Oct. 17, 1967 E. F. KHOURY 3,347,187

DEMOUNTABLE SHELF

Filed April 18, 1966

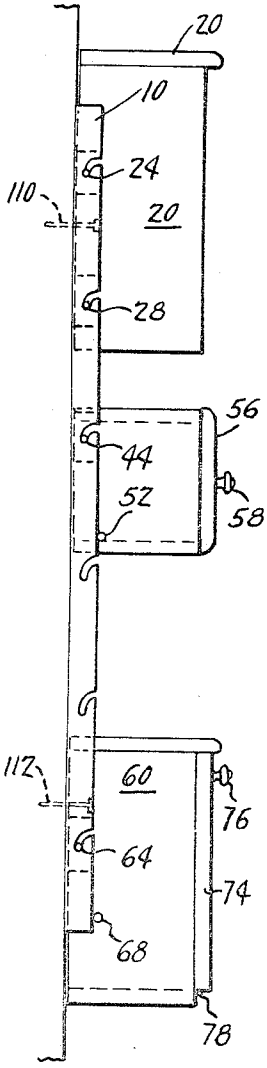


FIG. 2

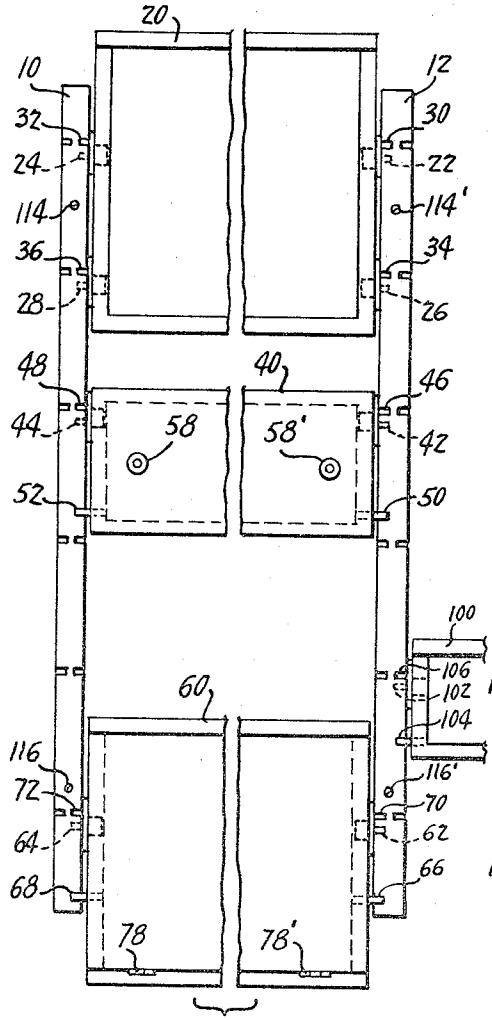


FIG. 1

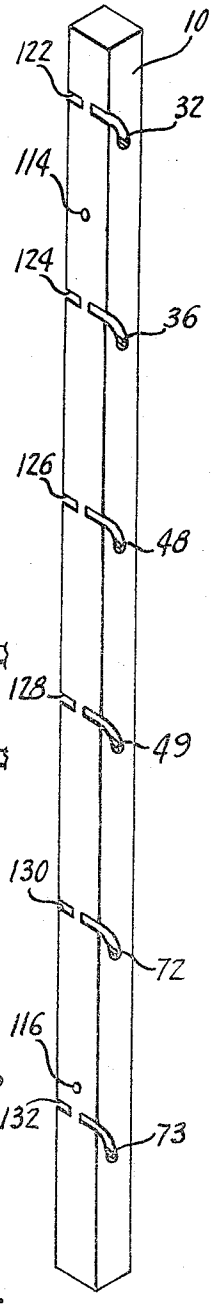


FIG. 3

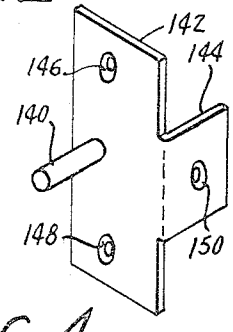


FIG. 4

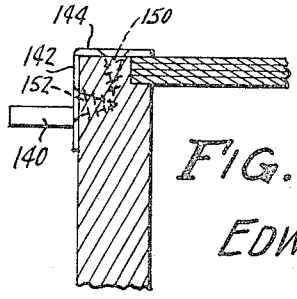


FIG. 5

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DEMOUNTABLE SHELF

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ABSTRACT OF THE DISCLOSURE

A demountable shelf construction having a pair of spaced vertical support columns which include downwardly and rearwardly sloping bayonet slots, a horizontal shelf support member, a vertical back and vertical ends on the support member, a clip having a pin extending therefrom secured to the ends for extending parallel to the horizontal support member and being engaged in said bayonet slots for supporting the shelf member is disclosed.

