

Upon the suspension rods at ends,	5224 lbs. sq. in
“ upper chord,	613 “
“ lower chord,	334 “
“ arch in centre,	543 “
“ “ at skew-back,	627 “

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COVE RUN VIADUCT. (*Plate 3.*)

This design was prepared for a bridge across Cove Run, on the Pennsylvania Railroad, but in consequence of peculiarities of location, another plan was submitted; it is inserted here in consequence of its simplicity.

*Description.*

The span is 50 feet from skew-back to skew-back.

Width from out to out, 9 feet.

Height of truss from out to out, 10 feet.

Number of trusses, 2.

The upper chord is a single timber, 12 × 12, of white pine.

The posts are of locust, 6 × 6, supporting the upper chord.

The arches are composed of rolled plates; each arch consists of 8 plates, 2 ×  $\frac{3}{4}$ , with a space in the middle of two inches, the upper and lower portions being separated by blocks of cast-iron. The lower chord is of rolled iron, and is designed not to resist the thrust of the arch, but to connect the system of counter-bracing.

The lateral braces are of wood, supported by angle-blocks of cast-iron, and connected by rods  $\frac{7}{8}$  inch in diameter. The counter-brace rods are one inch diameter, passing through angle-blocks on the upper chord, and connected with the lower chord by means of eyes passing around the lower lateral brace rods.