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ADJUSTABLE SHELF RACK AND REVERSIBLE BRACKET THEREFOR

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This invention relates to display racks and, more particularly, to shelves and shelf supports which may be readily assembled into a number of different shelving arrangements.

It is one object of the invention to provide shelf brackets which may support shelves horizontally and also may be reversed to support shelves inclined with respect to the horizontal.

It is another object of the invention to provide shelves and shelf brackets interlockable with each other to maintain the shelves on the brackets and also fix the brackets relative to one another.

It is a further object of the invention to provide reversible shelf brackets having notches therein and shelves having ribs provided with notches for entering the notches in the brackets and receiving the brackets in the notches in the ribs to lock the shelves securely to the brackets.

It is a still further object of the invention to provide shelf brackets which may be readily assembled on a plurality of uprights and interlockable with shelves to facilitate holding the assembly as a rigid structure.

A display rack forming one embodiment of the invention may include a shelf and a plurality of brackets readily interlockable with the shelf. Uprights may be provided for interlocking with the brackets to support the brackets, and each bracket may be selectively supported so that it extends either horizontally from one end thereof or at an angle from the other end thereof.

The attainment of the above and further objects of the present invention will be apparent from the following specification taken in conjunction with the accompanying drawing forming a part thereof.

In the drawing:

Fig. 1 is a perspective view of a display stand forming one embodiment of the invention;

Fig. 2 is an enlarged, fragmentary, vertical section through the upper portion of the stand shown in Fig. 1;

Fig. 3 is an enlarged, fragmentary, vertical section taken along line 3-3 of Fig. 2;

Fig. 4 is an enlarged front elevation of the upper shelf of the stand shown in Fig. 1;

Fig. 5 is a vertical section taken along line 5-5 of Fig. 4; and

Fig. 6 is an enlarged, fragmentary, vertical section, similar to Fig. 2, through a display stand having a modified bracket and shelf construction.

Reference may now be had more particularly to the drawing wherein like reference numerals designate like parts throughout.

A display stand 1 constructed in accordance with the present invention includes an upright 2 anchored to a vertical wall surface and uprights 3 and 4, the bottom of which may rest on the floor or table top. Each of the uprights has one or more vertical rows of slots or holes 5 in its front face which may removably mount the hanging hooks of a shelf support bracket 6. Each bracket 6 is provided with an end 7 extending at right angles to a

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top edge 8 thereof and having a pair of downwardly directed, straight ended hooks 9 for mounting the bracket on one of the uprights with the edge 8 in a horizontally extending position. The straight ends of the hooks extend parallel to the bracket end 7. Each bracket also has a second end 12 extending at a predetermined angle with respect to the top edge 8. Projecting from the inclined end 12 are a pair of inclined, downwardly directed hooks 13. The hook ends are aligned and parallel with the inclined end 12. When the bracket 6 is reversed so that the hooks 13-13 extend downward into the upright slots 5, as in the case of the intermediate row of horizontal brackets in Fig. 1, the top edge 8 of the bracket extends at an angle from the uprights and the end 12 is braced against the vertical front face of the associated upright.

Between the bracket hooks 9-9 and 13-13 bracing tabs 14 are provided to inhibit lateral wobbling of the bracket. These tabs are formed by slitting the bracket transversely and then longitudinally in both directions of the associated bracket ends 7 and 12, respectively, and then bending the metal on opposite sides of each slit along a transverse fold line 14' in opposite directions to form a pair of tabs extending at an obtuse angle to the opposite faces of the bracket. The tab ends adjacent to the uprights abut the latter between adjacent slots 5 to brace the bracket.

Each bracket 6 has a rectangular notch 16 (see Figs. 2 and 3) centered in the upper edge 8 thereof. Each notch is of a width just sufficient to receive a rib 18 fastened to the bottom of a shelf 19 at a distance from the rear edge 20 thereof equal to the distance of the notch from either end of the bracket edge 8. The shelf is therefore locked against movement lengthwise of the brackets. The centering of the bracket notch 16 permits the shelf rib to extend into the notch 16 for either horizontal or inclined positions of the brackets without reversing the shelf. Therefore, only the exposed top surface and the exposed front and side edges of the shelf need be finished surfaces. The front edge 21 of the shelf is farther from the rib 18 than the rear edge so that the shelf overhangs and masks the front ends of the brackets.

To lock the shelf against movement laterally of the brackets each shelf rib 18 is provided with a series of longitudinally spaced notches 25 which are adapted to fit over adjacent portions of the associated bracket 6 at the bottoms of the notches 16.

Since the left hand bracket 6 engages a fixed upright 2, the interlocking of the shelf with the intermediate and right hand brackets which in turn interengage the uprights 3 and 4 fix the uprights 3 and 4 with respect to the anchored upright 2.

Refer now to Fig. 6 showing a modified form of bracket 36 and shelf 53, wherein the same face of the bracket faces outward for horizontal and inclined positions thereof. (In the just described embodiment, opposite faces of the brackets are exposed when their positions are reversed.) Each bracket 36 is provided with spaced, parallel longitudinal edges 37 and 38 and an end 39 extending at an angle from one end of the longitudinal edge 37. The end 39 includes straight ended hooks 40-40 facing in the direction of the longitudinal edge 37 and oppositely extending facing tabs 14. The straight ends of the hooks 40-40 are aligned parallel to the bracket end 39. When the hooks 40-40 are inserted in a downwardly facing direction within a pair of upright slots 5-5, the longitudinal edge 38 of the bracket extends at an inclined angle as in the case of the intermediate horizontal row of brackets in Fig. 1.

