

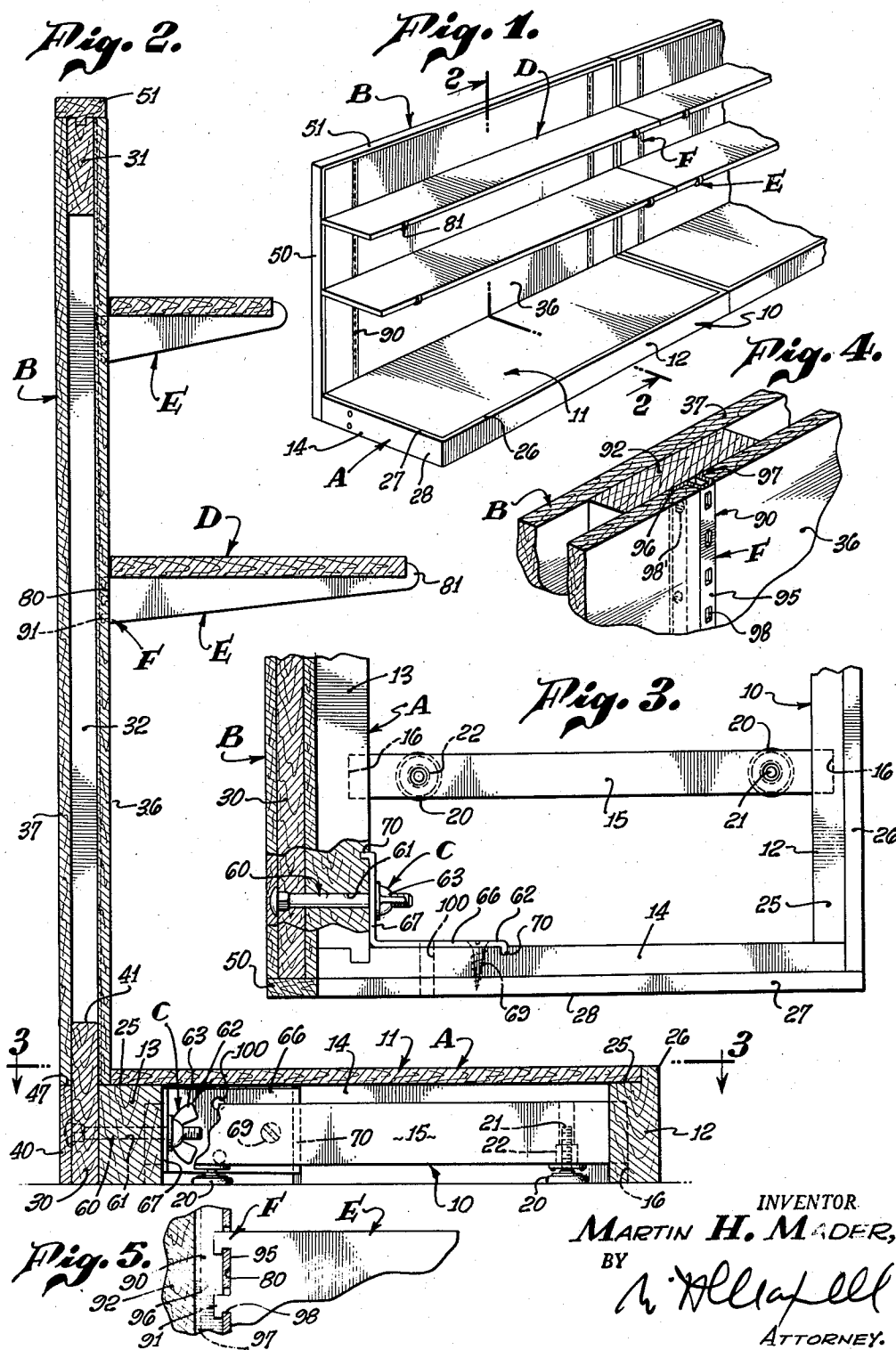
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SHELF-TYPE DISPLAY RACK

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SHELF-TYPE DISPLAY RACK

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1 Claim. (Cl. 211—141)

This invention has to do with a shelf-type display rack, and it is a general object of the invention to provide a simple, practical, improved structure of this character.

Display racks involving or characterized by one or more shelves are employed in stores and in various places where articles are to be stored or exhibited. Structures of this type ordinarily employed as, for instance, in stores where merchandise is displayed are of somewhat complicated construction if they are so built as to be stable and durable or they are, in most cases, flimsy if they are of light construction. Racks such as are referred to are of the type that in some instances are set on the floor while in other cases they are set on counters, cabinets or other supports.

