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[54] CANTILEVER SHELF ASSEMBLY

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358 R; 297/214

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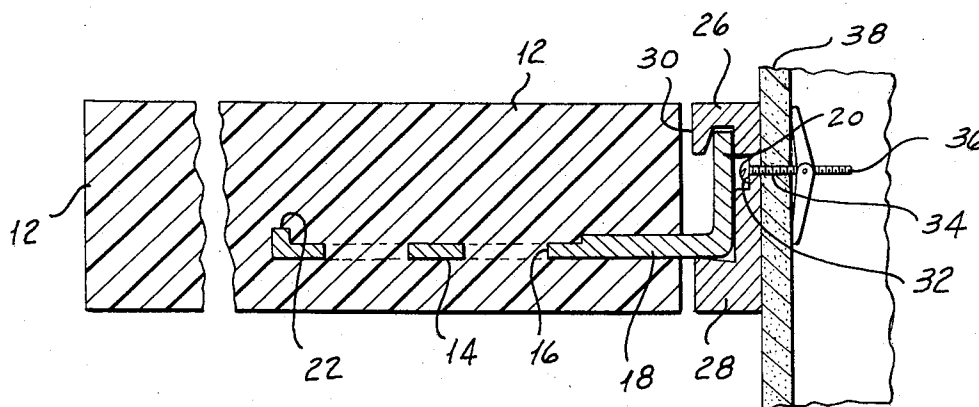
Primary Examiner—James C. Mitchell

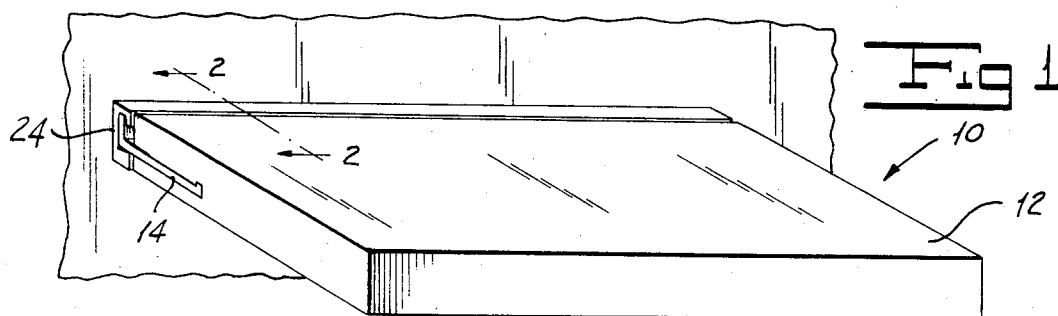
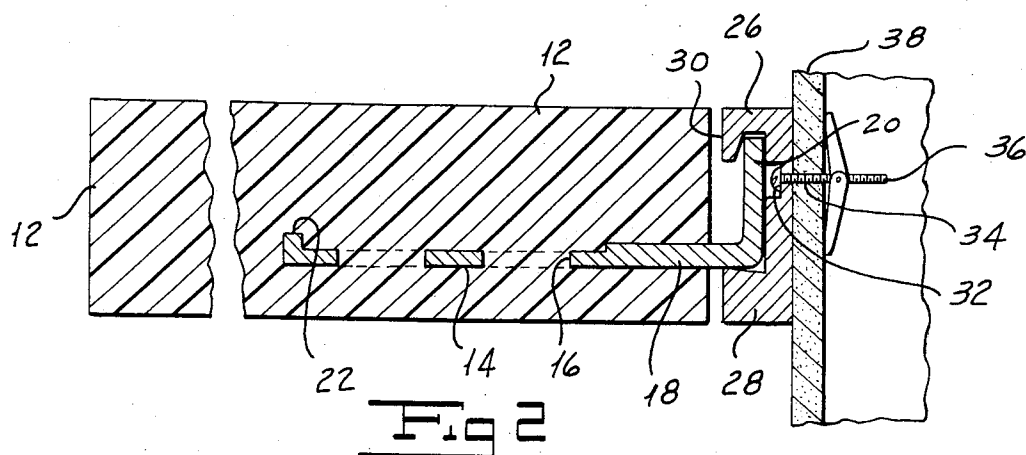
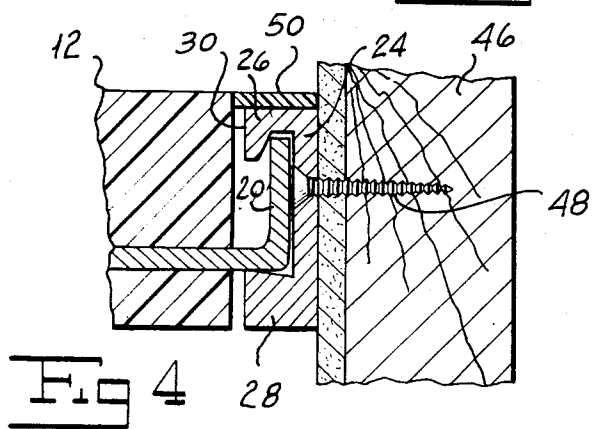
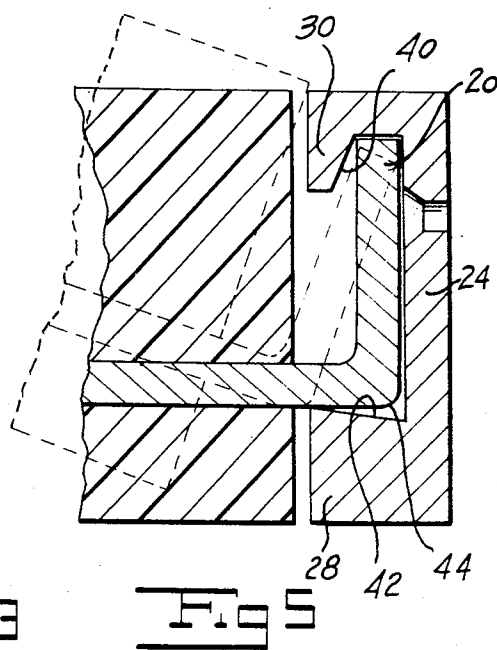
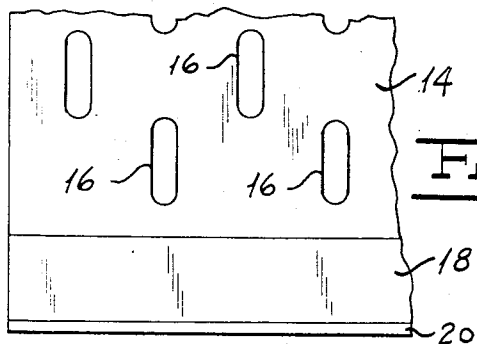
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[57] ABSTRACT

