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M. G. VASS

2,075,772

STUD OR JOIST

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FIG-1

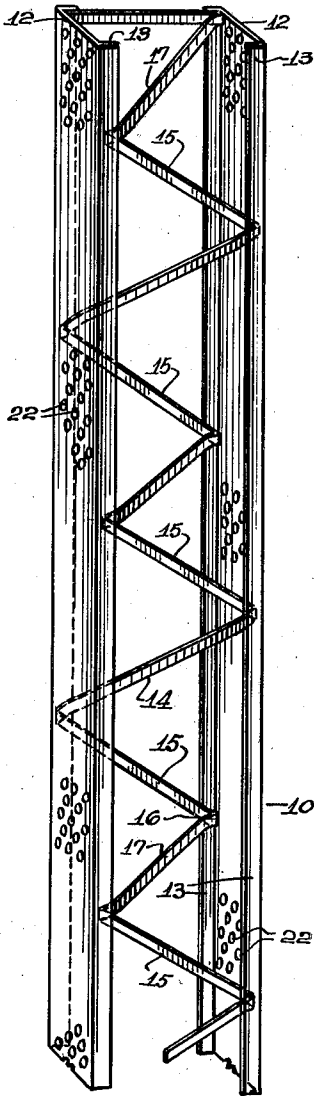


FIG-3

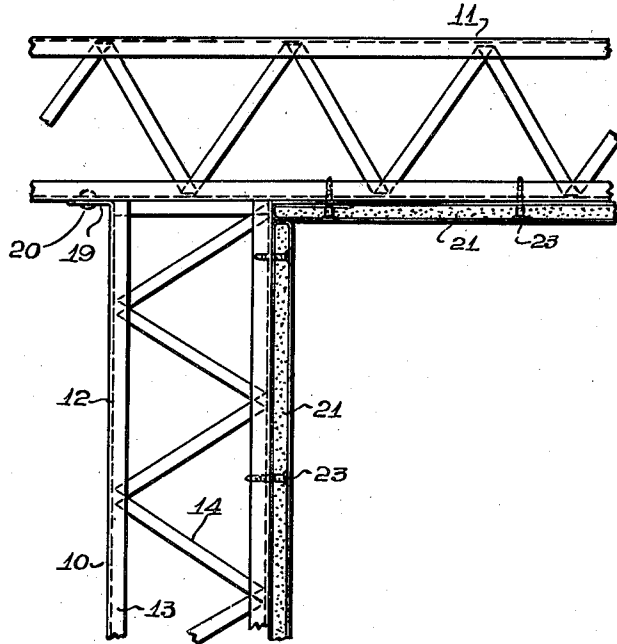
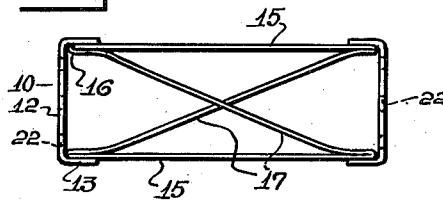


FIG-2



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2,075,772

STUD OR JOIST

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3 Claims. (Cl. 72-115)

This invention relates to building constructions, and has reference more particularly to studs or joists together with their manner of utilization in a building construction.

5 In the construction of studs, joists and like building members, it is desirable that the member be designed to provide the maximum of rigidity and strength when subjected to a given load. It is also desirable that these results be obtained with the least possible weight of metal to reduce the cost of manufacture. Building members of the class described should provide means for direct attachment of composition building boards thereto.

15 An object of this invention therefore, is to provide low cost building members of high rigidity and strength.

20 Another object of the invention is to provide metallic building members having means for the direct attachment of composition building boards; also to improve building members and constructions in other respects hereinafter specified and claimed.

25 Reference is to be had to the accompanying drawing forming a part of this specification, in which

Fig. 1 is a perspective view of my improved building member,

30 Fig. 2 is an end elevation of the building member, and

Fig. 3 is a sectional elevation of a building structure utilizing the building members.

Referring to the drawing by numerals, the building members may be in the form of studs 10, joists 11 or other desired beam or elongated truss, the distinction between the various members ordinarily being the depth of the member between outer webs 12 of spaced channels having inwardly extending flanges 13. In order to connect the channels 10 in spaced relation, continuous bars 14 are bent into zig-zag form in such a manner that certain bar sections 15 are attached at the bend point or fold 16 to flanges 13 lying on the same side of channels 10, while the adjoining bar sections 17 extend diagonally between the channels 10 at an inclination to the plane of said channels 10, being attached at the fold line to the opposite flange 13. Due to the alternating diagonal bracing action of the bar sections 17, as clearly seen in Fig. 2, the stud or joist has unusually high strength and rigidity in spite of the fact that the structure is inexpensively made throughout of comparatively lightweight metal. At the folds 16, the bars 15 and 17 may be attached to

the inside of the flanges 13 by spot welding or riveting, preferably the former. Joists 11 are constructed in the same manner as hereinabove described except that the distance between webs 12 is greater and a heavier metal is used throughout. The bars 15 and 17 may be square, rectangular or round in cross-section, or may have any other desired shape such as angles, channels, etc.

5 In constructing a building through the use of my improved building members, the flanges 13 at the top of the studs are cut back and web 12 is bent at right angles to form a flange 19 which is secured by a bolt or rivet 20 to the web 12 of the lower joist channel. In order to directly attach building sheets or boards 21 to the webs 12 of the studs 10 and joists 11, I provide a multiplicity of perforations 22 in the webs 12, these perforations being arranged in a series of spaced groups. Holes are punched through the boards 21 by pushing a sharp pointed punch through said boards, the point of the punch finding one of the closely spaced holes 22. Wood or drive screws 23 are inserted in the punched holes after the punch is withdrawn and engage in the registering perforations to draw the board tightly against the channel webs 12. The boards 21 are attached to studs 10 to form partitions, and to joists 11 to form ceilings and floors. These boards 21 may be composition boards or sheets of the types well known to the art, such as gypsum board, insulation boards, hard pressed boards, asbestos boards, plywood or sheet metal. The resulting building construction may be entirely fireproof if fireproof boards are used, and the building framework is light, inexpensive and is easily erected.

I would state in conclusion that, while the illustrated example constitutes a practical embodiment of my invention, I do not wish to limit myself precisely to these details, since manifestly the same may be considerably varied without departing from the spirit of the invention as defined in the appended claims.

Having thus described my invention, I claim as new and desire to secure by Letters Patent:—

1. A building member comprising a pair of elongated flat strips in spaced, parallel relation, and zig-zag bar sections connecting said strips, alternate bar sections extending from one edge of one strip to the diagonally opposite edge of the other strip and the remaining bar sections extending between adjacent edges of said strips.

2. A building member comprising a pair of channel strips in spaced, parallel relation, said

channel strips having webs and inwardly turned flanges, and zig-zag bar sections secured to said flanges and connecting said channels, certain of said bar sections extending between diagonally
 5 opposite flanges of said spaced channels, the remaining bar sections being substantially parallel to the plane of said flanges.

3. A building member comprising a pair of channel strips in spaced, parallel relation, said
 10 strips having inwardly turned flanges and a web

connecting said flanges, and zig-zag bar sections secured to said flanges and connecting said channels, certain of said bar sections extending at an inclination to the plane of said channels and the remaining bar sections being substantially parallel to the plane of said channels, the webs of said channels being provided with a series of closely spaced perforations for receiving board attaching screws.

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