Data for Calculation.

Span 60 feet.
Versed sine 8 " 9 in.
Cross-section of cast plate, in middle of arch 8.214 sq. in.
" " at end of arch 10.714 "
No. of square inches in the section of each rail 4.794 "
Cross-section of arch, at middle 17.802 "
" " ends 20.502 "
" of upper chords, 5 x 9 each, 45.000 "
" " lower " 6 x 9 " 54.000 "
Small posts 4 x 6 " 24.000 "
Middle posts 5 x 8 " 40.000 "
Width of bridge from out to out of chords 19 feet
" between chords in clear 16 "
" panels from middle to middle of post 6 " 1 inch.
Floor beams 6 x 12, 24 feet long, 3 feet from centre to centre.
Track strings 10 x 10, without joint.
Cross-ties 4 x 6, 2 feet apart from centre to centre.
Radius at middle of arch 55.8 feet.
Central angle 65°.
Length of middle line of arch 63 feet 8 inches.
Hypotenuse of skew-back 7.5
Perpendicular 6.32
Base 4.03
Length of rails for arches 21 feet 3 "
Length of cast-segments 10 " 7½ "
Distance from bottom of top chord to top of bottom chord 9 " 4 "
Height from out to out of chords 10 " 10 "
Total weight of bridge without load 72,886 lbs.
Maximum load of 60 lineal feet 120,000 "
Weight of bridge and load 192,886 "
Cross-section of upper chords 270 square inches.
" lower chords 180 "

Calculation of Strains.

The calculation as in the case of the Susquehanna bridge, will be made on the hypotheses—