HANGER BRACKET AND SUPPORT BAR COMBINATION FOR MERCHANDISE RACK

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This invention relates to a hanger bracket and support bar combination for a merchandise rack. The hanger bracket and support combination has particular utility in a stepped rack or case for displaying carded merchandising.

Merchandise such as knitting needles and related art needlework products are commonly packaged by attachment to flat cards which may be displayed in stair-step arrangement in a suitable case. The top portion of the cards are provided with an opening which may be received on the projecting end of the hanger bracket. A supply of duplicate items may therefore be carried on the same bracket, while supplies of different items are carried on other brackets. Since the carded packages vary in size and shape, and the items stocked by a particular dealer at any one time may vary considerably, and the location of the items within the display will depend on the desire of the particular dealer, there is a need to provide a hanger bracket and support bar combination which permits almost unlimited variability in the arrangement of the items on display. More specifically, it is desirable to maintain each of the bars or steps of the display completely full of merchandise at all times, while at the same time permitting ready relocation of the items and merchandise, or rearrangement of the stock to permit new or different items to be added to the display. It is also desirable to avoid the presence of empty hanger brackets, and to permit the items on display to be moved from one part of the display to another without removing the items from the hanger brackets.

It is a general object of the present invention to provide a hanger bracket and support bar combination which substantially accomplishes the objectives set out above. More specifically, it is an object to provide hanger brackets which cooperate with a support bar to provide a readily removable, longitudinally positionable holder for individual items of merchandise, the brackets being removable when empty, or selectively positionable without removal of the items of merchandise. A still further object is to provide a hanger bracket and support bar combination of the character described wherein the bracket is readily removable and insertable in the support bar while at the same time being securely retained within the bar. 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 fragmentary front elevational view of a merchandise display rack or case incorporating the present invention, carded knitting needles being shown on display for the purpose of illustration;

FIG. 2 is a fragmentary side sectional view of the display rack of FIG. 1;

FIG. 3 is a perspective view of a portion of one of the support bars showing a hanger bracket therein, part of the bar being broken away to show the portion of the bracket which is received therein;

FIG. 4 is a perspective view of one of the hanger brackets;

FIG. 5 is a top plan view of the hanger bracket and support bar combination, only a portion of the support bar being shown;

FIG. 6 is a sectional view of the hanger bracket and support bar combination taken on line 6—6 of FIG. 5; and

FIG. 7 is another sectional view taken on line 7—7 of FIG. 5.

Looking first at FIGURES 1 and 2, there is shown the upper portion of a display rack for carded merchandise designated generally by the number 10. The rack has side panels 11 and 12 of triangular configuration, and includes a plurality of support bars 13 arranged in stepped or staircase fashion from the lower to the upper portion of the rack. The support bars 13 extend between the end panels 11 and 12, and are rigidly attached to the end panels by any suitable means, such as wood screws where the bars are formed of wood, as preferred. The bars 13 may also be formed of metal or plastic or other suitable material, but wooden support bars are particularly suitable.

The bars 13 can be described as elongated, horizontally aligned support bars for a merchandise display rack. As shown more clearly in FIG. 3, the bars 13 provide a top surface 14, which is preferably flat and extends in a horizontal plane as shown. The bar top surface 14 has a longitudinal groove 15 running therealong and extending downwardly into the bar. Preferably, as shown, the groove 15 is of uniform width, having vertically-extending side walls, and a flat bottom 16 lying in a horizontal plane.

In accordance with the present invention, hanger brackets designated generally by the number 17 cooperate with the support bars 13 to provide readily removable, longitudinally positionable holders for individual items of merchandise, such as the carded knitting needles. A shown in FIGS. 1 and 2.

For achieving the maximum benefits of the present invention, the brackets 17 are preferably formed of metal rod stock, such as cold rolled steel, of rectilinear cross section. The thickness of the rod stock should correspond to the width of the groove 15 so that a portion of the rod may be slidably received in the groove 15. For example, the rod stock may have a thickness just slightly less than the width of the groove 15 so that the rod can be readily inserted and removed, while at the same time being snugly received.

As shown more clearly in FIGS. 3 and 4, the bracket 17 is formed from one piece of rod stock, and provides an angular section which is received within the groove 15, the angular section including a leg 18 which extends downwardly from top surface 14 toward the bottom 16 of the groove 15, and a foot 19 which extends longitudinally from the lower end of leg 18. The foot 19 is preferably disposed close to the leg 18 and extends along the bottom 16, with the lower surface thereof in supportive contact with bottom 16, as shown in FIG. 3.

Bracket 17 also provides a hanger section 20 which extends forwardly from the upper end of leg 18 over a portion of top surface 14. Preferably, the underside of hanger section extending over the surface 14 is in supportive contact therewith, as shown more clearly in FIGS. 6 and 7. The end of hanger section 20 may be provided with an upwardly-inclined hanger portion 21, which tends to keep the cards from being unintentionally dislodged from the brackets.

From the foregoing description, it will be apparent that the rectilinear cross section of the bracket 17 is highly advantageous. Flat side walls are provided for engaging the sides and bottom of the groove 15 and a portion of the upper surface 14. The stability of the brackets when inserted in the groove 15 is thereby promoted.

The retention of the brackets 17 within the grooves 15 may be further improved without sacrificing ease of removability by a constructional feature which will now be described.
As previously noted, the leg 18 and foot 19 are integrally connected. As shown more clearly in FIGS. 3 and 4, the leg 18 and the foot 19 are connected by a bend 22 which varies in thickness from its inner corner 22a to its outer corner 22b. More specifically, the transverse width of the outer corner 22b is substantially less than that of the inner corner 22a, thereby imparting a wedge shape to the corner 22. In one preferred embodiment, the thickness of the inner corner 22a is substantially the same as, or slightly greater than, the width of groove 15, while the thickness of the outer corner 22b is substantially less than the width of the groove 15. In terms of the normal width of the bar stock 20, the inner corner 22a should have a thickness slightly greater than the width of the bar stock, while the outer corner 22b has a thickness slightly less than that of the bar stock.

