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3,270,891

DISPLAY RACK WITH RECOVERY MEANS

Filed April 15, 1964

2 Sheets-Sheet 1

FIG. 1

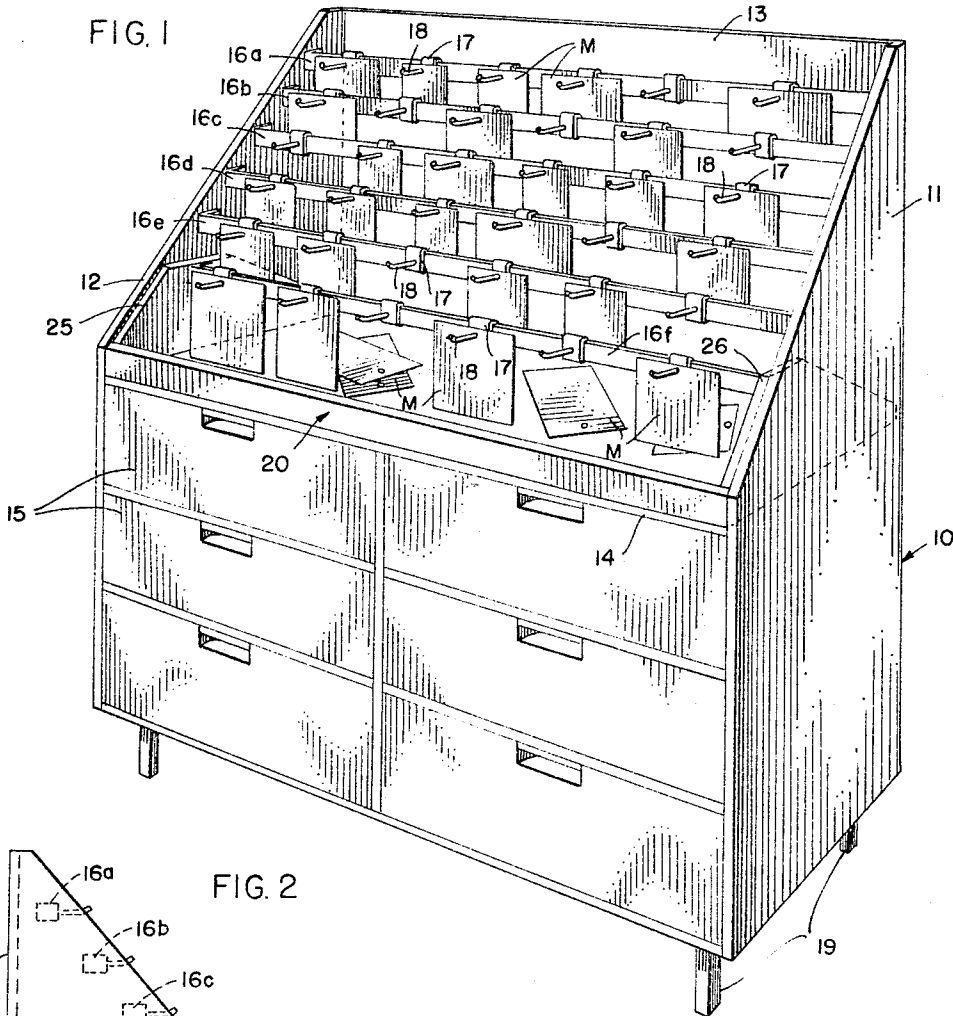


FIG. 2

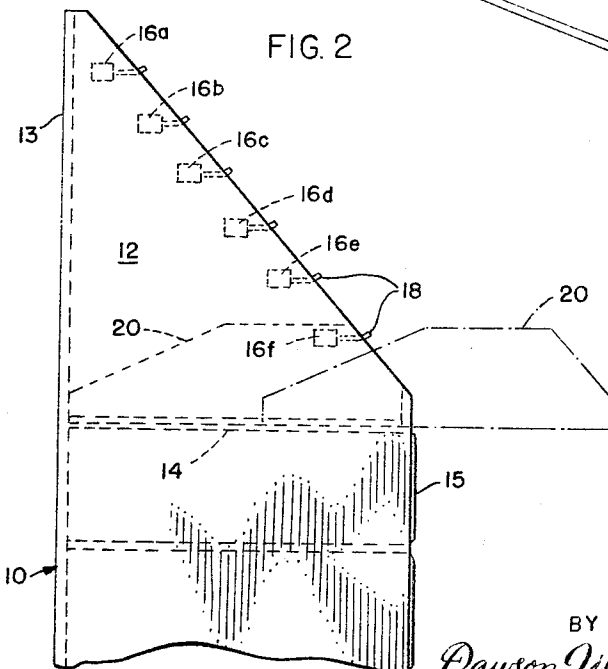
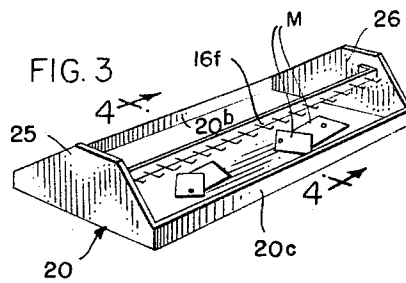


