June 20, 1939. H. H. MOORE 2,163,259

DISPLAY BACKGROUND CONSTRUCTION

Filed Dec. 17, 1938 2 Sheets-Sheet 1

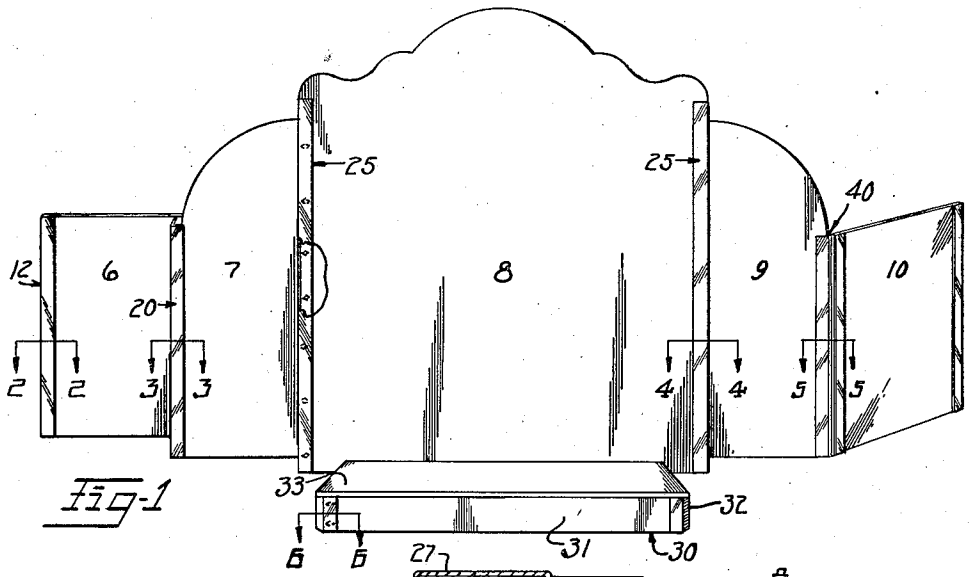


Fig-1

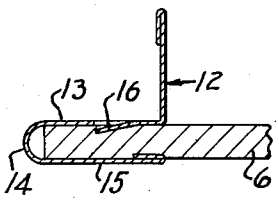


Fig-2

Fig-4

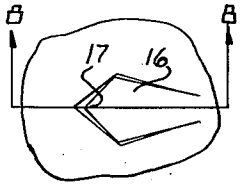


Fig-7

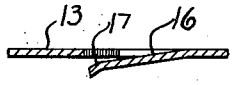
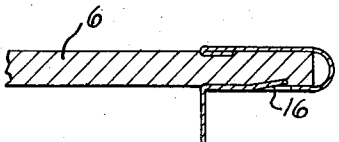


Fig-8



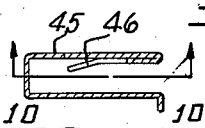


Fig-9



Fig-10

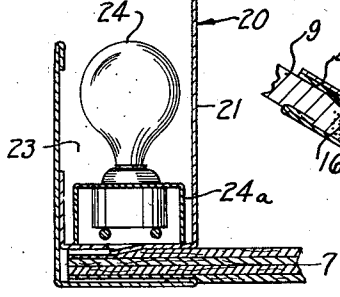


Fig-3

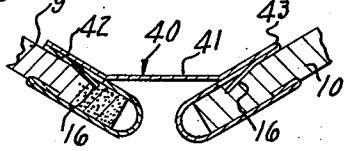


Fig-5

Fig-6

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June 20, 1939. H. H. MOORE 2,163,259

