

United States Department of the Interior
National Park Service

National Register of Historic Places
Inventory—Nomination Form

For NPS use only

received

date entered

See instructions in *How to Complete National Register Forms*
Type all entries—complete applicable sections

1. Name

historic HARGROVE PIVOT BRIDGE

and/or common OLD HARGROVE BRIDGE

2. Location

street & number BUTLER COUNTY RTE. 159 (2,000 feet east of Rte. HH) not for publication

city, town vicinity of 8th congressional district

state Missouri code 029 county Butler code 023

3. Classification

Category	Ownership	Status	Present Use
<input type="checkbox"/> district	<input checked="" type="checkbox"/> public	<input type="checkbox"/> occupied	<input type="checkbox"/> agriculture
<input type="checkbox"/> building(s)	<input type="checkbox"/> private	<input checked="" type="checkbox"/> unoccupied	<input type="checkbox"/> commercial
<input checked="" type="checkbox"/> structure	<input type="checkbox"/> both	<input type="checkbox"/> work in progress	<input type="checkbox"/> educational
<input type="checkbox"/> site	Public Acquisition	Accessible	<input type="checkbox"/> entertainment
<input type="checkbox"/> object	<input type="checkbox"/> in process	<input type="checkbox"/> yes: restricted	<input type="checkbox"/> government
	<input type="checkbox"/> being considered	<input checked="" type="checkbox"/> yes: unrestricted	<input type="checkbox"/> industrial
	<input checked="" type="checkbox"/> N/A	<input type="checkbox"/> no	<input checked="" type="checkbox"/> transportation
			<input type="checkbox"/> other:

4. Owner of Property

name Butler County Court

street & number

city, town Poplar Bluff state Missouri 63901

5. Location of Legal Description

courthouse, registry of deeds, etc. BUTLER COUNTY COURTHOUSE

street & number

city, town Poplar Bluff state Missouri

6. Representation in Existing Surveys

title Historic American Engineering Record has this property been determined eligible? yes no

date October 12, 1980 federal state county local

depository for survey records U. S. Department of Interior, National Park Service

city, town P. O. Box 25287 Denver state Colorado 80225

7. Description

Condition		Check one	Check one
<input type="checkbox"/> excellent	<input checked="" type="checkbox"/> deteriorated	<input checked="" type="checkbox"/> unaltered	<input checked="" type="checkbox"/> original site
<input type="checkbox"/> good	<input type="checkbox"/> ruins	<input type="checkbox"/> altered	<input type="checkbox"/> moved date _____
<input checked="" type="checkbox"/> fair	<input type="checkbox"/> unexposed		

Describe the present and original (if known) physical appearance

The Old Hargrove swing or pivot bridge is located in Butler County, Missouri, on County Road 159, 0.3 miles east of Missouri State Highway 53, and 2,000 feet east of County Route HH. It crosses the Black River at that point. The structure is 220 feet long, including the approaches to the bridge, with a turning span of 100 feet, and 16.2 feet wide with a concrete rim-bearing turntable support.¹

The truss design is a modification of two standard plans used widely in American bridge construction during the era of iron bridges; this bridge has a modified Wichert truss as its center span and a modified Warren pony truss extending on each side of the center truss.² The center pivot turntable support was designed³ so that boatmen could turn the bridge with a crank kept on shore for their use.

Early steamboat and logboat traffic on this part of the Black River dictated that a bridge of this nature be constructed at this site. Until 1942, the Army Corps of Engineers ran snag boats along this stretch of the river to maintain it in navigable condition. Since that date,⁴ the bridge has not been turned due to the lack of river traffic in the area.

