

[54] PARTITION DEVICE	3,696,855	10/1972	Kira .....	160/135
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	3,768,222	10/1973	Birum .....	52/239

[22] Filed: June 18, 1973

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[21] Appl. No.: 371,145

**Related U.S. Application Data**

[62] Division of Ser. No. 188,290, Oct. 12, 1971, Pat. No. 3,768,222.

[52] U.S. Cl. .... 52/624, 52/716, 52/239

[51] Int. Cl. .... A47g 5/00

[58] Field of Search ..... 52/624, 627, 716, 717, 52/718, 400, 238, 726, 455, 456, 457, 479; 160/135

[57] **ABSTRACT**

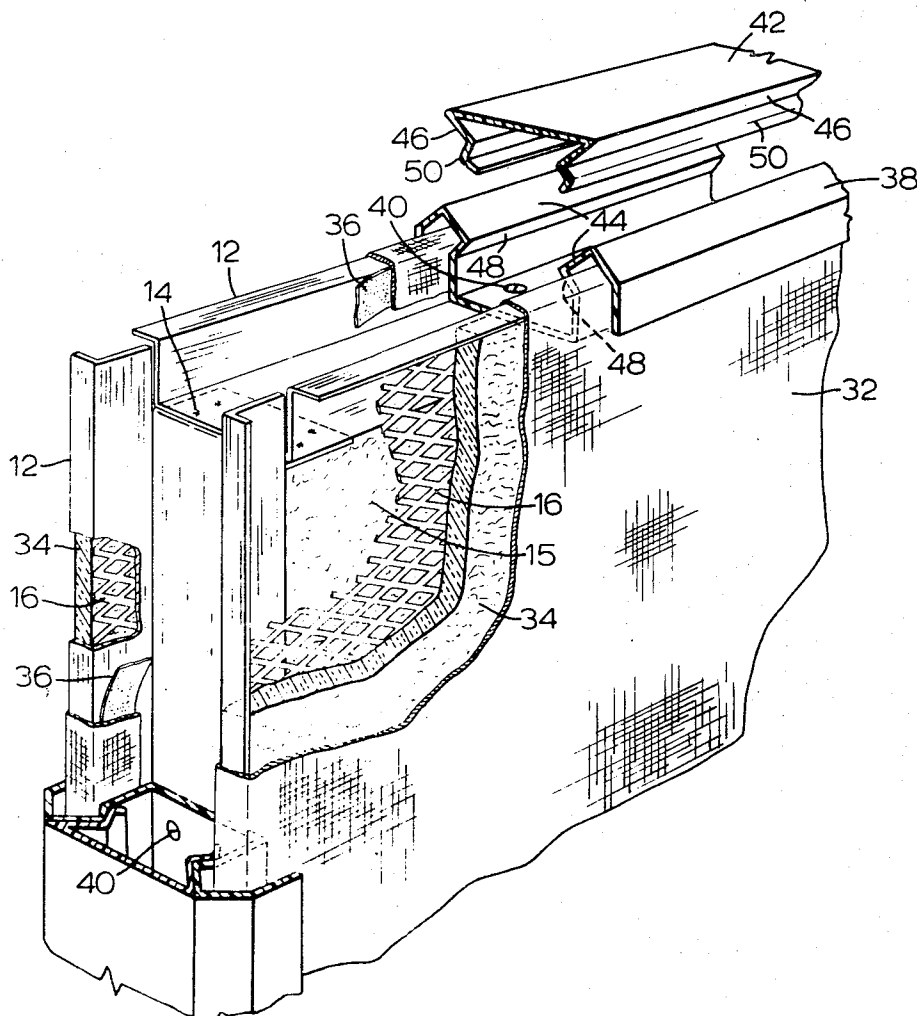
This invention relates to a privacy screen comprising a screen panel having a perimeter edge surface between opposed facia surfaces; perimeter moulding extending longitudinally of said edge surface and having rigid side walls in face-to-face relation; said side walls each having a longitudinally extending seat and a locking shoulder underlying said seat.

