fourths inch rivet), gives sixteen as the number of rivets required. Making them staggered, and spacing them two and a quarter inches apart, would make the length of plate just twenty inches.

Let us assume the sections of the re-enforcing plates at the feet of the posts to be \( \frac{3}{2}'' \times 5'' \); then the lever arm for the chord stress will be \( \frac{1}{2}(\frac{3}{8} + \frac{5}{8}) = \frac{3}{4} \) inch, and that for the vertical component of the end diagonal stress \( \frac{1}{2}(\frac{7}{8} + \frac{1}{2} + \frac{1}{2}) = \frac{13}{16} \); making the horizontal and vertical component moments on the pin respectively,

\[
\frac{3}{4} \times \frac{13.944}{2} = 5.23 \text{ inch tons}
\]

and

\[
\frac{13}{16} \times \frac{10.225}{2} = 4.79 \text{ inch tons.}
\]

The resultant moment is

\[
\sqrt{(5.23)^2 + (4.79)^2} = 7.09 \text{ inch tons.}
\]

It is evident, that, to obtain the lever arms used, the chord bars must be packed on the outside and the end diagonals, between the chord bars and the post. The diameter of pin corresponding to 7.09 inch tons is 2\(\frac{1}{8}'' \); but a 2\(\frac{1}{4}'' \) pin is the smallest that can be used with a 2\(\frac{3}{4}'' \) bar. The post bearing is ample, and needs no testing.

If we divide the bearing-stress equally between the post, and the re-enforcing plates, there will come upon each of the latter a stress of 2.9; making a moment upon the rivets equal to \( \frac{1}{2} \times 2.9 = 1.45 \) inch tons, which, divided by 0.18, gives eight as the number of five-eighths inch rivets required for each plate. Adding two for safety, spacing the rivets two inches apart, and allowing room for the eye-bar heads, will make the length of each re-enforcing plate about sixteen inches.

The moment on a counter pin is \( 4.81 \times \frac{1}{2}(\frac{3}{8} + \frac{1}{4}) = 3.91 \) inch tons, corresponding to a 1\(\frac{1}{4}'' \) pin. By examining Table XXVI., it will be seen that a 2\(\frac{1}{4}'' \) pin will be required to give sufficient bearing.

Referring now to the list of details for a trussed beam, given