Each bracket has an end 44 perpendicular to the parallel longitudinal edges 37 and 38. The end 44 has mounting straight ended hooks 45-45, the ends of which are

aligned parallel to the perpendicular end 44. The latter hooks are adapted to support the longitudinal edge 37 in a horizontal plane when applied to the uprights. Bracing tabs 14 are also formed in the bracket between the hooks 45-45.

Each bracket 36 has a notch 48 formed in the longitudinal edge 37 for receiving a transversely extending notched rib 49 attached to the bottom of a rectangular shelf 53 resting against the uprights 2, 3 and 4. The rib 49 is notched in the same manner as the rib 18 in the embodiment of Fig. 1 so that the rib straddles the associated bracket 36 at the bottom of the bracket notches 48. The bracket has another notch 50 formed in the longitudinal edge 38 but located at the opposite end of the bracket and spaced the same distance from the adjacent end 39 as the other bracket slot 48 is spaced from its adjacent end 44. Accordingly, when the bracket 36 is orientated so that the inclined hooks 40-40 extend into the upright slots 5, the shelf rib 49 resting against the uprights will extend into the bracket slot 50 to interlock the same together. The shelf therefore need not be reversed with the brackets in changing the angular positions of the brackets to reduce the number of finished surfaces on the shelf. In either position of the bracket, the shelf 53 is of a sufficient length to project beyond what is then the front end of the bracket to mask the front end of the bracket from view.

The advantage of the embodiment of Fig. 6 is that the same face of the end brackets of the shelf assembly face outwardly whether the bracket is in its horizontal or inclined position so that only one face of the bracket may be a finished or ornamented surface.

The embodiments of the invention described above are rugged and may be quickly assembled into any number of different shelving arrangements due to the interlocking of the shelves and the brackets against relative longitudinal and lateral movement and because the brackets may be quickly reversed to change the shelf supported thereby from a horizontal to an inclined position or vice versa.

The brackets, while being shown of the single web construction, obviously may be of the double web or channel type construction without departing from the scope of the present invention. A double row of upright holes 5 could be provided for this purpose.

In compliance with the requirements of the patent statutes I have here shown and described preferred embodiments of my invention. It is, however, to be understood that the invention is not limited to the precise constructions here shown, the same being merely illustrative of the principles of the invention. What I consider new and desire to secure by Letters Patent is:

1. A display rack which comprises a pair of uprights having hook-receiving means formed therein, and a pair of horizontally spaced elongated bracket plates having longitudinal support surface and respective hook means projecting at one angle from one bracket end, said hook means interengaging with the hook-receiving means of said uprights to support the brackets in a position where longitudinal surfaces thereof lie in one plane extending at a given angle, the other end of each of said bracket plates having hook means projecting therefrom at an angle substantially different from said one angle, and said last-mentioned hook means interengageable with the hook-receiving means of

the associated uprights for supporting the then active longitudinal support surface of said brackets at an angle inclined with respect to said given angle.

2. In combination, a shelf, a bracket for supporting the shelf, means at opposite ends of the bracket for selectively supporting said respective bracket ends from an upright, and said shelf and bracket having interlocking means for preventing relative movement therebetween, said interlocking means including projecting means on one of said bracket and shelf and a complementary socket means on the other of same for receiving the projecting means, the portion of the interlocking means on the shelf being operative to lock the shelf to the socket when the bracket is suspended from either end thereof, so that the same portions of the shelf are exposed for either position of the bracket.

3. In a display stand structure including an upright, a shelf supporting bracket having opposite longitudinal edges and having means at opposite ends thereof engageable in said upright for mounting said bracket with opposite longitudinal edges of the bracket selectively uppermost, said bracket having two notch openings one through each of two opposite longitudinal edges thereof, one notch being spaced a fixed distance from the adjacent end of the bracket and the other notch being spaced the same distance from the opposite end of the bracket so that if the bracket is mounted from the upright with either longitudinal edge of the bracket uppermost the notch in said upper longitudinal edge will in either case be the same distance from the upright as measured along the bracket, a shelf supported on the upper adjacent longitudinal edge of said bracket, said bracket and said shelf having interlocking means for preventing lateral and transverse movement of the shelf relative to the bracket, said interlocking means including means carried on said shelf arranged to project therefrom toward said bracket in normal relation thereto and to be received in the notch in said adjacent longitudinal edge, said last named means being provided with a notch through the end thereof remote from said shelf and parallel to said adjacent longitudinal edge from receiving therein the part of the bracket adjacent to the bottom of the notch into which said interlocking means extends.

References Cited in the file of this patent

UNITED STATES PATENTS

| | | |
|-----------|----------|---------------|
| 335,931 | Jacobsen | Feb. 9, 1886 |
| 747,442 | Latshaw | Dec. 22, 1903 |
| 813,501 | Keil | Feb. 27, 1906 |
| 946,337 | Clear | Jan. 11, 1910 |
| 1,348,262 | Brockway | Aug. 3, 1920 |
| 1,589,198 | McComb | June 15, 1926 |
| 1,940,454 | Karnes | Dec. 19, 1933 |
| 2,661,993 | Little | Dec. 8, 1953 |
| 2,681,786 | Sparring | June 22, 1954 |
| 2,693,884 | Gurries | Nov. 9, 1954 |

FOREIGN PATENTS

| | | |
|---------|---------------|---------------|
| 302,951 | Great Britain | Dec. 21, 1928 |
| 696,974 | Great Britain | Sept. 9, 1953 |
| 742,488 | France | Dec. 27, 1932 |