It is a general object of this invention to provide a shelf-type display rack characterized by a flat, horizontally disposed base and a flat vertically disposed back, which elements are releasably coupled so that the back is effectively maintained in vertical position and serves as an effective mounting or carrier for shelves secured to the back to project forward therefrom so that they overlie the base.

Another object of this invention is to provide a structure of the type mentioned having a simple, practical, improved base characterized by means for effecting adjustment so that the base can be adjusted to a level position and having a top which, when in place, completely covers the balance of the structure, which top is removable to provide access to the structure that occurs beneath it.

It is another object of this invention to provide a rack of the general character referred to including a back in the form of a flat vertical unit characterized by a frame carrying front and rear covers and having core members between the covers at rails that serve to carry shelf brackets.

Another object of the invention is to provide a display rack of the general character referred to characterized by a releasable coupling means connecting the base and back, which means is such as to provide for simple, quick connection or coupling of the base and back and is such as to effectively and rigidly clamp or tie the back to the base when it is fully engaged.

The various objects and features of my invention will be fully understood from the following detailed description of a typical preferred form and application of my invention, throughout which description reference is made to the accompanying drawings, in which:

Fig. 1 is a perspective view of embodiments of the invention, that is, of display racks, provided by the invention showing them arranged end to end in which position they may be coupled if desired. Fig. 2 is an enlarged, vertical, transverse sectional view of the structure provided by the present invention, being a view taken substantially as indicated by line 2—2 on Fig. 1. Fig. 3 is a plane section taken substantially as indicated by line 3—3 on Fig. 2 with the cover removed. Fig. 4 is a

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perspective view of a portion of the structure showing parts in section and illustrating a rail provided to carry a shelf bracket and showing the manner in which the rail is related to the back, and Fig. 5 is a vertical, sectional view of structure such as is shown in Fig. 4, showing a shelf bracket engaged with the rail that is shown in Fig. 4.

The fixture or rack provided by the present invention is preferably in the nature of a unit including generally a base A, a back B, means C releasably connecting the base and the back, shelves D, brackets E carrying the shelves D and means F adjustably coupling the brackets E to the back B.

The base A of the structure, as provided by the present invention, is in the nature of a flat elongate platform having a horizontally disposed rectangular frame 10 and a top or cover 11 carried by frame 10.

In the preferred construction, the frame 10 of base A is formed of or by a front elongate beam 12, a rear elongate beam 13, and end beams 14 that extend between and connect the ends of the beams 12 and 13. The elements 12, 13 and 14 are preferably formed of wood and, in practice, any suitable construction may be employed to establish fixed permanent joints between the ends of the beams 12 and 13 and the end beams 14.

In the preferred construction, the frame 10 includes spreaders 15, spaced apart between the end beams 14 and extending between the front and rear beams 12 and 13. In the construction illustrated, the spreaders 15 are parallel with the end beams 14 and have the ends set or mortised into sockets 16 provided in the opposed sides of the beam 12 and 13.

In the preferred construction, the spreaders 15 are located at the end portions of the structure as a whole so that they are spaced somewhat inward from the end beams 14 and they are employed as carriers for feet 20. In the particular case illustrated, each spreader 15 is shown as carrying two feet and each foot is mounted by means of a threaded stem 21 carrying the foot and having threaded engagement with a block 22 rigidly carried by a spreader. Through the construction just described, the several feet 20 employed in the structure are individually adjustable, and they can be readily adjusted to bring the base into the desired firm engagement with a support such as a floor or any other structure employed as a mounting.

In the preferred construction, the several beams 12, 13 and 14 of frame 10 have top faces 25 that are flat and which are flush. A rib 26 is provided at the forward side of the front beam 12 and projects somewhat above the face 25 of beam 12 as is shown in Fig. 2 of the drawings. In the case illustrated, ribs 27 are provided on the end beams 14 adjacent their outer sides 28 and project upward from the faces 25 of the beams 14 in the same manner that the rib 26 projects above the beam 12.

The top 11 of the base A is preferably a simple, flat rectangular unit and it may, as shown in the drawings, be of uniform thickness throughout. The top 12 is shaped and proportioned to rest on the top faces 25 of the beams 12, 13 and 14 while being confined by or held within the ribs 26 and 27 as shown in the drawings. In practice, the top 11 is preferably a unit, loose relative to base 10, and when it is in use it simply rests upon the faces 25 of the beams 12, 13 and 14.

