

MILD STEEL SECTIONS, BOLTS AND RIVETS

from $\frac{1}{4}$ to 6-in. diameter, but rarely is $1\frac{1}{2}$ -in. exceeded in building construction, and $\frac{3}{4}$ -in. bolts are often employed for fixing steelwork; the length (which is that of the shank) also varies. The thickness and diameter of a washer depend upon the size of the bolt; that shown at J is $\frac{1}{8}$ -in. thick and the external diameter is either $1\frac{1}{8}$ or $1\frac{3}{8}$ -in. Bolts, nuts and washers are made of mild steel, wrought iron and brass, the former being used for steelwork. The head and nut shown at J are hexagonal on plan, and this is the type in general use; square-headed bolts (see T, Fig. 33) and nuts are also made but these are now rarely used in building and structural engineering.

Rivets are made of steel and are used at the connections of steel beams, pillars, roof members, etc.

The snap-headed rivet shown at L is the usual type employed; it is also known as a cup-headed rivet. Note the proportion of the head in relation to the shank;

the shanks (which are slightly tapered) vary in diameter from $\frac{3}{8}$ to $1\frac{1}{4}$ -in., $\frac{3}{4}$ -in. rivets being in greatest demand. The shank before fixing ("riveting") extends to the length indicated by broken lines and this length depends upon the diameter of the rivet, the method of riveting (machine or hand) and the amount of grip (the overall thickness of the plates, angles, etc. which are connected together). The second head is formed during riveting, the heated end of the shank being forced in the process to a cup shape.

Countersunk Rivets (M) are employed when the bottom head is required to finish flush with the underside of the lower member being riveted, e.g., at the connection between the foot of a principal rafter of a steel roof truss and the plate which is supported by the wall and which should have a level bearing. The proportions of this rivet as shown conform to the latest British Standard Specification.

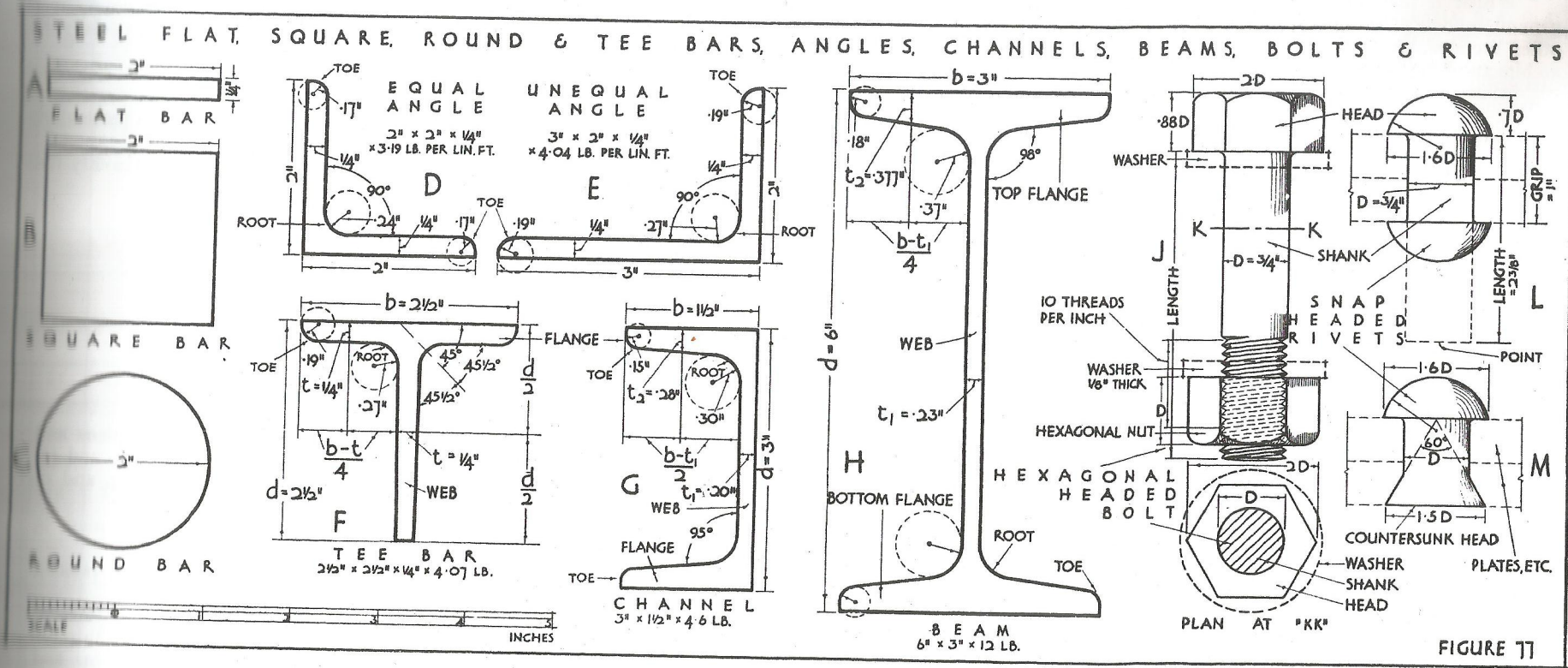


FIGURE 77