fracture. *Lumber* must be of a good, merchantable quality, sound and free from black or loose knots and wind-shakes, and not have sap on more than three corners for planks, or on two for stringer-timbers, or wany edges on more than one corner. For roadway plank the lumber will be of ...... three inches thick, for sidewalk plank, two inches thick of ......, and for stringers ...... pine will be required.

**Construction.**—In pin-connection designs, the *pins* must be carefully turned to match the holes of the several parts of the trusses through which they pass, with a minimum play of a scant \(\frac{3}{16}\) of an inch, and in diameter must not be less than \(\frac{3}{10}\) the width of the largest bars they connect, if of flat iron, or if the bars are of square iron the diameter must not be less than \(1\frac{4}{5}\) times the side of the largest square. The heads of eye-bars must have at least 50 per cent of effective section more than in the body of the bar. The bearing surfaces of the compression members on the pins must be effectively reinforced, so that the minimum thickness in inches of such surface will not be less than the result derived by dividing the maximum strain as shown on the strain-sheet in pounds, by 12,000 times the diameter of the pin. All bearing surfaces must be machine-faced, and any discrepancy in length between all parts in the same panel must not exceed \(\frac{1}{10}\) of an inch. Where *rivets* are used, serving to *transmit* strain, and not simply for the purpose of securing parts in *position*, they should be proportioned as to number and size by considering the *work-