Sept. 21, 1965 H. S. PEACOCK 3,207,100

SHELF BRACKETS AND ASSEMBLIES THEREWITH

Filed Feb. 28, 1963

FIG. 1

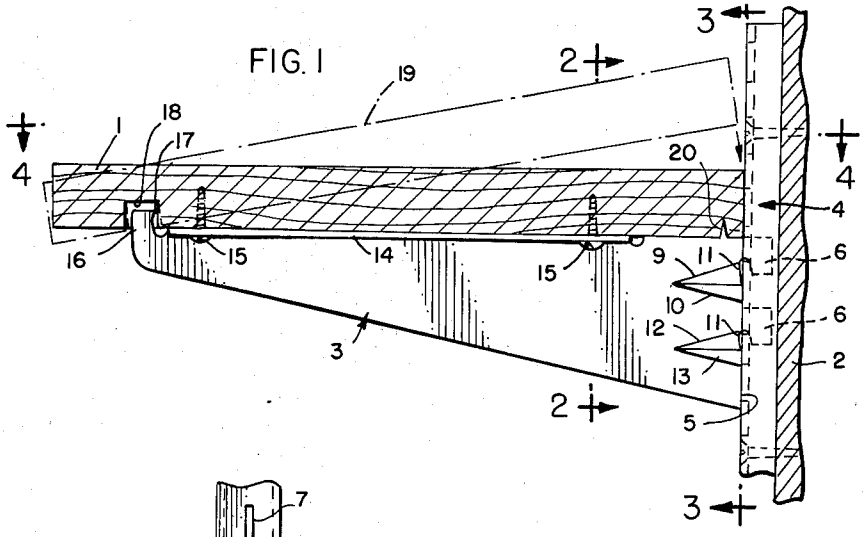


FIG. 2

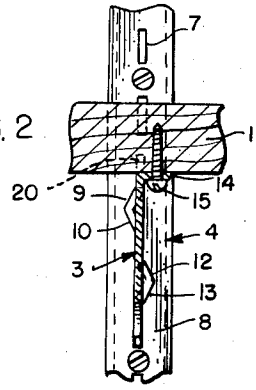


FIG. 3

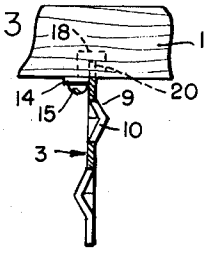
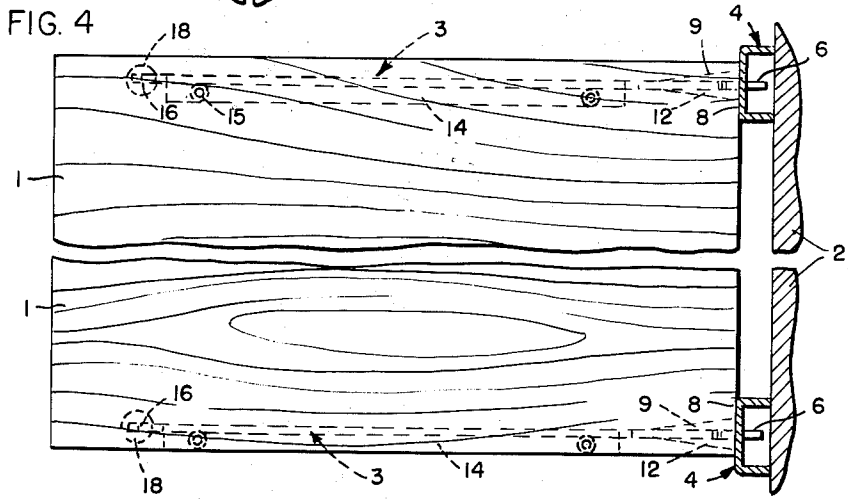


FIG. 4



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SHELF BRACKETS AND ASSEMBLIES THEREWITH

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This invention, in general, relates to assemblies and brackets used therein for supporting shelves and the like. The invention pertains particularly to improvements in bracket structures for locking the shelf on the assembly against upward displacement and also against lateral displacement in the plane of the shelf. It further pertains to shoulder structures formed integrally in the bracket plate for imparting lateral stability to the bracket when it is mounted in a slotted support plate, channel, or the like.

