

[72] Inventor **Norman R. Welch**
 905 Bailey Park N.E., Grand Rapids, Mich.
 49505

[21] Appl. No. **785,180**

[22] Filed **Dec. 19, 1968**

[45] Patented **Mar. 9, 1971**

[56] **References Cited**

UNITED STATES PATENTS			
1,021,679	3/1912	Jansen.....	280/79.2
1,712,080	5/1929	Kelly	221/119X
2,891,677	6/1959	Ritchie	211/49

Primary Examiner—David M. Bockenek
 Attorney—Price, Heneveld, Huizenga and Cooper

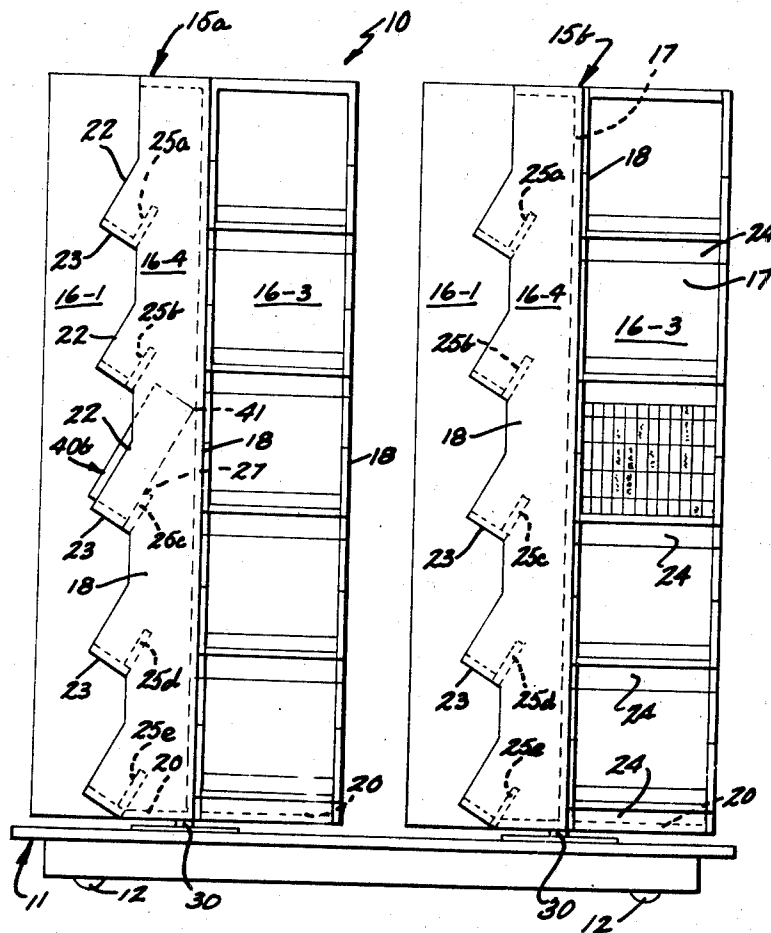
[54] **VENDING AND DISPLAY DEVICE**
 13 Claims, 4 Drawing Figs.

[52] U.S. Cl. **211/163,**
 221/285, 211/49

[51] Int. Cl. **A47f 5/02**

[50] Field of Search..... 221/285,
 132, 119, 120, 113; 222/144; 312/97, 97.1, 125,
 59; 211/49, 163

ABSTRACT: A device for vending and displaying products, particularly cigarettes, including a plurality of cabinet members mounted in rotatable fashion upon a suitable base member. Each of the cabinets contains a series of vertically spaced shelves, the shelves being adapted to receive cigarette cartons in gravity-feed position. The device is adapted particularly for vending the individual cigarette packages singly as opposed to entire cartons.



