

HISTORIC AMERICAN ENGINEERING RECORD

SECOND STREET BRIDGE

HAER NO. AR-41

LOCATION: Second Street, spanning the lines of the Union Pacific Railroad Company formerly the Chicago Rock Island and Pacific Railroad Company, Little Rock, Arkansas

UTM: 15/3844905/567860

Quad: Little Rock, Arkansas

DATE OF CONSTRUCTION: 1915

ENGINEER: Chicago, Rock Island and Pacific Railroad Company (?)

BUILDER: Fox Construction Company

PRESENT OWNER: City of Little Rock, Arkansas

PRESENT USE: Pedestrian and vehicular bridge

SIGNIFICANCE: Almost certainly designed by the bridge engineers of the Chicago, Rock Island and Pacific Railroad Company, the bridge over their lines at Second Street is one of the most important small bridges in the state. Its pony arch construction is unique in Arkansas, and its early date, 1915, precedes the period when such through arch concrete structures became comparatively popular.

HISTORIAN: Sean O'Reilly

DESCRIPTION: Corinne Smith

Arkansas Historic Bridge Recording Project, 1988.

SECOND STREET BRIDGE

The Second Street Bridge in Little Rock was constructed in 1915 by the Fox Construction Company of El Reno, Oklahoma.(1) The bridge crossed the lines of Chicago, Rock Island and the Pacific Railroad Company. These lines crossed Second Street as they ran between the company bridge over the Arkansas and the old Choctaw railroad station nearby.

Although it is almost certain that the Chicago, Rock Island and Pacific Railroad Company financed the construction of the bridge, no documented proof of this has been recovered. The context of the Second Street Bridge, across an important railroad line, parallels the case of the 1928 Lincoln Avenue Viaduct very closely.(2) At Lincoln Avenue, the Missouri Pacific Railroad Company reconstructed a viaduct across its lines and donated that viaduct to the City of Little Rock. However, while the Missouri Pacific viaduct is documented in the records of the city, no similar information regarding the Second Street bridge was discovered.

However the documented association between the Fox Construction Company and the Rock Island Railroad further enhances the case for railroad funding. In the records of the railroad company are extensive references to the Fox Construction Company.(3) The constructors carried out an extensive range of work for that railroad. The El Reno City Directory for 1938 describes J.W Fox Inc., later a manifestation of the Fox Construction Company, as "general railroad contractors." Furthermore their address is given in that directory as the Rock Island Building.(4)

FOX CONSTRUCTION COMPANY

The Fox Construction Company was incorporated on December 30, 1911 in El Reno, Oklahoma.(5) The directors of the company, John W. Fox, W.C. Armstrong and A.W. Lippe, all of El Reno, wrote into the articles of incorporation:

That the purposes for which this company is formed are the contracting for and the construction of concrete bridges and the approaches thereto, and all other general concrete construction work.(6)

The company was incorporated with a capital stock of \$25,000 consisting of 250 shares of \$100 each, and for a projected term of twenty years. (7)

The association of the Fox Construction Company with the Chicago, Rock Island and Pacific Railroad Company began soon after its incorporation. The construction of the Second Street Bridge dates from only three years after the incorporation of the Fox Construction Company.

CHICAGO, ROCK ISLAND AND PACIFIC

The Chicago, Rock Island and Pacific Railroad Company, known to everyone as "The Rock Island," had its headquarters in Chicago and consisted of "properties constructed under the organization of railroads earlier in corporate history, so far as Arkansas is concerned."(8) It was one of the larger railroad companies in the state, though it never grew to be comparable with the Missouri Pacific lines.

The most important Arkansan lines assimilated into the Rock Island company were those of the Memphis and Little Rock Railroad, which was incorporated in 1853.(9) These were reorganized

several times before they became, on October 25, 1898, the Choctaw and Memphis Railroad Company, and then, in June 1900, the Choctaw, Oklahoma and Gulf Railroad Company. The latter retained its corporate existence into the 1930s, but its lines, including those over which the Second Street Bridge passes, were operated by the Rock Island company. It was almost certainly this latter company which financed the bridge.