A further advantage is obtained where the inner corner 22a terminates in a relatively sharp edge on each side thereof, especially when the hangers are employed in connection with support bars formed of wood.

The preferred construction is shown more clearly in FIGS. 6 and 7. As will be noted, the outer faces of the inner corner 22a of the bend 22 bear against and frictionally engage the side walls of the groove 15, while the outer faces of the outer corner 22b are spaced farther from the side walls of the groove than the normal spacing of the rest of the leg 18 and foot 19.

Where the outer corner 22a provides sharp edges 22c, as preferred, the edges 22c tend to slightly dig into the side walls of the groove 15, as indicated in FIGS. 6 and 7. This provides a secure frictional interlock between the corner 22 and the walls of the groove 15, while at the same time permitting the ready insertion and removal of the brackets 20. A similar frictional interlock, however, can be provided where the edges 22c are slightly ground or smooth to provide a more extended surface-to-surface contact between the side walls of the groove 15 and the side faces of inner corner 22a.

In the foregoing specification, the term "rectilinear" has been used as referring to the bar stock from which the hangers 20 are formed. This term is intended to cover both square and rectangular shapes, although a square cross section is preferred.

Operation

The operation of the support bar and hanger bar combination of this invention will be largely apparent from the foregoing description. However, it may be briefly summarized as follows:

Each of the support bars 13 will be provided with a plurality of the hanger brackets 17, the brackets being placed at longitudinally spaced locations along the bars. The locations will be determined by the desired spacing and arrangement of the items of merchandise to be displayed. For example, in the illustration given, ten hanger brackets are shown on the uppermost support rod 13 in FIG. 1. The merchandise cards A will be provided with openings a through which the hanger section 20 extends in supporting the cards.

If it is desired to remove or change the location of a bracket 17, this can be done by grasping the section 20 with the hand and moving the bracket upwardly to lift the leg 18 and foot 19 out of the groove 15, thereby releasing the frictional interlock between the corner 22 and the sides of the groove 15. During the transfer of a bracket from one location to another, the cards can remain on the hanger section 20. It will be apparent that the hangers 20 may be positioned at any location on the bar, or moved from bar to bar. The hangers are readily inserted by moving leg 18 and foot 19 downwardly into grooves 15 with a firm motion. When leg 18 is fully inserted, the foot 19 will have its underside in contact with the groove bottom 16, and the corner 22a of the bend 22 will be in frictional engagement with the walls of groove 15.

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

1. In combination:
   (a) an elongated horizontally aligned support bar for a merchanise display rack, said bar providing a top surface having a longitudinal groove running therealong and extending downwardly into said bar, said groove being of uniform width and having vertically extending side walls; and
   (b) a hanger bracket cooperating with said support bar to provide a readily movable, longitudinally positionable holder for individual items of merchandise,

2. The combination of claim 1 wherein said leg and foot are integrally connected by a bend which has a thickness greater than that of said bar stock at its inner corner, said inner corner being in frictional engagement with the side walls of said groove.

3. The combination of claim 2 wherein said bar is formed of wood and said hanger bracket is formed of metal rod stock having a square cross section.

4. In combination:
   (a) an elongated horizontally aligned support bar for a merchandise display rack, said bar providing a top surface having a longitudinal groove running therealong and extending downwardly into said bar, said groove being of uniform width and having vertically extending side walls; and
   (b) a hanger bracket cooperating with said support bar to provide a readily movable, longitudinally positionable holder for individual items of merchandise,

   (i) said bracket being formed in one piece of metal rod stock of rectilinear cross section of a thickness slidably receivable in said groove, said bracket having an angular section received within said groove and being a leg extending downwardly from said top surface toward the bottom of said groove and a foot extending longitudinally from the lower end of said leg along the bottom of said groove, said bracket also providing a hanger section extending forwardly from the upper end of said leg over a portion of said top surface and projecting outwardly beyond said bar.

   (ii) said bracket being formed in one piece of metal rod stock of rectilinear cross section of a thickness slidably receivable in said groove, said bracket having an angular section received within said groove and being a leg extending downwardly from said top surface toward the bottom of said groove and a foot extending longitudinally from the lower end of said leg along the bottom of said groove, said bracket also providing a hanger section extending forwardly from the upper end of said leg.
5. The combination of claim 4 wherein said bar is formed of wood and said hanger bracket is formed of metal rod stock having a square cross section.

6. In combination:

(a) an elongated horizontally aligned support bar for a merchandise display rack, said bar providing a top surface having a longitudinal groove running therealong and extending downwardly into said bar, said groove being of uniform width and having vertically extending side walls; and

(b) a plurality of hanger brackets cooperating with said support bar at longitudinally-spaced locations to provide readily removable, longitudinally positionable holders for individual items of merchandise, each of said brackets being formed of metal rod stock of rectilinear cross section of a thickness slidably receivable in said groove, each of said brackets having an angular section received within said groove including a leg extending downwardly from said top surface toward the bottom of said groove and a foot extending longitudinally from the lower end of said leg along the bottom of said groove, said leg and foot being integrally connected by a bend which has a thickness greater than that of said bar stock at its inner corner and a lesser thickness than that of said bar stock at its outer corner, the thickness of said inner corner being substantially the same as the width of said groove to provide a tight wedge with the side walls thereof, and each of said brackets also providing a hanger section extending forwardly from the upper end of said leg over a portion of said top surface and projecting outwardly beyond said bar.

References Cited by the Examiner

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