DISPLAY BACKGROUND CONSTRUCTION

Filed Dec. 17, 1938 2 Sheets-Sheet 2

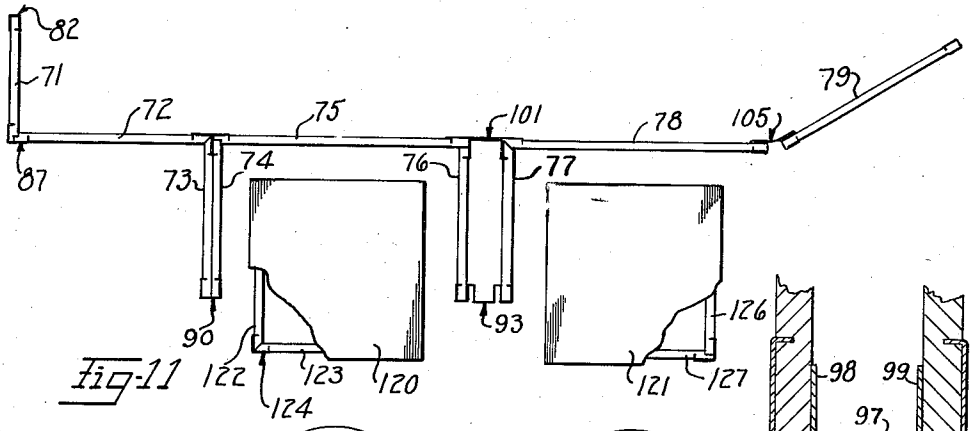


Fig-11

Fig-22

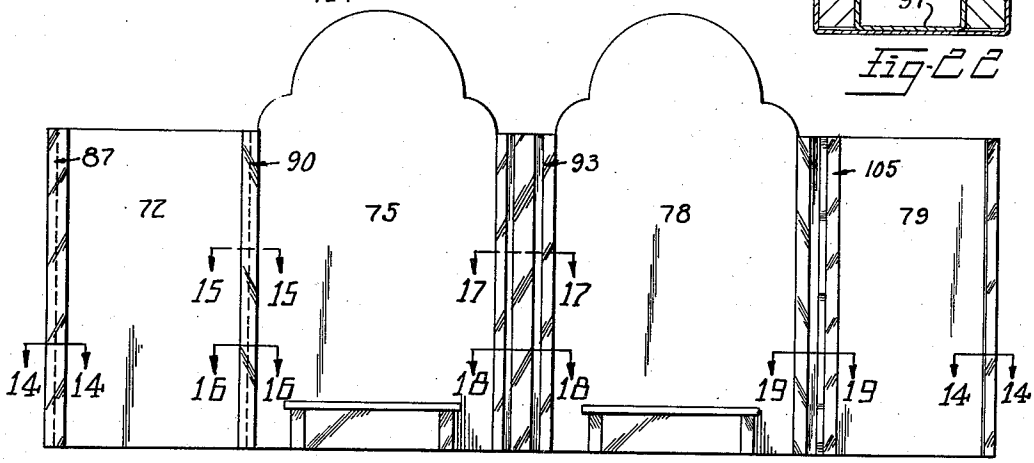


Fig-12

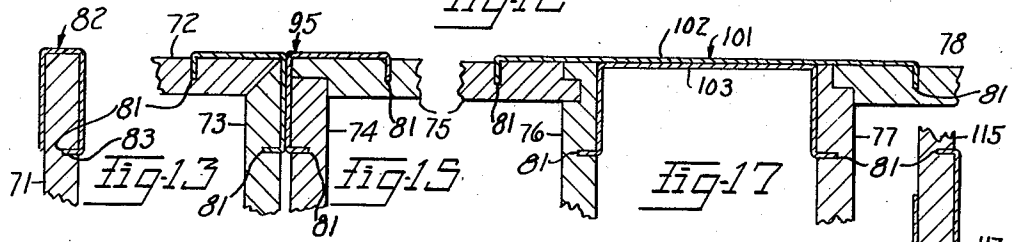


Fig-13 Fig-15 Fig-17 Fig-14 Fig-16 Fig-18 Fig-21

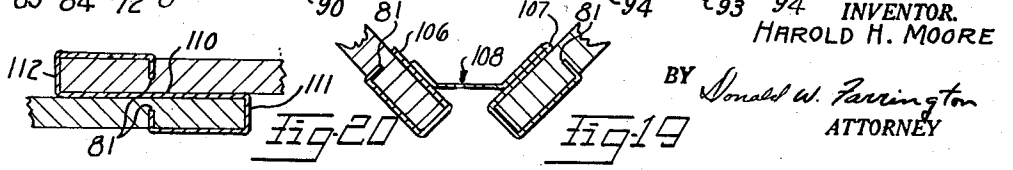


Fig-20 Fig-19

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UNITED STATES PATENT OFFICE

2,163,259

DISPLAY BACKGROUND CONSTRUCTION

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Application December 17, 1938, Serial No. 246,396

6 Claims. (Cl. 40—124.1)

This invention relates to display devices and more particularly to a display background wherein a number of separate panels are secured to each other to provide a continuous background for a salesroom display.