BRIDGE DESIGN

The Second Street bridge possessed many parallels with the Lincoln Avenue Viaduct of 1928, and may be considered as an earlier and simpler version of the viaduct. Both are rainbow arches over railroad tracks and both may be associated with railroad company design and finance.

The Second Street bridge may well have been designed by the bridge engineers of the railroad company, a policy followed by railroad companies to ensure a satisfactory standard of design and construction.

The bridge is a derivation from a 1912 patent by James Barney Marsh.⁽¹⁰⁾ Like the Lincoln Avenue Viaduct (HAER No. AR-6), it does not have the patent's most distinct characteristic--the structural arches rising from the side of the abutments and passing through the deck line. Thus this bridge, as with the viaduct design of 1928, is not to be confused with the Marsh arch design proper, that of the 1912 patent. It may be noted, however, that the Second Street Bridge is closer to the Marsh patent in that both of these are pony arches, with no beams connecting over head.

ENGINEERING DESCRIPTION

The Second Street Bridge is a two-lane, reinforced concrete rainbow arch of total length 63 feet, with sidewalks on the outside of each arch line. The arches spring from masonry abutments, which are continuous from gravel-filled, rusticated stone wall approach spans. The metal railing of the approaches is discontinued at the bridge. A solid concrete handrail across the bridge sidewalk imitates a balustrade with insets in the concrete.

The arch, thickening from the crown toward the haunches, was poured in sections bounded by each square hanger. Seven hangers suspend the floor deck from the arch. The concrete on the hangers has spalled off to reveal the steel reinforcement, suggesting that four angles joined with lacing form the basic structure of the thin hangers. Floor girders are not outwardly distinguished in the floor system, except where short beams extend from the thick deck under each hanger to suspend the sidewalks.

ENDNOTES

1. Builder's Plate on south-west arch: "Fox Construction Co., El Reno, Okla., 1915". Date molded in concrete on south face of southern arch.
2. Historic American Engineering Record, HAER Report AR-6: "Lincoln Avenue Viaduct," 1988.
3. Records of the Chicago, Rock Island and Pacific Railroad Company Files, on deposit in the University of Oklahoma, Norman, Oklahoma.
4. El Reno, City Directory, 1938, p. 126.
5. "Articles of Incorporation," Fox Construction Company.
6. *ibid.*, Second Article.
7. *ibid.*
8. Murray J.C. "States Five Transportation Facilities", Arkansas Centennial 1836-1936. Arkansas Democrat, 1936 pp. 65-66.
9. *ibid.*
10. Historic American Engineering Record, HAER Report AR-6: "Lincoln Avenue Viaduct," 1988.

BIBLIOGRAPHY

Arkansas Gazette Little Rock, 1915.

Blaisdelle, F. L. Pocket Map of Little Rock, Arkansas. Little Rock, 1915.

Builder's Plate: Second Street Bridge.

Council Records, City of Little Rock, 1914, 1915, 1916.

El Reno, City Directory, 1912, 1918-19, 1928, 1930, 1938.

Fox Construction Company, Articles of Incorporation, El Reno, Oklahoma, December 30, 1911.

Fox Mrs. John of El Reno, widow of John Fox, Jr., conversation by telephone, August 1988.

Historic American Engineering Record, HAER Report AR-6: "Lincoln Avenue Viaduct," 1988.

Murray, J.C. "State's Fine Transportation Facilities," Arkansas Centennial 1836-1936, Arkansas Democrat, Little Rock, 1936 pp. 64-66.

ARTICLES OF INCORPORATION.

BE IT KNOWN. That the undersigned citizens of the State of Oklahoma, do hereby voluntarily associate ourselves together for the purpose of forming a private corporation, under the laws of the State of Oklahoma, and do hereby certify:

First.

That the name of this corporation shall be FOX CONSTRUCTION COMPANY.

Second.

That the purposes for which this corporation is formed, are contracting for and the construction of concrete bridges and the approaches thereto and all other general concrete construction work.

Third.

That the place where its principle business is to be transacted is at El Reno, Oklahoma.

Fourth.

