

# Georgia City Bridge

JASP20

## GENERAL DATA

<b>structure no.:</b> 223002.7	<b>city/town:</b> 3.3 miles southeast of Asbury
<b>county:</b> Jasper	<b>feature inters.:</b> Spring River
	<b>cadastral grid:</b> S4, T29N, R33W
	<b>highway route:</b> County Road 223
	<b>highway distr.:</b> 7
	<b>current owner:</b> Jasper County

## STRUCTURAL DATA

**superstructure:** wrought iron, 12-panel, bowstring through-arch truss, with three pin-connected Pratt pony truss approach spans

**substructure:** stone masonry abutments and piers

<b>span number:</b> 1	<b>condition:</b> fair
<b>span length:</b> 120.0'	<b>alterations:</b> pony trusses added, 1885
<b>total length:</b> 218.0'	<b>floor/decking :</b> timber deck over timber stringers
<b>roadway width:</b> 14.3'	<b>other features:</b> tubular arch ribs of Hammond and Abbotts Column, patented April 1870; lower chord: two flat bars; vertical: star bars alternate with two angles, bolted through arch ribs; diagonal: round looped eyerods, creating an "X" pattern between the verticals; lateral bracing: round looped eyerods; strut: four angles with double lacing; transverse timber stringers lie directly on the lower chords; Patent June 17, 1862 on main span

## HISTORICAL DATA

**erection date:** 1871

**erection cost:** \$9100.00

**designer:** Wrought Iron Bridge Company, Canton OH

**fabricator :** Wrought Iron Bridge Company, Canton OH;  
Phoenix Iron Company, Philadelphia PA;  
Carnegie Iron Company, Pittsburgh PA

**contractor :** Wrought Iron Bridge Company, Canton OH

**references:** Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure No. 223002.7; Jasper County Court Record, Book E: page 744 (3 May 1870), page 755 (5 May 1870); Book F: page 13 (2 August 1870), pages 18-28 (3 August 1870), pages 52-3 (31 August 1870), pages 62-4 (5 September 1870), page 131 (12 December 1870), pages 144-45 (22 December 1870), page 154 (17 January 1871), pages 157-160 (18 January 1871); Book L: page 446 (19 December 1883); Book M: page 119 (29 September 1884), page 207 (2

# HAER INVENTORY

Missouri Historic Bridge Inventory

**NAME(S) OF STRUCTURE**

Georgia City Bridge  
MHTD: 223002.7

JASP20

**DATE(S) OF CONSTRUCTION**

1871

**LOCATION**

County Road 223 over Spring River; S4, T29N, R33W  
3.3 miles southeast of Asbury; Jasper County, Missouri

**USE (ORIGINAL / CURRENT)**

roadway bridge / roadway bridge

**RATING** NRHP determined eligible (score: 86)

**CONDITION**

fair

**OWNER**

Jasper County

span number: 1  
span length: 120.0'  
total length: 218.0'  
roadway wdt.: 14.3'

superstructure: wrought iron, 12-panel, bowstring through-arch truss, with three pin-connected Pratt pony truss approach spans  
substructure: stone masonry abutments and piers  
floor/decking: timber deck over timber stringers  
other features: tubular arch ribs of Hammond and Abbots Column, patented April 1870; lower chord: two flat bars; vertical: star bars alternate with two angles, bolted through arch ribs; diagonal: round looped eyerods, creating an "X" pattern between the verticals; lateral bracing: round looped eyerods; strut: four angles with double lacing; transverse timber stringers lie directly on the lower chords; Patent June 17, 1862 on main span

Erected in 1871 by the Wrought Iron Bridge Company, the Georgia City Bridge is Missouri's oldest remaining all-metal bridge. Planning for the structure began to take shape in the spring of 1870. On May 3rd of that year the Jasper County Court appropriated \$11,000.00 for a 120-foot iron bridge to be built over the Spring River at Georgia City. Two months later, on August 2nd, County Road Commissioner Alonzo H. Hubbard presented specifications and estimates for the piers, tresselwork (approach spans) and embankments, for the bridge to be built at Georgia City. The work was put out to bid, and on August 31st John Miller and Israel Brewer were awarded a \$4,800.00 contract to build the tressels, piers and embankments for the Georgia City Bridge "in a good substantial workmanlike manner, according to the best of their art and skill."

On December 12th, James Spence, who had replaced Hubbard as road commissioner, reported that the piers were in place, and the county then began to plan the erection of the truss itself. On December 21st a \$4300.00 contract to build a wrought iron bridge of "Hammonds and Abbots Column" across the Spring River at Georgia City was let to Eleazer Coffein, agent for the "Canton Ohio Bridge Company." This entry, recorded in the county court minutes on January 17, 1871, seems confusing because the Canton Bridge Company did not come into existence until 1876. In truth the truss was built, not by Canton Bridge which did not yet exist, but rather by another Canton based firm - the newly formed Wrought Iron Bridge Company. The Hammond referred to in the contract was David A. Hammond, who in 1864 had formed a bridge building partnership with Washington R. Reeves. Six years later, in April 1870, Hammond and a new partner, Job Abbott, patented the Hammond and Abbots Column design, from which the Georgia City Bridge was patterned.