The back B of the structure is a flat rectangular unit, and in the preferred construction, it is made up or includes a horizontal bottom sill 30, a horizontal header 31, and uprights or posts 32 at the ends of the back and extending vertically between the ends of the sill 30 and header 31. The elements 30, 31 and 32 are, in practice, rigidly and permanently connected together at

the corners of the back, and, in practice, any suitable construction can be employed at these joints.

The back includes, in addition to the frame made up of the members 30, 31 and 32, panels 36 and 37. The panel 36 is a front cover carried by and occupying the front of the frame made up of the elements 30, 31 and 32. The panel 37 is a back panel covering the back of the frame made up of the elements 30, 31 and 32. In the preferred construction, a spacer 40 is provided on or carried by the sill 30 at the one side thereof and projects up from the bottom of the sill to a point flush with the faces 25 of the beams of frame 10. In this case the top or upper edge 41 of the sill 30 occurs a substantial distance above the top of the spacer 40. The front panel 36, in the case under consideration, rests on the upper edge of beam 13 and extends to the top of the header 31 and to the outermost edges of the posts 32.

The top 47 of the spacer 40 is disposed in the plane of faces 25 of the frame. When this construction is employed, the back panel 37 seats on the top of spacer 40 and extends up to the top of header 31 and to the outer edges of the posts 32. The spacer 40 can be made readily removable and by arranging it at one side or the other of the sill 30 the back can be reversed side for side or if the spacer 40 is removed bases can be engaged with the back from each side thereof.

In practice, it is preferred to trim the back B as above described, and for this purpose binding members or trimmers 50 may be provided at the vertical ends of the back while a horizontal trimmer 51 is provided at the top of the back.

The coupling means C provided by the present invention serves to releasably connect or tie the lower edge portions of the back B to the rear edge portion of the base A and to the end beams respectively of the frame. In the preferred construction there are two units of the means C, and these are located at the end portions of the structure. The two units of means C are preferably alike and each includes a bolt 60 carried by the back B at the lower edge portion thereof to project forward therefrom through an opening 61 provided for that purpose in the rear beam 13 of the frame 10 of base A. A brace 62 is carried by the frame 10 and receives the bolt, and a nut 63 is threaded on the bolt and clamps against the brace.

In the case illustrated, the bolt 60 passes through the sill 30 and the spacer 40 of back B, the head of the bolt being under and covered by the spacer 40 secured to the rear side of the sill 30.

The brace 62 that receives the bolt and which is engaged by the nut is preferably a metallic unit and is preferably L-shaped in form having a flange 66 engaged with and secured flat against the inner side of an end beam 14 and having a flange 67 engaged against the forward side of the rear beam 13. The flanges of brace 62 may, in practice, be secured to the beams of frame 10 by suitable fasteners as, for instance, by screw fasteners 69, or the like. In accordance with the present invention, the flange 66 of brace 62 has a lip 70 formed thereon and projecting therefrom to enter a suitable notch in the end beam 14 thus anchoring or tying the end beam to the rear beam.

The flange 67 of brace 62 has an opening that passes the bolt 60, and the nut 63 is preferably a wing nut threaded on the bolt 60 and bearing against the forward side or face of flange 67. Throughout the construction just described, the back B is easily positioned relative to base A by simply entering the bolts 60 that project forward from the back through the openings 61 in the rear beam of the base. Flange 67 is preferably formed with a lip 70 projecting into a notch in beam 13 as shown in Fig. 3. With the forward side of spacer 40 engaged with the rear side of beam 13, the nuts 63 may be engaged with the bolts and made tight so that the engaged parts are firmly and effectively clamped together. It is

to be understood, of course, that the top 11 of the base A can be removed whenever it is desired either to apply or to release the nuts 63 of the means C, and this is also true relative to the feet 20 which may require adjustment from time to time.

In carrying out the invention one or more shelves D may be provided, and where there is more than one shelf, the shelves may vary in width as shown in the drawings. It is preferred, in practice, that the back B be exactly equal in length to the base A, and likewise it is preferred that the shelves D be of the same length as shown in the drawings.

The brackets E provided for carrying the shelves D may, in practice, vary widely in form and construction and for purposes of example, the brackets are shown as simple or conventional brackets designed to carry the shelves so that they are horizontally disposed. In the drawings each bracket as shown has an elongate member having a flat rear end 80 adapted to oppose the back B and provided at its forward terminal end with a hook portion 81 adapted to engage and hold a shelf. In practice, the number of brackets for each shelf may vary although for most cases two brackets are sufficient as shown in the drawings.