FIG. 3



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FIG. 4

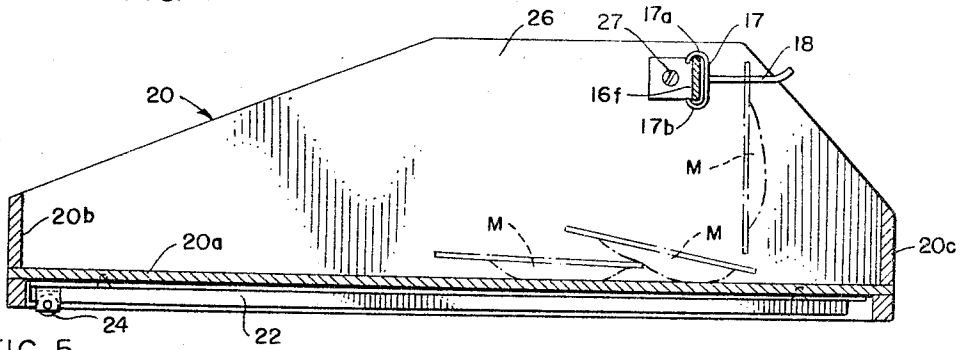


FIG. 5

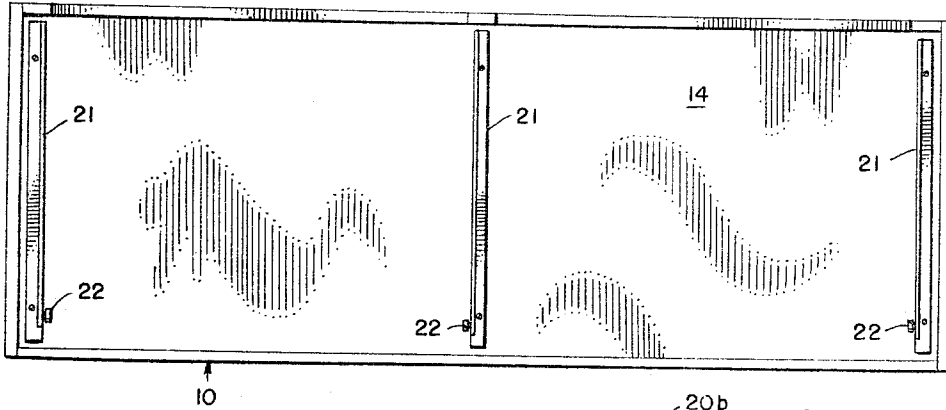


FIG. 6

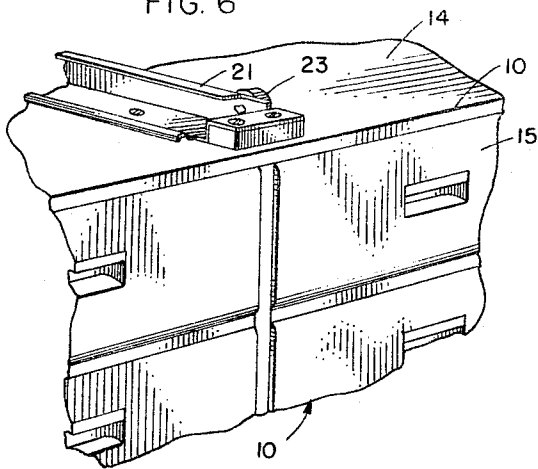
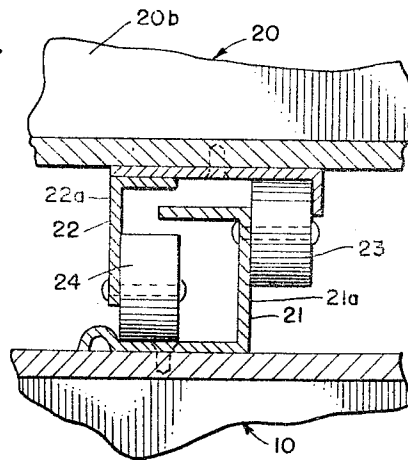


FIG. 7



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**DISPLAY RACK WITH RECOVERY MEANS**  
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1 Claim. (Cl. 211-59)

This invention relates to a display rack equipped with recovery means. More particularly, the invention is concerned with stepped display racks for packaged merchandise which are provided with means for retrieving merchandise packages that are accidentally dislodged.

Packaged merchandise such as carded products can be conveniently displayed on a rack having a series of hanger-equipped bars which are arranged in stair step fashion from the front to the rear of the rack. Since the carded products must be readily removable by the salesperson or customer, there is a considerable likelihood that items of merchandise will be accidentally dislodged or dropped as they are being removed or replaced. For example, the removal of one card, unless this is done with considerable care, may result in other adjoining cards being dislodged from their hangers. The problem of the recovery and replacement of merchandise on such racks is therefore a serious one. It is rendered more acute by the fact that if a person attempts to reach down through the hanger bars in an effort to retrieve the merchandise cards from the top of the cabinet base, it is almost impossible to do this without dislodging additional cards, especially when the rack is completely filled with merchandise and the individual hangers have their full quota of merchandise. Because of this