United States Patent

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[54] DISPLAY RACK AND DIVIDER
10 Claims, 6 Drawing Figs.

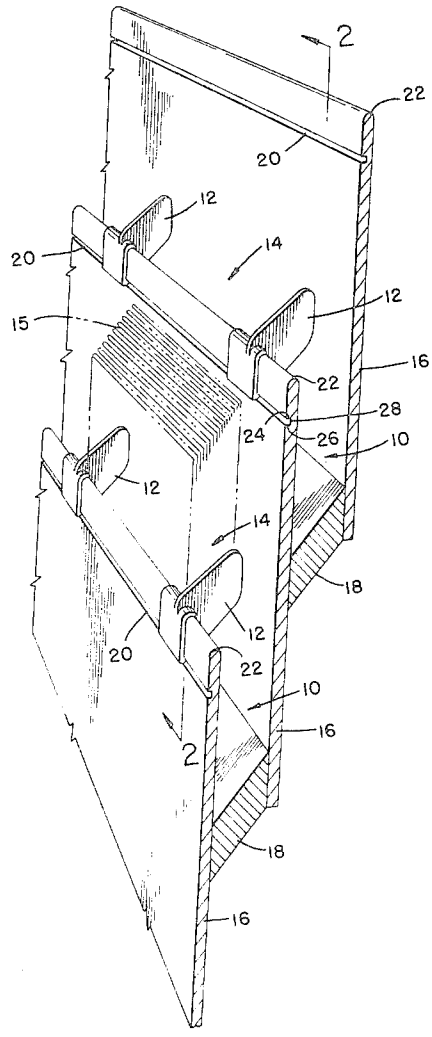
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[50] Field of Search 211/184, 43, 162, 55, 50, 49; 108/61; 312/140.4, 304; 248/225; 40/124.2, 124.4

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ABSTRACT: A display rack of the type used for displaying stationery items such as cards and the like. The rack comprises troughlike shelves and associated divider members. The divider members and the shelves are arranged so that the members can be easily adjusted longitudinally of the shelves but cannot be readily removed.



