



## Historic Bridge Foundation Facebook Archives

### Spotlight: George S. Morison's Surviving Bridges

October 2016

George S. Morison was one of the most notable and famous bridge engineers in American history. His contributions to 19<sup>th</sup> Century bridge engineering in America are several fold. He repeatedly built bridges with simple truss spans that were at the time among the longest in the country. Many of the simple truss spans he designed in the 1880s and 1890s were in excess of 400 feet. He was instrumental in advancing the use of iron and steel in bridge construction. He built many of the first metal bridges over large rivers including the Mississippi and Missouri Rivers.

For his long-span truss bridges, Morison appears to have preferred the Whipple truss. Of the many large, multi-span Whipple truss bridges he designed for the Missouri and Mississippi Rivers, all have been replaced. However, one of the Whipple truss spans from the Blair Bridge in Blair, Nebraska over the Missouri River was relocated to what is today a rail-trail in Fremont County, Wyoming. This span carries the Wyoming Heritage Trail over the Wind River. This span appears to retain good historic integrity.

Another relocated, but largely unaltered Whipple truss span is the Armitage (Coburg) Bridge Lane County, Oregon. This bridge stylistically appears to be the work of Morison, and was originally built to cross the John Day River. Two substantially altered and relocated spans carrying a railroad line over the Snake River in Heyburn, Idaho also appear to be Morison-designed spans.

The Merchants Bridge over the Mississippi River at St. Louis is a notable exception where Morison used Pennsylvania truss spans instead of Whipple truss spans. Completed in 1890, this span was noteworthy for the clear span length of these spans: 520 feet, which was long even among Morison-designed bridges. This bridge is currently being planned for demolition and replacement. Its demolition will represent a loss not only one of the largest surviving works of Morison, but also a loss of some of the longest pin-connected truss spans surviving in America today.

The Bellefontaine Bridge over the Missouri River near St. Louis is one of the few Morison-designed bridges remaining in its original location, although the bridge has been strengthened and altered to

some extent. Built in 1893, the bridge is also notable for its departure from use of Whipple truss spans instead making use of Baltimore truss spans.

Finally, the Frisco Bridge over the Mississippi River is among Morison's greatest accomplishments, and one of the most unique. Fortunately, this bridge, completed in 1892, remains standing today. It is a cantilever through truss with a maximum clear span of 790 feet and overall length of 4,887 feet. The bridge is among the oldest cantilever truss bridges in America.



Frisco Bridge



Merchants Bridge



Top: Merchants Bridge. Bottom: Bellefontaine Bridge