Heretofore display backgrounds made up of panels joined to each other have usually involved the construction of a separate rectangular frame for each panel and the securement of the edges of the panel to the rectangular frame. A series of panels constructed in the described manner are arranged in an edge to edge relation and bolted or otherwise temporarily secured to each other. This method requires considerable manual labor in the construction of the individual panels and involves considerable expense in the crating and handling of the finished panel frames due to the depth of the crates required for the panel frames. Other disadvantages associated with the conventional method of display background construction are those relating to the difficulty encountered by the dealer in erecting the background within the store or display room. The securing of the wooden frame units to each other by means of bolts occasions the lining up of numerous bolt holes and other operations requiring the use of tools so that many dealers are reluctant to use the conventional type of display background.

It is among the objects of my invention to provide a display background wherein the panels which make up the background are free of frame members prior to their assembly in the finished display and wherein the separate panels are quickly and easily secured to each other through the medium of attaching columns. It is a further object of my invention to provide a display assembly according to the preceding object wherein the separate panels are firmly secured to the attaching columns in a manner whereby the entire display assembly becomes a sturdy composite unit, resistant to tipping, bending or warping while in use. More specifically it is an object of my invention to provide a display assembly wherein a series of separate color panels free of individual frame work are secured to each other in an edge to edge relation through the medium of a vertical metallic member having U-shaped channels to embrace and hold the adjacent edges of the color panels. Further objects and advantages relating to simplicity in construction and economies in manufacture will appear from the following description and the appended drawings wherein:

Figure 1 is an elevation of a display background embodying my invention;

Figure 2 is a sectional view taken on the line 2—2 of Figure 1;

Figure 3 is a sectional view taken on the line 3—3 of Figure 1;

Figure 4 is a sectional view illustrating an offset relation between two adjacent panels taken along the line 4—4 of Figure 1;

Figure 5 is a sectional view taken along the line 5—5 of Figure 1 showing a deformable connector column;

Figure 6 is a sectional view taken through the corner of a display platform as indicated by line 6—6 of Figure 1;

Figure 7 is an enlarged detail showing of a retainer prong employed in the preferred embodiment of my invention;

Figure 8 is a sectional view taken along the line 8—8 of Figure 7;

Figure 9 is a sectional view showing a modified form of panel retainer;

Figure 10 is a view taken along the line 10—10 of Figure 9 illustrating the retainer prong of this modification;

Figure 11 is a plan view of a display assembly illustrating the application of a modified form of my invention;

Figure 12 is an elevation of the assembly shown in Figure 11;

Figure 13 is an enlarged showing of the edge trim applied to the end panel of the display background;

Figure 14 is a sectional view showing a corner of the display taken along the line 14—14 of Figure 12;

Figure 15 is a sectional view taken through the back of the display assembly as indicated by lines 15—15 of Figure 12;

Figure 16 is a sectional view taken along the lines 16—16 of Figure 12 showing the forward edge of two panels arranged back to back;

Figure 17 is a sectional view taken through the back of the assembly shown in Figure 12 as indicated by the lines 17—17;

Figure 18 is a sectional view taken along lines 18—18 of Figure 12 through the forward edge of a pylon structure included in my display assembly;

Figure 19 is a sectional view taken along the lines 19—19 of Figure 12 showing a deformable connector column used in a modified form of my invention;

Figure 20 is a sectional view showing a connector made according to my invention as adapt-

ed to secure two overlapping panels to each other;

Figure 21 is a sectional view showing a connector device constructed according to my invention as employed to hold two panels to each other in a coplanar relation;

Figure 22 is a sectional view of a modified form of pylon constructed according to my invention.

Display backgrounds for the commercial display of various products such as washing machines, refrigerators and the like are enjoying wide current use and are generally accepted as an important accessory by the dealers in such appliances. It is the custom of the trade generally for the manufacturer to supply his dealer with a display background comprising panels of different colors so arranged as to provide an attractive display of the appliance or fixture. It is also the custom of the trade for the manufacturer to buy a large quantity of such display backgrounds which of necessity must be packaged and shipped to each individual dealer. When the dealer receives a display background assembly he is faced with the problem of arranging the background within his store and since it is seldom that two stores are dimensioned or proportioned alike, it becomes difficult for the dealer to fit a standard background assembly to the conditions existing in his store. This is particularly true where the conventional display background construction is followed.

In connection with the crating and shipping of the display devices by the manufacturer, it is found that such devices require very careful crating, and that although the panels comprising the display are relatively thin the framework therefor necessitates the building of a relatively cumbersome crate for the panel. According to my invention I propose that the thin panels which are the essential elements of a display background shall be shipped flat and free of any framework structure whatever. I also propose that the connector columns or metallic devices which ultimately provide a framework for the panels be stacked together and shipped in a single package. Since there is little likelihood of damaging metallic connector elements constructed according to my invention, the entire display assembly may be shipped in relatively inexpensive boxes or crates and will arrive at the store where they are to be set up in good condition.