Shelves may be supported in many different ways. This invention pertains to the shelf support types known generally as adjustable shelf supports by virtue of the fact that the shelf-supporting brackets may be placed in any one of a plurality of slots provided in vertically-disposed bracket-mounting plates, channels, or the like. The shelves may be wood, metal, plastic, or the like.

It is one of the primary objects of the invention to provide improvements in shelf-supporting brackets for holding the shelf in position on said brackets.

Another object is to provide on bracket structures pointed elements adapted to penetrate shelves positioned on said brackets when the shelf is mounted thereon and thereby hold said shelf in position on said brackets.

Still another object is to provide improvements in shoulder structures in an edge at the base of shelf brackets for imparting lateral stability to said brackets when they are mounted.

Briefly, the shelf brackets comprise a bracket plate having an upwardly extending tab or ear on its outer end. The tab or ear fits against the outer edge of the shelf or in a hole, groove or the like in the bottom side of the shelf. This tab or ear has a sharply pointed portion extending toward the base of the bracket, the point adapted to penetrate and hold the shelf against upward and lateral displacement relative to the bracket. A similar point may project upwardly from the upper, shelf-supporting surface to penetrate the bottom of the shelf.

The brackets are mounted on a vertical surface by means of slotted mounting bars, channels or the like. The base of the bracket has at least two hook-like lugs or tabs which hook over the bottom edge of the slots of the mounting bars or channels. Lateral stability for the bracket is provided by shoulders projecting outwardly from each side of the bracket at the base thereof. These shoulders contact the mounting bar, channel or the like and impede pivoting of the bracket on the hook-like ears or tabs.

The invention, its objects and advantages will be further appreciated by reference to the preferred embodiment thereof which is illustrated in the drawing, wherein:

FIG. 1 is a cross-section of a shelf and a fragment of a vertical surface showing the shelf-supporting assembly in side elevation;

FIG. 2 and FIG. 3 are sectional views taken, respectively, on sections 2—2 and 3—3 of FIG. 1.

FIG. 4 is a sectional view, in fragment, taken on section 4—4 of FIG. 1.

Referring to the drawings, a wood shelf 1 is mounted on a vertical panel or wall 2 by means of two or more brackets 3 supported on U-channels 4. The U-channels 4 are rigidly mounted on the wall or panel 2 by screws in the conventional manner.

The brackets 3 have on their base edge 5 a pair of aligned, hook-like tabs or lugs 6 which fit in the U-channel 4 through aligned, vertical slots 7 in the front face 8 of the U-channels. The lugs or ears 6 hook over the bottom edges of the slots 7 to support removably the brackets 3 in cantilever fashion on the U-channels 4 when the ears or tabs 6 are inserted into slots 7 and the brackets are pushed downwardly to hook the lugs or tabs 6 over the bottom edge of slots 7. The brackets are removed by raising them sufficiently to allow lugs or tabs 6 to slide out of the slots 7. There may be two or three lugs or tabs 6.

The brackets 3 are stabilized against lateral movement by shoulders on the base 5. These shoulders are formed by bending a section of the bracket plate 3 at the base 5 into an arch along base edge 5 projecting laterally from plate 3, e.g., the triangular wall sections 9, 10 forming a half-pyramid with its base along base edge 5. The base of triangular wall section 10 projects laterally from one side of the bracket plate 3 and bears against the front face 8 of the U-channel 4. It thereby blocks or stops lateral swinging of the bracket in the direction of the side of the bracket from which it projects. The base of the triangular section 9 may also bear against face 8, or, in the illustrated case, may be cut slightly away from the face 8 to give the hook segments 11 of the tabs or lugs 6 a slight forward slope relative to the plane of base 5 to facilitate mounting of the brackets in the U-channel slots 7.

