the latter require $3\frac{1}{4}$ per C. more thickness than the former, so as to nearly or quite balance the saving in length.

As to the proportions of parts, in this kind of work, I would suggest that the thickness of plates be from $\frac{3}{8}$th to $\frac{1}{5}$th of their width, and the diameter of rivets, from 1 to $1\frac{3}{4}$ times the thickness of plates. If plates be very wide and thin, they may be liable to be strained unevenly, and if very narrow, an unnecessary proportion of section is lost in rivet holes.

**Fig. 344.**

CXVIII. The end connections of plate chords of this kind, may be effected by riveting on side plates at the ends, as seen at E, Fig. 344, so as to give a thickness that will allow about $\frac{1}{2}$ of the width of plate to be cut away by a hole for the connecting pin P, either round or oblong with square ends for adjusting keys or wedges.

Or, the side plates may be omitted, and two keyholes made in the middle of the plate, one for a key having a thickness equal to the diameter of the smaller rivets, and far enough from the end to admit of another hole higher to the end, with about $2''$ between the holes. This may, if necessary, have twice the width of the other hole, and should leave at least twice the width of hole, between hole and end.

The width of the wider hole, $+_{\text{twice that of the other,}}$ should equal about half the width of the plate; and the keys should be driven to an equal bearing before the work be subjected to use.