Dec. 6, 1949 C. L. EMBREE 2,490,586

CELLULAR STRUCTURE

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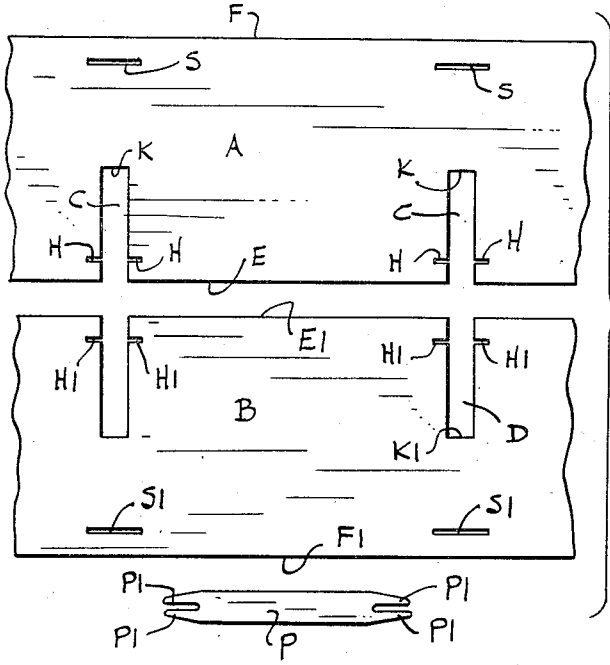


FIG. 1

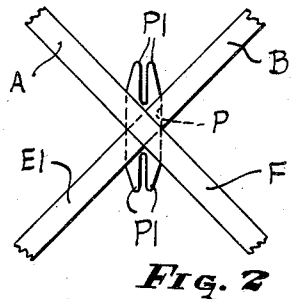


FIG. 2

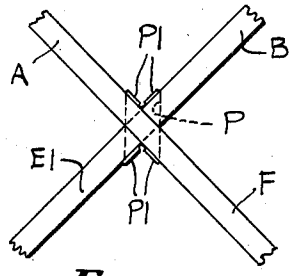


FIG. 3

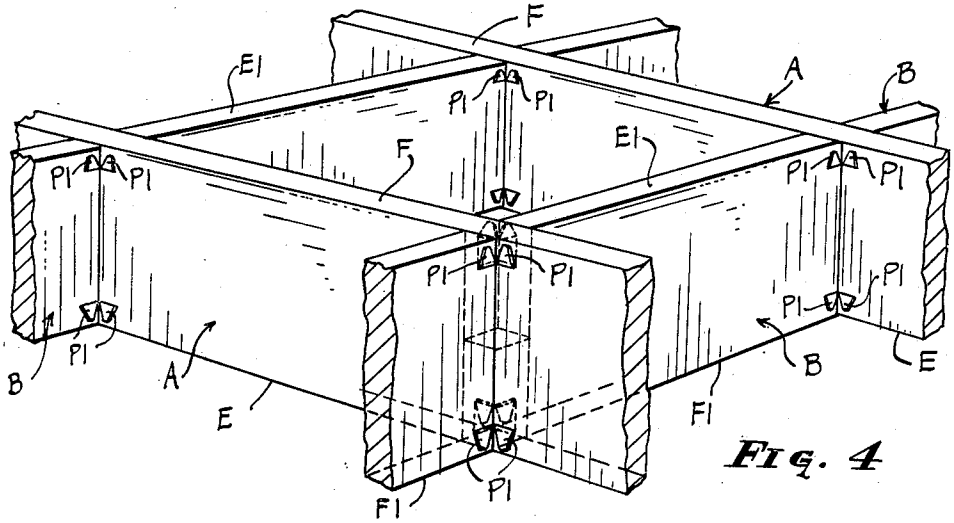


FIG. 4

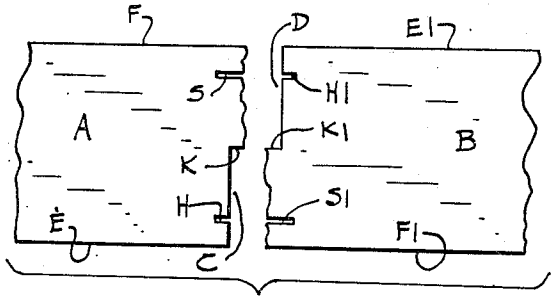


FIG. 5

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CELLULAR STRUCTURE

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4 Claims. (Cl. 20—92)

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My invention relates to a cellular structure of the type formed of intersecting members detachably secured together to form a grid-like arrangement.

Cellular structures of this type have many uses one of which is as a display device, i. e., for holding different kinds of merchandise in any desired position. Another use is as a light diffuser or for producing indirect lighting effects. In this case the cellular structure is placed adjacent the source of light and thus shields the source of light from the cone of vision in all positions except when line of vision is parallel to the walls of the intersecting members.