An improved cantilever shelf assembly for mounting on a wall or the like in which the shelf body comprises a reinforcing plate embedded in molded synthetic resin having locking portions extending through openings in the plate and in which the plate has a rearward extension formed with an upstanding flange which is removably received in the channel of an elongated bracket secured to the wall on which the shelf is to be mounted.

4 Claims, 5 Drawing Figures





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CANTILEVER SHELF ASSEMBLY

BACKGROUND OF THE INVENTION

There are known in the prior art many arrangements for mounting shelves on supporting walls. Various forms of brackets are designed for this purpose. Recently attempts have been made to provide shelves which are supported on walls in cantilever fashion with the mounting hardware substantially concealed from view. Some of these attempts to simulate cantilever mountings involve the use of side walls which in fact act as struts to support the shelf so that a true cantilever mounting is not achieved. Such elements detract from the neat and clean appearance of the assembly. Other arrangements have been proposed in which elements which are fastened to the wall extend for some distance into receptacles in the shelf. These arrangements are not as secure as is desired since the shelf will not support as great a weight as may be placed thereon in ordinary use. Secondly they are relatively complicated and they make removal of the shelf from the wall relatively difficult.

I have invented an improved cantilever shelf assembly which overcomes the defects of shelf assemblies of the prior art. My assembly supports a shelf on the wall in a true cantilever fashion. It will support a relatively great weight in use. My assembly permits the shelf to be easily mounted on the wall and to be readily removed therefrom. The major part of the hardware I employ to mount the shelf is concealed from view.

SUMMARY OF THE INVENTION

One object of my invention is to provide an improved cantilever shelf assembly which overcomes the defects of shelf assemblies of the prior art.

Another object of my invention is to provide an improved cantilever shelf assembly which supports a relatively great weight in ordinary use thereof.

A further object of my invention is to provide an improved cantilever shelf assembly which permits a shelf to be readily assembled on and to be readily removed from a supporting wall.

A still further object of my invention is to provide a cantilever shelf assembly which is simple in construction and in operation and which is relatively inexpensive to manufacture.

Other and further objects of my invention will appear from the following description.

In general my invention contemplates the provision of an improved cantilever shelf assembly in which the shelf body is made from synthetic resin with portions of the resin extending through perforations in a reinforcing plate embedded within the body. A rearward extension on the plate is formed with a flange which is detachably received in the channel of a bracket having a retaining lip and secured to the wall on which the shelf is to be mounted.

BRIEF DESCRIPTION OF THE DRAWINGS

In the accompanying drawings which form part of the instant specification and which are to be read in conjunction therewith and in which like reference characters indicate like parts in the various views:

FIG. 1 is a perspective view of my improved cantilever shelf assembly.

FIG. 2 is a sectional view of the form of my shelf assembly illustrated in FIG. 1 taken along the line 2—2 of FIG. 1 and drawn on an enlarged scale.

FIG. 3 is a fragmentary plan view of the reinforcing plate of my improved cantilever shelf assembly.

