Nov. 26, 1946. B. LABAREE 2,411,628

GRID MEMBER

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FIG.1

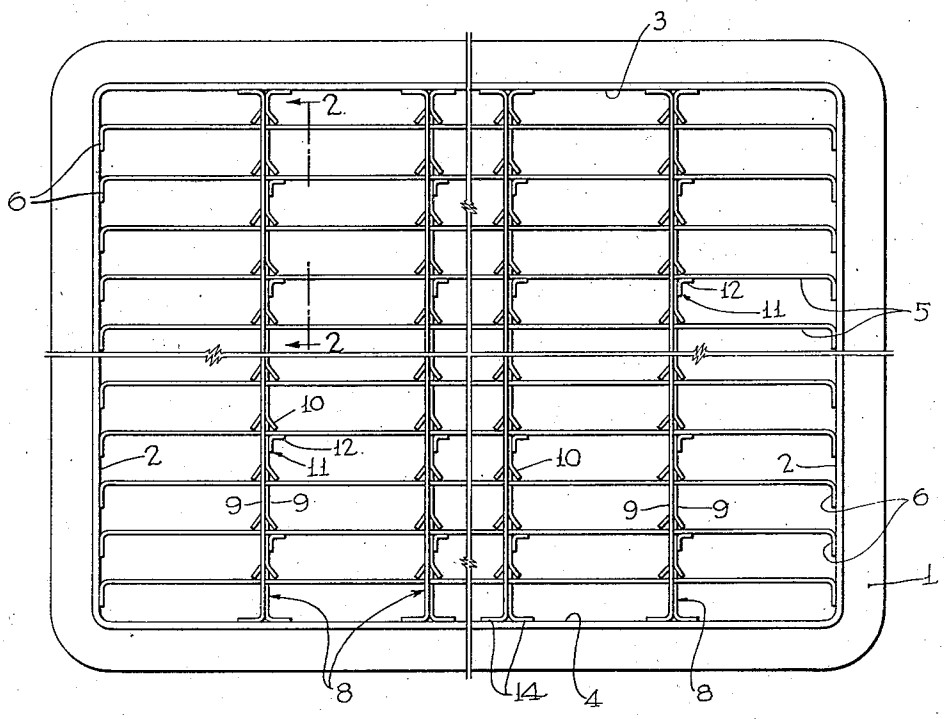


FIG.2

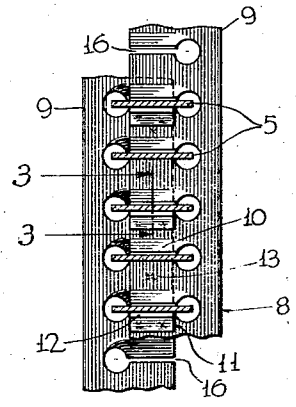
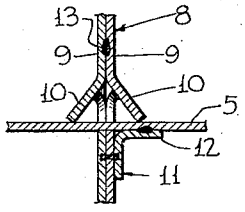


FIG.3



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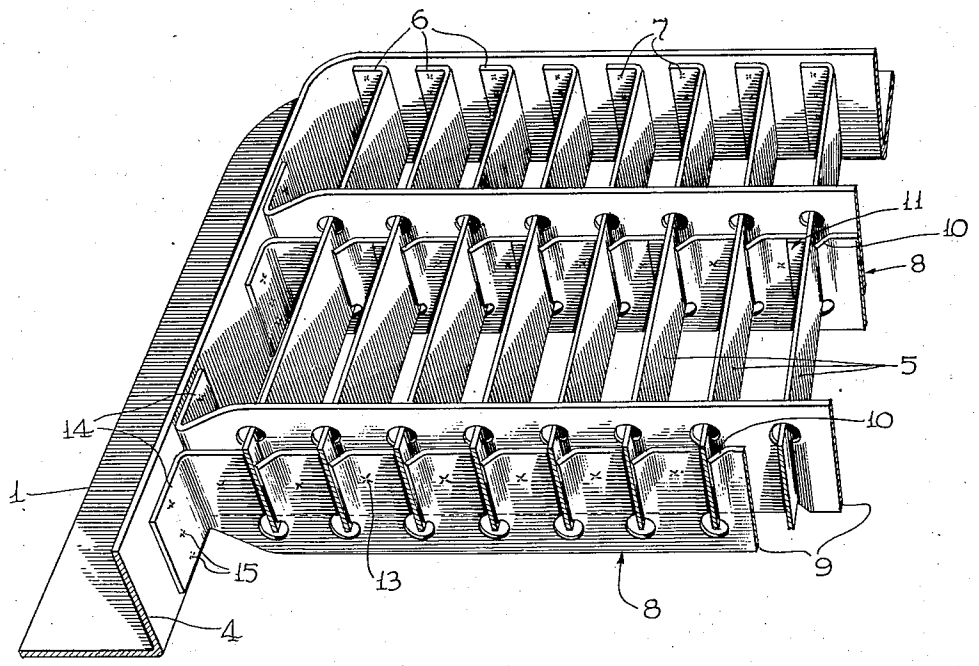


FIG. 4

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GRID MEMBER

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Application August 11, 1944, Serial No. 549,110

2 Claims. (Cl. 189—82)

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This invention relates to grid members, particularly to grid members including a main frame element and a multiplicity of light gauge sheet metal slat-like members.

