

**BEALE'S WAGON ROAD.
TO THE PACIFIC COAST.**

**WESTERN CAMEL ROAD
AND
EASTERN IRON BRIDGE ROAD**



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PREFACE

Early on the morning of February 22, 1861, the President-elect of the United States, Abraham Lincoln, left the largest hotel in the United States, the Continental Hotel in downtown Philadelphia, and rode in a private carriage past the headquarters offices of the powerful industrial and political leaders of Philadelphia to give a rousing nationally-focused speech at Independence Hall. Photographs of this event (see Library of Congress photo below) are still historically relevant. So powerful was Philadelphia at that moment that the owner of Philadelphia's *The Press* would soon start a newspaper in Washington City that by 1862 would become "The Voice" of the forthcoming Republican Lincoln Administration.



Philadelphia was already known for its industrial leadership, iron works, railroad companies, the largest steam-powered locomotive builder—Baldwin Locomotive Works, and now in the forefront of national politics— including the Northern Democrat and Republican parties. To be sure, those industrialists that had recently built advanced technology iron bridges for the federal government for a nationally relevant transportation project would be telling the nation and President-elect Lincoln about their recent feats of accomplishment. One such company was A. & P. Roberts and Company of Philadelphia, supported by their privately owned Pencoyd Iron Works, also of Philadelphia. They had just completed building six iron bridges out on the Plains for the U. S. Army in support of the national effort to build the first high-tech wagon road from Fort Smith, Arkansas, to the Pacific (and the bountiful gold fields of California). Philadelphians dreamed their next step would be building a transcontinental railroad to California for the government, using Philadelphia's iron rails, iron bridges, steam locomotives, and railroad companies.

Until April 12, 1861, Lt. E. F. Beale's six new iron bridges, built in Philadelphia and now being heavily used along the newly completed Beale Wagon Road in Indian Territory (now Oklahoma), were the Toast of the Nation. The Butterfield Overland Stage was even using Beale's largest iron bridge across the Poteau River. Advanced stereoscopic views of Pencoyd's iron bridges led to the commercial advertising parade from Philadelphia to national audiences and railroad executives. Beale's iron bridges played a role in this ticker-tape parade! Not a desert camel was to be seen! Moreover, the Army hated the African camels Beale had first brought out West in 1857; whereas, the Army loved Beale's iron bridges that could be easily constructed in the West, but could not be easily burned by Indians. Surely larger business opportunities were coming soon to Philadelphia—the proud builders of Beale's Iron Bridge Road. Their overall success makes for an All-American story about the people, city, and country that built it in Indian Territory in 1859.

ACKNOWLEDGMENTS

The author knew, from the moment he retired from Texas A&M University on August 31, 2004, what he wanted to do with most of his remaining retirement years. Having been raised in Pushmataha County of Southeastern Oklahoma, he had always found its “Indian Territory” history very fascinating, along with the general history of the Civil War. So for the next several years he studied the Civil War, its battles, and visited its battlefields—almost all of the major ones for sure. Then he began to focus his attention specifically to the Western Theater, or the Trans-Mississippi Department of the Confederate States of America (CSA), collecting a nice library of literary works on the Department and visiting almost every major battlefield therein. Noticing that Oklahoma seemed to be missing some critical coverage, he began to examine the newly available digital libraries of the country for missing information and clues.

More importantly, he began to identify civil war writers/bloggers/buffs who were “moving, shaking, finding and blogging” neat new facts about Oklahoma (Indian Territory) history around and during the Civil War. As the author lived in College Station, Texas, about 230 miles south of Red River and Oklahoma (and still does), connecting with those historians living in or near Oklahoma would be most helpful. My first significant civil war contact was with Bruce Schulze, a retired Oklahoma Highway Patrol officer from Kingston, OK. In 2011 Bruce was and remains the webmaster of the widely acclaimed and nationally focused civilwaralbum.com. Bruce soon found out that I was not a skilled photographer, but a much better writer, so we decided to work on a couple of projects of mutual interest in Oklahoma—Butterfield Overland Trail and Battle of Middle Boggy—where Bruce would take the classy pictures and I would write the resulting historical news story, of some sort.

Near the end of our field work on the Battle of Middle Boggy, I began to communicate with Ken Martin, of Bartlesville, OK, who is a prolific and dedicated Oklahoma civil war historian and writer, as well as a website administrator for history-sites.com with a focus on Indian Territory action. Ken’s inputs and guidance continue to inspire me in moments of frustration and fatigue, including this work. After visiting the Middle Boggy battlefield site, just south of Allen, OK on April 20, 2013, Ken mentioned during lunch in Allen that he thought that Phillips’ federal cavalry withdrew from the nearby battlefield north across the South Canadian to “Little River Town” (Aird’s/Edwards Store) where the Beale Wagon Road crossed the river at an iron bridge. The bridge site was only nine miles away, but across the wide South Canadian River. I had already discovered that Beale’s wagon road ran west from North Fork Town (Eufaula) along the north side of the South Canadian to near Purcell, but was not aware of any “iron bridge” at the time.

Consequently, I soon found Jack Beale Smith’s (Flagstaff AZ and Oklahoma City, OK) and Gene McCluney’s (Van Buren, AR) early work (2012) on Whipple’s iron bridges at Little River and later Poteau River near Fort Smith at bridgehunter.com. I soon learned that Jack was a distinguished Beale Wagon Road life historian, and the leader of archeological research and publication on Beale’s Western Camel Road section in Arizona since the mid-1970s. By 2014, Jack was also locating iron and wooden bridges that Beale had sited in late 1858 across Indian Territory. In the intervening years, Jack and his associates have placed numerous Beale Wagon Road signs along the route and at/near several of the bridges in Oklahoma. The author was not aware of this informational field work published in Smith’s bealewagonroad.com website until the COVID pandemic struck in early 2020.

Gene McCluney is a professional photographer and runs a photographic studio in Van Buren, AR, among other business interests. He has visited and photographed many historic iron bridges in the area for many

years, as his numerous bridge photos and short stories show in bridgehunter.com. Gene found several years ago and recently emailed me electronic copies of two articles about the Arkansas Stone Masons, Greig and Graham, who contracted for and built in 1859 the masonry stone abutments for the six iron bridges constructed for the Beale Wagon Road in Indian Territory. Gene and Jack both confirmed my tentative identification of Kyle Burch's (of Spiro, OK) discovery of Beale's Redbank Creek bridge site, and Kyle's fantastic Whipple bridge sign bar find, which we all concluded was a "holy grail" discovery of the highest level for antebellum era historical Oklahoma Archeology.

Two other iron bridge historians made significant contributions to the technical aspects noted in the latter chapters of this work. Both men, James Stewart and Frank Griggs-Manning, Jr., are from upstate New York where the Whipple bowstring, cast- and wrought-iron, arch truss bridge design originated in 1841 and was widely installed. James Stewart provided research-based information on John W. Murphy's educational background and iron bridge work with Pencoyd Iron Works of Philadelphia, PA, including several Murphy-Whipple pin-connected iron truss bridges built for Pennsylvania railroads. Stewart also provided references to Pencoyd's leading-edge use of stereoscopic-viewing of their new iron bridges in advertising, where Beale's federal iron bridges built on the Plains were used to support their ads. Whereas Squire Whipple was called the "Father of America's Iron Bridge" by the 1860-s; Frank Griggs-Manning, Jr., who has published several national (ASCE) papers on Whipple's iron bridges, is recognized as the national leader in reconstruction/rehabilitation of Whipple's remaining historical iron bridges in New York. Frank is reportedly working on the rehabilitation of Whipple's two-span iron bridge near Claverack, NY, the nearest existing equivalent to Beale's first and only two-span iron bridge, crossing the Poteau River near Pocola, OK, and Fort Smith, AR. The old Claverack bridge is on the "cover" of this paper. Frank also supported our conclusions and called Kyle Burch's bridge sign discovery a "beautiful" sight.

Lastly, my discovery, around January 1, 2021, of Kevin Righter's new book on the history of Pencoyd Iron Works of Philadelphia, was an unexpected gift. The book provides creditable, independent, and scholarly literature on the overall Philadelphia storyline and of Pencoyd's construction of Beale's Iron Bridges on the Plains of Indian Territory in 1859.

CHAPTER 1

A NATIONAL VISION IN 1859 FOR UNIFYING AMERICA

INTRODUCTION

{The following article was part of a “letter” written by the youthful John Russell Young, writing as the Wanderer for the *Philadelphia Press* on October 15, 1859, while visiting the construction of the Beale Wagon Road in Indian Territory. It brilliantly expresses a popular American vision and desire for having a strong and vibrant United States of America in 1859. Young notes that Lt. Edward F. Beale’s 35-th Parallel Wagon Road, then under construction, is the critical first step in America building a sorely needed transcontinental railroad to the Pacific Coast. Young wrote a total of eleven letters in a series of articles published in *The Philadelphia Press* in late 1859. They made news stories in several other major Eastern metropolitan newspapers.} It should be noted that the well-known Lt. Edward F. Beale and the youthful John Russell Young were both blue-blooded “Philadelphians.” Young was already missing Philadelphia when he wrote this article.

WANDERER’S VISION

Indian Territory, October 15, 1859

“Ever since the treaty of Guadalupe Hidalgo gave us California, the same motive that actuates England to draw her Indian colonies to her by lessening the distance and shortening the length of travel between them and the mother country, and that also impels Franco to desire a ship-canal across the Isthmus of Suez, has induced speculations and explorations for a railway route across this continent, there has been a myriad of theories deduced from books, and nicely sketched; daring men have explored in every quarter; the Government press has poured out ponderous tome after tome filled with itineraries; appropriations have been made by Congress for the construction of wagon roads, in order to facilitate the emigration of the hardy pioneers, who, with their families, plunge into the wilderness of the far West to raise up new settlements—these things have gone on steadily until the public mind has become fully awakened to the importance, in military as well as commercial points of view, of having a railway between the Atlantic and the Pacific Oceans. The large majority of the people of the United States are undoubtedly in favor of some route, but the particular route to be selected is the question in issue.

America Needs a Transcontinental Railroad

A Pacific railroad, as a Government project, can only be sustained upon the grounds of its necessity as a national work. Not to lose the force of an argument so vital, the route ought to be neither an extreme northern, nor an extreme southern one, unless there are insurmountable obstacles to a central route, by which, of course, all sections of the country would be equally benefited. I don't mean that a pair of dividers should fix the center, and the route marked and followed accordingly; but that the best practical route near the center of the Confederacy should be selected; the one that gives the easiest crossing of the Rocky Mountains, and furnishes wood, water, good grass at all seasons of the year.

Beale's 35-th Parallel Wagon Road Route

This route, beyond all cavil, is that laid down and travelled by Lieutenant Beale, of the wagon roads started, none has been abandoned, and others drag their slow length along. Beale rapidly marked his upon the route of the 35th parallel, crossed it, and re-crossed it with large parties and small parties, with camels and without them, with heavy teams, and the last time, I am told, with a light buggy. A paper which I found up the country—I think it was the *St. Louis Republican*—contained the information that Lt. Beale had arrived home; that he had taken his party home by a more northern route, in order to compare it, as he had all the other routes, with his own; that his examinations had been rigid and impartial; and that the conclusion was irresistibly in favor of the route from Fort Smith over the 35th parallel, through Albuquerque, in New Mexico, to California. It is the most direct route—not dipping, as the route now followed by the Butterfield Overland Mail Route, hundreds of miles south into Texas.

I am confident, from what I have seen of it, that it is as good a natural road as can be found. There are wood, water and grass at all seasons, and the accent to the crest of the divide between the Atlantic and Pacific slopes, from where the waters run eastwardly into the Gulf of Mexico find the Atlantic Ocean to where they run westwardly into the Gulf of California and the Pacific, is hardly perceptible, and so short as to require much less than an hour in crossing it. (All are operational.) Besides from Albuquerque to California, the wagon road has been improved; it has been deeply marked by the heavy teams, trees have been cut down out of the way where it could be shortened, and bridges have been constructed over the streams. Wanderer.”



Figure 1. The Vision for Beale Wagon Road is Illustrated in this View of the Road Passing Thru Register Rock near Leupp, Arizona, on Its Way West Toward the San Francisco Mountains near Flagstaff. (Source: One of several similar photos taken since 1976 by Louis (Lou) Blasquez, Flagstaff, AZ.)

