The author does not claim that these formulas are exact; but practically they will prove to be a great deal more useful than others theoretically more correct, but also much more complex.

At the end of Chapter XIII., there is given a complete design for a trussed floor beam with two posts. The reason why it is not inserted here is, that it is necessary to understand the contents of Chapters X.–XIII. inclusive, in order to properly proportion the details.

The weight supported by the four hangers that usually sustain a beam is that of a panel live load upon both trusses, that of the lumber in one panel, and that of the beam itself. The total load divided by eight times the intensity of working-stress will give the area of the section of a hanger.

Square sections lie more closely to the pins than round ones, and take up less room in the packing; but they must always be upset, which, in short hangers, makes them more expensive than round ones.

Single beam hangers are allowable in skew bridges, where, indeed, their use is often unavoidable, or in narrow bridges with short panels, where there is not much weight to be supported.

Tables XXII., XXIII., and XXIV. give the sizes of beam hangers for nearly all bridges without sidewalks.

The most simple manner of finding the size of single beam hangers for any roadway and panel length is to look in the table of hip verticals of the same class for the section required, and multiply it by one-half of the ratio of working-stresses for hip verticals and beam hangers: the result will be the area in square inches of the section of the hanger.

If the floor and joists be of oak, the tables of floor beams and beam hangers can still be employed by supposing an increase of one foot in the panel length.