times the amount due to the maximum stress, in order to escape action. Suppose the member to be of wrought iron, proportioned to a maximum stress of 10,000 lb to the square inch. Then, the extension due to 17,250 lb to the inch, is about \( \frac{17,250}{900,000} \times \text{length} = 0.00069 \times \text{length} \), and if length = 15 feet, the extension is equal to \( 0.00069 \times 15 = 0.01035 \) ft. or, say \( \frac{1}{8} \) inch.

Hence, in a 7 panel truss, as represented in Fig. 18, with \( h = v \), if the diagonals in the middle panel be slack, by \( \frac{1}{8} \) inch in 15 feet of length, no decussation will take place, and the centre diagonals will be inactive, under the full load of the truss. If those members have less than that degree of slackness, they will be in action in such circumstances.

It would be a very badly adjusted piece of work in which such a degree of slackness should occur, and we may fairly conclude, that the centre diagonals, in this class of trusses, are never entirely inactive.

But the quantity \( E \), is so very small, with any kind of material, and with any co-efficient that may affect it, in practice, that a slight inaccuracy of adjustment, may so change the practical form the theoretical results deduced by calculation, as to decussation, as to render the latter of no great practical reliability. Hence, after all, perhaps the most unexceptionable course, in this regard is, to follow the rule given before [XCVIII], of estimating stresses on both hypotheses, and taking the highest estimate for each part.

Now, perhaps, this subject has been discussed at greater length than its practical importance demanded, considering the small percentage of error liable to occur in any case; but with regard to this, as well as to other matters, it is well to know, what may be known