[56] **References Cited**

**UNITED STATES PATENTS**

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**5 Claims, 5 Drawing Figures**





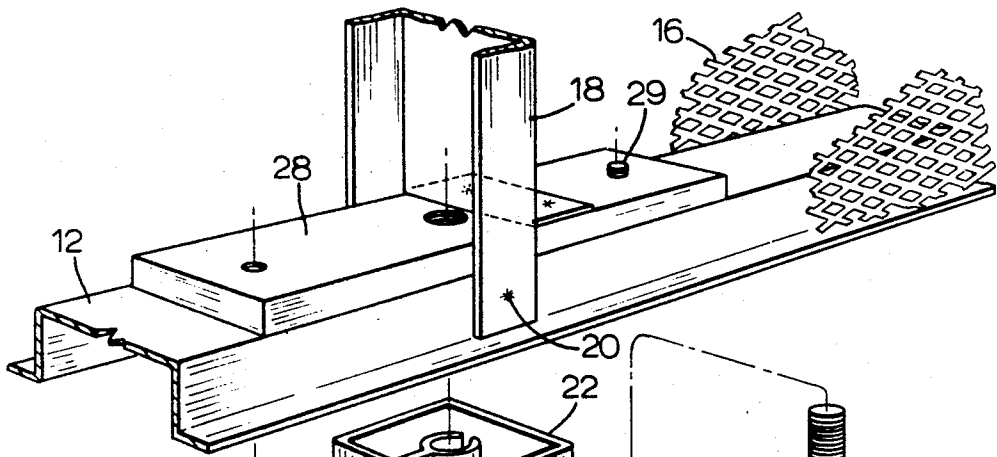


FIG. 3

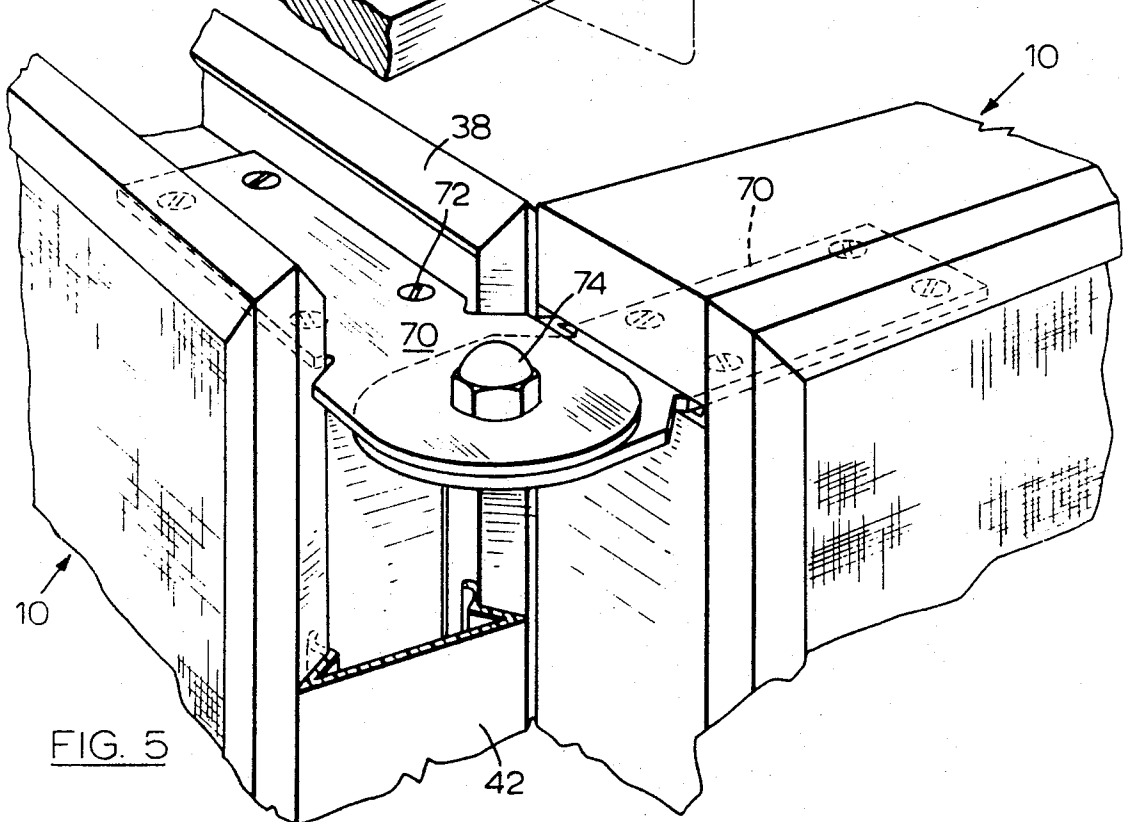


FIG. 5

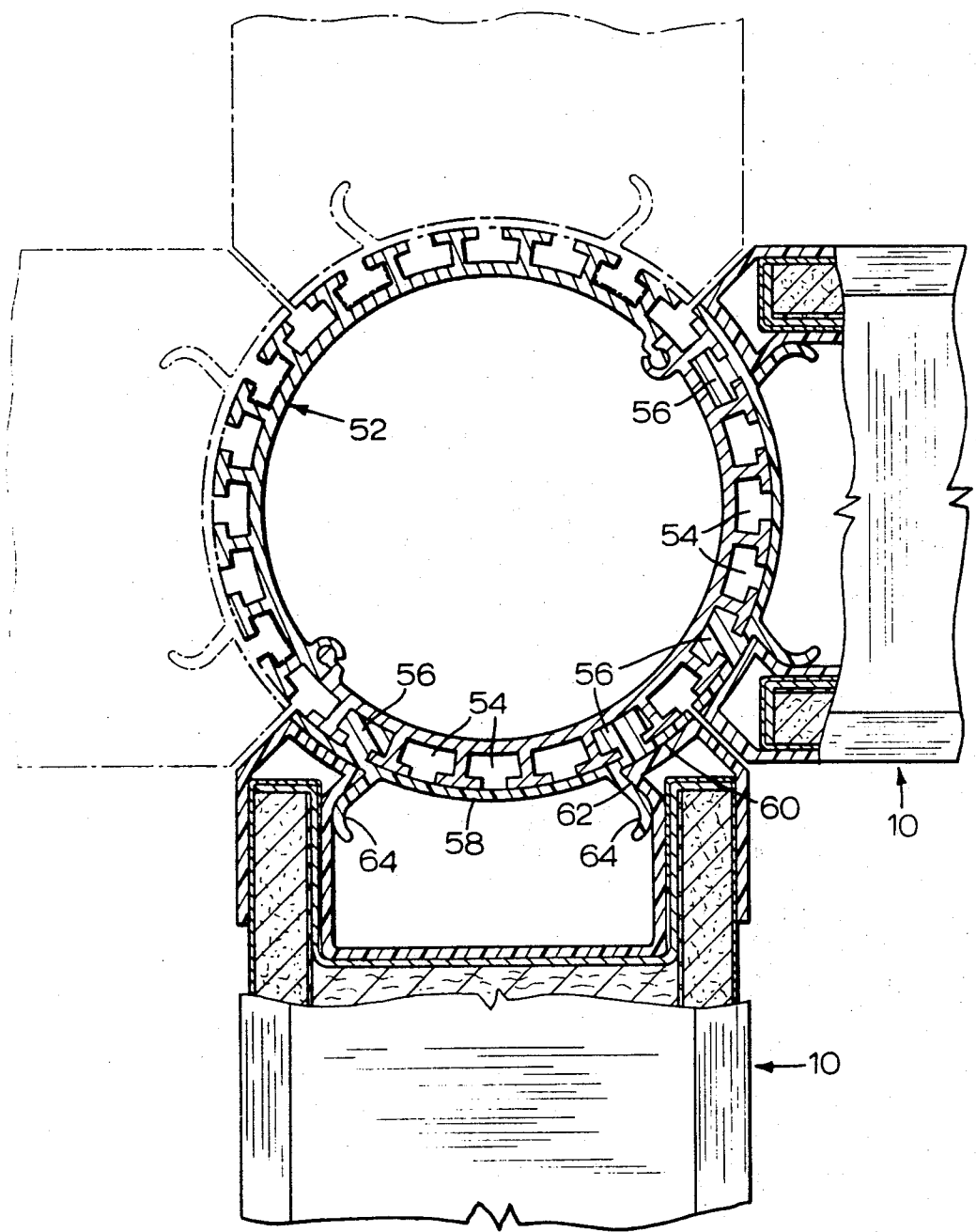


FIG. 4

## PARTITION DEVICE

This invention relates to a privacy screen, and is a division of application Ser. No. 188,290, filed Oct. 12, 1971, now U.S. Pat. No. 3,768,222.

Privacy screens are extensively used in office and lounge areas for the purpose of partitioning the general space. They are of various types and it has been the experience in using these screens that if they are made with sound absorbing characteristics they function similarly to ceiling to floor partitions from a sound insulating point of view. They have the advantage over wall to ceiling partitions that they permit the more free circulation of air in the general office or lounge space.

It is of importance to be able to arrange privacy screens in a variety of positions with respect to each other with a minimum of custom fabrication.

The facia covering of these panels is usually a fabric and it is desirable that the fabric should be easily removable for cleaning and replaceable without the necessity of returning the screen to the factory.

The novel screen design of this invention permits one to arrange screens in a multitude of arrangements without custom fabrication. With the invention, it is also possible to easily remove the facia for cleaning and to replace it.