That the term for which the corporation is to exist is Twenty (20) Years.

Fifth.

That the number of directors of this corporation shall be three and the names and residences of those elected and who shall hold their office until the next annual election or until their successors are elected and qualified, are

- John W. Fox - - - - - El Reno, Okla.
- F. C. Armstrong - - - - - El Reno, Okla.
- A. W. Lipe - - - - - El Reno, Okla.

Sixth.

That the amount of the capital stock of this corporation shall be TWENTY FIVE THOUSAND (\$25,000.00) Dollars and shall be divided into TWO HUNDRED FIFTY (250) shares of ONE HUNDRED (\$100.00) Dollars each.

IN WITNESS WHEREOF, We have hereunto subscribed our names this 30th day of December, 1911.

This certificate is issued subject to the following constitutional provision: That the corporation to which it is issued will submit any difference it may have with employees, with reference to labor, to arbitration as shall be provided by law.

John W. Fox
F. C. Armstrong

State of Oklahoma,

SS.

County of Canadian,

Personally appeared before me, a Notary Public in and for said County and State, the above named, John W. Fox, W. C. Armstrong, and A. W. Lipe, who are personally known to me to be the same persons who executed the foregoing instrument of writing and duly acknowledged the execution of the same as their free and voluntary act.

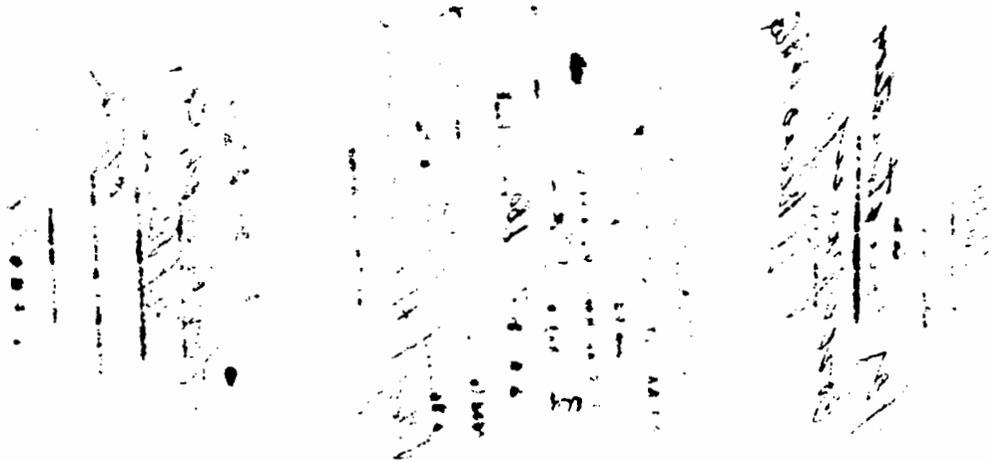
IN TESTIMONY WHEREOF, I have hereunto subscribed my name and affixed my Notarial seal this 30th day of December, 1911.

By _____

My Com. Exp. July 2, 1912

Charles A. Howard

Notary Public.