CHAPTER 2

AMERICA WORKS TO UNIFY THE NATION

BACKGROUND

Shortly after gold was discovered in California in 1848, many Americans wanted a good road to the “gold fields” of California. But previous trips showed that danger lay ahead. The Donner Party, trying during the winter of 1846-7 to take the shortest route to Sacramento in Central California, got stranded while crossing the snowy Sierras, with nearly half of their party dying of starvation and extremely cold weather. This tragedy occurred just prior to the discovery of gold in California. By 1849, thousands would be headed west across vast deserts and rugged mountain ranges, and across Indian country becoming more hostile with each unwelcome intruding emigrant wagon train. Added to rugged topography, extremely cold, snowy winters, and hot dry deserts, emigrants now must add facing hostile Indians tribes over long stretches of travel with little federal cavalry protection or presence nearby.

Marcy’s Route of 1849

By early 1849, many wagon trains of immigrants were forming west of the Mississippi headed to the gold fields of California in spite of the dangers and risks involved. Understandably, migrants were asking, “What route should we take?” As a stop-gap measure, the federal government ordered U. S. Army Capt. R. B. Marcy to form a squadron and quickly blaze the best wagon road he could from Fort Smith, Arkansas west toward California. Capt. Marcy, Fifth Infantry of the U.S. Army, was assisted by Lt. James H. Simpson, Topographic Engineers. During the Summer and Fall of 1849 their small military unit blazed, cleared, and surveyed the first California 49’ers wagon road along both the north and south sides of the Canadian River from Fort Smith west through Indian Territory to just beyond “Rock Mary.” There the parallel routes basically joined together along the south side of the Canadian and crossed the Texas Panhandle to New Mexico where the wagon road left the Canadian and crossed the Pecos River at Anton Chico in north-central New Mexico, headed west for the Rio Grande at Albuquerque, New Mexico Territory (NMT). A large wagon train of over 1,000 emigrants travelled with Marcy’s army unit as he took the south side of the Canadian to Rock Mary in Indian Territory. See map of Marcy’s routes across Indian Territory at:

[https://babel.hathitrust.org/cgi/pt?id=uc1.\\$b97819&view=1up&seq=246](https://babel.hathitrust.org/cgi/pt?id=uc1.$b97819&view=1up&seq=246)

Also see Simpson’s personally drawn map at:

Simpson, J. H., 1813-1883. Map of route pursued by U.S. troops from Fort Smith, Arkansas, to Santa Fé, New Mexico, via south side of Canadian River in the year 1849.

<https://texashistory.unt.edu/ark:/67531/metaph192522/>

Map accessed May 19, 2021, University of North Texas Libraries, The Portal to Texas History. <https://texashistory.unt.edu>; crediting University of Texas at Arlington Library.

Once reaching the Rio Grande at Albuquerque, the immigrants were on their own to California. They would frequently wait to join up with additional migrants, as large wagon trains were deemed safer when traveling through hostile Indian country. The wagon train master would usually choose the best Indian

trail he could find passing through the deserts, canyons and mountains across Western New Mexico Territory to the Colorado River and California, just prior to its statehood on September 9, 1850.

The mass migration experience over the next few years showed that major safety and efficiency problems still existed for immigrants traveling to the Pacific in large wagon trains. Better transportation was desperately needed along faster and safer routes that provided sufficient water, grass and wood necessary for survival of the immigrants and their animals. The obvious transportation answer by 1853 was—let's build a transcontinental railroad to the West.

Whipple's Pacific Railroad Expedition of 1853

In 1853 the U. S. Congress passed the Pacific Railroad Survey Bill, appropriating \$150,000 for its studies. Four separate survey teams were assigned by President Franklin Pierce to study four main (East-West Parallel) routes for a prospective national railroad. The four teams were given only ten months to complete their tasks. See a thorough presentation of these and other related studies at:

Wagon Roads West; A Study of Federal Road Surveys and Construction in the Trans-Mississippi West, 1846-1869. Jackson William Turrentine (1915-2000). Berkeley, University of California Press, 1952.

[https://babel.hathitrust.org/cgi/pt?id=uc1.\\$b97819;view=1up;seq=9](https://babel.hathitrust.org/cgi/pt?id=uc1.$b97819;view=1up;seq=9)

However, Secretary of War, Jefferson Davis, had his favorite route. Lieut. Amiel Weeks Whipple was put in charge of the 35th Parallel Survey, running along the immigrant route first surveyed by Capt. Marcy in 1849 from Fort Smith west toward California. Whipple's 1853 railroad survey and several other 1850's supplemental railroad route surveys in the Southwest with related maps are clearly summarized at:

<http://southwestexplorations.com/trail-studies/members>

The main result of these four national federal railroad studies was that "building a railroad, any of the four" previously studied in 1853-4, was prohibitively too expensive for the political climate in 1855. A national railroad connecting the Atlantic to the Pacific would have to wait until things improved.

An Alternative—A National Wagon Road?

Building a good national wagon road as a precursor for a future transcontinental national railroad would simply have to do for the time being, but even this proposal was rapidly becoming politically difficult as 1855 rolled by. The large dry deserts and rugged mountainous terrain in the West greatly increased construction costs beyond what eastern politicians were accustomed. Southern wagon routes ending in Los Angeles, while further from the gold fields found in Central California, had several advantages over central and northern routes. Southern routes were operational all-seasons of the year, and they had fewer mountains. If the desert conditions could be mitigated, then perhaps first building a good national wagon road was still feasible, followed later by a parallel transcontinental railroad. The divisive presidential election of November 1856 between Northern and Southern political interests further reduced support for a cohesive national transportation program. Any national program was in peril.

U. S. Army Gets Its Camel Corps

In a desperate attempt to get a national wagon road built to (preferably southern) California, President Pierce's Secretary of War, Jefferson Davis, in early 1856 proposed that North African desert camels be

imported and used. Davis had heard from some believers in the U. S. Army that North African camels could carry more road construction materials over more desert miles than could domestic horses, mules, or even oxen. Secretary Davis would choose a bold and aggressive leader, former U.S. Navy Lieut. Edward Fitzgerald Beale, shown in Figure 2, to implement his camel plan. Beale was a Mexican War hero with Davis, and nationally known for his western travels, including bringing gold proof from California to Washington City in 1849, by traveling some by sea and hiking east across the jungles of Panama.

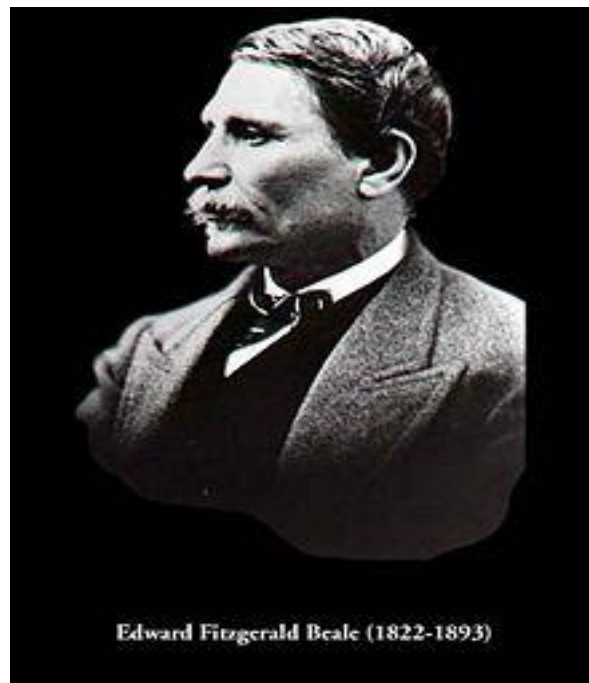


Figure 2. Naval Lieutenant Edward Fitzgerald Beale.

Two shipments of African camels were carried out by the U. S. Navy from North Africa in 1856 and delivered to Indianola, Texas, located on the Gulf Coast. The first load, with 34 camels on board, arrived in Texas on 5-14-1856; and the second, with 41 camels, landed on 2-10-1857. A few had died in transit during the nearly three-month journey; and several infants also were born. The Army drove each boat load west 140 miles to San Antonio, and then another 50 miles on northwest to the camels special training camp established at Camp Verde, Texas. See the U. S. Army's interesting story of their Camel Corps at:

<https://armyhistory.org/the-u-s-armys-camel-corps-experiment/>

BEALE SURVEYS HIS CAMEL ROAD OF 1857

In 1857, \$50,000 was added to the U. S. Army's 1858 fiscal year appropriations bill to pay for surveying a wagon road from Fort Defiance, NMT to the Colorado River, using the Army's camels acquired the previous year, passing the 34-th Congress, Session 3, on 2-17-1857. See this congressional act at:

<https://memory.loc.gov/cgi-bin/ampage?collId=llsl&fileName=011/llsl011.db&recNum=184>

Over the next three months, the Army, Beale's Arabic camel drivers, including the infamous "Hi Jolly," and the more prospective camels, trained for the forthcoming long, hot, dry wagon road expedition to California. On June 25, 1857, shortly after his arrival from Philadelphia via New Orleans, Lt. Edward F. Beale and his expedition headed west from San Antonio to El Paso and New Mexico Territory (NMT).

Beale's expedition included 25 of the best camels in the herd, 2 Arabic camel drivers, 44 soldiers, and Beale's personal team of perhaps 25 people, including three teenage boys (Stacey, Ham and Joe), sons of his good friends from Philadelphia, a dozen wagons with teamsters, and horses, mules, dogs, and 350 sheep to supply meat together with their local sheep herders. Beale's mission was to survey his so-called western "Camel Road" and test the imported camels' ability to carry heavy loads across the arid West.

The 1857 Official Western Starting Point

Congressional authority required Beale to start this route location survey at Ft. Defiance (north of Gallup, NM), and he and his small personal staff did that on 8-30-57. Beale did not plan on "building" the wagon road this trip, only locating the best route such that his wagon train could follow his chosen route. Thus, Beale's large wagon train cleared, marked, and compacted his first wagon road in the West.

In a most consequential route location decision, Beale had already sent his camels and work trains west along the historic Indian Trade Route running from Albuquerque west through Zuni, NMT, to wait for him at Zuni. By 9-1-57, Beale and his wagon road expedition were scouting west along the Zuni River headed for California. Thus, the Beale Wagon Road would take the historic Indian Road across the Continental Divide east of Zuni, not the then unsafe military road through the northern hostile Navajo country that he had recently taken from Albuquerque to Ft. Defiance. The fort had been savagely attacked in 1856 and would be again in 1860, then abandoned by the U. S. Army and burned by the Navajos in 1861. The Indian Road, passing east-west thru Zuni, provided a well-used peaceful Indian trade route, together with plenty of timber, and adequate food and water supplies for immigrants. The northern military road beyond Grants to Gallup and on north to Ft. Defiance, provided little safety and few necessities at the time for use as an immigration wagon road. Thus, the transcontinental Santa Fe (BNSF) railroad, and later the national, cross-country historic US 66 and IH 40 highways, did not follow the Beale Wagon Road across America's Continental Divide in the Southwest. Most modern tourists miss this beautiful section of the Beale Wagon Road passing El Morro National Monument, also known as Inscription Rock, where a renown watering hole, located at the base of a solid rock wall, is located that ancient travelers have used for centuries.

With the camels help, Lieut. E. F. Beale got the Camel Road surveyed (via Flagstaff, Arizona) to the Colorado River. Beale's Crossing of the Colorado is located just south of modern Bullhead City, AZ, at what would become Fort Mohave, NMT. Beale's route survey team reached the Colorado River on 10-17-57, and crossed it on 10-19-57. With his route survey completed for this first phase of his trip, he headed on west to Los Angeles for resupply. Beale spent the next two months in California, obtaining supplies, visiting his budding California ranch, and making arrangements for the care of the camels. He would eventually leave his camels nearby with a business partner (Samuel A. Bishop) in the lower San Joaquin Valley near Bakersfield.

