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3,425,182

STUB-TUBE CONNECTION FOR SPACE-FRAME STRUCTURES

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FIG. 1.

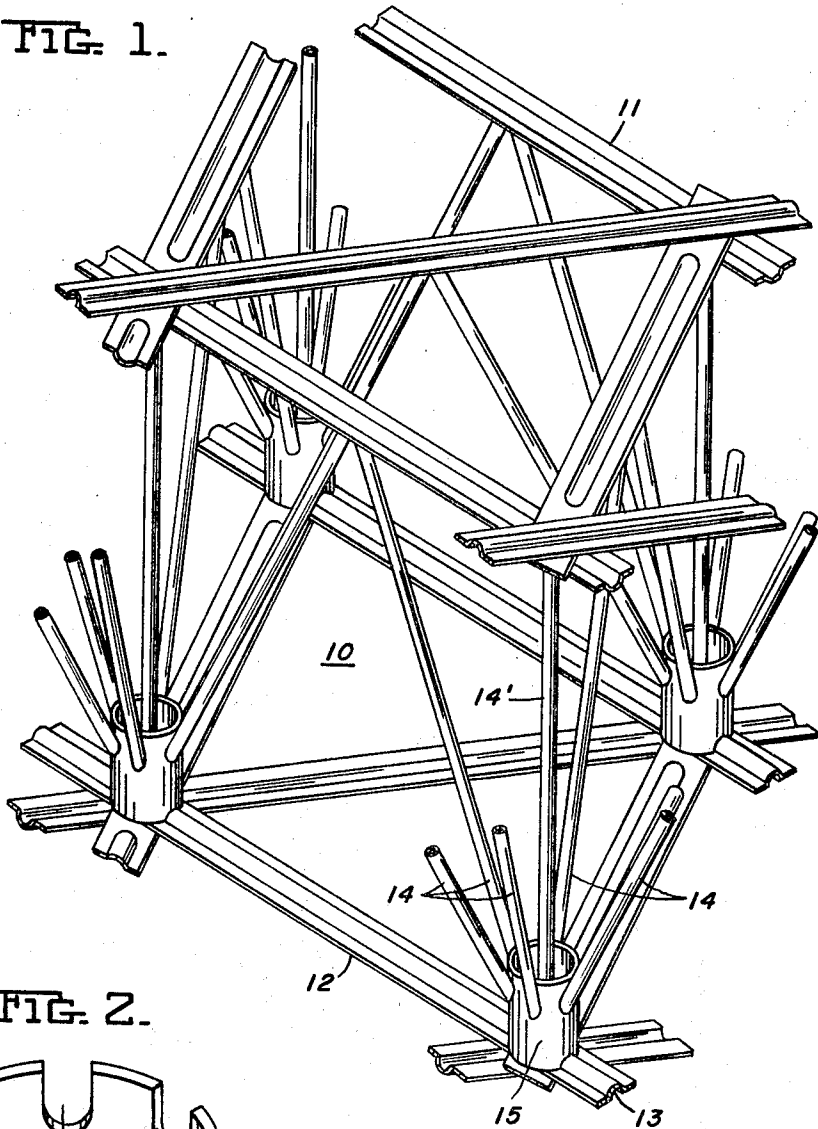


FIG. 2.

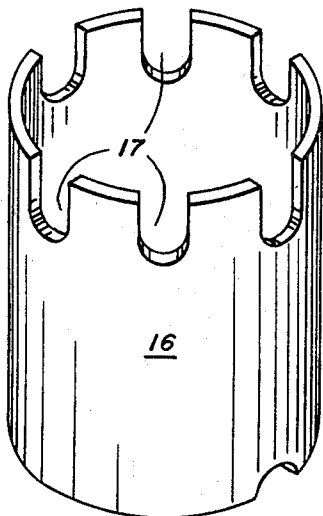
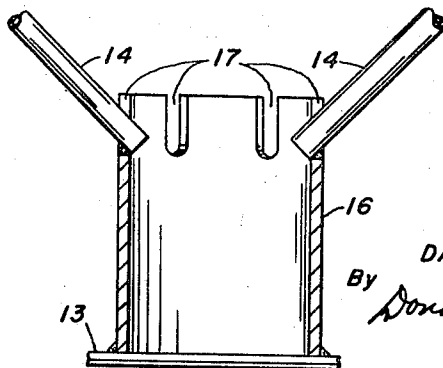


FIG. 3.