According to the invention, a privacy screen is formed with a screen panel that has a perimeter edge surface between opposed facia surfaces. The perimeter moulding has a channel that extends longitudinally thereof and the channel has a longitudinally extending seat and a locking shoulder underlying the seat at each of its sides.

The invention will be clearly understood after reference to the following detailed specification.

## IN THE DRAWINGS

FIG. 1 is a perspective view of two screens according to the invention assembled together at right angles to each other;

FIG. 2 is a perspective view of a corner of one of the panels of FIG. 1 at the circle, broken away to illustrate the construction;

FIG. 3 is a view illustrating the construction of the frame at the supporting legs;

FIG. 4 is a sectional view taken along the line 4-4 of FIG. 1 but also showing the possible location of other screens; and

FIG. 5 is an illustration showing the manner in which two panels can be hinged together.

In the drawings, FIG. 1 shows a privacy screen assembly that consists of two similar screen panels 10 secured together along one edge thereof. The screen panels each comprise a perimeter frame made of light gauge sheet metal perimeter frame members 12 mated and spot welded together as at 14 at each of the four corners as illustrated in FIG. 2. Expanded metal grids 16 extend across the rectangular space defined by the perimeter members 12 on each side of the frame and are secured to the side walls of the perimeter frame members 12 by spot welding. These grids are secured by spot welding all around the frame and rigidify and strengthen the frame.

The space between the grids 16 is preferably filled with a sound deadening material 15 such as glass fibre.

The perimeter frames have vertical support members 18 which are connected to the top and bottom frame

members 12 by spot welding as indicated at the numeral 20 of FIG. 3.

A basic frame construction of this nature can be made with high strength of quite light materials. For example, it has been found that one can make a strong frame if one constructs the side and top perimeter frame members 12 of 24 gauge sheet steel, the bottom perimeter member 12 of 18 gauge sheet steel and the vertical support members 18 of 18 gauge sheet steel. The expanded metal grids 16 performs a considerable rigidifying function and it has been found that with the construction no knee or cross-bracing is required.

The screens are supported in operative position on legs 22 which are bolted thereto by means of bolts 24 that extend through a foot member 26 and screw into a threaded plate 28 that is bolted to the bottom frame member 12 by bolts 29. It will be noted that the leg member 22 is an extruded aluminum or like material section and that it has a guide channel at its centre for the bolt 24.

The foot member 26 on the bottom of the leg is formed with a recess to accommodate the head of the bolt.