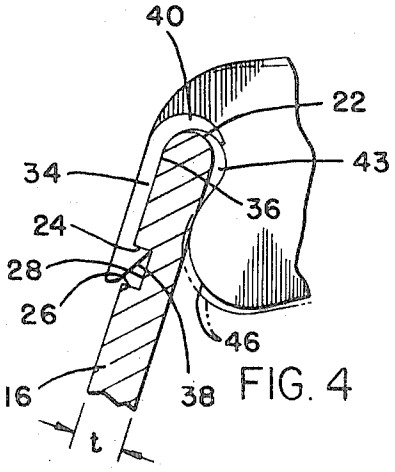


FIG. 4

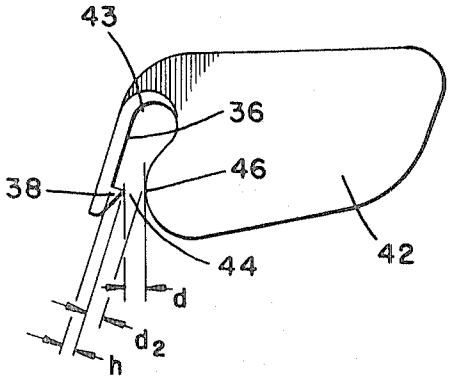


FIG. 3

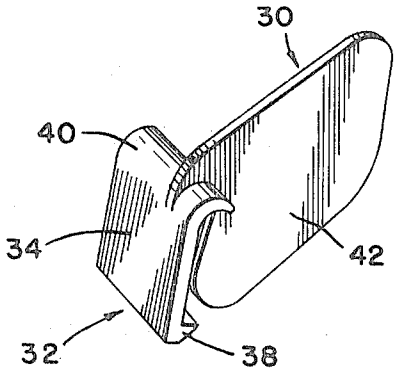


FIG. 6

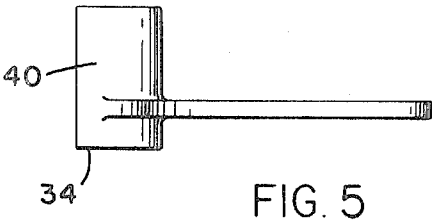


FIG. 5

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FIG. 1

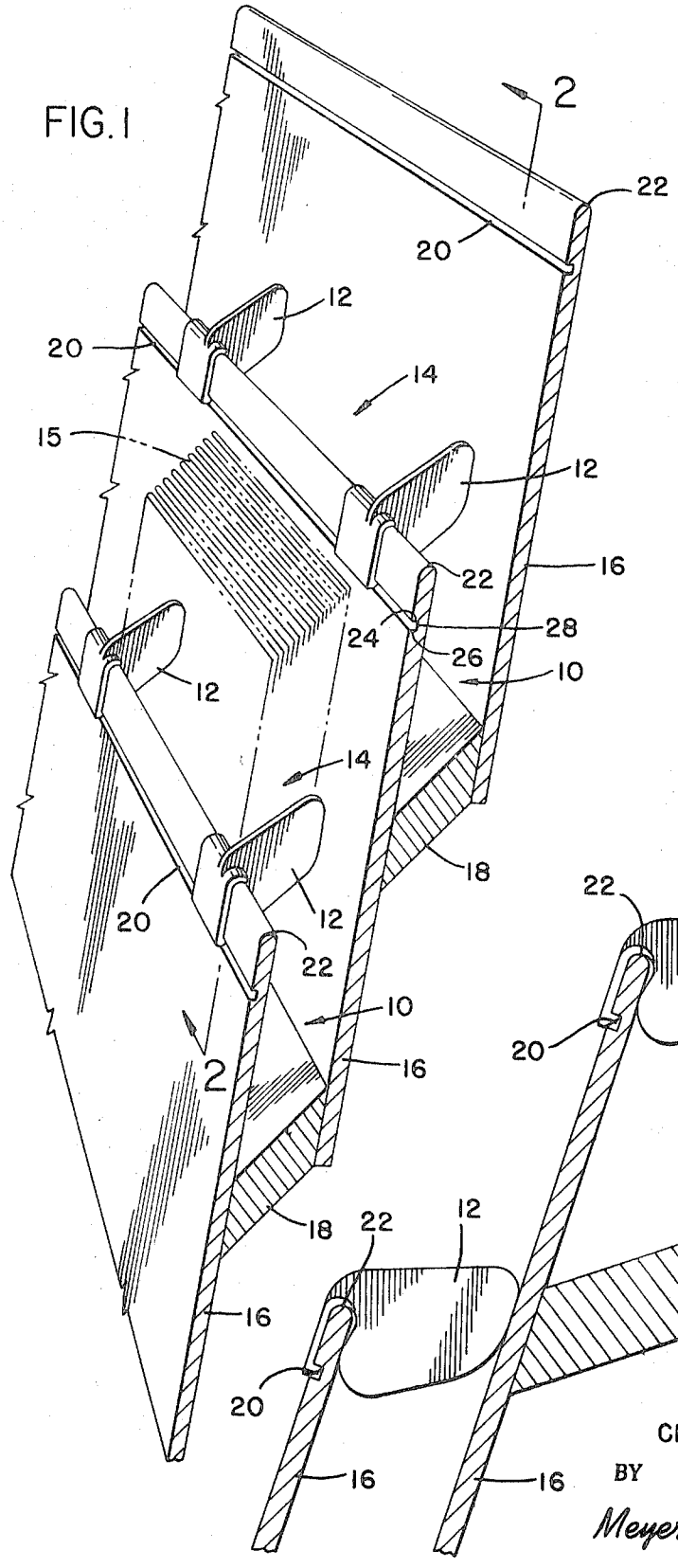
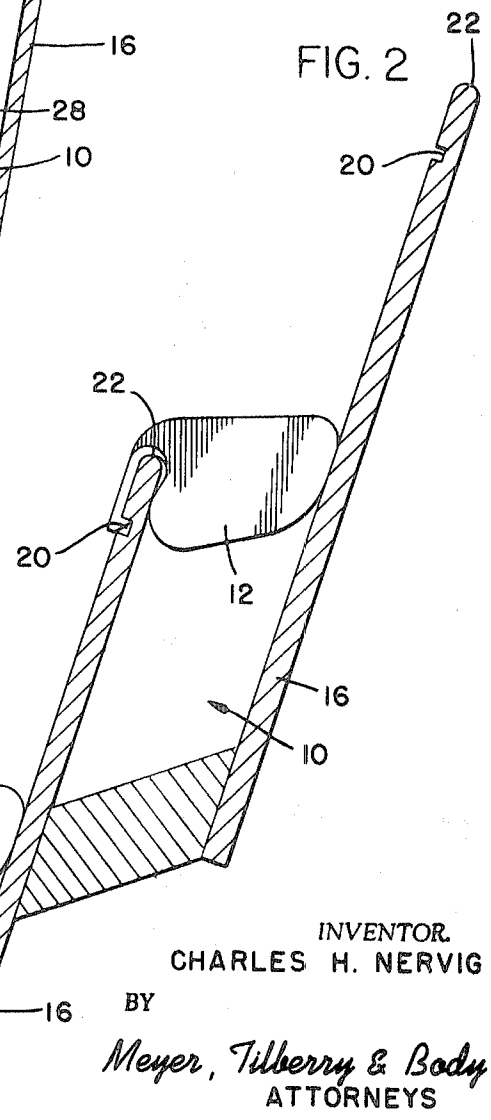