Many parts of the bridge show deterioration: the iron beam truss members are rusted; the timber deck consists of rotted and loose wood; the turntable is inoperative due to disuse for over 40 years. In spite of this deterioration, the bridge remains open to traffic yet carries very little vehicular load because its location now is a remote, little used one.⁵

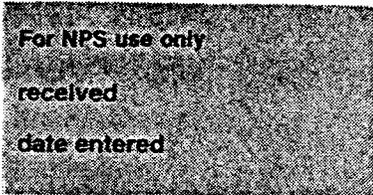
The deterioration has not reached the state of irreversibility. Overall, the bridge structure is essentially unchanged from the design of its construction in the autumn of 1917.⁶

REFERENCE NOTES

1. Missouri State Highway Department, "Structure Inventory and Appraisal Sheet: Bridge No. 159000.3", March 1979.
2. David Weitzman, Traces of the Past (Charles Scribner's Sons: New York, 1980, p. 111, pp. 83-121. Interview with Dr. William Andrews, Professor of Civil Engineering, University of Missouri-Rolla, September 6, 1984.
3. HAER Inventory Card for Old Hargrove Bridge, Butler County, Missouri, October, 1980. Interview with Mr. Robert Manns, Butler County Historical Society, April, 1981.

United States Department of the Interior
National Park Service

**National Register of Historic Places
Inventory—Nomination Form**



Continuation sheet HARGROVE PIVOT BRIDGE Item number 7 Page 1

4. "Bridge Improved by Qulin Scouts", Three Rivers Times, November, 1968. Missouri State Highway Department, "Structure Inventory...." Interview with Mr. Claude Buffington, Associate Judge, Western District, Butler County (Missouri) Court, April, 1981.
5. Missouri State Highway Department, "Structure Inventory...."
6. "Big Bridge Opens Up New District", Poplar Bluff Weekly Citizen Democrat, November 8, 1917. Interview with Mr. F. A. Finley, Representative for Missouri State District 155, October 5, 1983.

8. Significance

Period	Areas of Significance—Check and justify below			
<input type="checkbox"/> prehistoric	<input type="checkbox"/> archeology-prehistoric	<input type="checkbox"/> community planning	<input type="checkbox"/> landscape architecture	<input type="checkbox"/> religion
<input type="checkbox"/> 1400-1499	<input type="checkbox"/> archeology-historic	<input type="checkbox"/> conservation	<input type="checkbox"/> law	<input type="checkbox"/> science
<input type="checkbox"/> 1500-1599	<input type="checkbox"/> agriculture	<input type="checkbox"/> economics	<input type="checkbox"/> literature	<input type="checkbox"/> sculpture
<input type="checkbox"/> 1600-1699	<input type="checkbox"/> architecture	<input type="checkbox"/> education	<input type="checkbox"/> military	<input type="checkbox"/> social/ humanitarian
<input type="checkbox"/> 1700-1799	<input type="checkbox"/> art	<input checked="" type="checkbox"/> engineering	<input type="checkbox"/> music	<input type="checkbox"/> theater
<input type="checkbox"/> 1800-1899	<input type="checkbox"/> commerce	<input type="checkbox"/> exploration/settlement	<input type="checkbox"/> philosophy	<input checked="" type="checkbox"/> transportation
<input checked="" type="checkbox"/> 1900-	<input type="checkbox"/> communications	<input type="checkbox"/> industry	<input type="checkbox"/> politics/government	<input type="checkbox"/> other (specify)
		<input type="checkbox"/> invention		

Specific dates 1917

Builder/Architect Miller and Bocherding

Statement of Significance (in one paragraph)

The Old Hargrove Swing Bridge in southeastern Missouri is a prototype of small-scale swing or pivot bridges constructed over rivers in America in the late 19th and early 20th centuries. It exemplifies the degree to which this bridge building technology reached into less populated regions of the country and stands as an example of empirical bridge design by several different bridge builders in this era. It is eligible under Criterion C because it embodies the distinctive characteristics of a small scale pivot bridge built during the early 20th century.

