The diagonals at the crossings, and chords at the splicings, were bolted with \( \frac{5}{8} \)" bolts.

The bridge was designed to be roofed and sided. But it was left exposed to the weather for 2 years, and the action of water retained in the joints and season cracks, and between the thin courses, especially of the hemlock upper chords, so much impaired the strength of the timber; that, with the concurrence of other unfavorable conditions, the result was not so satisfactory as had been hoped.

With care, and some strengthening of parts that showed deterioration and weakness, the bridge was kept in use about 15 years. It is believed, however, that, had the upper chord been of a better quality of timber, or had been protected from the first, against injury by the weather, the bridge would still have been in good condition; though it can scarcely be doubted that the upper chord should have contained a larger section, throughout.

The small relative depth of truss was unfavorable, requiring more weight of timber, and consequently, greater constant stress upon the material.

This was the first attempt at the construction of so long a stretch, embracing the principle of proportioning the dimensions of parts according to the stress upon each; as first promulgated in this Treatise. The result, though not a brilliant practical success, demonstrated experimentally upon a large scale, the entire correctness of the theory, & of the calculations as to the acting forces; for the parts