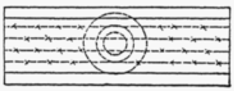
The sections of the plates will have to be

$$\left.\begin{array}{l}\text{two } \tfrac{7}{16}'' \times 10'' = 8.75 \\ \text{two } \tfrac{7}{16}'' \times \ \ 7'' = 6.13\end{array}\right\} = 14.88 \text{ square inches.}$$

The thickness of the web is found to be 0.5″: therefore the lever arm is $\frac{1}{2}(0.5 + 0.43) = 0.46$ inch; and the moment, $12.2 \times 0.46 = 5.61$ inch tons, which divided by 0.311 gives eighteen as the number of rivets for bending.



To find the lengths of the connecting-plates we must make, as before, a drawing to scale, as in the accompanying diagram. We thus determine the length of plates for the first intermediate connection to be thirty inches. The length of the plates at the next panel point will be greater by the space required for six rivets, or thirty-four inches and a half, and that at the middle panel point greater by the space required for eight rivets, or thirty-six inches.

Continuing down the "List of Members," we come to the re-enforcing plates on bottom chord struts. Let us make them $\frac{5}{16}'' \times 3''$ in section. It is not worth while to calculate the number of rivets required to connect them to the web of the I-beam; because four five-eighths inch rivets will give an excess of strength, making the length about ten inches. Next come the shoe connecting-plates. Let us employ the connection illustrated in Plate VI. From Table XXVI. we find the thickness of bearing for a $2\frac{5}{8}''$ pin and a stress of 13.6 tons to be $\frac{7}{8}''$; subtracting from which 0.38″, the thickness of web of batter-brace channels, leaves $\frac{1}{2}''$ for the thickness of the re-enforcing plate. Assuming the greatest width of plate in a direction perpendicular to the length of the batter brace to be sixteen inches, gives the sectional area of the connecting-plate equal to sixteen square inches, or that of the batter brace: so, provided we have such a width, the half-inch plate will answer the purpose.

The stress carried by the batter-brace channels is $12.12 \times 2.639 = 32$ tons, nearly, or 16 tons on one channel. The lever arm of this stress is $\frac{1}{2}(\frac{1}{2} + \frac{3}{8}) = \frac{7}{16}''$, and the moment, $\frac{7}{16} \times 16 = 7$ inch tons, which divided by 0.493, the resisting-