes will readily occur to those skilled in the art, it is not desired to limit the invention to the exact construction and operation shown and described, and accordingly all suitable modifications and equivalents may be resorted to, falling within the scope of the invention.

What is claimed as new is as follows:

1. An article vending cabinet including an open side and means defining a plurality of horizontally and vertically spaced open-ended compartments opening outwardly of said open side, said cabinet including a partition extending over and closing said open side and spaced outwardly from the open ends of said compartments, said partition having a first large generally circular opening formed therethrough, a first generally circular closure panel rotatably supported from circumferentially spaced edge portions of said partition defining said large opening and with said first closure panel registered with and closing said opening, said first closure panel having a second medium size eccentrically disposed opening formed therethrough, a second generally circular closure panel, means rotatably supporting said second closure panel from circumferentially spaced edge portions of said first closure panel defining said medium size opening and closing said second opening, said second closure panel having a third small size eccentrically disposed opening formed therethrough.

2. The combination of claim **1** wherein said cabinet includes means defining a vending passageway having an inlet end accessible through said small size opening and an outlet end accessible from the exterior of said cabinet.

3. The combination of claim **2** wherein said cabinet includes vending mechanism operatively associated with said passageway and operable from the exterior of said cabinet to vend an article placed into the inlet end of said passageway, through the latter and to the outlet end thereof.

4. The combination of claim **1** wherein said means rotatably supporting said second closure panel from said first closure panel is carried by said second closure panel and includes means removably supporting said second panel from said first closure panel.

5. The combination of claim **4** wherein the last-mentioned means includes lock means operative to re-

sist unauthorized removal of said second closure panel from said first closure panel.

6. The combination of claim **1** wherein said circumferentially spaced edge portions of said partition have double flange rollers journaled therefrom on the inner side of said partition, circumferentially spaced portions of said first closure panel being received between the flanges of said rollers whereby said first closure panel is rotatably supported from said partition.

7. The combination of claim **1** wherein said circumferentially spaced portions of said first closure panel have inner and outer coaxial washers journaled therefrom and projecting inwardly of the edges of said first closure panel defining said medium opening, said second closure panel having circumferentially spaced portions thereof received between the portions of said pairs of washers projecting inwardly of the edges of said medium opening, the opposing peripheral edges of said second closure panel and said medium size opening and the reception of circumferentially spaced portions of said second closure panel between said pairs of washers comprising said means rotatably supporting said second closure panel in said medium size opening.

8. The combination of claim **7** wherein said circumferentially spaced edge portions of said partition have double flange rollers journaled therefrom on the inner side of said partition, circumferentially spaced portions of said first closure panel being received between the flanges of said rollers whereby said first closure panel is rotatably supported from said partition.

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