April 12, 1966 D. W. DOHERTY 3,245,365

SHELF MOUNTING STRUCTURE

Filed May 6, 1964

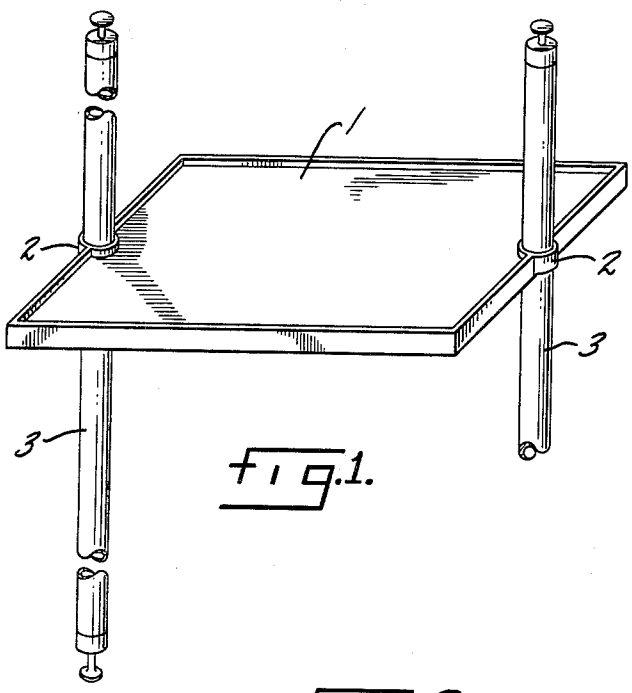


Fig. 1.

Fig. 2.

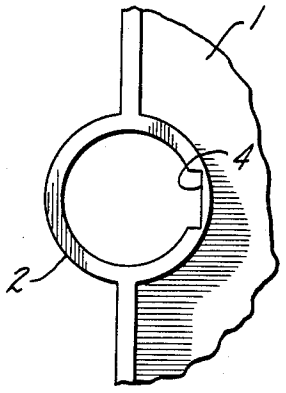
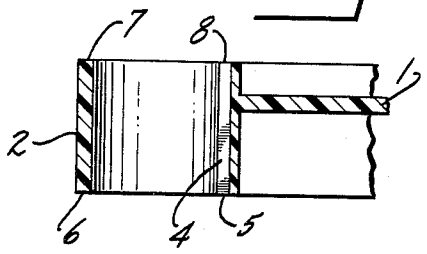


Fig. 3.



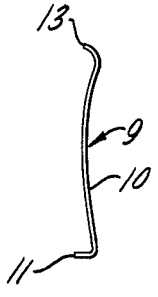


Fig. 4.

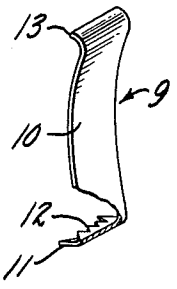


Fig. 5.

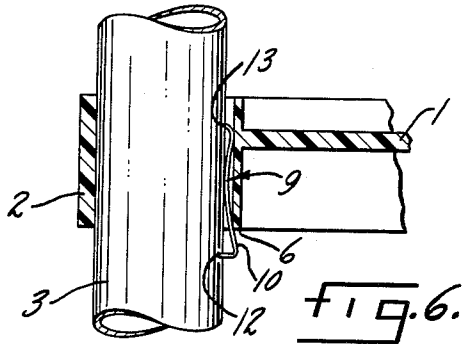


Fig. 6.

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3,245,365

SHELF MOUNTING STRUCTURE

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4 Claims. (Cl. 108—144)

This invention relates to shelving and shelving support and has particular relation to a shelf-mounting structure.

One purpose of the invention is to provide a simplified structure effective to retain a shelf in desired position on a shelf support.

Another purpose is to provide a shelf-mounting structure which may be erected without the use of special tools of any kind.

Another purpose s to privde a shelf-mounting structure of maximum simplicity and economy.

Another purpose is to provide a shelf-mounting structure of maximum attractiveness and appearance.

Another purpose is to provide a shelf and shelf-mounting assembly.

Another purpose is to provide a shelf-mounting structure wherein normal forces tending to dislodge a shelf from desired position are employed in further securing the shelf in said position.

Other purposes will appear from time to time during the course of the specification and claims.