The object of the present invention is to provide a new and novel means for rigidly mounting a multiplicity of sheet metal slat-like members within a supporting frame and for holding such elements against flexing relative to each other.

With the above and other objects in view which will be apparent from the following description to those skilled in the art to which the invention appertains, the present invention consists in certain features of construction and combinations of parts to be hereinafter described with reference to the accompanying drawings, and then claimed.

In the drawings which illustrate a suitable embodiment of the invention,

Figure 1 is a front elevation of an elongated grid member of the present invention;

Figure 2 is an enlarged section taken substantially on the line 2—2 of Figure 1;

Figure 3 is an enlarged section taken substantially on the line 3—3 of Figure 2; and

Figure 4 is a fragmentary, enlarged, perspective view of the grid member shown in Figure 1.

Referring to the drawings in which like numerals refer to like parts throughout the several views, the grid member of the present invention includes a metallic supporting frame 1 of any suitable cross-section, such as, for example, the angle section shown, having an inner continuous flange forming the sides 2 and the top and bottom 3 and 4, respectively, of the frame opening. Extending between the sides 2 are a plurality of slats or strips 5 which are spaced from each other and may be of thin gauge metal, such as, for example, stainless steel of .010" thickness. The frame 1 likewise may be of stainless steel. The ends of the strips 5 are formed with lateral flanges 6 which are welded as indicated at 7 to the side flanges 2.

In order to prevent flexing of the thin strips 5 and to maintain them in accurately spaced relation, a plurality of intermediate spaced supports 8 extending between the top 3 and bottom 4 are provided. The supports 8 are each comprised of a pair of keepers 9 of thin gauge stock, such as, for example, stainless steel of .025" thickness.

Each of the keepers 9 is provided with a plurality of slots 16 corresponding in number to the number of strips 5, the metal forming one side of each slot 16 being flanged as at 10.

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If desired, angle clips 11, only a few of which are shown in the drawings, may be welded to the keeper 9 with its one leg 12 flush with the opposite side of the slot 16 as shown in Figure 3. If desired, the leg 12 may be spot welded to the strip 5 as shown in this view.

The two keepers 9 comprising each intermediate support 8 are arranged back-to-back so that the slotted edges overlap each other, the thin strips being disposed in the slots 16 as shown in Figures 2 and 4 of the two keepers 9.

The keepers 9 are welded to each other, as indicated at 13 in Figure 2, and the ends of the same are bent laterally to provide opposed flanges 14 which are welded as indicated at 15 in Figure 4 to the top and bottom flanges 3 and 4 respectively.

The strips and intermediate supports may be pre-assembled as a unit assembly, if desired, in which case the strips 5 are disposed in the slots 16 of one keeper 9 and then the other keeper 9 is overlapped with the first keeper from the opposite edges of the strips 5. This assembly may then be slipped into the frame 1, the strips 5 properly adjusting themselves longitudinally relative to each other. This provides for the accurate spacing of the strips 5. The end flanges 6 may then be welded to the side flanges 2 of the frame 1. After this, the end flanges 14 of the keepers 9 are welded to the top and bottom flanges 3 and 4 respectively of the frame 1.

In order to insure against lateral movement of the strips 5 the angle flanges 10 at the one side of the strips 5 are bent against the strips 5 to force them in clamped engagement against the opposite sides of the keeper slots 16 and the angle clip flanges 12.

The intermediate keepers 9 of the present invention provide a simple arrangement for insuring rigidity of the thin strips 5 and obviate the necessity of positively securing each strip to each intermediate support, thus conserving considerable time in the assembly of the structure.

This expedient also provides a simple and efficient arrangement which is particularly advantageous in light weight structures formed of light gauge sheet metal.

It is to be understood that various changes may be made in the detailed arrangement and construction of the parts described without departing from the spirit and substance of the invention, the scope of which is defined by the appended claims.

What is claimed is:

1. In a grid member having a boundary frame

provided with four sides and a plurality of spaced parallel metallic grid strips extending between two opposed sides of said frame, a plurality of intermediate supports for said grid strips secured at their ends to the other opposed sides of said frame, each intermediate support comprising a pair of sheet metal elements, each element having a plurality of slots extending inwardly from one edge thereof and corresponding in number and spacing to said grid strips, said elements being disposed back-to-back with the slotted edges in overlapping relation, said grid strips being disposed in the corresponding slots of each element, one side edge of at least some of said slots being angularly flanged and clamping the rib elements firmly against the other side edge thereof and a plurality of angle clips secured to at least some of said elements and having leg portions bearing against said grid strips in opposition to the angularly flanged edges of said slots.

2. In a sheet metal grid element, having a four-sided sheet metal frame and a plurality of spaced

thin gauge sheet metal slats extending between and secured to two opposed sides of said frame, means for maintaining the intermediate portions of said slats against transverse deflection, comprising at least one pair of thin gauge sheet metal strips extending between the other opposed sides of said frame, each of said strips having a plurality of slots along one longitudinal edge thereof corresponding in number and spacing to said slats, the slotted edges of said strips overlapping each other in abutting relation with said slots receiving said slats in embracing relation, at least certain of the slotted edges of each pair of strips being flanged at one side of the embraced slats outwardly away from the plane of the strips to engage the slats at spaced regions while the slotted edges at the other side of the embraced slats engage the slats at regions intermediate said spaced regions, means securing the ends of said strips to said other spaced frame sides and means securing the strips of each pair together between at least some of said slats.

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