Constructed in 1917, the Old Hargrove Bridge is not among the first such swing or pivot bridges built in this country.¹ This economical means of spanning a river gained popularity in the United States during the 1890s. For a county in southern Missouri seeking an inexpensive design that would minimize the interruption of the flow of steamboats, dredge boats, and logging boats along the Black River, a center pivot swing bridge was an attractive choice. Such a bridge is relatively light in weight, offers little wind resistance, and takes less power to turn than other more conventional designs.² The resulting extant structure in Butler County, Missouri, typifies the vernacular tradition in American technology--seeking the practical, simple and minimal design as a solution for a particular problem.

This bridge is relatively unchanged from its original construction in 1917. Some deterioration of the structure is evident yet it stands as a fine example of a modestly-sized rim-bearing swing bridge. With a modified Wichert center truss surrounded by modified Warren pony trusses, this bridge suggests that many small-scale units were subjected to design modifications made by local highway engineers and by amateur bridge designers. These unique, rather elegant, yet empirical design features make the bridge worthy of future consideration by historians of American technology.

Based on preliminary inventories of engineering sites in Missouri, we believe this bridge is one of the few extant types in the region. Although several fixed Pratt truss structures remain throughout the state, few small-scale swing bridges in nearly original condition exist. Its simple design, sensible means of turning (boatmen used a crank kept in storage on shore), and modest cost serve as reminders that technology can offer elegant, affordable, and practical solutions to a problem such as this--spanning a river in a remote area with an inexpensive yet durable bridge. The Old Hargrove Bridge is a fine example of this engineering heritage in America.

United States Department of the Interior
National Park Service

National Register of Historic Places
Inventory—Nomination Form

For NPS use only

received

date entered

Continuation sheet HARGROVE PIVOT BRIDGE

Item number 8

Page 1

REFERENCE NOTES

1. Big Bridge Opens Up New District", Poplar Bluff Weekly Citizens Democrat, November 8, 1917.
2. Henry H. Bormann, Bridges (Macmillan: New York, 1934) p. 30. F. C. Kunz, Design of Steel Bridges (McGraw-Hill: New York, 1915) pp. 278-79, 309-11. C. C. Schneider, "Movable Bridges", Transactions of the American Society of Civil Engineers, LX (1908) 258-336.
3. David Weitzman, Traces of the Past (Charles Scribner's Sons: New York, 1980) pp. 82-121. Interview with Dr. William Andrews, Professor of Civil Engineering, University of Missouri-Rolla, September 6, 1984.

United States Department of the Interior
National Park Service

National Register of Historic Places
Inventory—Nomination Form

For NPS use only

received

date entered

Continuation sheet

HARGROVE PIVOT BRIDGE

Item number 9

Page 1

BIBLIOGRAPHY

Dr. William Andrews, Professor of Civil Engineering, University of Missouri-Rolla. Interview, September 6, 1984.

"Big Bridge Opens Up New District", Poplar Bluff Weekly Citizen Democrat, November 8, 1917.

Bormann, Henry H., Bridges. Macmillan Co.: New York, 1934.

"Bridge Improved by Quin Scouts", Three Rivers Times, November, 1968.

Mr. Claude Buffington, Associate Judge, Western District, Butler County (Missouri) Court. Interview, April, 1981.

Butler County, Missouri. County Court Record Book T. 1916.

Butler County, Missouri. County Court Record Book U. 1917.

Mr. F. A. Finley, Representative for Missouri State District 155. Interview, October 5, 1983.

HAER Inventory Card for Old Hargrove Bridge, Butler County, Missouri, October, 1980.

Kunz, F. C., Design of Steel Bridges. McGraw-Hill: New York, 1915.

Mr. Robert Manns, Butler County Historical Society. Interview, April, 1981.

Missouri State Highway Department, "Structure Inventory and Appraisal Sheet: Bridge No 159000.3", March, 1979.

Schneider, C. C., "Movable Bridges", Transactions of the American Society of Civil Engineers. LX (1908) 258-336.

Weitzman, David. Traces of the Past. Charles Scribner's Sons: New York, 1980.

