

Baltimore and Ohio Railroad: Bollman Truss Bridge
Spanning the Little Patuxent River
Savage
Howard County
Maryland

HAER No. MD-1

HAER
MD,
14-SAV,
1-

PHOTOGRAPHS

WRITTEN HISTORICAL AND DESCRIPTIVE DATA

REDUCED COPIES OF MEASURED DRAWINGS

ADDENDUM
FOR

Historic American Engineering Record
National Park Service
Department of the Interior
Washington, D. C. 20240

HISTORIC AMERICAN ENGINEERING RECORD

BALTIMORE AND OHIO RAILROAD: BOLLMAN TRUSS BRIDGE

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Location: Spanning the Little Patuxent River
Savage, Howard County, Maryland

Date of Construction: Fabrication: 1869
Erected on site: 1887

Designer: Wendel Alan Bollman

Original Owner: Baltimore and Ohio Railroad

Present Owner: Howard County, Maryland

Significance: The Bollman Truss Bridge at Savage is the last of
its type in the United States. The Bollman Truss
is usually credited with being the first type of
iron truss bridge used in large numbers on an
American railroad.

Transmitted by: Jean Yearby, HAER, 1984, from data compiled by
Dan Clement, 1983

The two span bridge at Savage, Maryland, is the last surviving example of the iron bridge trussing system, initially invented by Wendel Bollman, for use on the Baltimore and Ohio Railroad. The Bollman truss is a composite one; the diagonal tension members are wrought iron and the vertical compression members are cast iron. The floor beams of each panel are supported independently of each other by two diagonal tension members that are connected to the vertical end posts.

The bridge is located at the end of an abandoned B & O spur which formerly served the cotton duck mill at Savage. It was originally fabricated in 1869 for mainline service and was moved to its present location in 1887 to replace a stone arch structure. At this time the Savage factory was altered and required a new crossing of the river in order to have access to the mill. The only feasible crossing from a topological viewpoint was above the mill's dam, since the original crossing left no room for extending the right-of-way without encroaching on the mill and town property. It was necessary to raise the entire remaining mill spur and its crossing in order to match up with the elevation of the new branch. As the effective width of the valley was increased with the vertical change, a new bridge was required.

Today, the Bollman Bridge still sits over the Little Patuxent River adjacent to the cotton duck mill. Howard County has restored the bridge for use as part of a recreational site. Because of this, one of America's oldest standing railroad truss bridges, will continue to stand as an example of 19th century iron bridge technology.

Researchers wishing to learn more about the Bollman Truss Bridge and its significance are urged to consult the following:

Biographical Encyclopedia of Representative Men of Maryland and the District of Columbia, Baltimore, Maryland: National Biographical Publishing, 1879.

Edward Hungerford, The Story of the Baltimore and Ohio Railroad 1827-1927, 2 vols., New York: G. Putnam's Sons, 1928.

George K. Fitch, "Wendel Bollman . . . and His Times," Baltimore Engineer, XXXI, (November 1966), 5-6, 12.

John F. Stover, American Railroads, Chicago: University of Chicago Press, 1961.

Lewellen Nathaniel Edwards, A Record of History and Evolution of Early American Bridges, Orno, Maine: University Press, 1959.

Robert M. Vogel, "Engineering Contributions of Wendel Bollman," Paper #36, U. S. National Museum Bulletin, #240, Washington, D. C., 1964.

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Robert M. Vogel, "Speculations on the Original Appearance of the Last Bollman Truss," Industrial Archeology: The Journal of the History of Industry and Technology, Vol. 7, No. 4, November 1970. David & Charles, Newton Abbot, England.

Addendum to:
BALTIMORE & OHIO RAILROAD:
BOLLMAN TRUSS BRIDGE
(Bollman's Iron Suspension
& Trussed Bridge)
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PHOTOGRAPHS

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Data pages 1 through 3 were previously transmitted to the Library of Congress. This is data page 4.

INVENTORY OF PHOTOGRAMMETRIC IMAGES

The glass photogrammetric plates listed below are not reproducible except with special permission. However, reference prints and film copy negatives have been made from the plates indicated by an asterisk (*) and are included in the Library of Congress collection of formal HABS/HAER photographs.

- 4 5" x 7" glass plate negatives (2 stereopairs) produced by Perry E. Borchers of the Ohio State University in 1970.

One survey control contact print from each plate; survey control information for each pair.

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|-----------------------|---|
| LC-HAER-GS05-1-501L * | FROM NORTH END OF BRIDGE--LEVEL |
| LC-HAER-GS05-1-501R | FROM NORTH END OF BRIDGE--LEVEL |
| | Left and right overlap: 95% |
| LC-HAER-GS05-1-502L * | FROM NORTH END OF BRIDGE--INCLINED AND CONVERGENT |
| LC-HAER-GS05-1-502R | FROM NORTH END OF BRIDGE--INCLINED AND CONVERGENT |
| | Left and right overlap: 90% |

**BALTIMORE & OHIO RAILROAD:
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PROJECT INFORMATION STATEMENT

Photogrammetric images were incorporated into the HABS/HAER collections in the summers of 1985 and 1986. Inventories of the images were compiled and filed as data pages for each structure recorded. Since the glass photogrammetric plates are not reproducible except with special permission, a reference print and film copy negative were made from one plate of each stereopair and from the most informative plates in sequential sets. The reference prints and copy negatives were then incorporated into the formal HABS/HAER photograph collections.

The Photogrammetric Images Project was a cooperative endeavor between the HABS/HAER Division of the National Park Service and the Prints and Photographs Division of the Library of Congress. The reference prints and film copy negatives of the original plates were made by the Library of Congress Photoduplication Service with funds provided by the Library of Congress Flat Film Preservation Fund. Additional reproductions were made by HABS/HAER. The project was supervised by HABS/HAER Architect John A. Burns, AIA, and completed by HABS Historians Jeanne C. Lawrence (University of London) in 1985 and Caroline R. Alderson (Columbia University) in 1986.

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BLACK AND WHITE PHOTOGRAPHY

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Washington, DC 20540