

the wood and provide a hard bearing surface for the nut when it is tightened by means of a spanner.

Another form of *oblique tenon housed joint*, secured by a $\frac{3}{4}$ -in. diameter bolt, is shown at K. This joint is effective and is easily made.

Two alternative methods of fastening at the foot of a principal rafter are shown at A and G, Fig. 41, but neither of them are much used. That at A shows a *bridle joint* secured by means of a metal heel strap and bolt (see B). It is *not* a good form

(although expensive to make) as no provision is made for tightening the strap against the back of the rafter unless a metal wedge is driven in where shown. This fastening is practically obsolete. The oblique tenon joint at G is secured by a metal strap (see H) over which is passed a plate which serves the same purpose as washers. This is an excellent joint and is much stronger than the bolt connection shown in Fig. 40, but it is seldom adopted on account of its expense.

(b) *Joint between Principal Rafters and King Post* (see D and H, Fig. 40).—The top edge of the tenon (and corresponding mortice) has a horizontal cut, whilst its