This invention relates to furniture structure and more particularly to a demountable shelf structure.

It is an object of this invention to provide a shelf structure which can be easily assembled in the user's home and which is easily demountable for transportation.

It is a further object of this invention to privide furniture which includes shelves and drawers and which can be easily assembled at the place of intended use and which is easily demountable for interchanging components of the furniture.

It is a further object of this invention to provide furniture having shelves and drawers which may be vertically adjusted.

It is popular and profitable nowadays for homeowners and lobbyists in general to construct their own custom furniture. One of the problems faced by such individuals who wish to do the work themselves is the lack of precision milling and cutting tools with which to form the desired shapes of wood for use in constructing custom furniture. It is an object of this invention to provide structures and means for permitting homeowners and such individual hobbyists to construct well made handsome furniture in their own homes without the need of expensive precision woodworking tools.

Other objects of this invention will become apparent from the following description and the drawings to which reference is made.

In the drawing:

FIGURE 1 is a vertical plan view of an exemplary arrangement of furniture using structure of this invention;

FIGURE 2 is a side view of the furniture shown in FIGURE 1;

FIGURE 3 is a detail view of the upright support member of this invention;

FIGURE 4 is a detail of a cabinet clip for providing a pin at the end of a horizontal support for assemblying this invention; and

FIGURE 5 shows in partial cross-section the use of the furniture clip of FIGURE 4 in providing a pin which protrudes from the end of a horizontal support.

With reference now to FIGURE 1, the horizontal supports of this invention are vertically supported by means of upright support members **10** and **12**. In the example of FIGURE 1, the furniture includes an upper shelf **20**, a center shelf unit **40** and a lower collapsible desk unit **60**.

The upper shelf unit **20** is vertically supported on upright members **10** and **12** by pins **22**, **24**, **26** and **28**, which are received in bayonet slots **30**, **32**, **34** and **36**.

The central drawer **40** is supported in a vertical position on upright supports **10** and **12** by pin **42** and pin **44** which are received by bayonet slots **46** and **48**. The drawer **40** is limited in its pivotal movement about pins **42** and **44** by meaans of dowel members **50** and **52**.

The desk unit **60** is supported by means of pins **62** and **64** and its pivotal motion about pins **62** and **64** is limited by dowel members **66** and **68** which rest against the upright supports **10** and **12** when pins **62** and **64** are received by slots **70** and **72**.

In addition, the plurality of horizontal supports, or shelves, may be placed in side-by-side relation by providing a plurality of upright supports in spaced apart face-to-face relationship. A portion of an additional shelf **100** is shown in FIGURE 1 supported by a pin **102** and a dowel member **104** which limits the pivotal motion of shelf **100** when pin **102** is received by a slot **106**. It will thus be seen that if the upright member contains a plurality of slots on each of two opposite sides any desired number of side-by-side shelf arrangements may be provided.

Referring now to FIGURE 2, the upright support member may be nailed or screwed to a wall by means of frictional fasteners **110** and **112**. Of course, the upright members may be supported in any desired way; however, it is most convenient to secure them to a wall or other upright structure.

Shelf **20** is supported in a manner differently from drawer **40** and desk **60**, as will be seen. Shelf **40** is supported at a point in the upper portion thereof on pin **24** which is received by slot **32**, as shown in FIGURE 1, and pivotal motion about pin **24** and pin **22**, as shown in FIGURE 1, is prevented by pin **28** and pin **26**, which are both shown in FIGURE 1.

Drawer **40** is supported in a similar manner with respect to its upper portion being supported by a pin **44** and a pin **42**, shown in FIGURE 1; however, the pivotal motion of drawer **40** about pins **42** and **44** is limited by dowel members **50** and **52** as shown in FIGURE 1 and FIGURE 2. Drawer **40** includes slidable drawer member **56** having handle members thereon **58** and **58'**.

Desk unit **60** is supported in a manner described with regard to drawer **40**. Desk **60** includes a cover **74** which carries on it a handle **76** and is pivotally hinged by hinge **78** and **78'**. In the first position as shown, the cover provides means for closing the shelf portion of the desk and in a second position may be extended to provide a writing surface. Of course, means may be provided to support the writing surface in the extended position; however, such means are not shown in the drawings for purposes of clarity.