problem, such stepped display racks have not met with much favor, although they otherwise are a simple and convenient means of displaying a large number of items of carded merchandise in a readily viewable arrangement which is particularly desirable for customer self-service. Here again, however, the customers, not being aware of the problem of package dislodgement, are very likely to knock off one or more packages in obtaining the desired item. The result of this is that the display rack either looks unattractive and messy, or requires very frequent attention by a salesperson.

It is, therefore, a general object of the present invention to provide means for overcoming the problems and difficulties described above while permitting the advantageous features of a stepped display rack to be fully utilized as a means for displaying packaged or carded merchandise. Further objects and advantages will be indicated in the following detailed specification.

This invention is shown in an illustrative embodiment in the accompanying drawing, in which:

FIGURE 1 is a perspective view of a display rack incorporating the present invention;

FIG. 2 is a fragmentary side elevational view of the same rack illustrating the merchandise retrieval tray in two positions;

FIG. 3 is a perspective view of the merchandise retrieval tray;

FIG. 4 is an enlarged sectional view of the merchandise retrieval tray taken on lines 4-4 of FIG. 3;

FIG. 5 is an enlarged top plan view of the display rack with the merchandise retrieval tray removed;

FIG. 6 is a partial fragmentary perspective view of the rack with the retrieval tray removed, showing one of the lower tracks; and

FIG. 7 is a transverse sectional view showing one of the pairs of cooperating roller tracks in operative relation.