In FIG. 1, alternative types of foot members have been illustrated. The screen at the left in FIG. 1 has a foot member 26 that can be rotated from the dotted line position indicated at the left-hand side to the solid line position. When in the solid line position, it is capable of supporting screen 10 in a free standing position. However, if more than one screen is connected together as indicated in FIG. 1, the long foot member 26 is not necessary and a simple plate 30 similarly recessed to accommodate the head of the bolt 24 can be used.

The screens have a decorative facia surface 32 which is preferably of fabric. It will be noted that the perimeter frame members 12 have an outwardly extending flange. The space contained by these outwardly extending flanges is filled with a board 34 and the board is overlaid with the facia cloth 32.

The free edges of the facia cloth 32 are secured to the inside of the channel of the perimeter frame members 12 by means of a pressure sensitive adhesive tape 36 that has adhesive on both sides.

The metal perimeter frame, with its sound absorbing centre 15, panel board 34 and facia cloth 32 is trimmed with a perimeter moulding 38 secured by means of screws 40 to the bottom of the channel of the perimeter frame members 12.

Perimeter moulding 38 is made as an extruded plastic section from a suitable plastic such as polyvinyl chloride or acrylonitrile-butadiene-styrene. It is adapted to receive and retain a decorative edge surface moulding 42. The perimeter moulding 38 has a longitudinally extending seat 44 at each side of its channel configuration that is designed to accommodate the seating surfaces of the decorative moulding 42 and a locking shoulder 48 underlying the seat 44 designed to co-operate with the locking flanges 50 that extend from the seating surfaces 46 of the decorative moulding 42.

The decorative moulding 42 is made from an extruded plastic such as polyvinyl chloride and the downwardly extending sides which consist of the seating surfaces 46 and locking flanges 50 are flexible laterally with respect to each other as are the sides of the channel configuration of the perimeter moulding 38. In their normal position, the seating surfaces 46 and locking flanges 50 lie substantially in juxtaposed relation to the

seats 44 and locking shoulders 48 of the perimeter moulding 40 but they are flexible laterally and they do flex laterally as the decorative moulding 42 is projected into the channel of the perimeter moulding to permit the decorative moulding enter and interlock with the perimeter moulding. Similar lateral flexing takes place when the decorative moulding is withdrawn from the channel.

The lower marginal edge of the locking flanges 50 is turned inwardly to form a camming surface that cooperates with the seating surface 44 as the two members are projected together.

The perimeter moulding 38 is applied to the marginal edges of the panel and the corners are mitered as indicated at FIG. 1. The decorative moulding 42 is also mitered at the corners.

The perimeter moulding 38 is also designed to connect with a connecting post 52 which, in the embodiment of the invention shown, is formed of two extruded aluminum sections that are telescoped together. The connecting post 52 is adapted to secure two or more panels together in radial disposition with respect to the connecting post as illustrated in FIG. 1. FIG. 4 shows the detail of a section along the line 4-4 of FIG. 1.

As indicated above, the connecting post is an extruded section and has a constant cross-section similar to the one illustrated in FIG. 4 for its full extent. On its outer surface it has a plurality of T-haped formations and adjacent T-shaped formations define longitudinally extending locking troughs 54 which slidably receive lockings lugs 56 on the connectors 58. Connectors 58 are formed from an extruded plastic material such as polyvinyl chloride and are of constant cross-section for their full length. They are designed to seat on and interlock with the perimeter moulding 38 and in this respect they have seating surfaces 60 which seat on the seats of the perimeter moulding and locking flanges 64 which co-operate with the locking shoulders of the perimeter moulding.

The plastic connectors are attached to the aluminum post 52 by sliding the lugs 56 into the spaced apart locking troughs 54 from one end of the post. The connector 58 and the post 52 are preferably co-extensive in length so that when the connector is slid into locking arrangement with the post, the seating surfaces 62 and locking flanges 64 are substantially co-extensive with the perimeter moulding on the edge of the panel that is to be secured to the post.

The post 52 is round in cross-section and the seats 44 on the perimeter moulding are designed to receive the round surface of the post.

In FIG. 4, detail of two panels 10 has been illustrated but the location of two other panels has been indicated in broken lines.