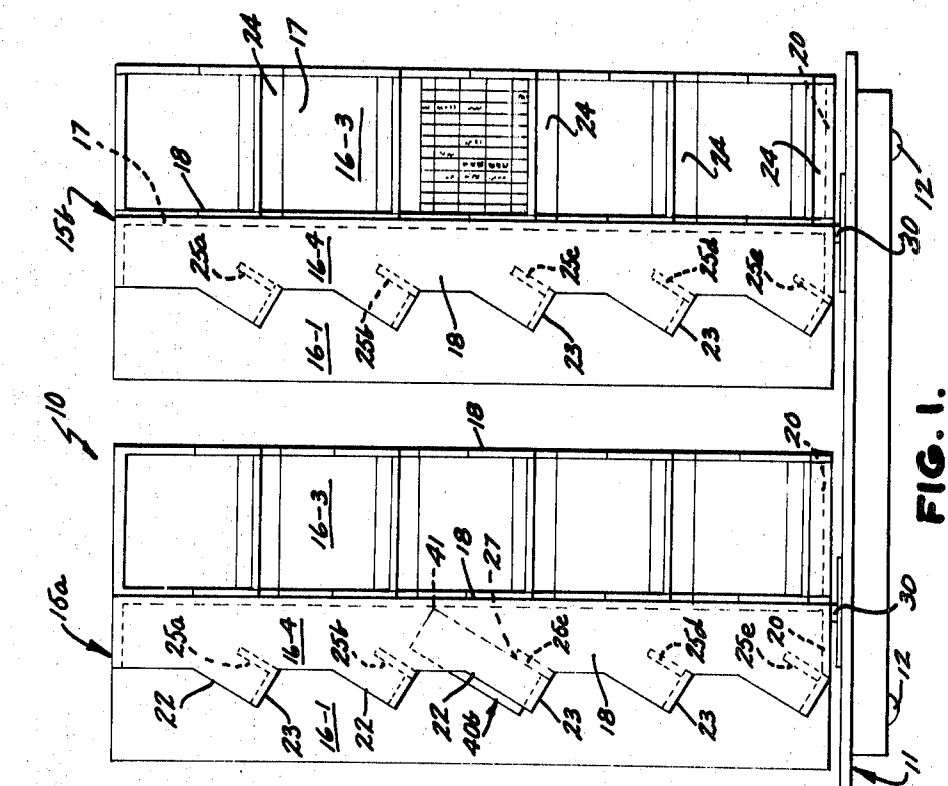


FIG. 1.

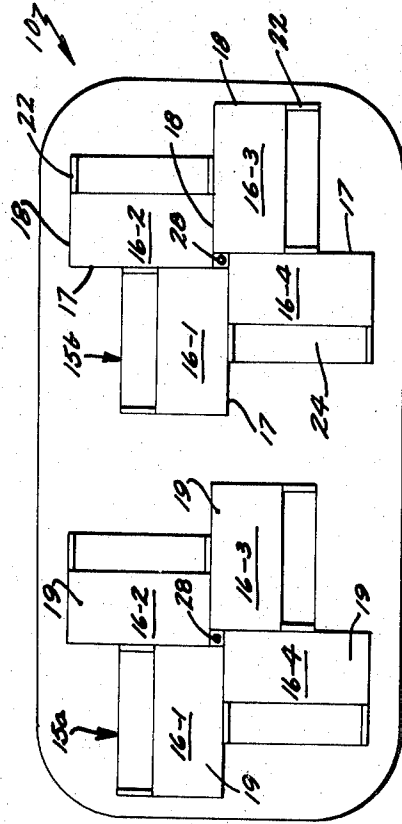


FIG. 2.

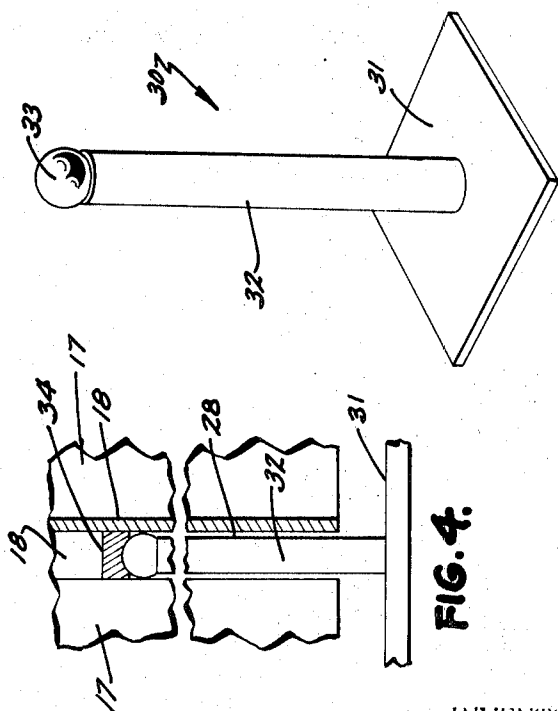


FIG. 3.