FIG. 4 is a fragmentary sectional view of a modification of my improved cantilever shelf assembly.

FIG. 5 is a fragmentary sectional view of my improved cantilever shelf assembly illustrating the manner in which the shelf may be mounted on and detached from the wall bracket of the assembly.

DESCRIPTION OF THE PREFERRED EMBODIMENT

Referring to FIGS. 1 to 3 of the drawings my improved cantilever shelf assembly indicated generally by the reference character 10 is used in connection with a support 12 such as a wall. The assembly 10 includes a body 12 of molded synthetic resin such for example as foamed polyurethane or the like. The body 12 is molded with a reinforcing plate 14 in the mold so that portions of the foam body 12 extend through perforations 16 in the plate. In this way the plate is locked into position in the body 12.

I form the plate 14 with a portion 18 extending rearwardly from the rear edge of the body 12. The portion 18 in turn is formed with an upstanding flange 20. Plate 14 extends from the rear edge of the shelf body 12 forwardly for a distance intermediate the front and rear edges to a point sufficient to give the required support. I may if desired provide the forward edge of the plate 14 with a ridge 22.

The assembly 10 includes a wall bracket 24 of generally U-shaped cross section to provide an upper leg 26 and lower leg 28 for defining a channel which receives the flange 20 in a manner to be described. I provide the forward edge of leg 26 with a retaining lip 30. Where the shelf is to be mounted on a plaster wall 38 I employ toggle bolts 36 for securing the bracket 24 in position. In this instance the bracket 24 may be provided with counterbores 32 leading into bores 34 in the base of bracket 24 just below lip 30 for receiving the heads of bolts 36.

I so construct the extension 18 and flange 20 as well as the lip 30 and leg 28 as to facilitate entry of the flange 20 into the bracket and to provide as small a space between the rear edge of the body 12 and the front edge of leg 26 as is possible. For that reason the inner space 40 of the lip 30 inclines forwardly from the vertical and downwardly as viewed in FIG. 5. Similarly the upper surface 42 of leg 28 tapers downwardly from the horizontal and rearwardly as viewed in FIG. 5. I also so curve the junction 44 between flange 20 and portion 18 as to permit assembly of the flange in the bracket 24. As can be seen by reference to FIG. 5 wherein I have shown an intermediate relative position of the parts in assembling the flange 20 in the bracket 24. At that position the front surface of flange 20 is generally parallel with surface 44 and surface 42 permits the flange 20 to enter the bracket. When the parts are fully assembled as indicated by the full lines in FIG. 5 there is a minimum of space between the rear edge of body 12 and the front of bracket 24.

Referring to FIG. 4 when the shelf is able to be mounted at the location of a stud 48 wood screws 48

may be used to mount bracket 24. In addition to this figure I have indicated that the body 12 may extend above the upper surface of bracket 24. This may be desirable where the upper surface of the bracket is to be concealed as by use of a decorative strip 50 or the like.

In use of my improved cantilever shelf assembly 10 bracket 24 first is secured to the supporting surface 12 by means of toggle bolts 36 or wood screws 48. When that has been done the shelf 12 may readily be assembled in position by hooking flange 20 under lip 30 and rotating the shelf to a generally horizontal position. In that position the shelf will support a relatively great weight. Moreover it may readily be removed merely by reversing the sequence of movements carried out in assembling shelf 12 on the bracket 24.

It will be seen that I have accomplished the objects of my invention. I have provided an improved cantilever shelf assembly which overcomes the defect of shelf assemblies of the prior art. My assembly supports a relatively great weight in use. It may readily be mounted on and readily removed from a supporting wall. It is relatively simple in construction and is inexpensive to manufacture.

It will be understood that certain features and sub-combinations are of utility and may be employed without reference to other features and subcombinations. This is contemplated by and is within the scope of my claims. It is further obvious that various changes may be made in details within the scope of my claims

without departing from the spirit of my invention. It is, therefore, to be understood that my invention is not to be limited to the specific details shown and described.

Having thus described my invention what I claim is:

1. A cantilever shelf assembly for securing a shelf to a supporting wall including in combination, a shelf body of molded synthetic resin having a front edge and a rear edge and side edges, a perforated reinforcing plate embedded in said body with portions of said body extending through said perforations to interlock said body and said plate, a portion of said plate extending beyond the rear edge of said body, an upstanding flange along said plate portion, an elongated bracket of generally U-shaped cross section adapted to be secured to said wall, said bracket having upper and lower legs defining a channel for receiving said flange and a retaining lip on said upper leg for holding said flange in said channel.

2. An assembly as in claim 1 in which the inner surface of said lip tapers downwardly to facilitate insertion of said flange into said channel.

3. An assembly as in claim 2 in which the inner surface of said lower leg tapers rearwardly further to facilitate entry of said flange into said channel.

4. An assembly as in claim 3 in which the junction of said plate portion and said flange has an external curvature further to facilitate entry of said flange into said channel.

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