

Mr. Humphreys  
Engineer

## Wooden Bridges

Lewis Wernsey in 1812 built a wooden arch bridge over the Schenck  
at Fairmont Pa. It was 340'  $3\frac{3}{4}$ " span rise 19'11" destroyed  
with fire in 1839

(3) 1804 he built the Hunter Bridge 58 spans 1200, 2, 1804 2160

He later built a wooden cantilever bridge known as the Economy Bridge, over  
Neshaminy creek Pa. 80'  $\frac{1}{2}$ " span

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Theodore Porter took out his 1<sup>st</sup> patent in 1806 & improved in 1817

Jan 20 1820 Abner Towne took out his patent This bridge consisted  
of timbers 2 to 3" thick & 9 to 12" wide placed diagonally & crossing each other  
at right angles to form lattice work riveted by 2 or more iron nails at each  
crossing There were suitable horizontal & longitudinal pieces at the top & bottom  
to sustain floor & roof Patent improved in 1835

John S. Halsey N.Y. Mass 1830 He also patented the building  
in this same patent & specifies that, "the material may be wood iron or  
a combination of the two; the stringers may be of iron and also the ties  
in opposite direction to the braces of iron"

July 10 1840 Wm Howe obtained a patent for a bridge in which all the  
members were of wood connected by keys & wedges & containing no iron  
This was successful in Aug 3 some years by one substituting iron rods for  
the wooden joints. But till Aug 28 1846 that the first iron angle  
braces & rivets extending through the chord pieces were patented  
1<sup>st</sup> bridge built by Howe was a half way bridge of 75' span in 1840  
& in some years he built 7 spans of 180' each over the Connecticut  
river at Springfield Mass with angle braces of wood all wood  
until 1853 when it was replaced by another Howe of same  
modern design it in 1874 replaced by an iron bridge

On Apr 4 1844 Mrs W & Caleb Pratt obtain the secret of  
Howe's