In the arrangement illustrated in FIG. 4, each panel is at right angles with respect to an adjacent panel but it will be apparent that this right angled radial disposition of the panels is not the only possible arrangement. One could, for example, arrange to have three panels connected to the post 52 at angular dispositions with respect to each other of 120° by relocating the connector members 58 in spaced relation around the round post 52.

The perimeter moulding 38, the post 52 and connector 58 have been designed for maximum flexibility of arrangement of the panels with respect to each other.

FIG. 5 illustrates a method of hingedly interconnecting two panels 10. In this case, hinge plates 70 are bolted to the bottom of the perimeter frame by bolts 72 and interconnected by means of a hinge pin 74. An arrangement similar to that illustrated in FIG. 5 is duplicated at the opposite end of the joined edges of the two panels 10. The decorative moulding 42 is secured to the perimeter moulding 38 in the same fashion to finish the panel and in this respect, the perimeter moulding is parted at the hinge to permit operation of the hinge. Similarly, the decorative moulding is cut to permit functioning of the hinge.

The design of the panels as a whole has very substantial advantages from a production and servicing point of view. The perimeter frame, as indicated above, can be made from relatively light metal without heavy bracing supports because of the use of the expanded metal grids 16. These members also serve to contain the sound absorbing glass fibre interior 15. The panel boards 34 are housed under the flanges of the perimeter frame member 12 and the decorative facia fabric 32 is simply folded into the trough of the perimeter members and secured at its margins by means of the tape 36 that has a pressure sensitive adhesive on both of its sides. This is a very simple means of attachment of the facia fabric 32.

The perimeter moulding is secured to the frame by screws 40 and at the same time the facia fabric is provided with a protective and decorative margin in the form of the skirt that extends over the marginal portion of the facia fabric 32.

The construction is very desirable from a servicing point of view because when one desires to clean the facia fabric, it is merely necessary to remove the perimeter moulding to release the facia cloth for cleaning. It can be simply reinstalled by using the pressure sensitive adhesive tape.

The perimeter moulding has been designed to accommodate both the decorative moulding 42 and the connectors 52 of the post assembly and the seats of the moulding and post have a configuration that permit a varied disposition of the panels with respect to the post.

It will be apparent from the foregoing that many screen arrangements are possible. One can easily put together a complete enclosure using the type of corner post connection shown in FIGS. 1 and 4. The angular disposition of adjacent panels need not be right angled but can be varied by changing the spacing of the connectors 58 on the post 52. A feature of the screen is the perimeter moulding which by its design permits the easy assembly and removal of the facia fabric and also permits the decorative finishing of the edge and the ready securement of a panel to a connecting post. The connecting post 52 being round and the seats of the perimeter moulding arcuate, facilitates the arrangement of the screens in any angular arrangement with respect to each other around the post.

The screens 10 will vary in size according to requirement. Satisfactory functional screens having heights of between 4 feet and 6 feet have been designed. In the case where the screens are secured to a post, as indicated in FIG. 4, it is not necessary that the anchor strips 58 extend for the full length of the post. Usually the post will be co-extensive with the meeting edges of the screens, but the anchor devices can be spaced apart along the length of the post. It has been found that with a screen having an edge dimension of about 5 feet, two

anchor devices having a length of about 1 foot each are satisfactory. The longitudinal extent and number of anchoring devices is a matter of choice.

What I claim as my invention is:

1. A privacy screen comprising a screen panel having a perimeter edge surface between opposed facia surfaces; perimeter moulding extending longitudinally of said edge surface and having rigid side walls in face-to-face relation; said side walls each having a longitudinally extending seat and a locking shoulder underlying said seat, a decorative moulding between said side walls of said perimeter moulding for at least a portion of the extent of said perimeter moulding, said decorative moulding having downwardly depending sides, said downwardly depending sides each having a longitudinally extending seating surface in one of said seats of said perimeter moulding and a locking flange extending from said seating surface in juxtaposed relation to one of said locking shoulders of said perimeter moulding; said dependent sides being flexible laterally of each other whereby said decorative moulding can be projected between said side walls of said perimeter moulding, said screen panel comprising perimeter frame members having a channel cross-section with an outwardly directed flange at each side, a panel board contained by said outwardly directed flanges, a facia fabric extending over said panel board, the marginal portions of said facia fabric extending over said outwardly directed flanges and on to said perimeter frame members, said perimeter moulding being mounted in said channel.

