



## Whirlpool Rapids Bridges

Subject Area: Social Studies

**Grades 6-8**

### New York State Social Studies Learning Standards

#### **Standard 1**

#### **History of the United States and New York**

##### **Students will:**

- Use a variety of intellectual skills to demonstrate their understanding of major ideas, eras, themes, developments, and turning points in the history of the United States and New York
- Distinguish between near and distant past and interpret simple timelines.
- Investigate key turning points in New York State and United States history and explain why these events or developments are significant.
- Gather and organize information about the important achievements and contributions of individuals and groups living in New York State and the United States,
- Prepare essays and oral reports about the important social, political, economic, scientific, technological, and cultural developments, issues, and events from New York State and United States history.

### **Overview**

Whirlpool Rapids Bridge Lower Arch Bridge spans the Niagara River, connecting Niagara Falls: Ontario and with Niagara Falls, New York. Constructed of metal, This Bridge is the oldest surviving bridge over the Niagara River and Gorge. The Whirlpool Rapids Bridge was one of the two earliest examples of steel arch bridges built over the Niagara River. The other bridge was destroyed in the 1930's by icy floods. The Whirlpool Rapids Bridge is one of the few large-scale steel deck arch bridges that exist in North America.

When first built, The Bridge was designed as a double-deck bridge to carry railway traffic on top deck and vehicular and pedestrian traffic on a lower deck. In the railroad deck was in use for both freight and passenger trains. Currently, the international bridge only carries passenger trains. It also carries cars whose passengers have a Nexus pass. The bridge also remains open for pedestrians.

## Discover Portage Road Lesson Plan



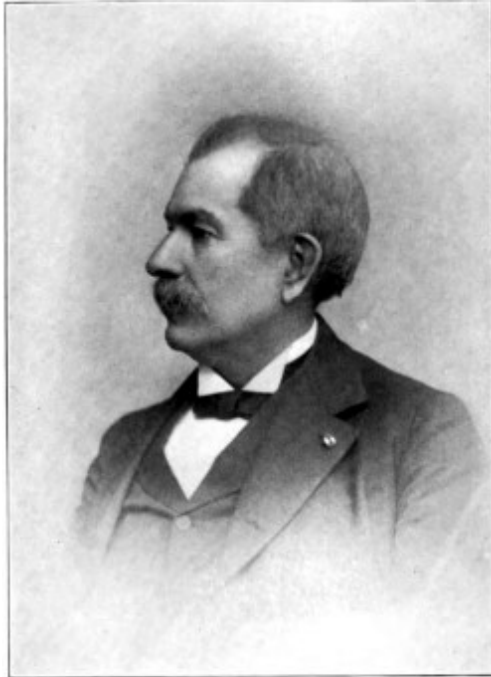
Source: <http://www.historicbridges.org/bridges/browser/?bridgebrowser=truss/whirlpool/>

### **Activity**

Students will:

- Access “*Great Achievements: Notable Structural Engineers: Leffert Lefferts Buck*” from the December, 2010 issue of *Structure Magazine*. at <http://www.historicbridges.org/truss/whirlpool/buck.pdf>
- Write a short biographical essay about Leffert Lefferts Buck that emphasizes his engineering feats.

## Discover Portage Road Lesson Plan



**Leffert Lefferts Buck**

Source: Hartford, William J., *The Successful American*, 1900, Digitized By Google

This obituary posted for in *Electrical Review and Western Electrician*, Vol. 55, No. 4, 1909 pays tribute to Leffert L. Buck's achievement

LEFFERT L. BUCK, former chief engineer of the Bridge Department of New York City, died suddenly on July 17 at his home in Hastings-on-the-Hudson. He was apparently in the best of health and was preparing to go to his office when he was stricken with apoplexy. He died without regaining consciousness. Mr. Buck's name was connected with several of the greatest bridges in this country, among them the Brooklyn, Manhattan and Williamsburg bridges in New York City, two steel arch bridges at Niagara Falls, the Driving Park Avenue steel arch bridge and the Piatt Street bridge over the Genesee River at Rochester, the Columbia River bridge for the Northern Pacific Railroad at Pasco, Wash., and the Verugas bridge in Peru. He retired as chief engineer of the department in New York city in 1902, after a controversy with Bridge Commissioner Gustav Lindenthal over the policy of the department. Mr. Buck was born in Canton, N. Y., in 1837.

<http://www.historicbridges.org/bridges/browser/?bridgebrowser=truss/whirlpool/>

### References

Griggs, Frank. "Great Achievements: Notable Structural Engineers: Leffert Lefferts Buck". *Structure Magazine*. December, 2010.

*Whirlpool Rapids Bridge Lower Arch Bridge at*

<http://www.historicbridges.org/bridges/browser/?bridgebrowser=truss/whirlpool/>