For these and for other uses, it has generally heretofore been the practice to take measurements and then to prefabricate the cellular structure to such measurements. A structure of this kind is difficult to ship and to handle. Also, a unitary or fixedly assembled structure like this is inflexible in that it can not readily, conveniently or economically be re-tailored for a different use or for use calling for dimensions other thai the original dimensions of the cellular structure

It is therefore the object of my invention to provide an improved cellular structure the parts of which are detachably secured or assembled whereby such structure may be shipped in non-assembled form and whereby it may be set up or erected "on the job" or at point of use and to the desired size.

A further object is to produce improved means for detachably securing the constituent members together whereby a strong cellular structure is produced and whereby the fastening devices are practically invisible.

A still further object is to produce an improved structure whereby the fastening devices may be easily applied and removed and whereby each fastening device may be removed and applied independently of fastening devices in other parts of the assembly.

In the accompanying drawings:

Fig. 1 is an exploded view showing the constituent parts of a cellular structure embodying my invention.

Fig. 2 is a fragmentary top plan view showing the first step in assembling a cellular structure according to my invention.

Fig. 3 is similar to Fig. 2 showing the second and last step in assembling the structure.

Fig. 4 is a fragmentary perspective view of a cellular structure formed as shown in Figs. 2 and 3.

Fig. 5 is a fragmentary, diagrammatic view showing details of construction.

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The cellular structure of my invention is formed of two sets of strips which, for convenience, will be designated as upper strips A and lower strips B. The strips A are provided with slots C and D which extend transversely of the strips, from the inner edges E and E1 thereof to about the middle of the width of the strips. The width of the slots C and D is only slightly greater than the thickness of the strip so that when the strips A and B are placed at 90 degrees and brought together, as in Fig. 4, the portion of strip A adjacent to slot C will have a close fit in the slot D and the portion of the strip B below the slot D will have a similar fit in the slot C. This fit should be such as to tend to hold the strips together but not such as to render the assembly difficult.

The strip A is provided with a slot S which is normal to the slot C and the strip B is provided with a slot S1 which is normal to the slot D. The slots S and S1 are spaced from the adjacent edges F and F1 a distance equal to that between the edges E and E1 and the transverse extensions H and H1 of the slots C and D respectively.

By this arrangement when any two strips A and B are assembled as in Fig. 4, the ends K and K1 of the slots C and D will abut each other, the slot S will register with, but will be at normal, to the slot extensions H1 and the slot S1 will register with but will be normal, to the slot extensions H. This is best illustrated in Fig. 5. Therefore, a fastening element, such as a pin, inserted through the registering slots S and H1 or S1 and H will engage the walls of strips A and B and will thus hold the strips together.

According to my invention the strips A and B are held together by the pin P shown in Fig. 1. This pin has its opposite ends tapered to facilitate insertion of the pin in the slots, and has its tapered ends split as shown to provide prongs P1.

The pin is made from bendable material having sufficient strength and is first inserted diagonally, through the registering slots, as shown in Fig. 2. When the pin has reached this position, the prongs P1 thereof are bent upwardly or downward so as to lie flat against the sides of the strips as shown in Figs. 3 and 4.

By the structure above described, a rigidly assembled structure is produced but such structuure, by merely pulling out the fastening pins, can be readily dismantled. Also, it is to be noted that when desired, only one or more strips, on one side of the structure or another, can be removed or added without dismantling the remaining structure. Furthermore, by the structure

disclosed, the parts can be stored and shipped in compact packaged form to be set up or assembled at the point of use to any desired size and in any desired shape.

What I claim is:

1. A cellular structure including a plurality of elongated strips, each of said strips having a first slot disposed transversely thereof and extending from one longitudinal edge of the strip toward the other longitudinal edge thereof, said slot having lateral extensions parallel to, and spaced from, said one longitudinal edge of said strip, said strip having a second slot parallel to the other longitudinal edge thereof, said second slot being of a length substantially equal to the distance between the distal ends of said extensions and being spaced from the other longitudinal edge of the strip a distance substantially equal to the space between said extensions and said one longitudinal edge of said strip, whereby, when two such strips are assembled at a right angle to each other with said first slots of said strips coinciding the second slot of each strip will coincide with the slot extensions in the other strip to form an opening common to both of said strips for receiving fastening means.

2. A cellular structure formed of the strips defined in claim 1 together with fastening means engaging said opening.

3. A cellular structure formed of the strips defined in claim 1 together with a pin insertable through said opening.

4. A cellular structure formed of the strips defined in claim 1 together with a malleable pin inserted through said opening, the opposite ends of said pin being split to form separable prongs which are bent to abut adjacent sides of said strips.

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No references cited.