FIG. 2



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DISPLAY RACK AND DIVIDER

The present invention is directed toward the art of display stands and, more particularly, to an arrangement for dividing display shelves so as to maintain stationery items and the like in the proper relationship.

The invention is particularly suited for use in merchandising greeting cards and will be described with particular reference thereto; however, it will be appreciated that the invention is capable of broader application and can be used for displaying a wide variety of similar items.

In the merchandising of greeting cards and similar stationery items, it is the usual practice to use display racks comprised of troughlike shelves arranged in tiers. The cards are positioned so as to stand vertically in the troughs in side-by-side groups. Generally, divider members are provided to separate adjacent groups and maintain the cards in a pleasing and orderly arrangement.

As can be appreciated, the divider members should desirably have certain characteristics. First, because of the nonuniform widths of greeting cards, the members should be easily adjustable longitudinally of the troughs. Secondly, together with the longitudinal adjustment, the members should preferably be connected to the troughs in a manner which makes unauthorized removal extremely difficult. Thirdly, the dividers must be simple and inexpensive to manufacture and use. And, finally, they should have a pleasing appearance and be very rugged and durable.

The subject invention overcomes the above problems and provides a divider member for use in a display rack of the type having a troughlike shelf including a bottom wall and opposed front and rear walls each having front and rear faces with at least the front face of the front wall having a recess formed inwardly thereof. According to the preferred embodiment of the invention, the divider member includes a retainer portion and a divider portion. The retainer portion comprises a plate portion adapted to engage the front face of the front wall and having a projection for engagement in the recess. The divider portion extends from the plate portion in the same direction as the projection and is configured so that at least a portion is spaced from the projection a distance less than the thickness of the front wall. The divider portion is related to the projection such that movement of the divider portion in a direction away from the bottom wall causes the projection to be forced into the recess increasing the engagement between the projection and the recess.

According to a more limited aspect of the invention the member is a unitary plastic structure and the divider portion extends perpendicularly to the plate portion.

A primary object of the invention is the provision of an improved divider member for use in a display rack for maintaining items such as greeting cards in proper position in the rack.

Another object is the provision of a divider member of the type described which is simple to manufacture and use.

Yet another object is the provision of a display rack and divider member arrangement wherein the divider members can be readily adjusted longitudinally of the rack but which cannot be removed by unauthorized persons.