Looking first at FIG. 1, there is shown a display rack

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having a horizontally-extending base 10 which provides an open front for the rack and includes side panels 11 and 12 extending upwardly above the base to enclose the ends of the rack. Preferably, a rear panel 13 is also provided to enclose the back of the display rack. In the illustration given, the side panels 11 and 12 are triangular, and are arranged to extend upwardly and rearwardly from the front of the rack. Side panels 11 and 12 and rear panel 13 may be advantageously formed integrally with the corresponding side and rear panels of the base 10.

The base 10 also provides a horizontal top 14, as seen more clearly in FIGS. 5 and 6. The top 14 provides a surface for supporting and cooperating with the tray retrieval means which will be subsequently described.

In the illustration given, base 10 is in the form of a cabinet, which provides space for a plurality of drawers 15, and is supported on legs. These elements, however, are conventional and are not directly related to the present invention. It will be understood that extra supplies of the packaged merchandise can be stored in the drawers 15, and when required the packaged merchandise can be used to replenish the stock on the rack, as will subsequently be described.

The stepped display rack includes a plurality of horizontal bars, such as the bars 16a, 16b, 16c, 16d, and 16e. These bars extend horizontally between the side panels 11 and 12, and are secured to the side panels by suitable attachment means, such as metal screws 27 (FIG. 4), spot welding, etc. As shown in FIGS. 1 and 2, the bars are arranged in upwardly stepped relation from the front of the rack. Each of the bars is provided with a plurality of hanger means spaced along the bars for removably supporting a multiplicity of packaged merchandise. In the illustration given, the hangers consist of hook-shaped brackets 17 and pins 18. The construction of the bracket members 17 and pins 18 is shown more clearly in FIG. 4. As there shown, the brackets 17 may be provided with an upper hook portion 17a and a lower hook portion 17b. This construction permits the brackets to be slidingly adjusted in position along the bars, while at the same time tending to prevent them from becoming unintentionally detached. If desired, however, the brackets can be removed by tilting the bottom portion outwardly far enough for the hook portion 17b to clear the bar before the bracket is lifted.

In the illustration shown, the packaged or carded merchandise can be hung on the pins 18. Such packaged merchandise is illustrated diagrammatically in FIGS. 1 and 3 where the carded merchandise is designated by the letter M. It will be understood that normally each of the pins 18 will have a plurality of cards or packages hanging thereon, and each of the pins may provide a different kind or type of merchandise. Usually, the rack will be relatively full, with the packages on each hanger being relatively closely spaced along the bars.

In accordance with the present invention, there is provided a merchandise retrieval tray or tray means 20 which is carried by base 10 beneath the merchandise-displaying bars 16a, 16b, etc. Tray means 20 is mounted on the upper surface 14 of the base 10 so that it is slidable outwardly from the front of the rack, as illustrated more particularly in FIG. 2. To promote free inward and outward sliding of the tray, a suitable roller and tray mechanism may be provided between the bottom 20a of the tray and the base top 14, as illustrated in FIGS. 4-7. In the illustration given, the base top 14 is provided with three of the tracks 21, and the bottom 20a of the tray is provided with three cooperating tracks 22. The lower track 21 provides an upwardly-extending wall 21a (FIG. 7) which at the forward end thereof carries rollers 23. Similarly, tracks 22 provide downwardly-extending walls 22a

(FIG. 7) which at the rear end thereof carry rollers 24. The rollers 23 bear against the underside of track 22, while the rollers 24 bear against the top of track 21. The operative relation of these parts is illustrated particularly in FIG. 7. Since the construction and operation of such track and roller mechanisms is well known in the art, it is not believed that it will be necessary to describe them further herein.

In achieving the maximum benefits of the present invention, the tray 20 may be provided with upwardly-extending side walls 25 and 26, as shown more clearly in FIGS. 1 and 3. These side walls may advantageously terminate below the level of the bar 16e, and bar 16e may advantageously be the second bar in the stepped rack. The first or lowermost bar 16f extends between the walls 25 and 26 of the tray 20 and is carried thereby. It will be understood that the bar 16f will also be provided with a plurality of the hanger means, such as the brackets 17 and the pins 18. The purpose and advantage of this particular construction will subsequently be described.