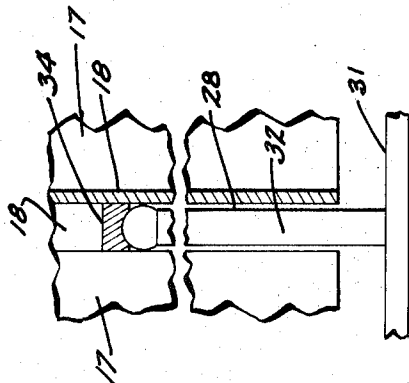


FIG. 4.

INVENTOR.
NORMAN R. WELCH
BY *Price, Hensel & Cooper*
ATTORNEYS

VENDING AND DISPLAY DEVICE

This invention relates to vending and display devices and, more particularly, to such devices particularly adapted for utilization in the displaying and merchandising of discrete articles such as cigarettes which are received in packages containing a plurality of the individual articles. This invention comprises, briefly, a structure including a plurality of upstanding cabinet members affixed rigidly to each other, each of the cabinet members having an upstanding rear wall and at least one sidewall extending perpendicularly thereto. A plurality of vertically spaced shelf members are affixed to the sidewall, the shelf members slanting downwardly toward the open side of the cabinet member. Stop means are affixed to each of the shelves at the lower extremity thereof whereby articles can be placed upon the shelves in slanted, accessible fashion, the ends of the articles resting against the stop means.

The salutary features of this invention will be evident from a study of a preferred embodiment thereof as set forth in the following specification and accompanying drawings in which:

FIG. 1 is a side-elevational view of the vending and display device;

FIG. 2 is a plan view thereof;

FIG. 3 is a perspective view of the base assembly thereof; and

FIG. 4 is a fragmentary, side-elevational view, partially in cross section of the base assembly cabinet unit interconnection.

The vending and display device which is the subject of this invention is indicated generally by the reference numeral 10 in the drawings and, as illustrated, is adapted particularly for the display and vending of individual cigarette packages contained in open-topped cartons. The unit includes a planar base 11 having conventional casters 12 mounted thereon for ease in movement from one location to another within the dispensing and/or stocking area.

Mounted upon the base 11 in rotatable fashion are two identical vending and display units 15a and 15b. Each of the units 15 is formed from a series of four individual cabinets 16. Display unit 15a, thus, is made up of cabinets 16-1, 16-2, 16-3 and 16-4. Display unit 15b, similarly, is made up of individual cabinets 16-1, 16-2, 16-3 and 16-4.

Each of the individual cabinets 16 includes a rectangular, upstanding rear wall 17 having sidewalls 18 extending perpendicularly therefrom to form a front or opening. A top wall 19 extends across the rear wall and sidewalls of the cabinet and, similarly, a bottom wall 20 is positioned across the lower extremities thereof.

As shown best in FIG. 1, the forward or front portions of the sidewalls 18 include segments which diverge downwardly (segments 22) to a point and then converge downwardly (segments 23) in generally sawtooth fashion. The stop member 24 is positioned between and affixed to each of the facing downwardly converging segments 23 in the manner illustrated.

Also positioned between the sidewalls 18 forming a particular cabinet 16 are a series of shelf members 25. Cabinet 16-4 on unit 15a, thus, includes shelf members 25a, 25b, 25c, 25d and 25e. The shelf members 25 slant downwardly toward the front of each particular cabinet and, preferably, are generally parallel to the downwardly diverging segments 22 of the sidewalls. The members 25, as shown in the drawings, do not extend completely to the rear wall 18 of the cabinet with which they are associated. The shelf members, rather, terminate at 27 after extending a distance of 5 or 6 inches toward the rear wall as will be discussed in detail hereinafter.

From examination of FIG. 1, it will be noted that the stop members 24 and the shelf members 25 are affixed between the sidewalls 18 in mutually perpendicular fashion. If the cabinet is constructed from wood, these interconnections can be made by any conventional method such as glueing, screwing, nailing or the like. If the structure is fabricated from metal, the individual components may be riveted or welded together.

