

New York & Mahopac Railroad: Bridge L-158  
Schoolhouse Road  
Goldens Bridge  
Westchester County  
New York

HAER No. NY-148

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PHOTOGRAPHS

WRITTEN HISTORICAL AND DESCRIPTIVE DATA

Historic American Engineering Record  
National Park Service  
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HISTORIC AMERICAN ENGINEERING RECORD

NEW YORK & MAHOPAC RAILROAD: BRIDGE L-158

HAER No. NY-148

Location: Schoolhouse Road, Goldens Bridge, Westchester County,  
New York

UTM: 18.582960.4640130

Date of Construction: 1883, Reconstructed 1904

Builder/Designer: Built by the North River Construction Company  
Fabricated by Clarke, Reeves, and Company, a  
subsidiary of the Phoenix Iron Company

Original Use: Railroad Bridge

Present Use: Still in use

Original Owner: New York, West Shore and Buffalo Railroad Company

Present Owner: Department of Water Supply  
City of New York  
31 Chambers Street  
New York, New York

Significance: The development of the metal truss bridge in America largely paralleled the needs of the railroads, and the through-truss double-intersection form patented by Squire Whipple in 1846 and modified by John W. Murphey in 1863 was one of the most popular, playing a major part in railroad bridge building between 1860 and 1885. The form evolved out of the economic and technological necessity of retaining the small panel size, yet increasing the depth (and thereby increasing the strength) of the truss. As the most efficient angle for a diagonal member was 45 degrees, it followed that as the height of the truss increased, so the number of panels that the diagonal needed to cross would increase. Bridge L-158 is an excellent example of the double-intersection form at the height of its popularity.

Transmitted by: Jean Yearby, HAER, 1984, from data compiled by Peter H. Stott, 1976

Bridge L-158 was constructed in 1883 for the New York, West Shore, and Buffalo Railroad: The location was over Rondout Creek, about one mile south of Kingston, New York. At that time, the 163-foot span was the smallest of three spans which carried the line across the river, 155 feet below track level. The bridge carried two tracks and each span was 29 feet in width. The two longer spans were comprised of triple-intersection Pratt trusses. The shorter 163-foot remaining span was made of two double-intersection Pratt trusses. In 1904, the New York Central and Hudson River Railroad, which had by that time bought control of the West Shore line, replaced the entire bridge with one capable of greater load, and the short 163-foot span was moved fifty miles to Golden Bridge, New York, where it served the former New York and Mahopac Railroad, a short spur connecting the NYC&HRRR's Harlem Division with the resort town of Mahopac.

The only changes required for the bridge in its new location was a reduction in width, since the New York & Mahopac Railroad used only a single line of track. The width was accordingly reduced from 29 to 17 feet.

Between 1896 and 1906, the city of New York constructed the 'flagship' of its water-supply dams on the Croton River, the New Croton Dam. This, and the auxiliary Muscoot Dam built at the same time, compelled the city to reroute many local roads and to erect new bridges for them. By agreement, the railroads involved were to construct their own bridges, among those required was a new structure for the New York and Mahopac. The coincident replacement of the Rondout Creek spans provided a convenient span for substitution.

Although surface rust covers the entire structure, today, the bridge is in quite sound condition. Each truss is composed of nine panels, each 32 feet deep and 18'-1-1/2" in length, making a total length of 163'-1-1/2". As noted above, its 17-foot width carried a single line of track, though the rails were removed when the line stopped running about 1960. Gothic quatrefoils and finials -- standard ornaments on Phoenix bridges of the 1880s -- grace the end portal frames. The bridge was fabricated by the Phoenix Iron Company of Phoenixville and Philadelphia, Pa., and uses that company's patented wrought-iron columns. Three sizes are used: end posts and top chords are each composed of six sections with a total column diameter of 13-1/2 inches. Intermediate posts are composed of four sections each with an 8-inch diameter; and sway, portal, and lateral struts are made in four sections with a 5-inch diameter. The legend "Phoenix Iron Co., Philad<sup>a</sup>, Pa." is rolled into all column sections. Principal diagonals and bottom chords are pin-connected eye bars ranging from 4 to 6 inches in width. The bridge is 12 feet above the water.

The bridge is surrounded by the watershed lands of the New York City Department of Water Supply, thus assuring an unusually bucolic setting. Also in the immediate vicinity are three additional pin-connected metal truss bridges, all constructed in 1904.