single line of rivets which unite the *solid* flanges to the web, and the number and proportion of the rivets can be computed with a fair amount of accuracy. Special attention is called to the idea of solid flanges, implied in the recommendation for using but two angle-irons, as opposed to a very common practice of using light angles, and increasing the sectional area toward the centre of the beam by riveting on plates to the angles, whereby the complexity of riveted work is introduced, which it is desirable to avoid in every instance where possible. Sufficient attention is rarely paid to the riveting, the pitch of the rivets (that is, the distance from centre to centre) being usually too great. *Thin* webs require close riveting, and the rivets should be well driven, by power if possible, since in this way alone can any reliability be placed upon the holes being well filled.

No exact rule can be given for the pitch of rivets, as it is a matter of computation in pounds, of just how much horizontal strain is delivered by the web at any given point to the flanges. As this web-strain increases toward the ends of a girder, the rivets should be placed closer as the ends are approached. The pitch will vary from 3 to 6 inches, depending upon the above considerations, and the smallest size rivet that should be used in the flanges is $\frac{3}{4}$ of an inch, which becomes $\frac{1}{16}$ greater after being driven, where the hole is properly filled. The web requires occasional stiffeners, usually two, intermediate between supports, for ordinary widths of roadway, and one at either point of support. If the web is of such