The cabinets 16 may be fabricated individually and, subsequently, four of them placed in the relative positions shown

best in FIG. 2. Each cabinet, more particularly, may be placed such that its back abuts the side of an adjacent cabinet and, thus, one of the cabinet openings is directed toward each of four perpendicular directions. In assembling the cabinets together, a channel 28 is left down through them and a bearing cap 34, to be discussed in detail hereinafter, inserted therein. The cabinets may be affixed together in the position shown in FIG. 2 by any of the conventional methods noted with regard to assembly of the individual cabinet.

An alternative mode of construction (not illustrated) may also be utilized wherein that side of each of the cabinets 16 which abuts the rear of an adjacent cabinet is omitted. In this situation, the back of the adjacent cabinet is utilized as the interior side member, the stop members 24 and shelf members 25 being affixed directly to and depending for support on the rear wall of the adjacent cabinet. Thus, referring to FIG. 2, the stop members 24 and shelf members 25 of cabinet 16-4 can be affixed directly to the rear wall of cabinet 16-1; those of cabinet 16-3 to the rear wall of cabinet 16-4; those of cabinet 16-2 to the rear wall of cabinet 16-3; and those of cabinet 16-1 to the rear wall of cabinet 16-2. Such a construction enables a saving in materials and is particularly suitable when the cabinets are formed from sheet metal.

The base assembly 30, shown best in FIGS. 3 and 4, comprises a flat plate 31 of steel or the like having an upstanding column 32 welded or otherwise secured thereto. At the top of the column 32 is positioned a bearing member 33 which, in the preferred embodiment, takes the form of a ball bearing.

The base assembly 30 is affixed to the base or platform 11 through the provision of suitable apertures therein and, thereafter, the units 15a and 15b are lifted and dropped thereonto such that the columns 32 enter the channels 28 therein. The units 15 are permitted to drop onto the base assembly 30 until the bearing 33 abuts the bearing surface 34 suitably secured within the channel 18. The bearing cap 34, preferably, has a concave, downwardly facing surface which mates with the bearing 33 in rotatable fashion as illustrated in FIG. 4. The relative length of the column 32 and the channel 18 below bearing cap 34 are such that the units 15 will not drop completely into abutment with the platform or base 11 but, rather, will be suspended upon the columns 32 and easily rotatable thereabout. Vertical stability of the cabinets 15 is insured by the relatively close tolerance between the upstanding column 32 and the interior boundaries of the channel 18.

The device illustrated, as noted heretofore, has been designed specifically for the display and vending of cigarettes or similarly packaged articles. The cigarettes are placed thereinto, as illustrated in FIG. 1, by merely stripping the tops from the individual cartons 40 thereof and placing them in slanted fashion onto the shelves 25 such that their ends abut the stop means 23. The perpendicular distance between the stop means 23 and the rear wall 18 of the individual cabinets is equal to the length of the cigarette cartons and, thus, the rear corner of the carton may rest directly against the rear wall of the cabinet as indicated at 41. Such dimensioning, of course, markedly reduces the amount of wood required for fabrication of the display device and, additionally, the weight of the resultant system insuring smooth functioning of the rotatable base assembly 30 and easy transportation from location to location.

The unit 10 may, if desirable, be loaded with cigarettes in the stocking room and then rolled to a suitable position in the merchandising area. As a customer approaches the cabinet, he may select his particular brand by merely rotating one of the cabinets 15a or 15b until such time as his desired brand comes into view. He may remove, then, the desired number of packages from the open-top carton and other packages contained therein will feed by gravity toward stop 23. This process can be repeated, of course, until such time as the entire contents of the particular carton are exhausted whereafter it can be replaced by a new carton of the particular brand. Such replacement can be effected either by rolling the entire unit 10 back to the stocking room or, alternatively, at the location of the unit in the merchandising area.

The instant invention makes possible, thus, the displaying and vending of a large number of individual items within a relatively small floor space area. The items are easily accessible to potential customers since all they need to do is to rotate the individual cabinet units 15 until their desired brand comes into view. Removal of one or more packages of this brand will automatically cause similar packages to slide into easily acceptable position until such time as the contents of the particular carton are exhausted. The individual cartons 40, thus, form a slide for the dispensing of the individual cigarette packages.