To illustrate how my invention may be embodied in a display background I have shown in Figure 1 a display background comprising five separate color panels numbered **6** to **10** inclusive, which panels are of a color selected by the manufacturer to best set off or display his wares, and such panels are usually of a height such as seven to ten feet so as to effectively cover the wall and provide a continuous background. The display may be assembled by starting from one end, for instance, with the panels **6** and moving said panel into the metallic element **12** shown at the outer edge of the assembly. This element as best shown in Figure 2 comprises a member formed of relatively light sheet metal and is provided with a U-shaped channel portion **13—14—15**. The U-shaped channel is preferably dimensioned so as to snugly embrace the vertical edge of the color panel **6** and is provided with a number of inwardly bent prongs **16** stamped out of the sheet metal. The prong **16** is preferably of the shape shown in Figures 7 and 8 wherein the point **17** is suited to bite into or gouge the panel **6** when an attempt is made to withdraw the panel from the metallic element **12**. Ordinarily the panel **6** is made of a light inexpensive fiber composition, since the display structures themselves are more or less temporary in nature and are intended to be discarded after they have served their purpose of displaying and introducing the new appliances or models. It will be understood, however, by those familiar with this art that a more permanent display background is occasionally required and in this event the panels such as **6** to **10** may be made of plywood, masonite or other substantial sheet material.

In the display background shown in Figure 1 the panels **6** and **7** are offset with respect to each other by means of a metallic element indicated generally as at **20** and shown in detail in Figure 3. This element is proportioned so as to provide a surface extending laterally from the plane of the color panels and the web **21** thereof is preferably about six to ten inches in width. The vertical edge of the element **20** adjacent the panel **6** is provided with a U-shaped channel formed substantially as described in connection with the device shown in Figure 2, and the prong **16** therein is concealed from the front of the display assembly by the panel **7** which is secured to a U-shaped channel formed on the forward edge of the web **21**. It will be observed by reference to Figure 3 that the bottom wall of the U-shaped channel on the forward edge of the element **20** extends rearwardly to a point spaced from the panel **6** so as to provide a chamber **23** adapted to conceal an illuminating element **24**. The light is shown as carried by a rectangular conduit **24a** which may be provided with a hook or other fastener (not shown) to support it on the display. The element **24** thus provides an indirect lighting arrangement for the panel **6** and it is among the advantages associated with my invention that the metallic elements such as **20** may be utilized to support and conceal such illuminating devices. The panel **7** secured to the forward edge of the element **21** is joined to the main panel **8** by an element **25** which provides additional stability to the display assembly by means of its lateral web **26**. The element **25** is shown in detail in Figure 4 and comprises a U-shaped channel **27** at its rearward edge and a U-shaped channel **28** at its forward edge to engage the adjacent panels. The channels **27** and **28** are provided with integrally formed resilient prongs such as **16** stamped out of the side wall or as at **16a** formed on an inturned edge of the channel side wall. It will be understood as the description proceeds that the number and size of the prongs may vary considerably depending upon the material of the panels. For instance where a light material such as corrugated straw board is to be used for a panel the prongs should be large enough to pierce the corrugated straw board for a considerable portion of its thickness and where a hard material such as plywood is used, the prongs need not be proportioned to enter the sheet for any substantial depth.

Ordinarily the center panel **8** of a display assembly made according to my invention is wider than the panels at either side thereof and this center or main panel is used to prominently display the more important appliances of the line. I have shown a platform indicated in its entirety as at **30** which comprises four side walls **31—31** secured to each other by a metallic connector element **32**. This element is preferably formed

as shown in Figure 6 and comprises U-shaped channels arranged at 90° with respect to each other, which channels are provided with inwardly extending prongs to engage the panel or sheet side member 31. It will be understood that this platform 30 may be shipped in a knocked-down condition along with the display panels and that it may be easily and quickly assembled by the dealer without the use of tools or special fastening devices. The top 33 of the platform is preferably formed of relatively heavy material so as to support a refrigerator, washing machine or other appliance.