These and other objects and advantages will become apparent from the following description when read in conjunction with the accompanying drawings wherein:

FIG. 1 is a pictorial view of a section of a card display rack provided with divider members formed in accordance with the preferred embodiment of the invention;

FIG. 2 is a cross-sectional view taken on line 2—2 of FIG. 1;

FIG. 3 is an enlarged side view of one of the divider members;

FIG. 4 is an enlarged cross-sectional view showing one of the divider members engaged with a wall of the rack;

FIG. 5 is a top view of the divider element shown in FIG. 3, and,

FIG. 6 is a pictorial view of the divider element.

Referring more particularly to the drawings wherein the showings are for the purpose of illustrating a preferred embodiment of the invention only, and not for the purpose of limiting same, FIG. 1 shows a pictorial view of the rack assembly of the present invention comprised of a plurality of troughlike shelf-forming units 10 having divider members 12 connected thereto. This provides a plurality of card-receiving openings 14 in which the cards are positioned to stand vertically in groups 15. In the FIG. 1 showing, only a portion of a card rack is shown, however, it is to be appreciated that the rack could be of substantial length so that any desired number of side-by-side card-receiving openings 14 is provided. Additionally, the number of tiers of troughs 10 is not of particular importance and any number can be provided.

Specifically, although they could be of a variety of differing constructions, extending walls 16 which, for example, are formed one-fourth inch thick plywood or hardboard. Each of the troughs 10, have a bottom wall 18 which is connected between the central portion of the rear face of the forward wall of the trough and the lower edge of forward face of the rear wall. It will be noted that each of the walls 16 is a rear wall for one trough and a forward wall for the next rearwardly positioned trough.

Although not shown, the ends of the troughs can be closed by vertically extending end portions or, alternately, left open. Additionally, although the walls 16 are shown as being inclined rearwardly, it is to be understood that the walls can be positioned so as to extend vertically or even inclined forwardly. Further, although the walls are shown as being parallel they could of course be positioned in slightly nonparallel relationship.

In accordance with the invention, at least the forward walls 16 of each trough 10 are provided with a recess 20. In the embodiment under consideration, each recess 20 extends continuously throughout the length of the walls 16 and is spaced a short distance downwardly from the upper edge portion of the wall and is parallel thereto. Additionally, although not of importance to the invention, the upper edge of each wall 16 is rounded as shown at 22. As will become apparent hereafter, the recess 20, although shown as continuous throughout the full length of the wall 16, could be discontinuous. Similarly, the recess could have many cross-sectional configuration; however, it is preferably as shown, that is, it is of rectangular cross section having an upper wall 24 a lower wall 26 and a rear wall 28. This relationship is best shown in FIG. 4.

Referring particularly to FIGS. 4–6, it will be seen that each of the divider members 12 is arranged to be received on and engaged with the upper edges of the walls 16. Each of the divider members is preferably molded from a high-strength plastic and comprises a divider portion 30 and an integral retainer portion 32. In the embodiment under consideration each of the retainer portions 32 is relatively platelike in shape and comprises a flat, rectangular plate portion 34 having a base 36 adapted to engage the forward face of the associated wall 16. The plate portion 34 is provided with a projection 38 which extends laterally therefrom. The projection 38 is preferably of a height h which is no greater than the depth of the recess 20. Additionally, the lower edge of the plate portion 34 is preferably smoothly tapered up to the innermost edge of the projection 38.

The upper end or edge of the plate portion 34 extends laterally in the same direction as the projection. This portion 40 is, in the embodiment under consideration, smoothly curved so as to engage a portion of the upper edge 22 of the wall 16, as well as, to present a pleasing appearance.

The divider portion 30 of the member 12 comprises a flat relatively thin section 42 which is formed integrally with the upper section 40 of the plate portion 34. Referring in particular to FIGS. 3 and 4, it will be noted that the section 42 is configured so as to define, in combination with the plate member 34, a recess 43. The recess 43 has a lower open portion 44 defined by the innermost edge of the projection 38 and the curved lower corner 46 of the section 42. The minimum distance d between the outermost portion of the projection 38 and the outermost point of the curved portion 46 is preferably less than the thickness t of the small section 16. Additionally,

at the upper or innermost portion of the recess **43** the width is preferably such that it is wider than the thickness *t* of the wall section **16**. Further, referring to FIG. **3**, it will be seen that, for reasons which will hereafter be discussed, the distance d_2 between the inner face **36** of the plate **34**, and the closest point on the curvilinear section **46**, is slightly less than the thickness *t* of the wall **16**.