Suitable dimensions for any given structure will vary, of course, with the environment in which it is to be utilized. It has been found, for example, that individual cabinets 16 having a height of 5 feet and a width of 1 foot provide satisfactory results in a supermarket or the like. The desirability of placing more than one of the units 15 on a given base 11 will also depend upon the particular environment in which the device is to be utilized.

While a preferred embodiment of this invention has been illustrated in detail, it will be readily apparent to those skilled in the art that other embodiments may be conceived and fabricated without departing from the spirit and scope of this invention.

I claim:

1. A structure for displaying and permitting access to articles, said structure comprising: a plurality of upstanding cabinet members affixed rigidly to each other, each of said cabinet members having an upstanding rear wall and an outer sidewall extending perpendicularly thereto; a plurality of vertically spaced shelf members affixed to said sidewall and extending inwardly therefrom toward the rear wall of an adjacent cabinet member, said shelf members slanting downwardly toward the open front of said cabinet member; and a stop means affixed to each of said shelf members at the lower extremity thereof whereby articles can be placed upon said shelf members in slanted, accessible fashion, the ends of said articles resting against said stop means.

2. The structure as set forth in claim 1 which further comprises:

a base; and

means for mounting said plurality of upstanding cabinet members rotatably with respect to said base.

3. The structure as set forth in claim 1 wherein there are four of said upstanding cabinet members affixed rigidly to one another, the open fronts of said members being perpendicularly directed with respect to the open fronts of adjacent cabinet members.

4. The structure as set forth in claim 3 wherein the shelf members of each of said cabinet members terminates adjacent the rear wall of an adjacent cabinet member, adjacent portions of the walls of said members at the center of said structure being spaced from one another to form a vertical pivot member receiving channel therebetween.

5. The structure as set forth in claim 4 which further comprises:

a base having an upstanding pivot member affixed thereto, said pivot member being positioned within said pivot

member receiving channel; and

bearing means positioned within said channel abutting the upper surface of said pivot member, the relative lengths of said channel and said pivot member being such as to position said cabinet members in elevated, pivotable fashion with respect to said base.

6. The structure as set forth in claim 5 wherein said pivot member terminates at its upper extremity in a smoothly curved, convex bearing surface and wherein said bearing means has a mating concavity rotatably receiving said surface.

7. The structure as set forth in claim 5 which further comprises castor means affixed to said base to permit sliding of said structure from one location to another within an area.

8. The structure as set forth in claim 5 which further comprises a second plurality of upstanding cabinet members rotatably positioned upon said base.

9. A structure for displaying and permitting access to articles, said structure comprising: a plurality of upstanding cabinet members affixed rigidly to each other, each of said cabinet members having an upstanding rear wall and an outer sidewall extending perpendicularly thereto; a plurality of vertically spaced shelf members affixed to said sidewall and extending inwardly therefrom, said shelf members slanting downwardly toward the open front of said cabinet member;

and a stop means affixed to each of said shelf members at the lower extremity thereof whereby articles can be placed upon said shelf members in slanted, accessible fashion, the ends of said articles resting against said stop means, the front portions of said sidewalls being saw-toothed in configuration having upwardly and downwardly facing segments, said stop members extending from downwardly facing segments thereof.

10. The structure as set forth in claim 9 wherein said shelf members are positioned parallel to the upwardly facing segments of said front portions.

11. A structure for displaying and permitting access to articles, said structure comprising: a plurality of upstanding cabinet members affixed rigidly to each other, each of said cabinet members having an upstanding rear wall and an outer sidewall extending perpendicularly thereto; a plurality of vertically spaced shelf members affixed to said sidewall and extending inwardly therefrom, said shelf members slanting downwardly toward the open front of said cabinet member, said shelf members extending rearwardly only a portion of the width of said sidewall, said articles being adapted to abut and rest against said rear wall; and a stop means affixed to each of said shelf members at the lower extremity thereof whereby articles can be placed upon said shelf members in slanted, accessible fashion, the ends of said articles resting against said stop means.

12. The structure as set forth in claim 11 wherein the shortest distance between the interior side of said stop members and the rear wall of the associated cabinet member measured along a line parallel to said shelf members equals the length of a conventional cigarette carton.

13. The structure as set forth in claim 11 wherein each of said stop members is positioned perpendicular to and in abutment with its adjacent shelf member.