

for the middle posts,

where  $d = 1.4D$ , they should be  $\frac{1}{4}'' \times 1\frac{5}{8}''$ ;

for the next larger post,

where  $d = D$ ,  $\frac{1}{4}'' \times 1\frac{3}{4}''$ ;

for the largest posts,

where  $d = 0.88D$ ,  $\frac{1}{4}'' \times 1\frac{7}{8}''$ ;

for the portal struts,

where  $d = 1.18D$ ,  $\frac{1}{4}'' \times 1\frac{1}{2}''$ ;

for the upper lateral struts,

where  $d > 2D$ ,  $\frac{1}{4}'' \times 2\frac{1}{8}''$ ;

and for the end lower lateral struts,

where  $d = 1.5D$ ,  $\frac{1}{4}'' \times 2\frac{1}{8}''$ .

The distance between centre lines of rivets in the chord and batter-brace channel flanges is about ten inches; the space per panel in chord over which the latticing extends is about eighteen feet; the corresponding distance in the batter brace is twenty-seven feet: so, if we space the rivet holes for the latticing as nearly as possible ten inches apart, there will be twice twenty-two lattice bars required for each chord panel of one truss, and twice thirty-two bars for each batter brace, making seven hundred and eighty-four bars in all. Their length, from Table XXIX., is found to be  $1.18' + 0.215' = 1.395'$ , say  $1.4'$ .

We can average the lengths of the lattice bars for the posts thus: assuming a stretch of ten inches as before, a spread of nine inches and a half, and  $1\frac{7}{8}''$  as the width of a bar, gives the total length  $1.15 + 0.18 = 1.33$ , say  $1\frac{1}{3}'$ . The average length of space on the posts occupied by the latticing is about twenty feet, six inches; making the number of bars per post four times twenty-seven.

The spread, or distance between centre lines of rivets in channel flanges of portal struts, is about six inches and a half,