The arrangement thus far described allows the divider members to be manually clipped into position on the upper edge of the walls **16**. Note that to position the dividers on the wall sections it is only necessary to slide them downwardly in substantially their intended final orientation. The inclined lower lip or surface on the plate member **16** engages the upper rounded surface **22** on the wall section **16**. The curved lower corner **46** on the thin section **42** engages the opposite side of the rounded surface **22**. Downward pressure causes the plate portion to be sprung outwardly until the projection **38** passes into the recess **20**. With the projection **38** in recess **20**, any attempt to remove the divider element by pulling upwardly or twisting it causes the projection **38** to more firmly engage the recess **20**. Additionally, referring to FIG. **2**, it will be seen that the length of the divider portion **30** is such that it cannot be rotated in a clockwise direction. Note that the curvilinear portion **46** and the rightmost portion of the divider portion are such as to prevent this type of movement. Thus, the divider cannot be removed by rotating it about the edge **22**.

Having thus described my invention, I claim:

1. In a display rack having a bottom wall and opposed sidewalls in spaced and substantially parallel relationship to each other, each of said sidewalls having front and rear faces and an upper edge and at least one of said sidewalls having a recess extending inwardly from the front face thereof;

a divider member including a retainer portion and a divider portion, said retainer portion comprising a plate portion having an upper section engaging said upper edge of said one of said sidewalls and a projection including a free end extending laterally from one side thereof in engagement with said recess of said one of said sidewalls said divider portion being attached to said retainer portion and extending from said retainer portion in generally the same direction as said free end of said projection, said divider portion engaging the rear face of one of said sidewalls, so at least a portion of said divider portion being spaced from the edge of said projection a distance less than the thickness of said one of said sidewalls, said divider portion being so disposed from said projection that upon movement of said divider portion in a direction opposite to that of said bottom wall said projection is forced into said recess so as to increase the engagement between the projection and said recess.

2. An apparatus as defined in claim **1** wherein said projection extends from said plate portion generally at a right angle to a plane defined by said plate portion.

3. An apparatus as defined in claim **2** wherein said plate is of a generally rectangular shape and said projection takes the form of a rib which extends across said plate for a length substantially equal to the length of said plate.

4. An apparatus as defined in claim **3** wherein said plate is resilient to thereby cause said projection extending from said plate to releasably engage said recess.

5. An apparatus as defined in claim **3** wherein said divider portion is resilient to thereby cause said projection to releasably engage said recess.

6. An apparatus as defined in claim **3** wherein said divided portion converges toward said plate for at least a portion of the length of said divider portion.

7. An apparatus as defined in claim **6** wherein said divider portion diverges from said plate for at least a portion of the length of said divider portion.

8. An apparatus as defined in claim **7** wherein said convergent and divergent portions generally define an arcuate configuration wherein at least one point thereon is spaced from said projection said distance less than the thickness of said one of said sidewalls.

9. An apparatus as defined in claim **8** wherein said arcuate configuration engages the rear face of said one of said sidewalls so as to force said projection into said recess.

10. A divider member for use in a display rack for separating a plurality of objects positioned in said display rack and comprising a retainer portion and a divider portion, said retainer portion including a plate portion having a projection with a free end extending therefrom for engagement with an inwardly extending recess in the front side of a wall member of said display rack, said divider portion being attached to said retainer portion and extending from said retainer portion in generally the same direction as said free end of said projection, said divider portion adapted to engage the rear side of said wall member with at least a portion of said divider positioned normally spaced from the edge of said projection a distance less than the thickness of said wall member, said divider portion being further so disposed from said projection that upward movement of said divider portion forces said projection into said recess to thereby increase the engagement between said projection and said recess.