Referring now to FIGURE 3, the upright support member **10** is shown in greater detail. Holes **114** and **116** may be provided for securing the upright member to a wall or other structure. The upright member includes a bayonet slot in the side surface if the upright member which intersects the front and extends inwardly and downwardly from the front surface. In use, the side surfaces of two such upright support members are placed in spaced apart face-to-face relationship where they selectively receive pins which protrude from the opposite ends of the horizontal support member, for example, pins **22** and **24**. In one embodiment both slots **32** and **36** may receive a pin, as shown with respect to shelf **20** in FIGURE 1. In other embodiments only one slot is required to support the horizontal support member, for example, drawer **40** is supported by receiving pin **44** and pin **42**, pin **44** being received in slot **48**. Of course, it is not necessary that every slot of the upright support member be used, for example, a slot **49** may remain unoccupied. A plurality of slots on the opposite side surface of the

upright support member **10** may also be provided. As shown in FIGURE 3, slots **122, 124, 126, 128, 130** and **132** are provided which may be used for supporting an additional series of horizontal support members in side-by-side relation with respect to the horizontal support members shown in FIGURE 1. Such an assembly is shown in part with respect to shelf **100** of FIGURE 1.

In the preferred embodiment pins **22, 24, 42, 44,** etc., are attached to the ends of the horizontal supports by a clip shown in FIGURE 4. The clip consists of the pin **140** which extends from the surface of the plate **142** having a right angle portion thereto **144**. Holes **146, 148** and **150** are provided for attaching the clip to the furniture, as shown in FIGURE 5, by means of screws **150** and **152**.

In the preferred embodiment dowel members **50, 52, 66** and **68** are attached by drilling into the ends of the horizontal support members and securing the dowels within the holes in the usual manner.

It will be understood, however, that this means of affixing pins and dowel members and equivalent structures is merely exemplary and is not intended to limit the invention. For example, the pins are shown as being generally circular in cross-section but of course, pins of another shape, for example, square or triangular, would be satisfactory. Similarly, while a dowel is easily affixed to the end of a horizontal support and may preferably be used, an additional pin may be used in the manner shown in FIGURE 1 with respect to shelf **20** or a pin may be attached to the end of the horizontal support by screws or by other means which would function as the dowel member of the example in FIGURE 1. Therefore, reference to pin or to dowel member is intended in the generic sense and would include all members which are structurally similar and function in the manner of these disclosed members.

The bayonet slot of supporting member **10** is shown extending generally inwardly away from the front surface of the supporting member for a predetermined distance and then generally downwardly in a direction nearly parallel the front surface for a predetermined distance. This is the preferred embodiment of this invention; however, it will be understood that the exact shape of the slot is not critical. The slot must, however, be of the bayonet type in the sense that it extends inwardly and downwardly to securely receive the pins which protrude from the ends of the horizontal support members.

Horizontal support members which may be used in this invention include shelves, drawers, desk units, and any other furniture structure which may desirably be supported vertically.

Particular advantages of this invention will appear on the drawings. For example, it will be seen that the furniture may be made up of components which are easily dissembled and easily assembled and which may be disassembled easily for transportation to the site of intended use and easily dissembled for transportation after the furniture is assembled.

Of particular importance to the weekend handyman, the invention provides a means for custom making furniture in the home without the need of expensive tools and woolworking devices which would otherwise be required.

I claim:

1. A support construction comprising the combination of:

a horizontal supporting shelf-like member;

planar ends perpendicularly secured to the shelf-like member;

a vertical back on the shelf-like member interconnecting the ends;

clips having substantially right angularly disposed portions;

means securing the clips, respectively, to the end and back at each end of the shelf-like member;

a pin extending from each clip substantially perpendicularly outwardly from the ends;

a vertical columnar support disposed at each end of the shelf-like member and having a front surface and a side surface and further including a bayonet slot in the side surface which intersects and extends from the front surface generally inwardly and downwardly, said slots being adapted to receive pins extending, respectively, from the ends for supporting the shelf-like member.

2. The construction of claim **1** wherein the columnar support includes a plurality of slots therein, and further comprising:

at least one additional clip and pin on each end and back, said pins being disposed in vertical alignment for being received in vertically aligned slots to thereby support the shelf-like member by at least two pins on each end.

3. The construction of claim **1** further comprising:

first and second dowel members extending, respectively, from the ends for resting engagement with the supports.

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