The means F, provided to releasably and adjustably couple the brackets to the back, is shown as including rails 90 carried by the back and adapted to receive hooks 91 provided on the brackets E. In the preferred construction, the rails 90 are vertically disposed and where there is to be two brackets E for each shelf, there are two rails suitably spaced inward from the ends of the back B. In the preferred construction, the rails 90 are carried by cores 92 located in the back B to occur between the panels 36 and 37 of the back B, and the front panel 36 is provided with vertical openings that receive or would serve to accommodate the rails as clearly illustrated in Fig. 4 of the drawings. In the case illustrated, each rail 90 is an elongate member U-shaped in cross sectional configuration to have a front 95 which is flat and flush with the forward face of the front panel 36. The sides 96 of the rail are parallel, extending rearwardly from the front 95 to the core 92 which is a wide vertically disposed frame-like element held tightly between the panels 36 and 37. Flanges 97 on the sides 96 set against the core 92 and suitable fasteners, such as screws 98, secure the flanges to the core. In the case illustrated, the front 95 of the rail has a series of openings 98 adapted to accommodate the hooks 91 that project rearward from the ends 80 of the brackets. By providing a series of openings 98 in each rail, by having corresponding series of openings in the several rails, the brackets can be adjusted or set in various positions lengthwise of the rails to locate the shelves D as desired.

From the foregoing description it will be recognized that the present invention provides a construction in the form of a unit including a base A, back B, shelves D, etc., and this unit can be alone or independently as desired or, as shown in Fig. 1, be used in connection with another or an adjacent unit and such other unit may be the same as that provided by the invention or it may differ as the circumstances may require. For the purpose of releasably connecting adjoining units, it is preferred to provide the flanges 66 of braces 62 with openings 100 and such openings continue through the end beams of base A so that coupling bolts can be employed to bolt the adjoining units together.

With the construction provided by the present invention the base A thereof is of plain, smooth, simple form and is of inexpensive yet sturdy stable construction. Likewise, the back B thereof is of simple, inexpensive construction, is pleasing in appearance and is likewise rigid and sturdy. The means C that releasably couples the back and base is a very simple yet effective means effectively securing these parts together and is a means that is readily accessible by reason of the removable cover. 11

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and is such that it can be very easily set or released as the circumstances may require.

Having described only a typical preferred form and application of my invention, I do not wish to be limited or restricted to the specific details herein set forth, but wish to reserve to myself any variations or modifications that may appear to those skilled in the art and fall within the scope of the following claim.

Having described my invention, I claim:

In a rack having a back, a base and shelves, the back being releasably secured to the base and the shelves being mounted on the back and disposed above the base, the combination with said back and base of means for tying the back to the base with tying force being exerted directly to points in the base spaced substantially forwardly of the back, said base comprising a horizontally disposed rectangular frame having elongate front and rear beams and end beams fixed to and extended between respective ends of the front and rear beams whereby the rear beam and end beams define two inside corners in the rear portion of the frame, the base further comprising a cover resting on top of said beams and spaced slightly inwardly from the outside upper edges of the front and end beams, the back being disposed vertically with respect to the base and having a front surface, the lower horizontal marginal portion of which is abutted flush against the rear surface of said rear beam, a pair of bolts secured in the back and extending forwardly beyond the plane of said front surface and proximate respective end beams of the base, said means comprising two L-shaped braces, the braces being secured to the rear beam and to respective end beams in said inside corners respectively,

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with each brace having a rear-beam-abutting flange and an end-beam-abutting flange, the end-beam-abutting flange of each brace having a lip formed in the forwardly disposed end thereof and engaged in a notch formed on the inside surface of its respective end beam, the rear beam and the rear-beam-abutting flange of the brace having aligned openings formed therein for receiving the bolt, the bolt extending through said aligned openings, and a nut screw-threaded on the forwardly disposed end of the bolt and turned tight against the forwardly facing surface of the rear-beam-abutting flange of the brace, thereby to transmit the tying force of the bolts through the rear beam and said brace lips and to the end beams, respectively.

References Cited in the file of this patent

UNITED STATES PATENTS

277,510	Roberts	May 15, 1883
483,348	Fletcher	Sept. 27, 1892
1,608,153	Anderson	Nov. 23, 1926
1,684,410	Ostram et al.	Sept. 18, 1928
1,685,336	Platt et al.	Sept. 25, 1928
1,913,066	Carter	June 6, 1933
1,941,838	Hyams	Jan. 2, 1934
2,047,721	Wilson	July 14, 1936
2,340,924	Boye	Feb. 8, 1944
2,375,726	Bales	May 8, 1945
2,462,330	Mueller	Feb. 22, 1949
2,580,334	Vanderveld	Dec. 25, 1951
2,643,170	Vanderveld	June 23, 1953
2,644,591	McMahan	July 7, 1953