2. A privacy screen comprising a screen panel having a perimeter edge surface between opposed facia surfaces; perimeter moulding extending longitudinally of said edge surface and having rigid side walls in face-to-face relation; said side walls each having a longitudinally extending seat and a locking shoulder underlying said seat, said perimeter moulding having a skirt at each of said side walls that extends over the marginal portion of each of said facia surfaces of said screen panel, said screen panel comprising perimeter frame members having a channel cross-section with an outwardly directed flange at each side, a panel board contained by said outwardly directed flanges, a facia fabric extending over said panel board, the marginal portions of said facia fabric extending over said outwardly directed flanges and on to said perimeter frame members, said perimeter moulding being mounted in said channel.

3. A privacy screen comprising a screen panel having a perimeter edge surface between opposed facia surfaces; perimeter moulding extending longitudinally of said edge surface and having rigid side walls in face-to-face relation; said side walls each having a longitudinally extending seat and a locking shoulder underlying said seat, a decorative moulding between said side walls of said perimeter moulding for at least a portion of the extent of said perimeter moulding, said decorative moulding having downwardly depending sides, said downwardly depending sides each having a longitudinally extending seating surface in one of said seats of said perimeter moulding and a locking flange extending from said seating surface in juxtaposed relation to one

of said locking shoulders of said perimeter moulding; said dependent sides being flexible laterally of each other whereby said decorative moulding can be projected between said side walls of said perimeter moulding, said perimeter moulding having a skirt at each of said side walls that extends over the marginal portion of each of said facia surfaces of said screen panel, said screen panel comprising perimeter frame members having a channel cross-section with an outwardly directed flange at each side, a panel board contained by said outwardly directed flanges, a facia fabric extending over said panel board, the marginal portions of said facia fabric extending over said outwardly directed flanges and on to said perimeter frame members, said perimeter moulding being mounted in said channel.

4. A privacy screen comprising a screen panel having a perimeter edge surface between opposed facia surfaces; perimeter moulding extending longitudinally of said edge surface and having rigid side walls in face-to-face relation; said side walls each having a longitudinally extending seat and a locking shoulder underlying said seat, said screen panel comprising perimeter frame members having a channel cross-section with an outwardly directed flange at each side, a panel board contained by said outwardly directed flanges, a facia fabric extending over said panel board, the marginal portions of said facia fabric extending over said outwardly directed flanges and on to said perimeter frame members, said perimeter moulding being mounted in said channel.

5. A privacy screen comprising a screen panel having a perimeter edge surface between opposed facia surfaces; perimeter moulding extending longitudinally of said edge surface and having rigid side walls in face-to-face relation; said side walls each having a longitudinally extending seat and a locking shoulder underlying said seat, a decorative moulding between said side walls of said perimeter moulding for at least a portion of the extent of said perimeter moulding, said decorative moulding having downwardly depending sides, said downwardly depending sides each having a longitudinally extending seating surface in one of said seats of said perimeter moulding and a locking flange extending from said seating surface in juxtaposed relation to one of said locking shoulders of said perimeter moulding; said dependent sides being flexible laterally of each other whereby said decorative moulding can be projected between said side walls of said perimeter moulding, said perimeter moulding having a skirt at each of said side walls that extends over the marginal portion of each of said facia surfaces of said screen panel, said screen panel comprising perimeter frame members having a channel cross-section with an outwardly directed flange at each side, a panel board contained by said outwardly directed flanges, a facia fabric extending over said panel board, the marginal portions of said facia fabric extending over said outwardly directed flanges and on to said perimeter frame members, said perimeter moulding being mounted in said channel, said seats of said side walls sloping towards each other and inwardly of the space between said side walls.

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