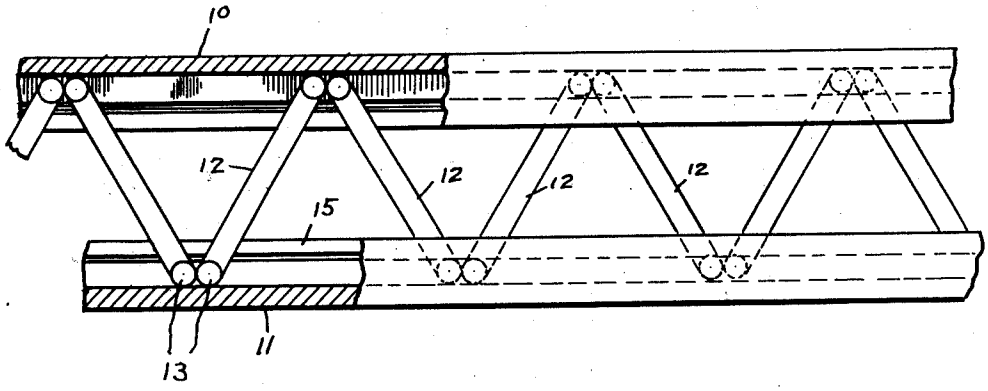
Dec. 18, 1928. 1,696,039

T. H. KANE

JOIST

Filed June 29, 1925

Fig. 1.



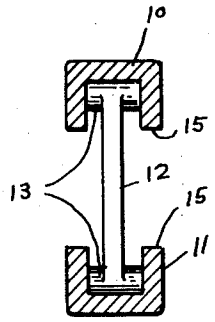


Fig. 2.

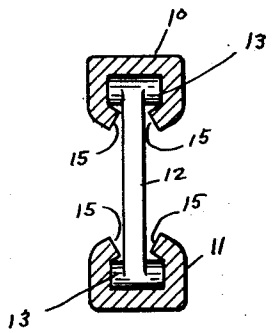
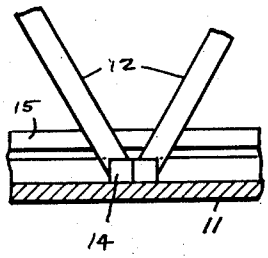


Fig. 3.

Fig. 4.



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Patented Dec. 18, 1928. 1,696,039

UNITED STATES PATENT OFFICE.

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JOIST.

Application filed June 29, 1925. Serial No. 40,171.

The present invention relates to metallic elements for building structures and particularly to metallic joists.

Among the objects of the invention is a metallic joist which is simple, easy and economical to construct and has relatively small weight with great strength and rigidity.

Other objects will be apparent to those skilled in the art upon reference to the following description and drawings in which:

Fig. 1 is a view in elevation of the joist with part broken away.

Fig. 2 is a vertical section of the assembled parts before the final operation.

Fig. 3 is a similar view after the final operation.

Fig. 4 is a fragmentary view showing a modified form of web member.

Similar numerals refer to similar parts throughout the figures.

As indicated in the drawings, the joist consists of the upper and lower channels 10 and 11, forming the compression and tension elements of the joist, and the web. The latter is as illustrated made of a plurality of H-shaped rods 12 set in the channels with their ends 13 crosswise, as shown best in Figs. 2 and 3. Preferably, the web members or rods 12 are arranged as indicated in Fig. 1, that is, each extends diagonally from channel 10 to channel 11 in a zig-zag fashion, although it is conceivable that it might be desirable to arrange them perpendicular to the channels and separated by suitable spaces.

When arranged as described, the ends of adjacent rods lie against each other and are held securely in the channels 10 and 11 by turning in the edges 15 of the latter over the ends of heads 13 as shown in Fig. 3. The assembly thus formed may, if desired, be welded, though this is not necessary.

In the modification shown in Fig. 4, the rods 12 are formed with the heads 14 corresponding to heads 13 but square in cross section instead of round. This gives a flat surface of the next rod and also forms a flat shoulder over which the edge 15 of the channel may be turned.

Having now desecribed the invention and the preferred forms of embodiment thereof, it is to be understood that it is not to be limited to the precise details described and illustrated but only by the scope of the claims which follow.

Claims—

1. A metallic building structure element comprising a channel compression member, a channel tension member and a web composed of a plurality of similar bars each having cross heads formed on their ends, said cross heads being secured in said channels laterally of the channel, said bars being arranged diagonally and in zig-zag fashion and so that one end of each bar abuts an end of an adjacent bar.

2. A metallic building structure element comprising a channel compression member, a channel tension member and a web composed of a plurality of similar bars each having cross heads formed on their ends, said cross heads being secured in said channels laterally of the channel by turning in the edges of the channels over the ends of said cross heads, said bars being arranged diagonally and in zig-zag fashion and so that one end of each bar abuts an end of an adjacent bar.

THOMAS H. KANE.