**United States Department of the Interior
National Park Service**

**National Register of Historic Places
Inventory—Nomination Form**

For NPS use only

received

date entered

Continuation sheet HARGROVE PIVOT BRIDGE

Item number 10

Page 1

direction and is approximately 17 feet wide in the north-south direction as the pivot is now inoperable. It all lies in Butler County, Missouri, in the north half of the northwest quarter, of the northwest quarter, of the northwest quarter, of the northwest quarter section of Section 15, Township 23 North and Range 7 East.

**United States Department of the Interior
National Park Service**

**National Register of Historic Places
Inventory—Nomination Form**

For NPS use only
received
date entered

Continuation sheet HARGROVE PIVOT BRIDGE

Item number 11

Page 1

2. James M. Denny
name/title Chief, Survey & Registration and State Contact Person
Department of Natural Resources
organization Historic Preservation Program
street & number P. O. Box 176 telephone (314) 751-4096
city or town Jefferson City state Missouri 65102

9. Major Bibliographical References

See attached sheet.

10. Geographical Data

Acreeage of nominated property less than one acre

Quadrangle name HANLEYVILLE, MO.

Quadrangle scale 1:24,000

UTM References

A

1	5	7	4	1	3	6	0	4	0	5	8	9	4	0
Zone			Easting					Northing						

B

Zone			Easting					Northing						

C

Zone			Easting					Northing						

D

Zone			Easting					Northing						

E

Zone			Easting					Northing						

F

Zone			Easting					Northing						

G

Zone			Easting					Northing						

H

Zone			Easting					Northing						

Verbal boundary description and justification

Bridge is located 0.3 miles east of Missouri State Route 53, 2,000 feet east of Butler County Route HH, over the Black River on Butler County Route 159. The bridge is 220 feet long including the bridge approaches. It runs in an approximately east-west (see continuation sheet)

List all states and counties for properties overlapping state or county boundaries (continuation sheet)

state code county code

state code county code

11. Form Prepared By

name/title 1. H. J. Eisenman, Associate Professor of History

organization University of Missouri-Rolla date September 17, 1984

street & number telephone (314) 341-4808

city or town Rolla state Missouri

12. State Historic Preservation Officer Certification

The evaluated significance of this property within the state is:

national state local

As the designated State Historic Preservation Officer for the National Historic Preservation Act of 1966 (Public Law 89-665), I hereby nominate this property for inclusion in the National Register and certify that it has been evaluated according to the criteria and procedures set forth by the National Park Service.

State Historic Preservation Officer signature Wayne E. Brown
Frederick A. Brunner, Ph.D., P.E., Director Department of Natural Resources, and
title State Historic Preservation Officer date 8/15/85