Beale Returns East During Winter

After Christmas, Beale would begin his return trip back East, deliberately leaving California in the dead of winter to test his camels and his newly marked western wagon road during winter conditions. His army escort veered thru the Sierra Nevada Mountains and conducted some winter tests on his camels' ability

to operate in cold and snowy conditions. The camels performed well, and Beale would later observe that his route passing thru the San Francisco Mountains (north of Flagstaff, AZ) did also. Beale, his small crew of twenty men with perhaps only three wagons pulled by six mules, and a local U.S. Army escort with his camels would all arrive at the Colorado River on the morning of 1-23-1858, greeted by a most unexpected favor. The U. S. Army had sent a private steamboat (*General Jesup*), having 15 soldiers onboard for security, from Fort Yuma north up the Colorado River 350 miles to assist Beale in crossing the ice cold river. Figure 3 is a painting of this dramatic event on the morning of 1-23-1858.



Figure 3. Beale's Expedition Crossing Colorado River as Steamboat *General Jesup* Provides Assistance. Painting by William Ahrendt. Tubapresidiopark.wordpress.com.

The river crossing took only an hour or two, at most, as Beale had the pack mules swim across. The steamer headed back south to Fort Yuma by noon. Beale sent all of his camels and their army escort back to Fort Tejon, near Bakersfield, and that afternoon (1-23-58) Beale and his small party of 20 men headed east along the wagon road to the nearby mountain crossing of Sitgreaves Pass (Beale's John Howell Pass).

Beale's stated main objective of this winter return trip was to test his 35-th Parallel route for all-weather (winter) service. His small crew would do little "road work" along the way back. While passing San Francisco Mountain (northwest of Flagstaff on February 3, 1858), he found the most snow along his proposed route. The maximum snow depth was about a foot for about three miles on level ground along the highest elevation. To pass through, Beale simply lined up perhaps a dozen of his men, four in a row, and tramped the snow down, rotating the lead row as needed. No further worry. He officially closed this

route location expedition, shortly after passing El Morro (Inscription Rock) NMT, when reaching the Fort Defiance military road, now IH 40 just east of Grants, NM, at 10 a.m. on 2-21-58.

Surveying the Camel Road is artfully described in Chapter XV “Beale’s Wagon Road Along the Thirty-fifth Parallel” cited in the book: *Wagon Roads West; A Study of Federal Road Surveys and Construction in the Trans-Mississippi West, 1846-1869*. Jackson William Turrentine (1915-2000). Berkeley, University of California Press, 1952. See Chapter XV: Beale’s Wagon Road Along the Thirty-fifth Parallel: Fort Smith to the Colorado River: 1857-59, pp. 241-256, with western map on page 248, (270/452). See this book at:

[https://babel.hathitrust.org/cgi/pt?id=uc1.\\$b97819;view=1up;seq=263](https://babel.hathitrust.org/cgi/pt?id=uc1.$b97819;view=1up;seq=263)

See “Uncle Sam’s Camels” and Beale’s full 1857-58 Expedition Report to Congress at:

<https://babel.hathitrust.org/cgi/pt?id=mdp.39015036897935&view=1up&seq=161>

Beale’s initial journey from Philadelphia to San Antonio in 1857 is only told in the book “Uncle Sam’s Camels” as written in the diary of “Ham,” one of “his boys” from Philadelphia that Beale let travel with him west on this expedition. The boys remained in California for some time and did not return with Beale. This diary, with inserts from Beale’s Report, is worth reading. Beale would name a new pass near Kingman, AZ “Boys Pass” in recognition of them finding it. The Santa Fe (BNSF) railroad and historic US 66 use Beale’s “Boys Pass” as they drop down to the desert floor just southwest of Kingman. The story of “Uncle Sam’s Camels” starts at:

<https://babel.hathitrust.org/cgi/pt?id=mdp.39015036897935&view=1up&seq=9>

STATUS OF BEALE’S WESTERN CAMEL ROAD IN 1858

Many Problems Remain

Beale and the U.S. Army knew that much work remained to be done to have a reliable “national wagon road to the Pacific.” Beale reported that the 35-th Parallel Route was the best all-weather route to the Pacific, but that the Western Division (The Camel Road) had only been surveyed and cleared, and needed at least \$100,000 worth of work to make it a reliable immigrant wagon road. Elbows along the route needed straightening by building critical bridges. Water tanks were needed for crossing dry lands having flood-prone washes, and steep grades needed flattening across some rough mountain passes. Beale felt that a major bridge was needed across Canyon Diablo (east of Flagstaff, AZ), which would shorten the route by nearly 50 miles. Beale also felt a large military post was needed at Beale Crossing of the Colorado (soon to be Fort Mohave); and the Army’s Camel Corps should be maintained in California for future service. Beale had not even looked at the eastern half of the road from Fort Smith to Albuquerque, NMT, where new President James Buchanan and new Senator Jefferson Davis had vainly hoped the existing Marcy-Whipple immigrant trails from Fort Smith across Indian Territory to Santa Fe would do.

Army Not Satisfied with Existing Wagon Road

Based on Whipple’s 1853 railroad survey, the Army knew the Western Division was currently no better than a blazed Indian Trail between distant watering holes. In addition, the U.S. Army felt the rest of the existing wagon road from Fort Smith west to Albuquerque simply wasn’t good enough—the old Marcy-

Whipple routes surveyed from Fort Smith to Albuquerque weren't reliable enough to meet current military needs. Complaints were often heard from the army and emigrants that— there were too many “wet stream crossings, too many marauding Plains Indians along the route (mostly Comanche), frequent shortages of reliable water sources” along western sections in Texas and New Mexico, and the existing wagon road was rough, narrow, and exposed to hostile Indians with little federal protection provided.

The question in mid-1858 was: “Could an acceptable roadway be provided to finish the National Wagon Road to the Pacific that Lieut. Beale had started in 1857?” Lieut. Beale and his men agreed during the Spring of 1858 to finish the proposed wagon road to California, if it could be adequately funded this year.

As the next chapter will show, the Army soon got happy, because they were so ordered, probably by General-in-Chief of the Army, Lt. Gen. Winfield Scott, as his comments from memory just prior to the Civil War, regarding the building of Fort Cobb in 1859 in far western Indian Territory (IT), illustrate:

Headquarters of the Army
Washington, D. C.
To: Secretary of War

March 27, 1861

Lieutenant General Scott says: “Fort Cobb, about 160 miles northwest of Fort Washita, was first occupied by troops October 1, 1859. The site is on a portion of the Choctaw country, leased as a reserve for several detached bands of Comanche and other Indians, which were moved there from points within the limits of Texas. This arrangement was made for the convenience of the State of Texas. Fort Cobb was designed for the double purpose of protecting these friendly bands against incursion from the hostiles of their own tribes and to restrain the latter in their descents upon Texas.”

Making of America. Union Army Correspondence during the Civil War. Volume 1, Chapter 8, p. 660:

<https://babel.hathitrust.org/cgi/pt?id=coo.31924077725913&view=1up&seq=676>

The Army new that this new post (Fort Cobb, then being proposed to be built in far western Indian Territory) would need a greatly improved military service road to efficiently provide the additional supplies needed for both future military operations and local Indian subsistence. At the time, Fort Smith was serving as the major supply depot for Indian Territory via steamboat shipments using the Mississippi River from federal supply depots in St. Louis and New Orleans, and then running up the Arkansas River (during the normal Spring rise) past Little Rock to Fort Smith.

CHAPTER 3

FUNDING BEALE'S SECOND EXPEDITION—1858

OVERVIEW

This chapter contains several actions related to the creation of the transcontinental Beale Wagon Road (BWR) from June 1858 onward through June 1859. It begins with the congressional struggle to get the work funded that Beale had recommended as a result of his 1857-58 Camel Road (the Western BWR) survey. The camels had worked fine in the arid Western BWR, but in the wetter east, different problems occurred that using camels wouldn't help. Moreover, the U. S. Army generally wasn't a strong supporter of the current wagon road work, or their Camel Corps, and several Indian tribes in West Texas were becoming more hostile to these new intrusions of national immigration into their hunting grounds.

However, a new kind of Indian problem arose which could not be ignored in Washington City. The new and dramatically growing State of Texas had pushed their settlement line westward from Central Texas into Comanche, Wichita and Kiowa hunting lands, and these tribes were hostile, numerous, and had many mounted brave warriors with deadly weapons, including some rifles. The government's first response in the early 1850's was to send in the heavily armed cavalry, build a line of western forts in frontier Texas, and eliminate the residual hostile Indians and their food sources. After several years of bloody military action and some success, peace treaties were offered and accepted by some Indian tribes, and factions of others. Texas and the U. S. Army next response in 1855 was to begin moving several of the smaller peaceful Indian tribes from Northwest Texas into the western portion of Indian Territory, the Leased District since 1855. Not surprising, these Indians soon required additional protection from hostile native Indians already hunting in the region. Existing Federal cavalry became even more stressed and endangered trying to keep the peace.

More new settlers soon arrived in Texas and they pushed on westward beyond the initial frontier forts, and similar Indian hostilities arose. But this time, the Indians were divided, both by tribes and some within tribes, especially the Comanche. Moreover, the government peace response was also different. Texas proposed a reservation plan where defined large tracts of land along the Brazos River in northwest Texas would be reserved for peaceful Indian use only. In 1856 a peaceful Comanche faction got its own reserve, and several smaller tribes got their own identified villages within a second reserve. See Figure 4. This reservation system worked for a short while, but by 1857 their food supply and patience ran out, and deadly hostile raiding resumed by some of these Reserve Indians on local Texas ranchers at close range.

GOVERNMENT RESPONSE TO THE INDIAN PROBLEM IN 1858

Texas

Texas Gov. H. R. Runnels and Gen. Sam Houston appealed to the federal government to move all of the Indians residing in Texas's two struggling Indian Reserves, recently located along the Brazos River in Northwest Texas, to Indian Territory as soon as possible. Since 1857, Indian Territory was a part of the U. S. Army's Department of Texas. The Texas' governor assigned Major Robert Simpson Neighbors, now Texas Indian Superintendent of Indian Affairs, the task of getting all Reserve Indians safely moved out and the two Reserves closed.

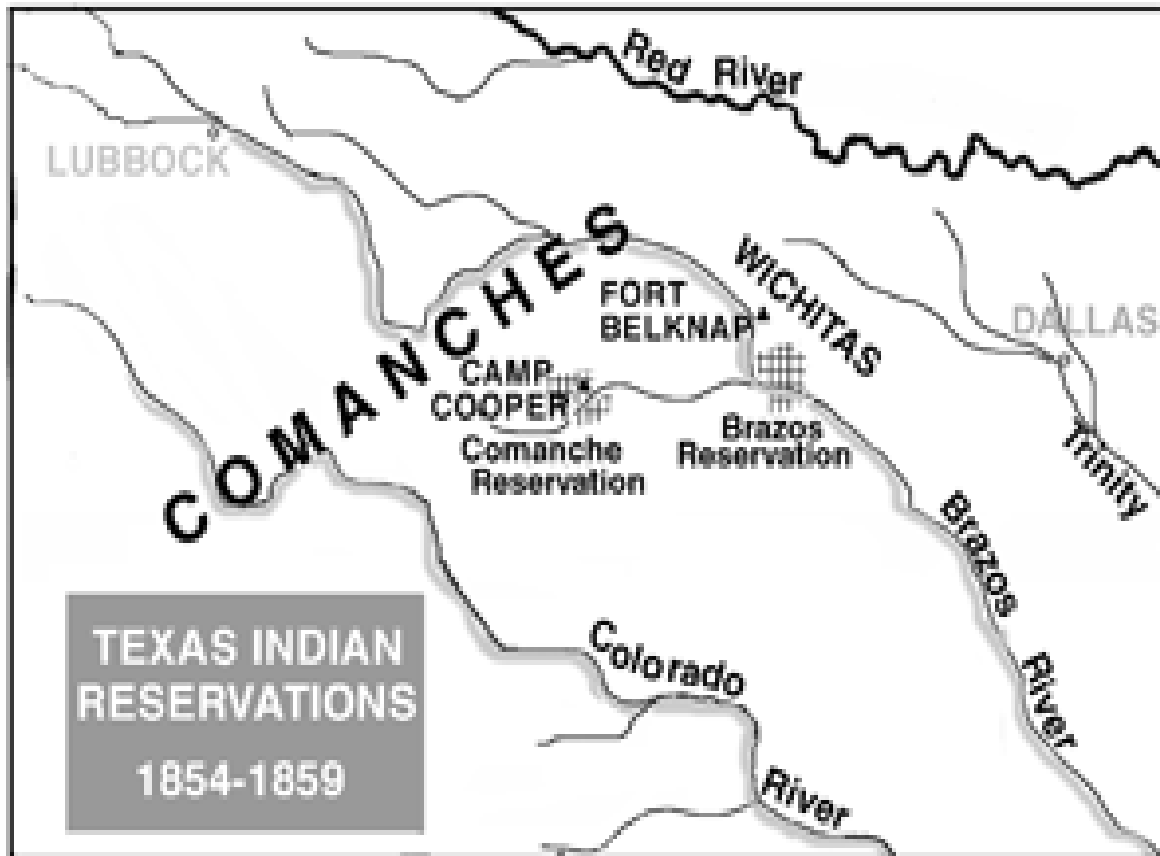


Figure 4. Texas Indian Reservations 1854-1859. (Source: tshaonline.org/handbook/entries)