As shown particularly in Figure 4 the panel 9 is secured to the main or center panel 8 by the element 25 and in this connection it is pointed out that the element 25 may be provided with a rearwardly extending skirt such as shown in Figure 3 so as to provide illumination for the adjoining panel 9. At the right hand edge of the panel 9 I have provided, in the form of my invention shown, a deformable connector column 40 (see Figure 5) wherein the web portion is made of relatively soft metal which may be deformed by hand so as to position the panel 10 at any desired angle with respect to the panel 9. The deformable web 41 is spot welded as indicated at 42 or may be integrally formed with the U-shaped channels as indicated at 43. The connector element 40 corresponds with respect to the U-shaped channel structure to the previously described construction wherein the prongs 16 are stamped out of the side wall and bent so as to point towards the bottom of the U-shaped channel. The connector element functions in this respect like the U-shaped channels heretofore described to bite into and grip the fiber panels 9 and 10 arranged therein.

Although I have described as the preferred form of my invention a U-shaped channel wherein the tongue 16 is integrally formed and stamped out of the U-shaped side wall, I appreciate that this tongue or retaining device within the channel may be integrally formed with an inturned edge of the channel as shown in Figures 9 and 10. In this modification the edge of the channel side wall 45 is provided with an integrally formed tongue or prong 46 and it will be observed that this tongue is thus carried by the front or forward wall of the channel as distinguished from the back or concealed wall of the channels in the previously described forms of my invention. I do not wish to be restricted to the particular shape of the prong 16 or the prong 46 as illustrated, and it will be understood from a full appreciation of my invention that the prongs themselves as elements may be spot welded or otherwise secured within the U-shaped channels which grip the display panels.

Although I have found the preferred form of my invention such as illustrated in Figures 1 to 10, inclusive, to be suited to most display panel installations, I appreciate that where heavier panel stock is used, such as ½'' plywood, a slightly different type of construction may be employed, such as that shown in Figures 11 to 22, inclusive. In this form of my invention I have employed flat panels 71 to 79, inclusive, formed of plywood or like composition material and these panels are provided with vertical kerfs or saw cuts indicated as at 81. Figure 11 shows a plan view of a display assembly constructed according to this modification of my invention wherein the left hand end panel 71 is fitted with a U-shaped molding or edge cover strip 82 which may be applied to the panel 71 by sliding the molding axially along the edge so that the inturned end 83 thereof will be arranged in the saw cut or kerf 81. To illustrate a way in which the panel 71 may be secured to the panel 72 I have shown in detail as in Figure 14 a right angled corner wherein the panels 71 and 72 are rabbeted along their edge as at 84 and 85. The panels are securely fastened to each other by means of a metallic column or connector element indicated in its entirety as at 87. This connector element is provided at each of its free edges with a right angularly bent portion 88 and 89 which is disposed in a saw cut or kerf 81 formed in the edge of the panel.

Occasionally it is desired in displays of the character described to provide partition or separating sections, such as are formed by the panels 73 and 74 wherein said panels are arranged in a back to back relation and are secured to each other on their forward edge by means of a metallic connector element 90. This element is applied to the panels 73 and 74 by sliding the same axially along the edge so that the inturned ends 91 and 92 are disposed within the vertical saw cuts provided in the panels. Although it is not necessary in many display assemblies to fasten the rear edges of the partition panels to each other, I have shown in Figure 15 a connector element 95 which will accomplish this result. The connector element 95 in effect comprises two members, such as the connector element 87 secured to each other in a back to back relation. They are preferably spot welded to each other in this back to back relation and I have shown illustrated in Figure 15 two different types of joints between the panels which are retained by the element 95.

It is occasionally desirable to provide in display assemblies of the character described vertical pylon structures which not only function to provide partitions between the display background areas, but also provide a decorative column of considerable width which lends stability to the entire assembly. I have shown a pylon which accomplishes the desired results as comprising panels 76 and 77 spaced from each other and secured to each other at their forward edges by a metallic pylon front member 93. This member is preferably shaped as illustrated in detail in Figure 18 so as to provide a U-shaped channel at each vertical edge, which will embrace the panels 76 and 77. It is not essential that the re-entrant portion 94 be provided inasmuch as the U-shaped channels may be obtained by the construction shown in Figure 22 wherein the pylon front member 97 is continuous across the front and has spot welded thereto angle members 98 and 99 which ultimately form the side walls of the U-shaped channels. The U-shaped channels are provided with inturned ends which are arranged in vertical saw cuts as heretofore described. The back of the pylon element is preferably formed by the element 101 which comprises essentially two members such as element 87 secured to each other by webs 102 and 103. It will be understood that the element 101 is applied to the back of the display assembly by sliding the same axially therealong in the manner heretofore described in connection with the other connector elements.

