March 2, 1965 C. JOSEPHSON 3,171,223

DISPLAY FRAME

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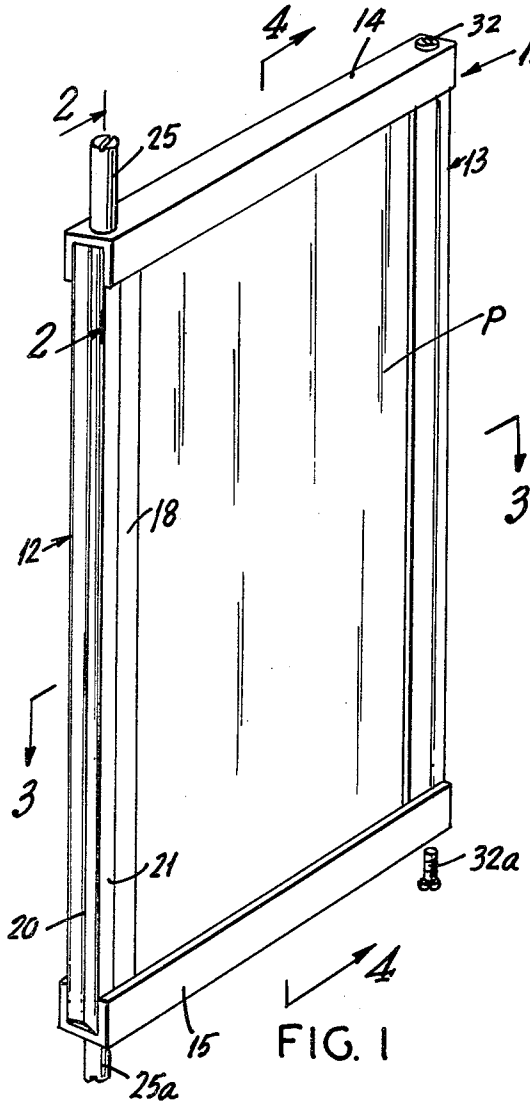


FIG. 1

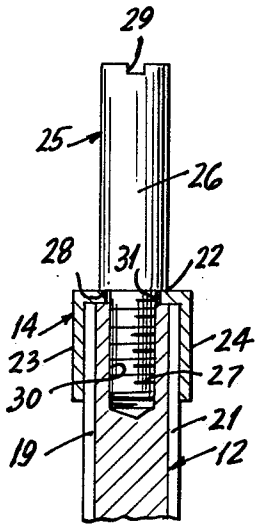


FIG. 2

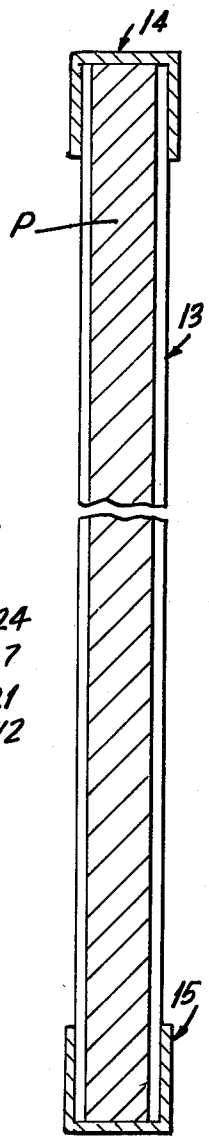


FIG. 4

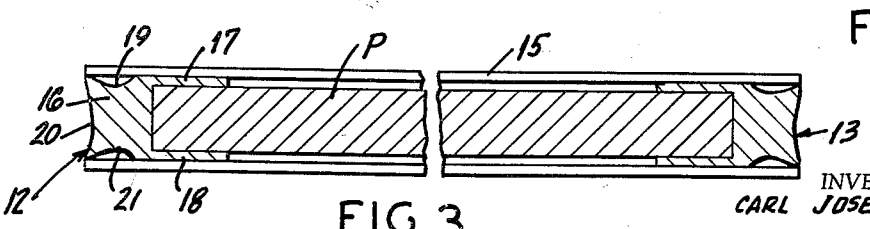


FIG. 3

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DISPLAY FRAME

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This invention relates to display frames for mounting plywood or other planar sheets, and more particularly, to an improved construction for both securing the frame members in assembled relation and pivotally mounting the frame to a display stand.