The tray 20 may also be provided with a rear wall or retaining strip 20b and with a front wall or retaining strip 20c. These walls, however, are preferably substantially shorter than the bar-supporting end walls 25 and 26. However, with the construction shown, the rear and front walls 20b, 20c can extend upwardly to a level above the lower ends of the packaged merchandise which is carried on the lowermost bar 16f.

#### Operation

In the operation of stepped display racks incorporating the present invention, the rack will be filled with merchandise in the usual way. The packaged or carded merchandise may have holes in the upper portions of the cards or packages which permit the packages to be slipped over the pins 18, as illustrated in FIGS. 1 and 4. In the filling of the rack by the store employee, as well as in the selection of merchandise from the rack by store customers, some of the packages M may be dislodged from the pins 18 and will drop downwardly into the tray 20. Such displaced packages are illustrated diagrammatically in FIGS. 1 and 3, and somewhat more realistically in FIG. 4. These displaced packages M can be readily recovered by pulling the tray outwardly, as illustrated in FIG. 2. With the tray in its outer position, it is a simple matter to retrieve the displaced packages M and replace them on their appropriate pins 18. This can be done without disturbing any of the other merchandise on the rack. As an added precaution, however, the displaced packages can be removed from the tray 20 while it is in its extended position, and the tray can be returned to its normal retracted position in FIG. 1 before the packages are replaced on the rack. When this is done, if any other package should be accidentally dislodged, it will simply fall downwardly into the tray, and can readily be retrieved. The upwardly-extending walls of the tray will keep the displaced packages confined therein, and will prevent them from falling on the floor or slipping back out of the tray onto the base top 14.

Since some of the packaged merchandise M may have a substantial thickness, they may fall in such a way that the ends of the packages extend upwardly to a considerable height above the bottom 20a and the tray. It is therefore particularly advantageous to support the lower-

most bar 16f on the tray itself. This permits the packages hanging on the lowermost bar 16f to extend downwardly almost to the tray bottom 20a without presenting any displacement problem as the tray is withdrawn to retrieve merchandise which has fallen therein. This feature is illustrated particularly in FIG. 4. As will be observed, if bar 16f remained stationary while the tray 20 was drawn forwardly, the displaced packages M would in all probability come in contact with some of the hanging packages M, and this could lead to the dislodgement of the hanging packages on the lowermost bar 16f. With the arrangement just described, the display capacity of the rack can be fully utilized, while at the same time taking maximum advantage of the package retrieval feature.

While this invention has been described in relation to a specific embodiment thereof and many details have been set forth for purpose of illustration, it will be apparent to those skilled in the art that the invention is susceptible to other embodiments and that certain of the details described herein can be varied considerably without departing from the basic principles of the invention.

#### I claim:

In a stepped display rack for packaged merchandise, a horizontally-extending base providing an open front for said rack, side panels extending upwardly above said base to enclose the ends of said rack, a plurality of horizontal bars for displaying said packaged merchandise, most of said bars extending between said panels and being carried thereby and being arranged in upwardly stepped, offset relation from the front to the rear of said rack, hanger means spaced along said bars for removably supporting a multiplicity of packaged merchandise, said hanger means including forwardly-extending pins having free forward ends for slidable insertion and removal of said packaged merchandise, whereby said merchandise is subject to accidental dislodgement from said hanger means, merchandise retrieval tray means carried by said base and extending beneath said merchandise displaying bars, the portions of said tray means in vertical alignment with each of said bars and the hanger means thereon being in open, unobstructed communication therewith, and means for slidably mounting said tray means so that said tray means is slidable outwardly from the front of said rack, whereby packaged merchandise accidentally dislodged from said hanger means can be recovered by sliding out said tray and thereby avoiding the chance of dislodging additional merchandise.

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