On March 29, 1858, Major Neighbors formally recommended the abandonment of the Comanche Reservation and the Brazos Reservation and removal of all the Texas Reserve Indians north to Indian Territory. [Orders for their complete removal were not issued until June 11, 1859.] See:

<https://www.tshaonline.org/handbook/entries/brazos-indian-reservation>

<https://www.tshaonline.org/handbook/entries/comanche-indian-reservation>

<https://www.tshaonline.org/handbook/entries/neighbors-robort-simpson>

Leased District in Former Western Indian Territory

The Leased District encompassed the area between the 98th and 100th meridians, and between the South Canadian River and Red River, now in southwestern Oklahoma. Originally part of the land granted to the Choctaw in 1820, the region became part of the United States by treaty in 1855. Under that agreement the United States paid the Choctaw and Chickasaw nations \$800,000 to lease their land west of the 98th Meridian as a home for the Wichita Indians, as well as other tribes. The Choctaw and Chickasaw ceded the Leased District to the United States under the Choctaw-Chickasaw Reconstruction Treaty of 1866. The United States would appropriate an additional \$300,000 to pay for the region and established reservations

therein for the Kiowa, Comanche, and Apache in 1867, the Wichita and Caddo in 1868, and the Cheyenne and Arapaho in 1869. See

Jon D. May, "Leased District," *The Encyclopedia of Oklahoma History and Culture*,
<https://www.okhistory.org/publications/enc/entry.php?entry=LE002>

U.S. Army in Indian Territory

William H. Emory was a major in the First Cavalry of U. S. Army when he came from Washington, D. C. to Indian Territory in 1858 as the new commander of Forts Washita and Arbuckle. Emory's orders were simple but difficult. His command was expected to stop the Comanche, Kiowa, and Cheyenne in the Wichita Mountains from raiding settlements in Texas and also the Chickasaw and Choctaw in Indian Territory. Major Emory arrived at Fort Arbuckle to find the post in a poor state. Buildings were dilapidated, and his troops lacked proper clothes, food supplies, and ordinance stores. As he tried to stabilize the facility, he was ordered (probably by Gen. David Twiggs, commander of Department of Texas in San Antonio with concurrence from Washington) to construct another post further west to protect the Texas Reserve tribes likely to be soon relocated north to the Leased District in Indian Territory. See

L. David Norris, "Emory, William Hemsley," *The Encyclopedia of Oklahoma History and Culture*,
<https://www.okhistory.org/publications/enc/entry.php?entry=EM001>.

Army and BIA in Florida in 1858

May 8, 1858: "General Orders, No. 4," from the "Headquarters of the U. S. Army's Department of Florida," announced that the Seminole War in Florida was closed. Moreover, Billy Bowlegs--a remaining Seminole Chief-- had been persuaded by the BIA Indian Agent, Elias Rector, (and lots of U.S. dollars) to end the 3rd Seminole War in early May 1858 and leave South Florida for Indian Territory and new Seminole homelands west of the Creek Nation lying next to the Leased District on the west side. Chief Bowlegs and 113 Seminoles left Florida and arrived by steamer in New Orleans on May 14, 1858. On May 21, 1858, his Seminole group left New Orleans on the steamer *Quapaw* for Fort Smith, Arkansas, to join the new Seminole Nation in western Indian Territory. More potential Indian trouble for the Army in IT. See

<https://fcit.usf.edu/florida/docs/b/bowlegs.htm>

<https://www.worthpoint.com/worthopedia/12-1858-harpers-weekly-seminole-1982823263>

<https://www.seminolenationmuseum.org/history/seminole-nation/into-the-west/>

<https://encyclopediaofarkansas.net/entries/elias-rector-4036/>

By mid-1858 the U. S. Army recognized that an additional fort nearer to the Leased District was sorely needed, along with a wise senior-level commander. Major William H. Emory had been selected by the Army for the challenging job. He already had been given command of Forts Washita and Arbuckle, and now he got new responsibility and authority. Emory was promoted to Lieutenant-Colonel with the authority to work with Indian Affairs Superintendent, Elias Rector, to locate another fort further west, in the Indian District. This new army force would require extra food and military supplies to keep it operating, which would have to come from the army supply depot at Fort Smith, soon to become Emory's residential headquarters. Fort Smith already was Elias Rector's hometown. A productive duo is born.

An all-weather, reliable, military service road serving the western Indian Reserve from Fort Smith was now (by June 1858) deemed needed by the U. S. Army, the Bureau of Indian Affairs (BIA), and the State of Texas. As many Indians tended to burn wooden bridges out West to survive cold winters, large iron bridges would be necessary to provide reliable crossings of major flood prone streams. These new military requirements were in addition to the need for improvements to the immigration roads of Marcy and Whipple running west in 1858 along the Canadian River between Arkansas and Albuquerque, New Mexico Territory (NMT). But in the end, would any of these western Indian problems really matter in the national politics of Washington City? To Lt. General Winfield Scott and the U. S. Army, it would. Ask J. R. Crump!

BEALE'S NEW EASTERN WAGON ROAD?

National political hurdles to building any National Wagon Road were rapidly growing in 1858. Southern States harped on their "States Rights," given them by the U.S. Constitution, for the federal government to solely decide, fund, build, and run (almost) anything. For example, Southern States in 1858 believed strongly that transportation and education systems were solely the individual state's responsibility. Military national emergencies being an exception, which originally did not appear to be the case here. So how could the Federal Government in 1858 fund and build a National Railroad or Wagon Road from the East to the Pacific? Some congressmen thought they may have found a way, with careful wording.

The 1858 Password to Unlock the Federal Vault Seemed to Be—Territory

The 1858 password to unlock federal funds to build roads in the west seemed to be "TERRITORY." Southern congressmen in 1858 would only consent to spend federal funds in a region of the country that was: (1) southern leaning, and (2) still a Territory. Since a territory was not yet a state, it did not automatically violate the politics of "States Rights." Consideration of future Territorial admission into Statehood implied that its position on slavery, particularly southern territories, was not yet determined.

However, there remained other stumbling blocks to funding this proposed national road to the Pacific. California was the growing gold magnet and now the first roadblock to the proposed Beale Wagon Road. California had become a state in 1850, so no federal road building funds now could be used to build "A National Wagon Road to the Pacific." Any funding for a new National Road in 1858 had to stop at the border, or Colorado River in the south, or at the Sierra Nevada Mountains up north in Nevada Territory. California would have to build its own wagon road or railroad connection to its eastern state line. And that is exactly what would happen. Beale's Camel Road would have to go only to the Colorado River, not thru California to the Pacific. The existing military road across the Mohave Desert to Los Angeles would have to suffice for now.

Fortunately, for the needed remaining eastern section of the Beale Wagon Road of 1858-60, it could start at the most western (southern) state in the east (in 1858), at Fort Smith, Arkansas. It could then run thru Indian Territory, needing some iron bridges, fly high and dry thru Comanche Country (around the Llano Estacado in the Texas Panhandle, needing no iron bridges, and then pass fully supported thru New Mexico Territory, there joining Beale's Camel Road all the way to the Colorado River, bypassing but not neglecting the benefits accruing to future Arizona Territory to the south.

Why was Fort Smith suddenly the favorite starting point? Rapidly march thru the military gate of the western wall of Fort Smith, Arkansas, and guess what, you were in Indian Territory. Moreover, the

Butterfield Overland Mail and Wagon Route to California had shown that Fort Smith was well connected both to St. Louis and Memphis. The competitive Westport/Independence, Missouri, option had three new major problems to its west: (1) Kansas new Free-Soil politics and instability with Missouri, after several attempts would finally become a slave-free state in 1861; (2) the snowy Colorado Rockies; and (3) a feared Mormon War against the Federal Government was heating up in Utah in 1858. Moreover, Minnesota had become a state in 1858, and Oregon did in 1859; so these new states would have to fund their own connecting section of any northern National Wagon Road, now an unlikely option.

Hope Fades in Congress

By June 1858, it looked like the National Wagon Road to the Pacific was becoming a dying “pipe dream” of only a few remaining visionaries, including now Mississippi U.S. Senator, Jefferson Davis (since 1857). Davis’ replacement as Secretary of War (with direct connections to the U.S. Army) was an appointment of new U.S. President James Buchanan of Pennsylvania (1857-1861). His name was John B. Floyd, another public servant with southern political views. President Buchanan’s annual State of the Union speeches continued to favor a railroad to the West as a national goal, but the estimated high cost of building a transcontinental railroad (from the recent Federal surveys) continued to kill such a national dream for the divided nation to fund. By early June of 1858, the same dreary fate had befallen every congressional proposal to fund building even a much cheaper National Wagon Road to the Pacific. All hope seemed lost. Only the U.S. Army’s annual appropriation bill for 1859 still lay on the congressional table awaiting final approval of Session I, of the 35th Congress. Wow, what luck! Doesn’t the U. S. Army now want an improved military service road built from Fort Smith to a proposed new fort (Cobb) in Indian Territory?

Thirty-Fifth Congress. Session I, Ch. 156, 1858

Probably with the Army’s encouragement, Senator Jefferson Davis, called on fellow Southerner, Secretary of War Floyd, and suggested the following proposal: “What about *‘increasing’* the proposed U. S. Army budget, now laying on the table, by \$50,000 and address the U.S. Army’s new special need for a reliable (requiring several large iron bridges) wagon road into western Indian Territory? It would also make the Bureau of Indian Affairs, Texas, Sam Houston, and Billy Bowlegs happy, and not cost them a thing.” They must hurry, because Session I of the 35th Congress ends on June 14, 1858.

Perhaps also feeling the heat from Washington’s Texas congressmen, on June 12th Secretary of War, John B. Floyd, enclosed the following amendment to the U.S. Army’s General Appropriations Bill for 1859, a must-pass bill that was still on the floor of the House waiting final approval:

June 12, 1858. -- An Act making Appropriations for the Support of the Army for the Year ending the thirtieth June, eighteen hundred and fifty-nine. Be it enacted by the Senate and House of Representatives of the United States:

“For the construction of bridges and the improvement of the crossings of streams on the road from Fort Smith, in Arkansas, to Albuquerque, in New Mexico, fifty thousand dollars; and that the sum of one hundred thousand dollars be, and is hereby, appropriated, out of any money in the treasury not otherwise appropriated, to be expended in completing connected sections of the road extending from Albuquerque, in the Territory of New Mexico, westward, on the route to the Colorado River, on, or near the thirty-fifth parallel of north latitude.”

See this appropriation on p. 336 of U.S. Statutes at Large, Volume 11, p. 809, found in Google Books at:

<https://books.google.com/books?id=7F82AQAAMAAJ&pg=PA809&dq=US+Army+Quartermaster+Fort+Smith+Iron+Bridge&hl=en&sa=X&ved=0ahUKewifqY7Hjq3eAhUCVa0KHfwDB34Q6AEIRDAF#v=onepage&q=US%20Army%20Quartermaster%20Fort%20Smith%20Iron%20Bridge&f=false>

Also see this Appropriations Act at:

<https://memory.loc.gov/cgi-bin/ampage?collId=llsl&fileName=011/llsl011.db&recNum=357>

Note that the Eastern Division of the Beale Wagon Road (BWR) was funded directly out of authorized funds for the U. S. Army; whereas, the Western Division (the Camel Road) was only funded out of any remaining federal fund's available accounts, wherever they may be found. The extended tale of Secretary Floyd getting the Beale Wagon Road bill passed is told on pp. 241-251 at:

[https://babel.hathitrust.org/cgi/pt?id=uc1.\\$b97819;view=1up;seq=273](https://babel.hathitrust.org/cgi/pt?id=uc1.$b97819;view=1up;seq=273)

but it does not note the added problems in Texas and the Indian Reserves, previously noted herein, that influenced final approval, or that would be addressed by the new "Iron Bridge Road" in Indian Territory.