For NPS use only

I hereby certify that this property is included in the National Register

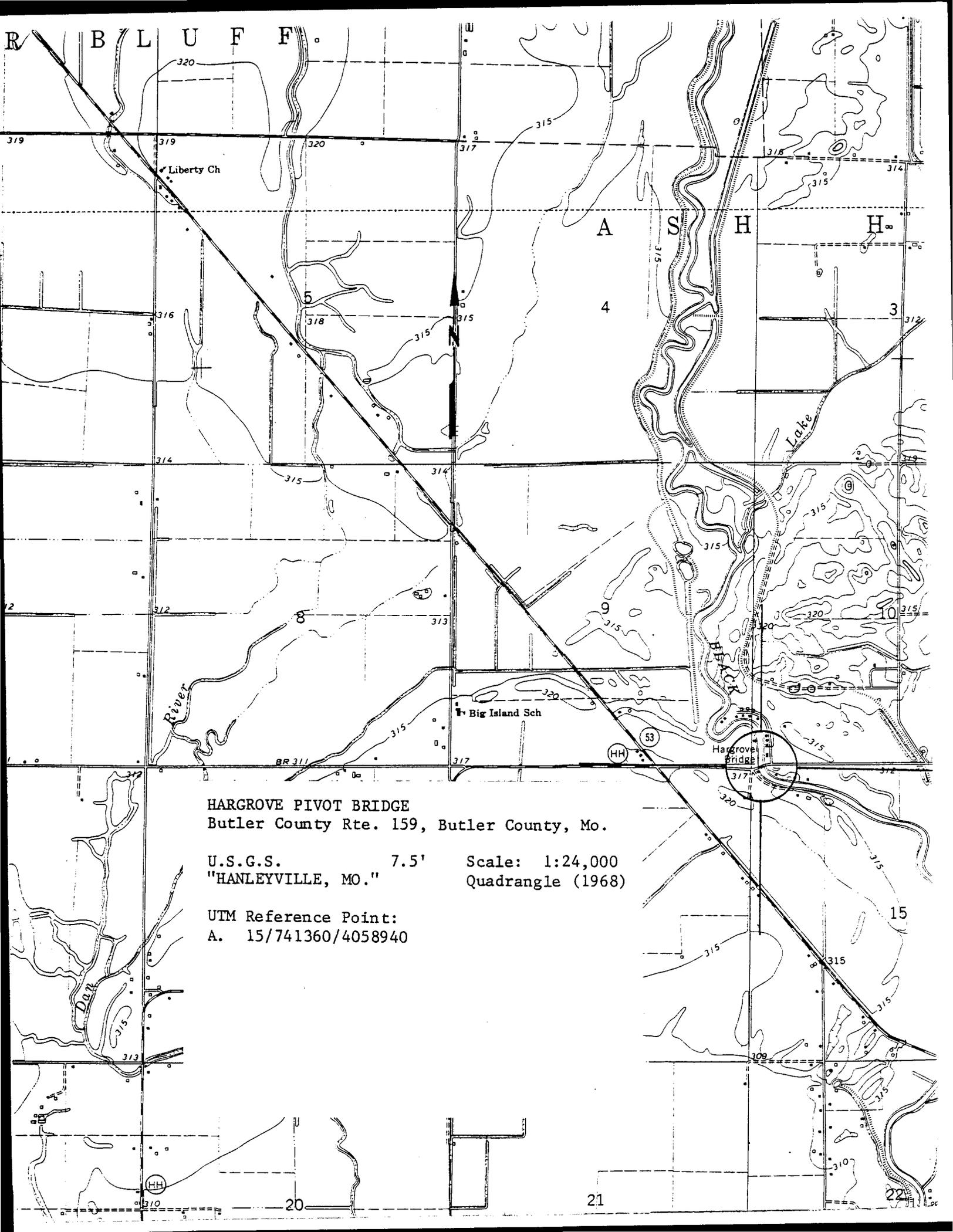
date

Keeper of the National Register

Attest:

date

Chief of Registration



HARGROVE PIVOT BRIDGE
Butler County Rte. 159, Butler County, Mo.

U.S.G.S. 7.5' Scale: 1:24,000
"HANLEYVILLE, MO." Quadrangle (1968)

UTM Reference Point:
A. 15/741360/4058940

HARGROVE PIVOT BRIDGE 1 of 3
Butler County Rte. 159, Butler Co., Mo.

Photographer: James M. Denny
Date: Dec., 1981
Neg. Loc.: Dept. of Natural Resources
Historic Preservation Program
P. O. Box 176
Jefferson City, Mo. 65102