In the prior art it is known to construct a display frame of four longitudinal frame members extending in end-to-end relation around the periphery of the sheet of plywood or other material to be mounted for display. Each of the frame members may be provided with a channel to receive a respective one of the lateral edges of the sheet. These prior art frames are further provided with means to secure the frame members to each other in assembled relation and also with separate means for pivotally mounting the frame to a display stand.

The present invention resides in a pair of single unitary means which perform both the function of securing the frame members to each other and the function of pivotally mounting the frame. The resulting simplicity of structure provides greater economy in manufacture, less effort in assembly, and greater durability in use.

The preferred embodiment of this single unitary means is disclosed for purposes of illustration in the form of a pin having a cylindrical pivot portion, a threaded portion integral therewith, and a shoulder at the junction of said portions.

A horizontal frame member is provided with an opening therethrough and the inner vertical frame member is provided with a threaded hole in alignment with the opening. The threaded portion of the pin projects through the opening and into threaded engagement within the hole. The shoulder of the pin abuts the horizontal member to retain the latter in secure assembled relation to the vertical member. The cylindrical pivot portion of the pin projects vertically and is adapted to be pivotally connected to a display stand.

Preferably the frame is provided with two such pins, one mounted at the frame upper edge and the other mounted at the lower edge so that the pins are in coaxial alignment for pivotal mounting of the frame about their vertical axis. There is thus provided a pair of unitary inexpensive elements which perform both the assembly and mounting functions in a more efficient and reliable manner than the relatively more complex construction heretofore required in the prior art.

Other objects and advantages of the present invention are either inherent in the structure disclosed herein or will become apparent to those skilled in the art as the detailed description proceeds in connection with accompanying drawings wherein:

FIG. 1 is a perspective view of a display frame embodying the present invention, together with a sheet of plywood mounted therein;

FIG. 2 is a vertical sectional view taken on line 2—2 of FIG. 1;

FIG. 3 is a horizontal sectional view taken on line 3—3 of FIG. 1; and

FIG. 4 is a vertical sectional view taken on line 4—4 of FIG. 1.

Referring now to the drawing in more detail, the reference numeral 11 indicates generally a display frame embodying the present invention. Frame 11 comprises an inner vertical lateral member 12, an outer vertical lateral member 13, a horizontal top member 14, and a horizontal bottom member 15. Said members 11, 12, 13, 14, 15 extend in end-to-end relation to form a rectangular frame extending peripherally around a sheet of plywood P to be mounted for display.

The vertical lateral members 12, 13 are identical, each member comprising a web portion 16 formed integral with a pair of spaced horizontally projecting flange portions 17, 18 forming therebetween a longitudinal channel for receiving a respective one of the vertical edges of sheet P. Web portion 16 is provided at three of its sides with longitudinally extending recesses 19, 20, 21 for decorative purposes.

The two horizontal members 14, 15 are identical in configuration, each comprising a horizontally extending web portion 22 having formed integral therewith along its opposite edges a pair of horizontally-spaced vertically-projecting flange portions 23, 24. As best seen in FIG. 2, the distance between flange portions 23, 24 is slightly greater than the distance between the exterior surfaces of flange portions 17, 18 of vertical members 12, 13 so that the latter fit snugly within the longitudinal channels formed in horizontal members 14, 15.

As thus far described in detail, the structure is old in the art. The present invention resides in an improved means for removably securing frame members 12, 13, 14, 15 in assembled relation and for pivotally mounting the assembled frame 11 to a display stand. To perform both of these functions, there is provided a single unitary means at the edge of frame 11 in the form of a pin indicated generally by the reference numeral 25, and another such pin 25*a* at the lower edge of frame 11.

Pins 25, 25*a* are identical and each comprises a cylindrical pivot portion 26 formed integral with a threaded portion 27. Portions 26 and 27 are coaxial. Pivot portion 26 is of somewhat larger diameter than threaded portion 27 so as to form at the junction therewith a shoulder or abutment means 28, for a purpose to be described. The outer end of each pivot portion 26 is provided with a diametrically extending slot 29 for receiving a screwdriver bit.

Vertical lateral members 12, 13 are each provided at their respective upper and lower ends with threaded holes 30 extending vertically therein. Web portion 22 of each of horizontal members 14, 15 is provided at both opposite ends with openings 31 therethrough and adapted to be aligned respectively with the threaded holes 30 when the frame members are in assembled end-to-end relation.

