The amount of rivet section above given, is estimated upon the assumption that each rivet must be sheared off in two places; and that it will resist those shearings, each, with about 3-4ths of the force required to pull the rivet asunder by direct longitudinal strain.

It is obvious that the two rivets $e \& f$, (F. 60), sustaining a portion of the stress of the chord plate, relieve in the same degree, the stress upon the portion between those rivets and the joint, or end of plate; whence, it is not necessary to preserve the same section in the portion thus relieved, as in other portions of the plate. Hence, the rivets $a \& c$, nearer to the joint, may be larger than $e \& f$, when the thickness of plates requires more rivet section. For instance, four 3-4th" rivets are sufficient for plates 6"×½". But plates 6"×5-8th", require more rivet section,—say 3-4th" for $e \& f$; and 7-8th" for $a \& c$; while the same for the former, and 1" for the latter, give about the required section for plates 6"×3-4th"; leaving in each case, the same proportion of net, available section of plates.

Furthermore; if rivet $a$ be placed opposite rivet $c$, and $f$ be removed to $a$, (the rivets being 3-4th" and 1" respectively,) then, the smaller rivets sustaining over $\frac{1}{3}$ of the stress, while the others sustain less than 2 thirds, the latter may cut off $\frac{1}{3}$ of the net section, (which is 3-4th" less than the whole width of plate,) and still, leave enough to sustain more than their-own legitimate share of the stress.