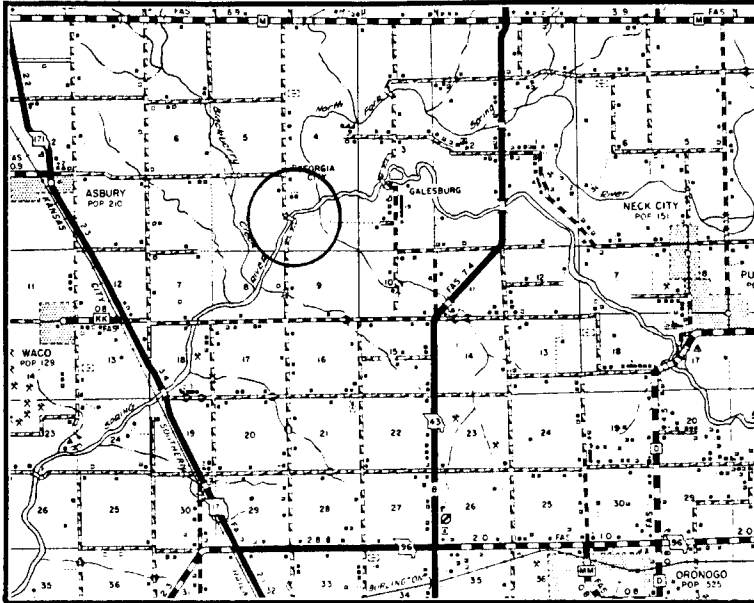
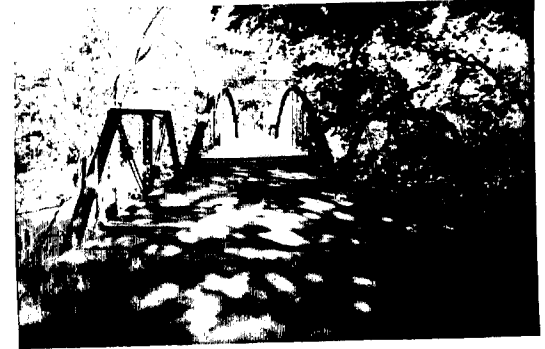
The contract for the Georgia City Bridge was signed on December 21, 1870, with Coffein acting as the agent, and Hammond, and perhaps Abbott, acting as sole proprietors. Then in January 1871, just as work on the Georgia City crossing was beginning, Hammond incorporated his bridge building enterprise under the name of the Wrought Iron Bridge Company. Thus the court's reference to the "Canton Ohio Bridge Company" was actually a general reference to Hammond's firm which was soon to be incorporated as the Wrought Iron Bridge Company. These facts provide compelling evidence that the Georgia City Bridge was likely one of the first iron structures built under the auspices of the Wrought Iron Bridge Company. In 1885 the county contracted with J.C. Gaston to replace the structure's timber approach spans with two small pony trusses. A third pony truss approach was added around the turn of the century. Although closed to vehicular traffic in 1986, the bridge has thus far been preserved in its original location, and retains an exceptionally high degree of structural integrity.

The bowstring arch-truss was the iron span of choice for Missouri counties in the late 1860s and 1870s. Marketed extensively throughout the Midwest by such industry giants as the King Iron Bridge and Manufacturing Company and the Wrought Iron Bridge Company, these often-patented bridge forms featured a wide range of span lengths, economical fabrication cost and relatively quick erection. The proliferation of the bowstring corresponded with the initial development of Missouri's road system; as a result, perhaps thousands of these prototypical iron spans were erected throughout the state. The bowstring had some rather severe structural flaws, however, relating primarily to lateral stability of the arches, and it was largely superseded by the pin-connected truss in the early 1880s. Despite this, some bowstrings were still erected in Iowa in the 1880s, although the number dwindled precipitously by the decade's end. Through subsequent attrition, almost all of Missouri's bowstrings have since been demolished and replaced. Now only four bowstring through arch-trusses remain. The Georgia City Bridge is historically and technologically significant as the oldest example in the state of what was once a mainstay structural type.

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**NAME(S) OF STRUCTURE**

Georgia City Bridge

**PHOTOS AND SKETCH MAP OF LOCATION****LOCATION MAP**TAKEN FROM MISSOURI HIGHWAY AND TRANSPORTATION DEPARTMENT  
GENERAL HIGHWAY MAP

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**SOURCES**

Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure No. 223002.7; Jasper County Court Record, Book E: page 744 (3 May 1870), page 755 (5 May 1870); Book F: page 13 (2 August 1870), pages 18-28 (3 August 1870), pages 52-3 (31 August 1870), pages 62-4 (5 September 1870), page 131 (12 December 1870), pages 144-45 (22 December 1870), page 154 (17 January 1871), pages 157-160 (18 January 1871); Book L: page 446 (19 December 1883); Book M: page 119 (29 September 1884), page 207 (2 February 1885), page 293 (11 April 1885), page 299 (21 April 1885), page 320 (9 May 1885), page 340 (21 May 1885); Book P: page 6 (30 December 1889); Book V: page 597 (15 February 1897); Book W: page 54 (3 May 1897), pages 388-89 (4 January 1898); Victor C. Darnell, *American Bridge Building Companies 1840 - 1900*, pages 48, 79; "Group Starts Effort To Save Historic Bridge." *The Joplin Globe*, 27 February 1988, sec. B, page 1, located at Jasper County Courthouse, Carthage MO; field inspection by Clayton Fraser, 23 April 1991.

**INVENTORIED BY**

Clayton B. Fraser

**AFFILIATION**

Fraserdesign, Loveland CO

**DATE**1 May 1993

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