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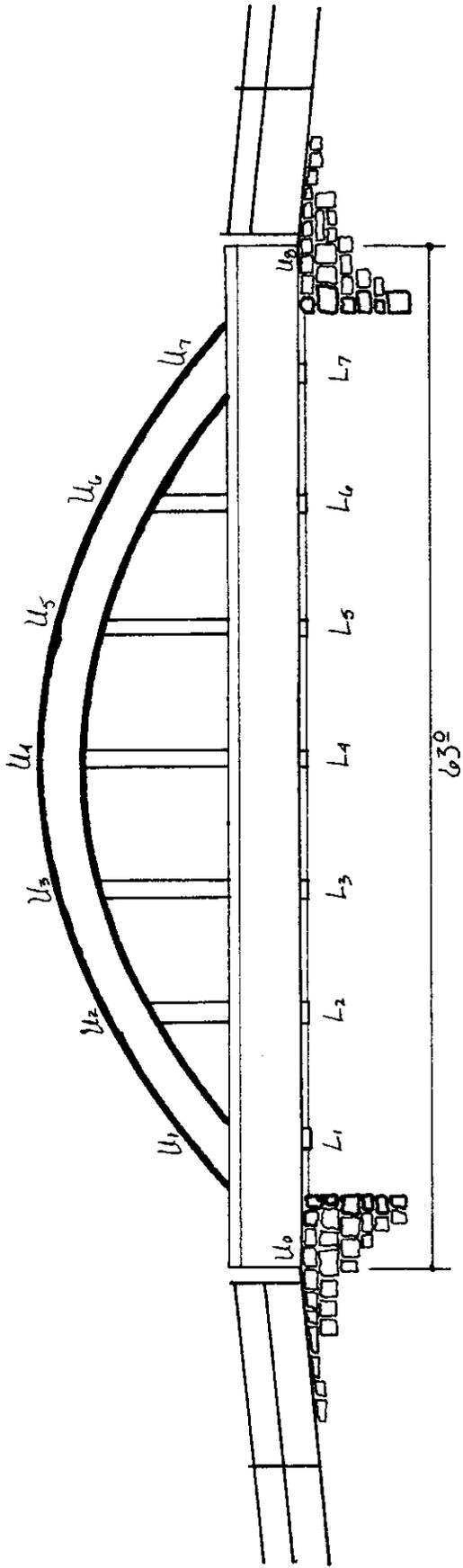
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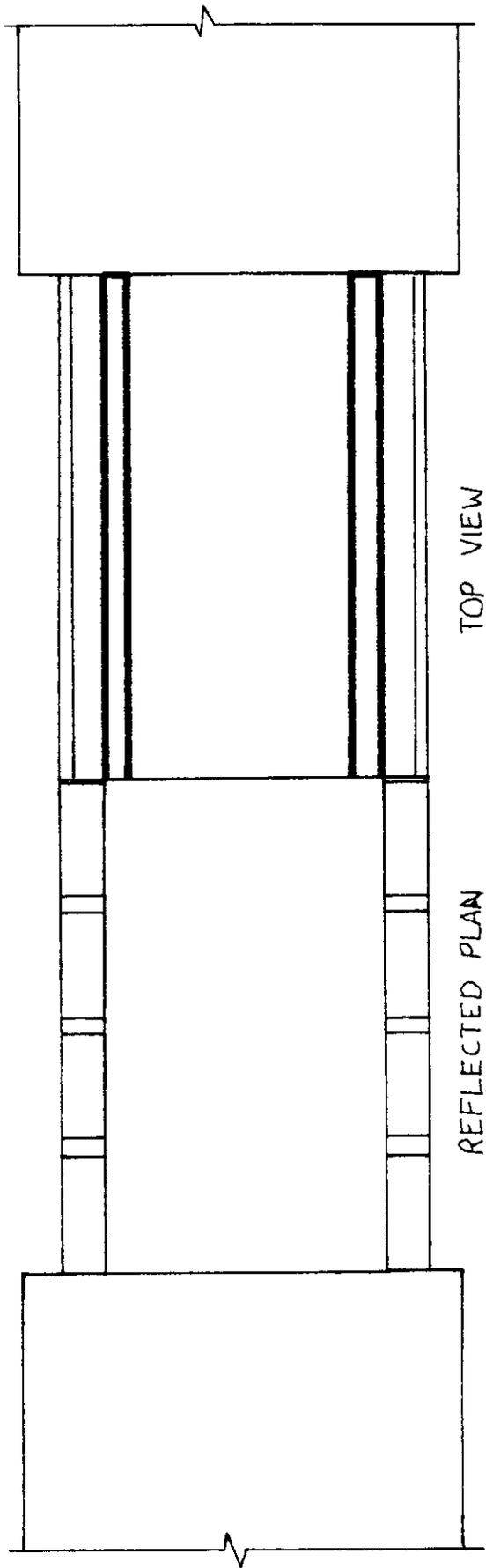
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Chief of Bureau

A-3-18
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ELEVATION



PLAN



DRAWN BY CORINNE L. SMITH

DRAWINGS NOT TO SCALE