STEEL FRAMEWORK CONSTRUCTION

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This invention relates to improvements in steel frame work construction and has for its primary object, the provision of an angle tie bar for rigidly connecting the meeting ends of a pair of angle bars to a T-bar.

Another object of the invention resides in an angle tie bar which bridges the joint between the meeting ends of a pair of angle bars to brace and strengthen the same, and which is bolted thereto and to the T-bar to which the angle bars are connected.

A further object is to provide a simple and inexpensive joint for use in T-bar and angle bar construction and which is especially adapted for use in erecting steel frame buildings.

With these and other objects in view, the invention resides in certain novel construction and combination and arrangement of parts, the essential features of which are hereinafter fully described, are particularly pointed out in the appended claims, and are illustrated in the accompanying drawing, in which:

Figure 1 is a perspective view of my improved angle tie bar showing the same in use.

Figure 2 is a vertical sectional view on the line 2—2 of Figure 1.

Figure 3 is a side elevation.

Figure 4 is a perspective view of the tie bar plate.

Figure 5 is a view similar to Figure 2 but showing a different use of the tie bar.

Referring to the drawing by reference characters, the numeral 10 designates my improved tie bar in its entirety and which is shown in the drawing for use in connecting the meeting ends of a pair of angle bars 11, 11 with a T-bar 12 which angle bars abut opposite sides of the flange 13 of the T-bar.

The tie bar 10 consists of a short length of angle bar and includes right angularly disposed flanges 14a, 14b having suitably spaced openings 16 therein, while the flange 14 is sloped or notched midway between its ends as at 17 for accommodating the top of the flange 13 of the T-bar. In Figures 1, 2 and 3 of the drawing the flange 14 of the tie bar fits flat against the inner faces of the head 18 of the T-bar while the ends of the angle bars 11 fit against the inner face of the flange 14. Bolts or rivets 19 pass through the openings 16 which align with openings in the parts to be connected. From the foregoing, it will be seen that the tie bar bridges the meeting ends of the angle bars which are braced and strengthened thereby and prevented from longitudinal creeping movement by reason of the notch 17 which receives the flange 13 of the T-bar.

In Figure 5 of the drawing, I have shown the same construction of tie bar but the same has been applied to the inner faces of the angle bars 11, 11 instead of being interposed between the same and the T-bar as shown in the other figures. The result obtained is the same as previously described but the method of arranging the parts is slightly different.

While I have described what I deem to be the most desirable embodiment of my invention, it is obvious that many of the details may be varied without in any way departing from the spirit of my invention and I therefore do not limit myself to the exact details of construction herein set forth nor to anything less than the whole of my invention limited only by the appended claims.

What is claimed as new is:

1. In a frame work construction for buildings, a vertical T-bar, a pair of horizontal angle bars having their adjacent ends abutting said T-bar, an angle tie bar having a notch provided in one of its flanges between the ends thereof to fit over the web of said T-bar and bridge the joint between said angle bars, and fastening elements passing through said angle tie bar for securing the same to said angle bars and to said T-bar.

2. A metal tie bar for structural frame work comprising an angle bar having a notch in one of its flanges between the ends thereof for receiving the web of a T-beam, the other flange of the angle bar being adapted to rest on an edge of said web.

3. A metal tie bar for structural frame work comprising a relatively short length of angle bar having a notch provided in one of its flanges midway of the length thereof for receiving the web of a T-beam, and suitably spaced openings provided in said angle bar.
bar for the passage therethrough of fastening elements.

4. In a metal framework construction for buildings including a structure having a T-bar, an angle bar abutting each side of the web of said T-bar at a terminal edge of the same, said angle bars being longitudinally aligned, and an angle tie bar mounted by one of its flanges on said terminal edge and attached by said flange to longitudinally aligned flanges of said abutting angle bars, there being a transverse separating slot in the other flange of said tie bar to straddle the sides of said web, said separated flange portions being attached between the respective flanges of said T-bar and the adjacent flanges of the first mentioned angle bars.

5. In combination with a metal bar T-shaped in cross section, a pair of angle bars abutting the web of said first mentioned bar, aligned surfaces of one of the flanges of each of said angle bars disposed flush with the end of said web and the other flanges of said angle bars spaced from the respective flanges of said first mentioned bar, a tie-bar having one flange attached to said aligned flanges of the angle bars and therefore contacting with the end of said web, and a right angularly disposed flange on said tie-bar engaged in the spaces between the flanges of said first mentioned bar and the respective adjacent flanges of said angle bars, there being a dividing slot in said right angularly disposed flange of said tie-bar to receive the end of said web.

6. In a framework construction for buildings, a vertically disposed T-bar, a pair of horizontally disposed angle bars having their inner ends abutting the web of said T-bar at the top end of the latter, an angle tie bar, said latter bar and said horizontally disposed angle bars consisting of right angularly disposed flanges, one of the flanges of said tie bar fitting against the two upper flanges of said horizontal angle bars and bridging the joint between the latter and the web of said T-bar, and the other flange of said tie bar disposed between the other two flanges of said horizontally disposed angle bars and the flanges of said T-bar, there being a slot in the last mentioned flange of said tie bar.

In testimony whereof I have affixed my signature.

WILLIAM L. ROSS.