Beale's Federal Contract Challenges

Lt. Edward F. Beale now had two major wagon road segments to address with separate federal funding constraints: (1) an Eastern road, for \$50,000; and (2) a Western road, where his requested amount of \$100,000 was provided (maybe), all occurring during the 1858-59 Fiscal Year. The Eastern work must improve the stream crossings and construct durable iron bridges deemed needed along the best existing wagon road running along the 35-th parallel from Fort Smith to Albuquerque being fit for routine emigrant use such that said bridges could not be easily burned by marauding Indians; and the Western work must upgrade critical sections of Beale's Camel Road from Albuquerque to California (the Colorado River) as needed, and connect missing sections where feasible.

Lt. E. F. Beale now had several practical challenges in the Summer of 1858. He had a 1,240-mile national wagon road, fit for military and immigration uses, to complete from Fort Smith, AR, to Fort Mohave, AZ, in one federal year, starting July 1, 1858. The two segments of the road would connect at the Rio Grande River near Albuquerque, NMT, where Beale would someday try to persuade the Army to build a nice new iron bridge across the river. The Eastern Road across Indian Territory (from Fort Smith to near Fort Cobb) would set the design standard. There was no "Camel Road" in the West, yet. All Beale really had completed was a crude exploration survey, a tentative location blazed for the Western-half of the best all-weather emigrant route to California, and a long needs list. He did have his camels already stationed in California, well-fed, tested, and ready for service.

Beale now had a lot of double-time work to do. He would have to find ways to survey his final route for mapping purposes, build wagon roads and bridges to pass construction crews all the way to California, and finally build several iron bridges behind him in Indian Territory. Beale saw that several road building activities would have to be done simultaneously at times all along the route, both in the East and West.

Beale would recruit two friends and business partners to serve in critical roles: Samuel A. Bishop of Bakersfield, CA, and Beale's brother-in-law, Henry B. Edwards, of Chester, PA. Samuel Bishop would become Beale's wagon road construction foreman for the Western Division; and Henry Edwards would become Beale's iron bridge construction foreman for the Eastern Division. While little is known about Bishop's formal assignment, it is clear that he managed a crew of perhaps two dozen California-based

road workers during 1858-59 that would continue working on mountain passes and rough roads in Arizona even after Beale's crew had moved on. Bishop also had Beale's camels at his California ranch for supporting his new road work, with "Hi Jolly's" help, all undoubtedly with Beale's general direction and approval. (The town of Bishop, California, is named for him.) Read more about Samuel A. Bishop at:

https://en.wikipedia.org/wiki/Samuel_Addison_Bishop

Henry B. Edwards would travel from Pennsylvania with Beale to Fort Smith, and then work with Beale as he selected iron bridge sites needed along the Eastern BWR. Mr. J. R. Crump, a civil engineer who will also travel west with Beale, served as a special iron bridge advisor to Beale at the request of the War Department in Washington. Once Beale had chosen all the iron bridges he needed and could afford, he would send Edwards back east alone from Indian Territory to Washington City on November 16, 1858, with Beale's iron bridge shopping list. Edwards, a lawyer, would arrive back in Washington on Friday, December 3, 1858, with the formal job requirements ready for federal contracting. It is plausible that the Army met him midway on his return trip, say in Cincinnati, OH, to get the bridge contract preparation rolling by telegraph with Washington. See Henry B. Edwards early service in the Civil War as Captain, Company I, 9th Regiment of Pennsylvania Volunteers in mid-1861 at:

<http://www.pacivilwar.com/county/delawarehistory.html>

<http://www.pacivilwar.com/cwpa09i.html>

Beale understood that this complex work plan was necessary to get his federal job done and paid on time. However, Beale knew that he really had a year and a half to complete the work and get all bills paid, using federal IOUs good for six-months after the federal funding cycle ended on July 1, 1859. Beale also understood the unwritten national goal of his overall survey of the 35th Parallel route: collecting more data on the topography, wood and water sources for a future national railroad to the Pacific. The best existing overland emigrant trail, from those blazed by Marcy, Simpson, and Whipple, would have to suffice in Indian Territory. The Five Civilized Indian Nations owned the land in Indian Territory and they would be stakeholders in any such major road building efforts in their federally-granted and protected-by-treaty national lands. No new federal wagon road in Indian Territory would just thoughtlessly blast across some Choctaw chief's prime plantation farming land, as it might out West where little residential farming was seen practiced.

CHAPTER 4

BEALE'S 1858-59 EXPEDITION TO BUILD THE BEALE WAGON ROAD

THE WORK

Beale established his expedition's starting camp at Fort Smith, Arkansas, in mid-October, 1858. It took him nearly two weeks to acquire all of his men, wagons, supplies, and overcome some medical issues. The expedition that Beale led across the Plains from Fort Smith in late October 1858 totaled 130 men. Two pieces of artillery were taken for defense against hostile Indian attacks. Jesse Chisholm served as a guide from Little River, Creek Nation, to Hatch's Ranch, New Mexico, but he apparently was of little assistance. Beale took no camels from Fort Smith. (Hi Jolly and his camels, as part of Samuel A. Bishop's Western road construction crew, would join Beale when he reached Flagstaff, AZ, the next spring.)

The Journal and Itinerary of Beale's Wagon Road Survey from Fort Smith, Arkansas to California and return to Albuquerque, NMT, from late 1858 to July 1859 is found in the University of Michigan digital library at:

<https://babel.hathitrust.org/cgi/pt?id=mdp.39015030947298>

<https://babel.hathitrust.org/cgi/pt?id=mdp.39015030947298&view=1up&seq=15>

Beale's Report to Congress of the survey's full 1858-59 trip to California and return trip to Albuquerque with summary findings are presented, followed by several brief letters of support for a future large bridge across the Rio Grande at Albuquerque. Beale's extended daily Journal and Itinerary then follow. The details of the Beale's survey as he leaves Fort Smith begin on pages 76-77. An Oklahoma University digital copy of Beale's 1859 Report to Congress can be found at:

<https://digitalcommons.law.ou.edu/cgi/viewcontent.cgi?article=8713&context=indianserialset>

Eastern Division—The Iron Bridge Road

A noteworthy historical coincidence occurred at the start. The previous month, on September 19, 1858, John Butterfield's first westbound Overland Stage left Fort Smith headed southwest across the Choctaw Nation for San Francisco. Just over a month later, on October 28, 1858, Lt. Edward Fitzgerald Beale and his staff also left Fort Smith and crossed Poteau River for California on Bower's Ferry, the same Choctaw Indian ferry used by the first Butterfield Stage. Beale even followed the Butterfield route fifteen miles to Skullyville, C.N. which was Butterfield's first stage stop at Walker's Station. Beale reached Sans Bois River on October 30, and Longtown (Emachaya) Creek on November 1, in a driving rainstorm. They crossed the Canadian River to North Fork Town on November 2. Beale's men then headed west in early November along the 35-th Parallel, basically following the Canadian River and immigrant trails toward Albuquerque, New Mexico, and then on west along the 1857-58 Camel Road to the Colorado River, known in 1859 as Fort Mohave, AZ, connecting there to the existing military road across the Mojave Desert to Los Angeles.

Building the Eastern Division of the BWR would be a misnomer. Beale's main work in Indian Territory was locating and selecting the type of bridge, wood or iron, needed to reliably cross the various streams encountered along the trace of the best wagon road existing for that portion of the 35-th parallel route.

J. R. Crump, an experienced civil engineer, was assigned by the War Department to be Beale's iron bridge advisor since congressional funding specified improving stream crossings in the East using reliable (iron) bridges where necessary. However, Mr. Henry B. Edwards of Chester, PA, Beale's brother-in-law, was later tasked by Beale to take charge of building the six iron bridges Beale felt were needed. Large wood structures were initially erected across the Sans Bois and Little River in late 1858; whereas, smaller wooden bridges were built in Indian Territory across many smaller creeks, including Gypsum, Elm, Comet, Marcou, Wood, Bear and Oak. All large wooden bridges were considered temporary because marauding Indians may burn them, and without a nearby bridge contractor available, they could not be easily rebuilt.

Six iron bridges were installed in late 1859 at those sites in the wetter (eastern) sections of Indian Territory where Beale thought the Army needed them to provide reliable stream crossings from Fort Smith across 220 miles of Indian Territory west to the Reserve District. The big exception was the ford-or-ferry (no-bridge) crossings of the (South) Canadian River at North Fork Town and a second re-crossing further west near Chouteau's Old Trading Post (near Purcell, OK). All along the Eastern Division of the BWR, Beale's men worked hard on making all approaches to small streams, not having bridges, readily useable by emigrant wagon trains by flattening steep side slopes and filling in impeding washes and gullies.

The noted federal routes from Fort Smith to New Mexico, including the Beale Wagon Road and Marcy's route, are shown in Figure 5 below, and are found at:

[https://babel.hathitrust.org/cgi/pt?id=uc1.\\$b97819;view=1up;seq=246](https://babel.hathitrust.org/cgi/pt?id=uc1.$b97819;view=1up;seq=246)



Figure 5. Beale Wagon Road and Other Federal Routes from Fort Smith, AR to Albuquerque, NMT

However, the 16-mile Butterfield portion of Beale's wagon road leaving Fort Smith proposed in 1858 would be moved south (not shown in Figure 5) in late 1859 to provide a better Poteau River crossing further removed from the problematic low lying Arkansas/Poteau Rivers flood plain. Legacy maps of the

Beale Wagon Road in Indian Territory show the 1858 route Beale's survey party took from Fort Smith to Skullyville, not the final location where the late-1859 wagon road and its connecting Poteau River iron bridge (then known locally as Bridge Edwards) were built. The final route of the Beale Wagon Road also started at Fort Smith, but it followed the old Fort Towson military road south for six miles in Arkansas before turning west, soon crossing the Poteau at Beale's new iron bridge, on its way nine miles west to Skullyville, CN/IT, or Walker's Station on the Butterfield Overland Mail Route. About a mile further southwest (now in Spiro, OK), a junction occurred where the Beale, Marcy-Whipple, and Butterfield Roads divided and headed toward their separate destinations. A 2014 digital version of Beale's 1858 route survey, made while going west in Indian Territory, can be found at Oklahoma State University's digital maps collection. Zoom views of the digital map and its lettering are remarkably clear. See at:

<https://dc.library.okstate.edu/digital/collection/OKMaps/id/8787/rec/1>

Western Division –The Camel Road—Work in 1859

Beale's personal road crew, mostly former army and navy men from Pennsylvania, did not cross into the Western Division at the Rio Grande at Albuquerque, NMT until March 8, 1859. Beale reached the Colorado River on May 1, and crossed on May 4, 1859. He left most of his men, including most of Samuel A. Bishop's California road crew, behind to work on the 10-mile mountain road over Sitgreaves Pass (Beale's John Howell's Pass) while he spent six weeks resupplying in Los Angeles and at his ranch at Fort Tejon, California. Beale returned to Camp Mohave/Beale's Crossing of the Colorado on June 26, crossed over, and left the army's new Camp Mohave (soon to be Fort Mohave) on June 28 headed back east for Albuquerque, NMT on June 28, 1859. This large crew initially included Bishop's crew and Hi Jolly's camel corps. Two journals/diaries were kept on the return trip. Beale's journal shows he reached Albuquerque on July 29, 1859, ending his journal's log. His assistant, Frederic E. Engle's diary records Beale's orders and Engle's personal observations and activities until reaching Albuquerque on July 30. Beale still continued to search for better routes and watering sites (permanent springs) all the way back to Flagstaff.