When so assembled, pin threaded portions 27 project through openings 31 and are screwed into threaded engagement within holes 30 by a screwdriver or other tool in engagement with slot 29. When pins 25, 25*a* are screwed firmly into position, shoulders 28 abut against web portions 22 of horizontal members 14, 15 to secure the inner ends of the latter in fixed assembled relation to the upper and lower ends respectively of the inner lateral vertical member 12. The outer ends of horizontal members 14, 15 are similarly secured to the opposite ends of outer vertical lateral member 13 by conventional screws 32, 32*a*.

When the elements are thus assembled around the edge of a sheet of plywood P to be displayed for mounting, the pivot portions 26 of pins 25, 25*a* will extend vertically and coaxially with respect to each other. Pins 25, 25*a* thus serve as pivot means fo mounting frame 11 to a conventional display stand (not shown) in such a manner that frame 11 may be swung about the vertical axis of pins 25, 25*a* for viewing of the sheet P of plywood or other material to be displayed.

It is to be understood that the specific embodiment of the invention disclosed herein is merely illustrative of one of the many forms which the invention may take in practice without departing from the scope thereof as delineated in the appended claims and that the claims are

to be construed as broadly as permitted by the prior art.

When the frame elements are disassembled they may be placed compactly within a tube or elongated carton for convenient and inexpensive shipping.

I claim:

1. A display frame including a plurality of members each having a longitudinal channel to receive a respective one of the edges of a sheet to be mounted, said members extending in end-to-end relation to form a frame extending peripherally around the sheet, a pin having a cylindrical pivot portion, a threaded portion integral therewith, a shoulder at the junction of said portions, one of said members having an opening therethrough, another of said members having a threaded hole therein and in alignment with said opening, said threaded portion projecting through said opening and into threaded engagement within said hole, said shoulder abutting said one member to retain the latter in secure assembled relation to said other member, said pivot portion projecting from said one member and adapted to be pivotally connected to a display stand.

2. A display frame including an inner vertical lateral member, an outer vertical lateral member, a horizontal top member, a horizontal bottom member, each of said members having means to receive a respective one of the edges of a sheet to be mounted, said members extending in end-to-end relation to form a rectangular frame, and means removably securing said outer lateral member to said horizontal members, a vertically-extending pin having a cylindrical pivot portion and a threaded portion, one of said horizontal members having an opening therethrough, said inner lateral member having a threaded hole therein and in alignment with said opening, said threaded portion projecting through said opening and into threaded engagement within said hole, said pivot portion projecting from said horizontal member and adapted to be pivotally connected to a display stand.

3. A display frame including an inner vertical lateral member, an outer vertical lateral member, a horizontal top member, a horizontal bottom member, means removably securing said outer lateral member to said horizontal members, each of said members having a longitudinal channel to receive a respective one of the edges of a sheet to be mounted, said members extending in end-to-end relation to form a rectangular frame, a vertically-extending pin having a cylindrical pivot portion, a threaded portion integral with said pivot portion, a shoulder at the junction of said portions, one of said horizontal members having an opening therethrough, said inner lateral member having a threaded hole therein and in alignment with said opening, said threaded portion projecting through said opening and into threaded engagement within said hole, said shoulder abutting said horizontal member to retain the latter in secure assembled relation to said inner lateral member, said pivot portion projecting vertically from said horizontal member and adapted to be pivotally connected to a display stand, and means removably securing the other horizontal member to said inner lateral member.

4. A display frame including an inner vertical lateral member, an outer vertical lateral member, a horizontal top member, a horizontal bottom member, each of said members having a longitudinal channel to receive a respective one of the edges of a sheet to be mounted, said members extending in end-to-end relation to form a rectangular frame extending peripherally around the sheet, and means removably securing said outer lateral member to said horizontal members, a pair of vertically-extending pins each having a cylindrical pivot portion, a threaded portion integral and coaxial therewith, and a shoulder at the junction of said portions, each of said horizontal members having an opening therethrough, said inner lateral member having at its opposite ends a pair of threaded holes therein each in alignment with a respective one of said openings, each of said pin threaded portions projecting through a respective opening and into threaded engagement within said respective hole, each of said shoulders abutting a respective one of said horizontal members to retain the latter in secure assembled relation to said inner lateral member, said pin pivot portions projecting coaxially and vertically in opposite directions and adapted to be pivotally connected to a display stand.