The panels 78 and 79 may be arranged at an angle with respect to each other as shown in Figure 11 by utilizing a deformable connector element 105. The connector element 105 is illustrated in detail in Figure 19 and comprises metallic U-shaped members 106 and 107 secured to

each other by a deformable strip of metal 108. The last mentioned strip may be spot welded or otherwise secured to the channel elements 106—107 and the channel elements are provided with inturned edge portions adapted to be positioned within vertical saw cuts in a manner such as heretofore described.

In Figure 20 I have shown how a pair of overlapped display panels may be secured to each other with a connector element constructed according to my invention. This element comprises a web 110 having a U-shaped channel 111 at one edge and a U-shaped channel 112 at the other edge. The last named channels are provided with inturned edges disposed in saw cuts as will be understood by the preceding description. A pair of panels 115—116 such as shown in Figure 21 may be secured to each other in an edge to edge relation by means of a connector element 117 which is essentially a pair of U-shaped channel members arranged back to back and provided with inturned edge portions within the panel saw cuts.

In Figures 11 and 12 I have shown display platforms 120 and 121 which are preferably formed by arranging side wall members 122—123 in a rectangle and securing them to each other by sliding a corner element 124 therealong. The element 124 corresponds in cross section to the metallic corner element 87 heretofore described. The tops, or supporting surfaces for the platforms 120—121 may be formed of any heavy material which will support the appliance or structure to be displayed thereon. It will be observed by reference to Figure 11 that I have provided two different types of corner joints, the first as shown with platform 120 being a miter joint and the second shown with platform 121 being formed by a right angular abutment of element 126 against a rabbet formed in element 127.

Although I have shown and described a number of forms of my invention and have described the invention itself in the environment of a display background, it will be appreciated that numerous modifications may be made therein, and that therefore I do not wish to be limited to the particular structures shown nor to the particular structures described, but that the scope of my invention should be defined by the appended claims.

I claim:

1. A display background assembly comprising a series of vertical panels, means to connect the vertical edge of one panel of said series to the next adjacent panel comprising a sheet metal member having a surface extending transversely with respect to the flat surface of the adjacent panels to provide lateral stability for the assembly, said member being provided at each edge thereof with a U-shaped channel proportioned to embrace the vertical edge of an adjacent panel, said channel provided with integrally formed resilient prongs projecting inwardly toward the bottom of the channel and adapted to permit the panel to be moved into the channel and thereafter to engage the panel and restrain its withdrawal.

2. A display background assembly comprising end panels and intermediate panels adapted to be joined to each other in edge to edge relation, the outer vertical edges of the end panels provided with a sheet metal column having a U-shaped channel proportioned to receive the edge of the panel and resilient prongs carried by one side wall of said channel extending inwardly and toward the bottom thereof, each of said prongs adapted to bend toward said side wall as the panel is moved into the channel and to bend away from the side wall to enter the panel surface as the panel is withdrawn from the channel.

3. A display background comprising a series of panels arranged side by side, certain of said panels offset in a non-coplanar position with respect to other panels of the background, means to secure said panels to each other including a member having a vertical channel at each vertical edge thereof adapted to embrace and conceal the vertical edge of an adjacent panel, one side wall of said channel being provided with a plurality of spaced metal members projecting into said channel and spaced from the opposite side wall to engage and hold the panel therein.

4. A display background comprising at least two separate flat panels of fibrous material, means to secure said panels to each other in a side by side relation, comprising a vertical member having a pair of U-shaped channels spaced from each other, each of said channels adapted to embrace a vertical edge of one of said panels and being provided on one side wall thereof with an integrally formed metal prong extending toward the bottom of the channel to bite into the fibrous material of the panel when the same is arranged therein.

5. In a display structure, a pylon comprising a pair of flat panels vertically arranged and spaced with respect to each other, means to connect said panels to each other comprising a sheet metal element having a U-shaped vertically extending channel along each edge thereof, said channel proportioned to embrace and conceal an edge of a panel, at least one side wall of each of said channels being provided with an integrally formed resilient prong extending toward the bottom of the channel whereby the panel may be easily moved into the channel and restrained therein.

6. A display background structure comprising a vertically arranged flat fibrous panel, means secured along a vertical edge of said panel comprising a U-shaped metallic channel, one side wall of said channel having an inturned edge projecting toward the bottom of the channel, said edge portion having a plurality of spaced prongs offset from the plane of the channel side wall and adapted to engage the fibrous panel to prevent its withdrawal from the channel.

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