Lt. Beale had traveled over his Western Division between Albuquerque, NMT and Camp Mohave, AZT, on the Colorado River, four times during the past two years; exploring the 35-th parallel corridor, seeking water sources, fighting Indians, and building, revising, and improving his wagon road. Finding all-weather water sources at short intervals proved to be the most difficult task, by far. The segment of road from Law's Spring (northwest of Flagstaff) to Mount Floyd & Savadera Springs (Williams-Seligman-Kingman, Arizona) seemed to be the most problematic. Beale even changed some segments of the route on his last (fourth) trip going east (one change was made after a tardy scout reported the discovery of Kerlin's Well, seven miles north of Seligman, AZ). Beale and his Western road foreman, Samuel A. Bishop, even considered changing the route through Kingman, AZ (from Boys' Pass to Beale's Spring, which would have taken the new route through Union Pass rather than Sitgreaves Pass to Beale's Crossing of the Colorado. This new route was preferred by Bishop, and he may have changed it in the final layout after Beale had sent him and his crew back toward California, working on the road as they could until their contract's money and time ran out. The Union Pass route became the dominate wagon road crossing the Colorado to the Kingman area after the Civil War, and lasted until the A&P Railroad was built southwest through Boys' Pass (Kingman, AZ) in 1882 going southwest along Sacramento Wash and south around the Black Mountains to the Colorado River at Topock, AZ, 21 miles south of Sitgreaves Pass. See Figure 6 map and

[https://babel.hathitrust.org/cgi/pt?id=uc1.\\$b97819&view=1up&seq=270](https://babel.hathitrust.org/cgi/pt?id=uc1.$b97819&view=1up&seq=270)

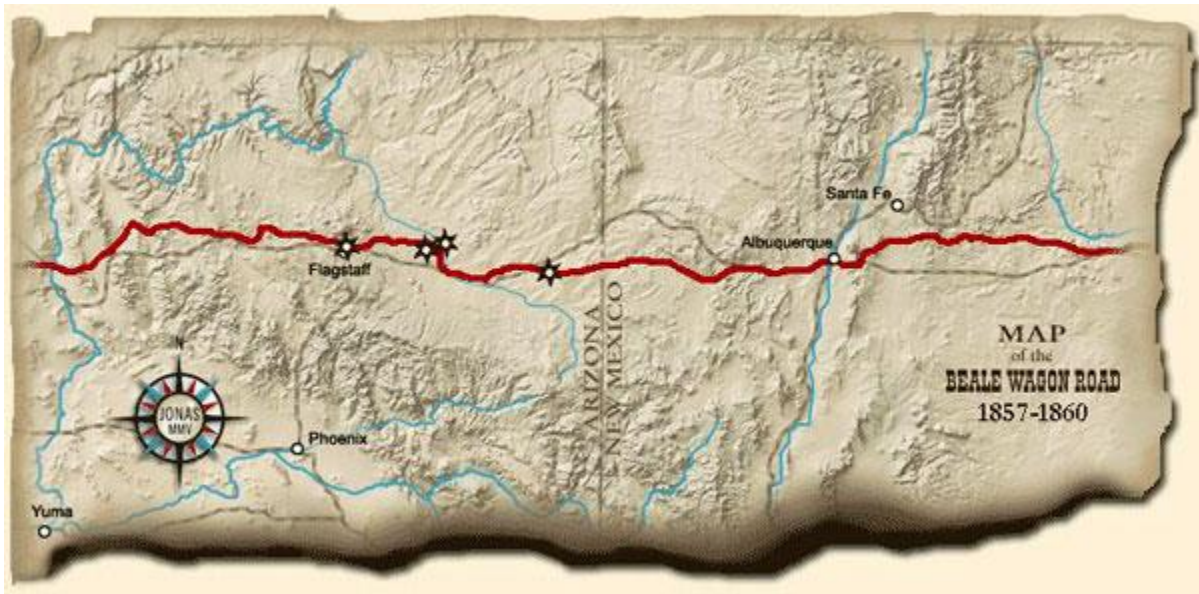


Figure 6. Beale Wagon Road Across Arizona and New Mexico. Map courtesy of Tom Jonas Graphics Services, Phoenix, AZ. See an updated map at: <http://www.southwestexplorations.com>

SUMMARY

Readers may note deficiencies in Beale's 1859-60 Report to Congress. Beale never personally reported on the status of his Wagon Road from the Rio Grande River to Fort Smith, AR. He used a staff aide, Frederick E. Engle, to keep a diary of his return trip from California, but Engle's diary ends with the Western Section ending at Albuquerque, NMT on July 30, 1859. A report written by J. R. Crump, the civil engineer and the War Department's iron bridge advisor who had traveled west with Beale from Fort Smith, adds commentary at Beale's request on Crump using the Eastern Beale Wagon Road. Crump's report begins at Albuquerque on June 15, 1859, covers his crossing of eastern New Mexico Territory and the Texas Panhandle, and ends in late June in eastern Indian Territory. After crossing an untouched Little River iron bridge site at Aird's Store, near the western border of the Creek Nation, Crump later turned north at North Fork Town, along the eastern border of the Creek Nation, onto the Texas Road going to Neosho, Mo, not mentioning seeing any iron bridges. Iron bridge work at the Little River wagon road site apparently had not started by late June when Crump crossed Little River. Unfortunately, Beale never saw or was able to report on the six remarkable iron bridges his brother-in-law, Henry B. Edwards, got built for him in eastern Indian Territory by early 1860. This construction was very important to the U. S. Army, the government, and the iron works and railroad companies of Philadelphia, who would fabricate and build the iron bridges for the government using most of Beale's \$50,000 federal appropriation for the Eastern Division.

The next chapter covers this important iron bridge design, fabrication, and construction work performed primarily by the men and iron works industry of Philadelphia, Pennsylvania. The last chapter concludes with the location details and design features of the six iron bridges that Harry Edwards got built in Indian Territory during the 1859-1860 time-period, just before the start of the Civil War. Had these six iron bridges survived the Civil War and served as long as Beale's camels did out West, surely the nation would have called the technologically-advanced Eastern Beale Wagon Road — "Beale's Iron Bridge Road."

CHAPTER 5

BUILDERS OF BEALE WAGON ROAD'S IRON BRIDGES

THE BUILDERS

The six iron bridges built for the Beale Wagon Road in Indian Territory in 1859 were the technologically most advanced iron bridges made for wagon roads in America at the time. They were modular, lightweight and transportable. They could be quickly erected with a minimum of complex tools with only a few technically skilled people needed on the job site. The bridges were made with economic cast-iron parts for its compression members and ductile wrought-iron parts for all tension members. They were attractive arch trusses, durable and cost-effective. Numerous “Whipple Bowstrings” had been carrying urban street traffic across the newly expanded Erie Canal in upstate New York for several years prior to this federal contract. Whipple’s design had one complicated part—the lower chord’s connecting cast-iron joint. This joint required special metal works having skilled craftsmen to cast this one complex piece, which fortunately were available by 1840 along the industrial areas of the Erie Canal in upstate New York.

Squire Whipple

The bowstring arch truss had been mathematically formulated by Squire Whipple in upstate New York (See Figure 7) while designing urban bridges for the enlargement of the Erie Canal from 40 feet wide to 70 feet. The bowstring design was patented by Whipple in 1841 (U.S. Patent No. 2,064). Whipple also designed a heavier trapezoidal iron truss bridge initially used primarily for long-span railroad bridges. Squire Whipple would later become affectionately known as the “Father of the American Iron Bridge.”

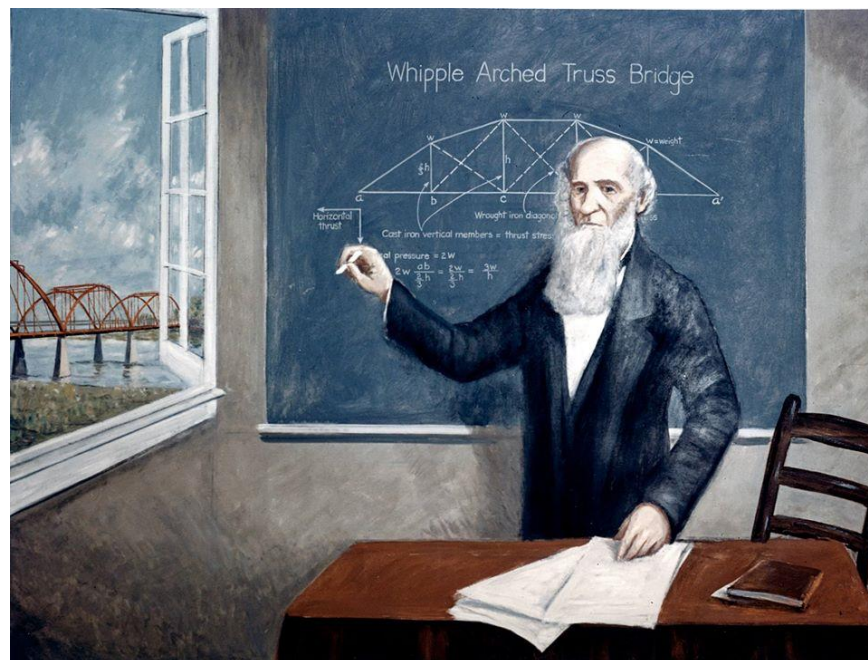


Figure 7. Squire Whipple Explaining his Whipple Arched Truss Bridge.

(Source: FHWA, Washington, D. C.)

https://en.wikipedia.org/wiki/Squire_Whipple

John W. Murphy

John W. Murphy was an 1847 engineering graduate of Rensselaer Polytechnic Institute of Troy, New York. Shortly after graduation, Murphy joined Squire Whipple's staff working on various challenging new civil engineering projects upgrading the enlargement of the Erie Canal. Squire Whipple recognized Murphy's structural design talent and Murphy rapidly became his engineering protégé. Whipple and Murphy soon conceived a simplified joint design for trusses around 1850—using iron pins. They forged the connecting eye-bar structural members out of wrought iron, which was also an imposing industrial fabrication task for them at the time. By about 1858, John W. Murphy and his new employer, Pencoyd Iron Works, had developed a more efficient industrial iron forging process to routinely make pinned eye-bar jointed members, having no structural rivets or bending moment in them. The pin-connected trapezoidal truss, sometimes called the improved Whipple-Murphy, or Murphy-Whipple truss, became an industry standard for iron bridges for over twenty-five years after the Civil War, making Pencoyd Iron Works and its new patent owners, A. & P. Roberts & Co., very successful.

The Philadelphia Connection

The birth of the national Beale Wagon Road in 1859, the first federally-funded wagon road in the Southwest to the Pacific, was intimately connected to Philadelphia, Pennsylvania. The current President of the United States, James Buchanan, was a local Pennsylvanian. The chief architect of the wagon road, its route and its features, was the well-known western explorer, Lt. Edward F. Beale, who was from suburban Chester, PA, and so was his brother-in-law, Henry B. (a.k.a. Harry) Edwards, Beale's chief-of-staff, and later became the Beale Wagon Road's iron bridge construction foreman in Indian Territory. Beale chose to build six iron bridges to expedite crossing six flood-prone streams in Indian Territory. These iron bridges were designed and fabricated by the Pencoyd Iron Works and Bridge Company, located along the Schuylkill River in Pencoyd, PA, a suburb of Philadelphia. The bridges' design-build contractor for the federal government (U.S. Army) was A. & P. Roberts & Co., 410 Walnut St., in downtown Philadelphia, who also owned the Pencoyd Iron Works. John W. Murphy, the protégé of Squire Whipple, served as Pencoyd's iron bridge engineer for this federal contract. Seven spans of Whipple's iron arch trusses, each with two trusses, were fabricated by Pencoyd Iron Works in Philadelphia between January-June 1859. Three bridge spans were 50-feet in length and four spans were 100-feet, but only six iron bridges were built because the 200+foot wide Poteau River near Fort Smith required a minimum of two of the 100-foot spans to cross it. Whipple's standard lower-chord cast iron joints were probably fabricated by I. P. Morris & Co., a highly-skilled boilermaker and machine manufacturer, also of Philadelphia. I. P. Morris was stated to be a team member of the bridge contract. Pencoyd's bridge construction team in Indian Territory was headed Mr. J. R. Nevins, assisted by Messrs. Van Anden and Everett, all from Philadelphia.