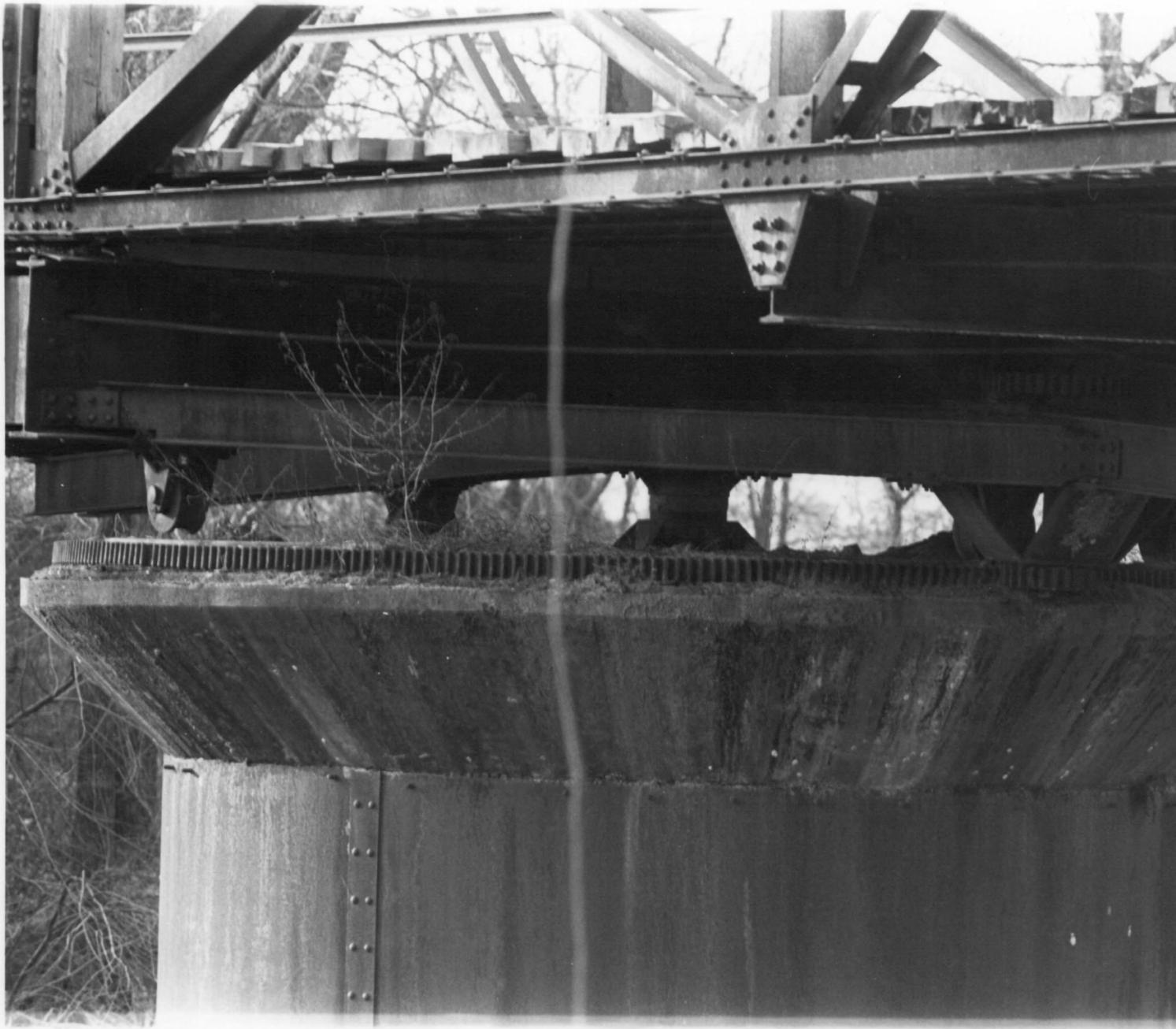
Looking northeast.



HARGROVE PIVOT BRIDGE 2 of 3
Butler County Rte. 159, Butler Co., Mo.

Photographer: James M. Denny
Date: Dec., 1981
Neg. Loc.: Dept. of Natural Resources
Historic Preservation Program
P. O. Box 176
Jefferson City, Mo. 65102

Detail of concrete rim-bearing turntable
support; looking northeast.



HARGROVE PIVOT BRIDGE 3 of 3
Butler County Rte. 159, Butler Co., Mo.

Photographer: James M. Denny
Date: Dec., 1981
Neg. Loc.: Dept. of Natural Resources
Historic Preservation Program
P. O. Box 176
Jefferson City, Mo. 65102

Detail of modified Wichert Truss, looking
north.



EXTRA
PHOTOS