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1

2

3,425,182
STUB-TUBE CONNECTION FOR SPACE-FRAME STRUCTURES

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2 Claims

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ABSTRACT OF THE DISCLOSURE

A connecting member for uniting the several web and chord members of a space-frame structure which come together at spaced points therein, comprising a short length of cylindrical pipe welded to one of the chord members.

Background of the invention

Space-frame structures usually comprise spaced chord members interconnected by individual web members such as rods or tubes extending therebetween at various angles to the chord members. Numerous web members converge at points spaced throughout the structure and the problem of connecting them to each other and the chord members has been difficult. To solve this problem special junction members have been proposed but all those with which I am familiar are so expensive that their use materially increases the cost of the overall structure.

Description of the invention

My invention is a simple and inexpensive junction member to which the chord and web members of a space-frame structure may be easily secured at low cost. My improved junction member is a short length of cylindrical pipe of suitable size, adapted to stand on lower chord members and be secured thereto, and serving as a short post to which the web members may be secured at various points thereabout.

A complete understanding of the invention may be obtained from the following detailed description and explanation which refer to the accompanying drawings illustrating the present preferred embodiment. In the drawings:

FIGURE 1 is a perspective view showing a portion of a space-frame structure having my invention incorporated therein;

FIGURE 2 is a perspective view of a modified form of my junction member; and

FIGURE 3 is a vertical section through the connecting member of FIGURE 2, showing the attachment of chord and web members thereto.

Referring now in detail to the drawings and, for the present, to FIGURE 1 particularly, a space-frame structure 10 comprises upper chord members 11 and lower chord members 12. In both cases, the chord members are intersecting metal strip lengths having a central longitudinal rib 13 welded at their points of intersection. Web members in the form of rods or tubes 14 extend from

points of intersection of the lower chord members to various points on the upper chord members.

My invention is the junction member 15 standing at the points of intersection of the lower chord members and secured thereto as by welding. Members 15 are short lengths of cylindrical pipe disposed on one end which is notched to clear ribs 13. Web members 14 have their lower ends welded to pipe length 15 at points spaced circumferentially thereabout. Most of the web members 14 are disposed at oblique angles to the chord members but one web member 14' at each point of intersection of the chord members is normal thereto, extends axially into the aligned member 15 and is welded to the chord members 12. The upper ends of web members 14 and 14' are welded to the chord members 11, at points of intersection thereof and at points midway between intersections.

The modified junction member 16 shown in FIGURES 2 and 3 is also a cylindrical pipe length but has notches 17 formed in one end thereof. These notches receive the lower ends of web members 14, as shown in FIGURE 3, and the latter are secured by welding. The advantage of this form of junction member is that the web members may have square-cut ends instead of requiring an angled cut as in the case of the junction member 15.

It will be evident that my invention provides a junction member of low cost, capable of easy installation in shop or field and permitting easy fabrication of web members. The invention thus enables space-frame structures to be competitive with other types of floor or roof construction.

Although I have disclosed herein the preferred embodiment of my invention, I intend to cover as well any change or modification therein which may be made without departing from the spirit and scope of the invention as set forth in the claims.

I claim:

1. A space-frame structure including upper and lower sets of chord members and web members extending therebetween, wherein the improvement comprises a unitary length of cylindrical pipe having one end bearing on and secured to the chord members of one of said sets, the ends of web members adjacent said one set of said chord members being secured to the lateral surface of said pipe length at points spaced circumferentially thereabout.

2. An apparatus as defined in claim 1, characterized by the other end of said pipe length having circumferentially spaced notches therein extending inwardly therefrom for only a small portion of said length, the ends of said web members being seated in said notches.

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