Thus, some of Philadelphia's leading men and growing iron-works companies were leading the way to build the nation's first federally funded wagon road in the Southwest to the Pacific. Everyone connected to the project knew that the national vision was to follow this new first-class wagon road with the first national, transcontinental railroad to the Pacific. These leading individuals presumed that Philadelphia would surely build this transcontinental railroad, their Pennsylvania railroad companies would soon operate the railroad, and Philadelphia's Baldwin steam locomotives would be pulling the railroad trains west. Leading men of Philadelphia just needed to get this wagon road built across the Plains, and soon!

http://www.pennrealestategroup.com/pencoyd_ironworks_history.htm

The Philadelphia Magic

As Lt. Beale and his 130-man exploration, survey and road construction crews moved west from Fort Smith in late October 1858 toward his new Camel Road running from Albuquerque to the Colorado River, which was opened only this past spring, Beale realized that he faced a dilemma. He didn't have time to rebuild the entire 1,240 miles of wagon road to the Colorado River to the high reliability standards the military now wanted and then return to Washington City for additional items, such as any iron bridges needed, before his contractual time and money would expire, say sometime after July 1, 1859. Beale had determined by mid-November 1858 in the field that the Eastern Beale Wagon Road across Indian Territory would initially need six iron bridges across flood-prone streams so that they could be routinely crossed during Indian Territory's wet weather season. These iron bridges would have to be designed and built back East, hopefully at the growing iron works around Philadelphia, who, as noted, was also home to the rapidly developing American railroad and Baldwin steam locomotive industries.

Beale would do the seemingly impossible feat—he would get the six iron bridges he desired under contract back in Philadelphia even before he and his men reached the Rio Grande at Albuquerque. Just as Beale's former boss had done back in 1848, when he sent Beale from California back East to Washington City with a bag of gold to prove there was gold in California, Beale sent his chief-of-staff, Henry B. Edwards, back to Washington City alone with a bag full of iron bridge plans. Here is what a leading Philadelphia newspaper, *The Press*, published about Beale's critical action, on Monday, December 6, 1858, on page 2:

"Henry B. Edwards arrived at Washington, D. C. on Friday evening last (December 3, 1858), having left Beale's camp on the south side of the Canadian river above Chouteau's old trading post, on the 16th of November last."

Beale's Journal of his expedition's daily activities also describes Edwards departure for Washington. Chouteau's old Trading Post was located about ten miles south of modern Norman, OK, just east of the US 77 highway. *The Press* news shows that the design requirements for Beale's six iron bridges, which Edwards was carrying, were already in federal hands in Washington in early December 1858 while Lt. E. F. Beale was still working west along the 35th parallel laying out his wagon road in the Texas Panhandle, headed for California. Lt. Beale and his expedition continued building his wagon road on west, reaching Hatch's Ranch on the Gallinas River in north-central New Mexico on Christmas Day, 1858. There Beale and his men rested, visiting Santa Fe and the surrounding area for the remainder of the winter. Beale was particularly looking for a better railroad route across the mountains and rivers to Albuquerque than he had seen so far in north-central New Mexico. His favorite site for a railroad crossing of the Pecos River was at Anton Chico, a small Mexican hamlet still inhabited today.

Pencoyd Iron Works

Figure 8 shows a new scholarly book, published in August 2020, thoroughly covering the history, growth and success of the Pencoyd Iron Works of Philadelphia. It even describes Pencoyd's design and fabrication of the iron bridges for the Beale Wagon Road in 1859! Page 30 notes that John W. Murphy served as their iron bridge engineer for their Beale Wagon Road government contract. The unexpected discovery of this new book, written by Dr. Kevin Righter, a current NASA scientist living in Houston, was a blessed surprise to the author, and it will be greatly treasured by all historians and fans of the Beale Wagon Road for years to come. Righter Ferry Road fed vehicular traffic directly into the grounds of Pencoyd Iron Works.

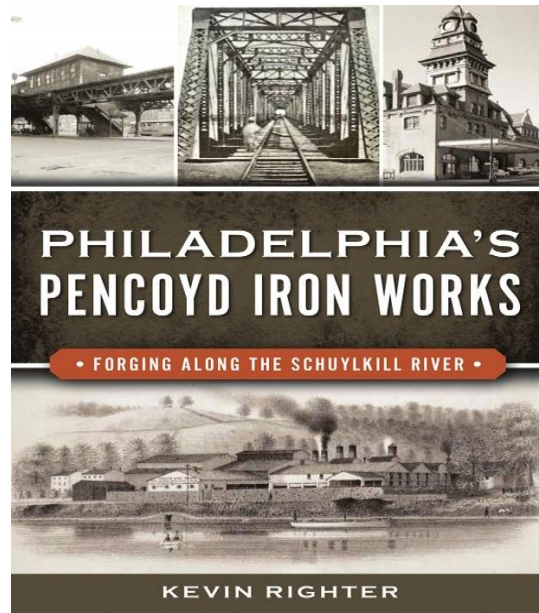


Figure 8. PHILADELPHIA'S PENCOYD IRON WORKS – Forging Along the Schuylkill River. Publisher: The History Press, 8/31/2020. by Kevin Righter. Kevin Righter's great-grandfather, Walter Righter, worked at Pencoyd Iron Works from 1885 to 1933, first as a mechanic, supervisor, and finally as superintendent of motive power. See the book at: <https://www.arcadiapublishing.com/Products/9781467143059>

A. & P. Roberts & Co., owners of Pencoyd Iron Works, served as the administrative arm along with some local specialized cast-iron work (probably for the complex cast-iron connecting joints along the lower chord) provided by I. P. Morris & Co. The modular bridge components were shipped in wooden crates, probably by railroad from Philadelphia to the Mississippi River (perhaps Memphis, TN) and then by steamboat up to Fort Smith, Arkansas, during June 1859 (while the Arkansas River was still navigable to Fort Smith following Spring rains). The crates were addressed to "Henry B. Edwards, Esq. Fort Smith, Arkansas." Amazingly, the long and unusual shipment of many wooden crates of iron bridge parts seemed to proceed without notice, courtesy of the U. S. Army's well-greased military supply chain. Pencoyd already had an experienced bridge construction crew assigned to travel from Philadelphia to Indian Territory to assemble the iron bridges on-site using their own manpower. In addition, local Choctaw and Creek Indians were hired as common labor to help build the stone abutments and the wooden falsework used for holding the iron bridge components in place during construction.

Clearly, Henry B. Edwards was Beale's bridge foreman and became Pencoyd's field manager for its iron bridge construction in Indian Territory. As Lt. Beale was still in the West, Edwards was his man-in-charge. Edwards must have travelled to Fort Smith prior to the arrival of the iron bridge components (say during June 1859) because he contracted with local Arkansas stone masons to build the necessary masonry-finished stone bridge abutments by the end of August 1859. He probably remained on the job until the Spring of 1860, until the last iron bridge across the wide Poteau was completed. A Choctaw Indian legal act was passed in late 1860 authorizing a new toll road to be built and operated that would connect to the new iron bridge, then crossing the Poteau River near Fort Smith, and called "Bridge Edwards."

THE ARKANSAS STONE MASONS

Gene McCluney, a professional photographer from Van Buren, Arkansas, first identified the Arkansas stone masons and their work performed on the Beale Wagon Road. See McCluney's essay at:

<https://bridgehunter.com/ar/sebastian/poteau-river-iron/>

McCluney had discovered two old newspaper articles on the stone masons work in the historical *Van Buren (Arkansas) Press*, (transcribed below as published):

7-3-1859 in *Van Buren Press*

BEALES ROAD ON THE 35TH PARALLEL TO CALIFORNIA. – MESSRS. JAMES GREIG, and ALEXANDER GRAHAM, of this county, have contracted for building the substructure for the first six Iron Bridges to be erected on Beale's road on the 35th parallel to California. From the well know character of Messrs. Greig and Graham, the public interests may rest assured of the work being done in a satisfactory manner. The streams being bridged--Beale's route to California, will undoubtedly be the favorite one travelled by emigrants, as it presents great advantages over any other route in regards to wood, water and grass, the three most essential requisites for emigrants, besides being the shortest road. For further information as regards this route, see the article in our column today, headed "Western Arkansas and the Santa Fe Trade" and recollect that Van Buren is the starting point on this route to New Mexico and California.

9-14-1859 in *Van Buren Press*

35TH PARALLEL ROAD. — We learn from Mr. James Greig that he has completed the masonry for the bridges on the Albuquerque route, seven [six] in number, with the exception of the one to be erected over Poteau which will be commenced as soon as the water falls sufficiently. The iron structure will soon be placed on them, and the road opened for travel.

Memorials

Electronic searching in Find-A-Grave cemetery records for Arkansas reveals the following memorials:

James Greig, a mason and stone-cutter by training, born in Scotland.
1814 -1878, FAG # 37208792, Gill Cemetery, Van Buren, Arkansas

Alexander Graham, a mason
3.11.1804 – 3.4.1875, FAG # 35562789, Hall Cemetery, Natural Dam, Crawford Co., Arkansas

A TALENTED PHILADELPHIA EYEWITNESS TO THE IRON BRIDGE CONSTRUCTION

The construction of the Beale Wagon Road—The First Federally Funded Road in the Southwest to the Pacific--was an important news story in 1859 for the leading newspapers of Philadelphia. Philadelphia's role in the fabrication and construction of the six Whipple-Murphy iron bridges provided even more excitement to the local iron makers and users, especially to the Pennsylvania railroads. One Philadelphia newspaper, *The Press*, even sent a young correspondent out west to Indian Territory to cover Beale's iron bridge and wagon road construction story, and write any other "letters" he wished about the local Indian Nations that he may visit. This young man wrote at least eleven letters that were published about his trip

to and around Indian Territory under the pseudonym of the “Wanderer,” a common literary practice of the day. Three of the letters were about his two-week trip from Philadelphia to Fort Smith, Arkansas. The remaining eight letters were mostly about his nearly three-month visit to Indian Territory.

Wanderer first traveled by horseback west from Fort Smith for about 200 miles along the construction route of the Beale Wagon Road across Indian Territory, where he visited ongoing bridge construction at five of the sites. He then began his return travel a month later along some of the same route, observing the progress of the iron bridge erection on his way back to Fort Smith. The Wanderer then added a week of leisurely vacation travel around the northern Choctaw Nation before leaving in late November for Philadelphia, probably by the Butterfield Overland Stage connecting to Missouri’s railroads to St. Louis.

The Wanderer saved his most important iron bridge stories to *The Press* until near the end of his journey so that he would have as much information on the bridges as possible. Without the Wanderer’s two bridge “letters” we would have no published eyewitness account of the iron bridges’ design features, their number, or location built in Indian Territory. The largest and most complex bridge across the Poteau was not completed until the Wanderer returned to Philadelphia, but he saw it well under construction. Other published documents collectively prove that the large Poteau bridge was completed by early 1860.

John Russell Young Was the Wanderer

Oklahoma is indebted to the youthful John Russell Young, writing from mid-August to mid-November 1859 as the “Wanderer,” a special newspaper correspondent for Philadelphia’s *The Press*, for most of our knowledge about the six iron bridges built in Indian Territory during the Fall and Winter of 1859-60 for the Beale Wagon Road. Read about the dramatic life and professional success of John Russell Young at:

<https://www.loc.gov/item/n83202815/john-russell-young-1840-1899>

John Russell Young (Figure 9) would later write: his eyewitness accounts of the First Battle of Manassas (Bull Run) Virginia at the start of the Civil War; President Lincoln’s dramatic Gettysburg Address, with Young on the Presidential stage setting within earshot of the President; President Grant’s World Tour, with Young as an invited travel companion and biographer; and about Young becoming the 7th Librarian of the U. S. Congress, among other significant accomplishments achieved during his remarkable career.



Figure 9. John Russell Young as 7th Librarian of Congress.

“Wanderer” traveled west from Fort Smith, Arkansas, along the Beale Wagon Road, then under construction, across the northern Choctaw Nation, southern Creek Nation, and into the Seminole Nation (about to Asher, OK) before returning back east to Fort Smith. Going west, he visited all of the iron bridge sites under construction, and visited at least two of them on his southern ride back to Fort Smith. Going west, he crossed the (South) Canadian at North Fork Town (Eufaula, OK); and on his return, he crossed it again near the mouth of Little River (north of Allen, OK).