The bracket 3 may have another arched segment in base edge 5, e.g., another pair of triangular wall sections 12, 13 below the wall sections 9, 10. The triangular wall sections 12, 13 form, like sections 9, 10, a half-pyramid projecting from the opposite side of the bracket plate 3, the base of section 13 resting against the face 8 of U-channel 4 to give the stabilizing function against lateral swinging of the bracket in the direction from which sections 12, 13 project from the bracket plate 3. The base of section 12 is shaped similarly to the base of section 9.

The major portion of the upper edge of bracket 3 has a bent lip 14 lying in the plane of shelf 1 and at right angles to the plane of the bracket plate 3. Lip 14 lies in the general plane of the upper edge of bracket plate 3. The lip may have holes therein in which screws 15 may be mounted, if desired, to rigidly attach shelf 1 on the brackets 3.

The shelf 1 is rigidly secured on brackets 3, however, by pointed structures on the brackets, and the screws 15 may be omitted, if desired. The outer end of bracket 3 has an upstanding ear or tab 16 having a rearwardly directed point or pin 17 extending toward base edge 5. The ear or tab of each bracket may be situated against the outer edge of shelf 1 or in a slot or hole in the undersurface of the shelf 1 near but spaced inwardly from the outer edge. Holes 18 are shown in the illustrated embodiment. The holes 18 (or outer edge or slots, aforedescribed) are situated so that the point or pin 17 of each ear or tab 16 digs into a vertical side or surface of shelf 1 when the shelf is placed on the brackets 3 as shown in phantom lines 19 in FIG. 1 and pushed into mounted position on the brackets. The inner edge of the shelf bearing against faces 8 of the U-channels 4 causes the shelf to move outwardly as it is pushed into mounted position to drive pins or points 17 into the shelf. This locks the outer edge of the shelf against accidental upward displacement and also against lateral slippage on brackets 3. Furthermore, the upper edges of brackets 3 may each have a pin or point 20 near the base edge 5, which point penetrates the shelf as it is mounted to further lock the shelf against lateral slippage on the brackets.

It is thought that the invention and its numerous at-

tendant advantages will be fully understood from the foregoing description, and it is obvious that numerous changes may be made in the form, construction and arrangement of the several parts without departing from the spirit or scope of the invention, or sacrificing any of its attendant advantages, the forms herein disclosed being preferred embodiments for the purpose of illustrating the invention.

The invention is hereby claimed as follows:

1. A bracket for mounting shelves comprising a bracket plate with an upper edge on which a shelf may be supported, an ear on the outer end of said plate projecting upwardly above said edge, and a sharp point on said ear directed toward the opposite end of said plate, whereby said sharp point may penetrate a shelf mounted on said bracket in a surface on said shelf substantially at right angles to the plane of said shelf when said surface is pushed against said point.

2. A bracket as claimed in claim 1 wherein said edge has a lip lying in a plane substantially at right angles to the plane of said plate.

3. A shelf structure comprising a shelf supported on at least two brackets, each bracket comprising a bracket plate with an upper edge on which a shelf may be supported, an ear on the outer end of said plate projecting upwardly above said edge, and a sharp point on said ear directed toward the opposite end of said plate, each point penetrating said shelf in a surface on said shelf substantially at right angles to the plane of said shelf.

4. A bracket for mounting shelves comprising a bracket plate, lug means on the base edge of said plate for removably mounting said bracket in a slotted bracket-supporting member, an upwardly projecting ear on the end of said bracket plate opposite said base edge, and a sharp point on said ear directed toward said base edge, two segments of said plate adjacent the base thereof being respectively shaped into a pair of triangular sections forming respective hollow half-pyramids projecting from opposite sides of said plate with the base of said half-pyramid being a part of said base edge and forming an arch in said base edge, the base of at least one of said triangular sections of each hollow half-pyramid lying in the plane of the base edge of said plate and forming laterally-projecting shoulders adapted to bear against the face of said slotted member.

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