The invention is illustrated more or less diagrammatically in the accompanying drawings, wherein:

FIGURE 1 is a perspective view;

FIGURE 2 is a detail bottom view on an enlarged scale;

FIGURE 3 is a detail side view;

FIGURE 4 is a detail side view;

FIGURE 5 is a perspective view of the structure illustrated in FIGURE 4; and

FIGURE 6 is a side elevation in partial cross section.

Like parts are indicated by like numerals throughout the specification and drawings.

Referring now to the drawings, and particularly to FIGURE 1, the numeral **1** generally designates a shelf. The shelf **1** may take a variety of forms, in planar configuration, without departing from the nature and scope of the invention. Adjacent the opposite longitudinal ends of the shelf **1** are formed aligned sleeve portions **2**. The sleeves **2** have a supporting engagement with shelf **1** and may, as shown, conveniently be formed integrally with shelf **1**. Extending throug each of the sleeve portions **2**, as shown in FIGURE 1, is a tubular pole support member **3**. Since the sleeves **2** are identical and the poles **3** are identical, the same have been given identical numbers and, for convenience and clarity, one such set of elements is described herinbelow, it being understood that the number of such sleeve and pole combinations may be varied without departing from the nature and scope of the invention.

As may be best seen in FIGURES 2 and 3, the sleeve **2** has a longitudinally extending groove **4** formed in the inner side wall thereof. The groove **4** opens, as at **5**, into the lower edge **6** of the sleeve **2** and the outer or bottom wall of the groove **4** extends through the upper edge **7** of the sleeve **2** as indicated at **8**.

Illustrated in FIGURES 4 and 5 is a lock member **9**. The lock member **9** is generally rectilinear in planar configuration and is curved, as indicated, for example, at **10**, in cross-sectional configuration. The width of member **9** is preferably only slightly less than that of groove **4**. One inwardly bent end **11** of element **9** has teeth **12** formed

therein. It will be noted that lock member **9** has an effective length approximating that of groove **4**.

FIGURE 6 illustrates the shelf-mounting structure in use. The lock member **9** has its non-toothed edge **13** inserted into the open end **5** of groove **4** and the lock member **9** has been moved inwardly into groove **4**. As this is done, the curvature **10** engages the edge **6** and the curvature **10** is of such radius as to cause the teeth **12** to be pressed against the outer surface of pole **3** as the member **9** is moved deeper into groove **4**.

Thus it will be seen that items supported on the shelf **1** tending, by the force of gravity, to urge the shelf **1** downwardly on supports **3**, and to urge groove **4** and member **9** into engagement, can only further urge the teeth **12** of lock members **9** against the outer surface of poles **3** to securely lock the shelf thereon. The sleeves **2** are freely slideable on the poles **3**, in the absence of lock members **9**, to position the shelf at desired level. The lock members **9** then may be easily inserted by hand and the sleeve pressed downwardly to lock the shelf in desired position. No tools of any kind are required to position and lock the shelf in place. No unsightly screws bolts, nuts and the like are required. The mounting structure of the invention is relatively invisible in use and may be easily disassembled and the shelf moved or replaced in a newly selected position by mere upward movement of the shelf **1** by hand of the operator to disengage the sleeve **2** from the lock member **9**. As the shelf **1** is moved upwardly, as the parts are shown in the drawings, the lock member **9** will be freed of the groove **4** and may be easily grasped by the operator for replacement when the shelf **1** has been repositioned.

Whereas there has been shown and described an operative form of the invention, it should be understood that this showing and description are to be taken in an illustrative or diagrammatic sense only. There are many modifications in and to the invention which will be apparent to those skilled in the art and which will fall within the scope of spirit of the invention.

I claim:

1. A shelf mounting structure including a sleeve secured to the shelf to be mounted, said sleeve having a generally cylindrical bore, an axially extending groove extending generally the length of said bore and opening through at least one edge of said sleeve, said groove having generally the same cross section throughout, a spring-like lock member having a curved portion insertable in said groove, said curved portion having a radius greater than the depth of said groove, said lock member having a support engaging edge extending radially inward of said bore and away from said groove, a portion of said lock member between said curved portion and support engaging edge being in contact with an edge of said sleeve when a support is within said bore, a support within said bore contacting the curved portion of said lock member and forcing it inwardly toward said groove which moves said support engaging edge into firm contact with said support.

2. The structure of claim **1** further characterized in that said support engaging edge is serrated.

3. The structure of claim **1** further characterized in that said lock member has a width slightly less than that of said groove.

4. The structure of claim **1** further characterized in that said groove extends through both edges of said sleeve.

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