5. A display frame including an inner vertical lateral member, an outer vertical lateral member, a horizontal top member, a horizontal bottom member, means removably securing said outer lateral member to said horizontal members, each of said members having means to engage a respective one of the edges of a sheet to be mounted, said members extending in end-to-end relation to form a rectangular frame extending peripherally around the sheet, a pair of vertically-extending pivot pins each having a cylindrical pivot portion, a threaded portion integral and coaxial therewith, and a shoulder at the junction of said portions, each of said horizontal members having an opening therethrough, said inner lateral member having at its opposite ends a pair of threaded holes therein each in alignment with a respective one of said openings, each of said threaded portions projecting through a respective opening and into threaded engagement within said respective hole, each of said shoulders abutting a respective one of said horizontal members to retain the latter in secure assembled relation to said inner lateral member, said pivot portions projecting coaxially and vertically in opposite directions and adapted to be pivotally connected to a display stand.

6. A display frame including an inner vertical lateral member, an outer vertical lateral member, a horizontal top member, a horizontal bottom member, means removably securing said outer lateral member to said horizontal members, each of said members having means to engage a sheet adjacent a respective one of its edges, said members extending in end-to-end relation to form a rectangular frame extending peripherally around the sheet, a pair of vertically-extending pivot pins each having a cylindrical pivot portion, a threaded portion integral and coaxial therewith, each of said horizontal members having an opening therethrough, said inner lateral member having at its opposite ends a pair of threaded holes therein each in alignment with a respective one of said openings, each of said threaded portions projecting through a respective opening and into threaded engagement within said respective hole, said pivot portions projecting coaxially and vertically in opposite directions and adapted to be pivotally connected to a display stand.

7. A display frame including a plurality of members each having means to engage a respective one of the edges of a sheet to be mounted, said members extending in end-to-end relation to form a rectangular frame extending peripherally around the sheet, a pair of vertically-extending pivot pins each having a cylindrical pivot portion, a threaded portion, and abutment means, each of said horizontal members having an opening therethrough, said inner lateral member having at its opposite ends a pair of threaded holes therein each in alignment with a respective one of said openings, each of said threaded portions projecting through a respective opening and into threaded engagement within said respective hole, each of said abutment means abutting a respective one of said horizontal members to retain the latter in secure assembled relation to said inner lateral member, said pivot portions projecting coaxially and vertically in opposite directions and adapted to be pivotally connected to a display stand.

8. A display frame comprising a first elongated frame member having a web portion and a pair of spaced parallel coextensive flanges extending therefrom and forming a channel to receive one edge of a member to be displayed, a second elongated frame member at right angles to said first member and having a web contacting one end of the first frame member and coextensive par-

allel flanges extending from said web of the second frame member and reciving the flanges of the first frame member therebetween, said web of said second frame member having a through opening, said web of said first frame member having an opening registering with said first opening and a combination assembly and pivot member, having a shank passing through said registering openings and being fastened in the opening in the web of the first frame member, and a pin portion of greater cross sectional area than said shank and forming a shoulder between said shank and pin contacting said web of said second frame member.

9. A display frame as defined in claim 8, wherein said shank is shorter than said pin portion.

10. A display frame comprising a front pair of parallel, opposed, coextensive, channel-shaped members each comprising an outer web portion and a pair of inwardly extending parallel flanges, and forming inwardly opening channels adapted to receive and grip one pair of opposed parallel edge portions of a rectangular panel to be displayed, a second pair of opposed, parallel coextensive channel-shaped members, at right angles to said first pair of channel-shaped members and each comprising an outer web portion and a pair of parallel inwardly extending flanges and forming channels opening inwardly and at the ends thereof receiving and gripping the ends of the first pair of channel-shaped members, to form a rectangle, the webs of said second pair of members being formed at the ends thereof with through openings, the ends of the webs of said first pair of channel members being formed with blind longitudinal screw threaded holes registering with said openings, and pairs of receiving members having heads and screw shanks, said screw shanks passing through said openings and having screw

threaded engagement with said holes, said heads having undershoulders contacting the webs of said second pair of channel-shaped members, the heads of the securing members at the ends of one of said first pair of channel-shaped members, comprising pins of circular, external shape and constituting pivot pins for pivotally mounting said display frame on a display stand having openings pivotally receiving said pivot pins, and the second pair of channel-shaped members being adapted to receive another pair of opposed edges of the panel with the flanges of said second pair of channel-shaped members spaced from said panel.

11. The combination of claim 10, said pins being longer than the heads of said other pair of securing members.

12. The combination of claim 11, and said pins being longer than the shanks of the securing members of which they form part.

13. The combination of claim 12, the webs of said channel-shaped members being thicker than said flanges thereof.

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