A summary of the Wanderer’s findings (as written in his letters) regarding Beale’s iron bridges was first published nationally in *The American Railroad Journal, Railroad Locomotives and Cars*, Vol. 32., p. 747. The article was published in AR Journal on 11-19-1859, and is presented below:

Progress of Lieutenant Beale's Wagon-Road Route

A correspondent of the *Philadelphia Press* (John Russell Young) writing from the Indian Territory, says:

" Six bridges are being constructed upon the eastern end of Lieut. Beale's route to the Pacific Ocean, under an appropriation of money made by Congress for that purpose at its last session. The general supervision of the work is in the hands of Henry B. Edwards, Esq., of Chester, Penn. The bridges are of iron. They were manufactured in Philadelphia. One is to cross the Poteau near Fort Smith, Arkansas; the second, Red Bank Creek, near Skullyville; the third, the Little Sans Bois; the fourth, the Big Sans Bois; the fifth, Longtown, or Frenchman's Creek; the last four in the Choctaw Nation, and the sixth, Little River, in the Creek Nation. Upon a plan which the people here have, the latter is called Little River, because it is one of the largest, steepest-banked, and fastest running. It is about one hundred and eighty miles from Fort Smith. The abutments of all the bridges are built with the exception of those for the Poteau. Red Bank bridge is completed, and that at Little River will be in a few days, when the flooring has been put down."

The American Railroad Journal article can be seen as published at:

https://archive.org/details/5088829_32/page/n755/mode/2up

It is not surprising that the “Breaking News” on the progress of Beale’s “iron bridge” building out West went first from Philadelphia to the widely distributed *Journal of the American Railroad industry*, published in New York City. The iron and railroad companies of Philadelphia were surely proud of their industrial success and future commercial prospects.

Some research was needed by the author to determine the location and modern names for two of the stream crossings the Wanderer had named in the above article; those being: (1) Little Sans Bois, and (2) Longtown, or Frenchman’s Creek. Additional research, field explorations, and dialog by and among Gene McCluney, Jack Beale Smith, Kyle Burch and the author have been conducted to locate and document the remaining four bridge sites. Larry D. Duke of Canadian, OK first noted in an Oklahoma State University M.A. Thesis in December 1975 that Emachaya Creek near Whitefield, OK was the correct iron bridge location and creek name for Wanderer’s misnamed Longtown-Frenchman’s Creek bridge site. All other evidence known to the author supports Duke’s conclusion.

CHAPTER 6

MAJOR RECENT DISCOVERIES FOR BEALE'S IRON BRIDGE ROAD

THE CHALLENGE

The Lost Cause

The timeline of American History often revolves around the American Civil War, 1861-1865. No other event so dramatically impacted her people or infrastructure. It all happened here! About a million people died from military combat and related diseases. In the losing South, where most of the battles were fought, its infrastructure was nearly destroyed, as visually recorded almost exclusively by Northern photographers. Transportation history records the building of the first transcontinental railroad across America—but it occurred four years after the conclusion of the war, and it was built in the North.

In contrast, the Beale Wagon Road and its six technologically-advanced, iron bridges were built in the South prior to the Civil War. Not one photograph of them was ever taken, and not a book about the iron bridges was ever written prior to the Civil War, during it, or afterwards. Why? The Beale Wagon Road in Indian Territory lay for several years along a constant skirmish line between the Union and Confederate Armies of the Western Frontier, anchored to Fort Smith and the Arkansas River. By the end of the Civil War, nothing useful was left of Beale's fabulous Iron Bridge Wagon Road in Indian Territory. By 1865, nobody cared. The slaves had been granted their just freedom, and Southerners were just trying to stay alive. Time took its toll on what little remained at the end of the Civil War. Iron was melted down, wagon roads were plowed over, and railroad development remade the landscape of the country.

It seems that over the next 150 years, only Dr. Grant Foreman, a Professor of History at the University of Oklahoma, wrote a scholarly paper about the iron bridges along Beale's Wagon Road in Indian Territory/Oklahoma. His 1930's work was motivated by his discovery of Beale's 1858-59 Exploration and Survey notes in the historical archives in Washington. With this new information, Dr. Foreman was able to find and talk to a few eyewitnesses about visible "debris piles" of iron rods and a few stone abutments remaining of the former iron bridges. While published during the Great Depression in Oklahoma, his work remains obscure and missed by the general public. One small, remote, Indian town, located near the San Bois iron bridge, was brave and proud enough to rename itself "Iron Bridge." By 2010, not a whimper of Beale's fantastic "Iron Bridge Road" was to be heard from or seen in Oklahoma.

The Camel Road

So how was anything saved or recovered about the historic Beale Wagon Road? Apparently, Beale's western segment—The Camel Road—saved the Beale Wagon Road from historic oblivion. As many of the African camels had been released into the Wild West to roam at will after the War, their reported rare sightings, much like aliens for outer space, kept showing up in the newspapers well into the 20-th Century, even in national newspapers. Beale's U. S. Army camels kept his story alive. The now-famous, camel-topped pyramid grave of "Hi Jolly," Beale's main African camel driver of 1857-59, setting along IH 10 in the city cemetery of Quartzite, Arizona,

has helped keep the legend alive, particularly in the Arizona media and local historic journals. Several musical recordings of songs about Hi Jolly also have been published since 1962. See

<https://scvhistory.com/scvhistory/HiJollySong1962.htm>

RECENT DISCOVERIES IN LE FLORE COUNTY, OKLAHOMA

An important discovery of an historical artifact related to the construction in 1859 of the Beale Wagon Road in Eastern Oklahoma occurred in late January 2020 near Spiro, Le Flore County, Oklahoma! This “holy grail” find was made by Kyle Burch of Spiro, OK, but Mr. Burch had already found solid ground truth.

Redbank Creek Bridge Site

Kyle Burch had previously noticed a most unusual masonry stone wall running about 20-feet alongside the brushy, eastern high bank of Redbank Creek on his rural property located six miles west of Spiro. His photographs, video strips, GPS coordinates, and a Google map of the location helped him and the author, among others (Jack Beale Smith, Gene McCluney), identify and confirm the site as Beale’s 50-foot span, 1859 iron bridge site across Redbank Creek, chosen by Beale on October 29, 1858. This site was reportedly seen by locals in 1933, as published by Dr. Grant Foreman in “Survey of A Wagon Road from Fort Smith to the Colorado River” in *Chronicles of Oklahoma*, Vol. 12, No. 1, March 1934. Figure 10 is a Burch photo of the eastern masonry stone abutment on his property at Redbank Creek as it existed on February 8, 2020. Continuing his search of the area, Burch found the western stone bridge abutment buried in the creek bottom’s sandy bank and undergrowth, where it was photographed and left undisturbed.



Figure 10. Eastern Masonry Stone Abutment at Redbank Creek. (Kyle Burch, February 2020)

Holy Grail Iron Bridge Sign

The next weekend, Kyle and his wife widened their search surrounding his discovery of the masonry stone abutments of Beale's first constructed iron bridge across Redbank Creek in Indian Territory. Using advanced portable metal detectors designed for finding civil war era relics long buried in the soil, they began to find various Native American and civil war era artifacts and weaponry. Their search intensified and the area expanded along the likely wagon road approaches to the Redbank Creek iron bridge site. As they searched west along the probable route, they began to discover disjointed segments of iron bar about four-inches wide and three-to-seven inches long buried under about 6 inches of creek bottom soil. Seven segments were found spaced rather uniformly along the roadside over a distance of about twenty feet. Another similar segment was found nearby. Burch first published his remarkable Beale Wagon Road's iron bridge discoveries in a post to the author in History-Sites.com on 2/7/2020, and seen at:

http://www.history-sites.com/cgi-bin/bbs62x/itcwmb/webbbs_config.pl?md=read;id=7950

The discovery site was marked by GPS coordinates and the artifacts were collected, brought home, cleaned, carefully examined and photographed. Embossed lettering was observed on only one side of the iron bars. Seven segments of the sign bar puzzle were easily re-assembled as originally made. The eighth stray bar segment clearly belonged to another similar sign bar, as shown in Figure 11. The back side of each bar was smooth and bare of any markings, save two holes punched through the bar, obviously to be used to mount the "sign" to a roadside post or iron bridge structural member. Apparently, the missing piece(s) contained a third hole on the other (left) missing end, so that balanced supports would be provided for mounting the sign bar. The author first viewed the photo (Figure 11) via email from Kyle Burch late in the evening of February 8, 2020. The brownish, metallic-looking background having a similar brownish color and the adjacent pea gravel apron, shown in Figure 11, are not a part of the sign bars.



Figure 11. Beale Wagon Road's 1859 Whipple Iron Bridge Sign Bars Found Buried at Redbank Creek, near Spiro, Oklahoma, February 7, 2020, by Kyle Burch. The lower sign bar is 31"x 4"x 3/8" (inches).

Following several telephone conversations with historian Jack Beale Smith, living in Oklahoma City, regarding my personal desire for him to publish the above photographs of Kyle Burch's discovery on Redbank Creek, the author posted the following commentary in History-sites.com on 3-8-2020:

http://www.history-sites.com/cgi-bin/bbs62x/itcwmb/webbbs_config.pl?md=read;id=7956

"One picture taken by Kyle Burch of Spiro, Oklahoma, of Beale's South masonry stone abutment built in the Summer of 1859 at Redbank Creek about five miles west of Spiro can now be seen at Jack Beale Smith's Beale Wagon Road website at:

<https://bealewagonroad.com/2020/03/05/beale-bridges-in-oklahoma-1859/>

1. South abutment at Redbank Creek. Pictures of one corner of the top (headstone) of the North abutment reveal that it is still mostly buried in silt, but appears to be located at the correct distance (50 - feet) from the South abutment.

2. The historic "holy grail" sign (nameplate) found by Kyle Burch at the Redbank Creek bridge site prove that the six iron bridges of the Beale Wagon Road followed the 1841-1855 design patent held by Squire Whipple, were built in 1859 by Pencoyd Iron Works of Philadelphia, PA, and supervised by their bridge designer, John W. Murphy. The picture of this historically significant discovery in Oklahoma History, will be found at:

<https://bealewagonroad.com/2020/03/05/beale-iron-bridges-in-oklahoma-1859/>

Just before his death, Squire Whipple wrote that he had sold his patent in 1859 for his Bowstring, Arch truss design to A. & P. Roberts and Company, including some interest to J. W. Murphy, supposedly to expedite the federal contract to build the Whipple bowstring iron bridges at the Pencoyd Iron Works owned by A. & P. Roberts, & Co. where J. W. Murphy then worked."

Honorees on Redbank Bridge Sign of 1859

Edward Fitzgerald "Ned" Beale (1822 – 1893) was a national figure in the 19th-century United States. He was a naval officer, military general, explorer, frontiersman, Indian affairs superintendent, California rancher, diplomat, and friend of Kit Carson, Buffalo Bill Cody, and Ulysses S. Grant. In 1857, President James Buchanan appointed Beale to survey and build a wagon road from Fort Defiance, Arizona to the Colorado River, on the border between Arizona and California along the 35-th Parallel. The survey also incorporated an experiment for the Army using camels, first proposed by Secretary of War Jefferson Davis four years earlier. Beale used camels from the Camel Corps as pack animals during this expedition.

On his second expedition, Sept. 1858 – June 1859, Beale extended the wagon road from Fort Smith, Arkansas through Indian Territory to the Colorado River, for a grand total of 1,240 miles. The six Whipple Iron Bridges built in Eastern Oklahoma from July 1859 - March 1860 were located by Beale and funded by the U.S. Army's 1858 federal appropriations bill.

The Beale Wagon Road connected Mid-America to California's existing Mojave Road across the Mojave Desert and over Cajon Pass to Los Angeles and the Pacific Coast. The Beale Wagon Road became a popular immigrant trail during the 1860s and 1870s until the transcontinental Santa Fe Railroad was completed to California in 1883. The general route of the Beale Wagon Road was followed by the Santa Fe Railroad, U.S. 66, and Interstate 40 across the American Southwest, except across the Continental Divide.

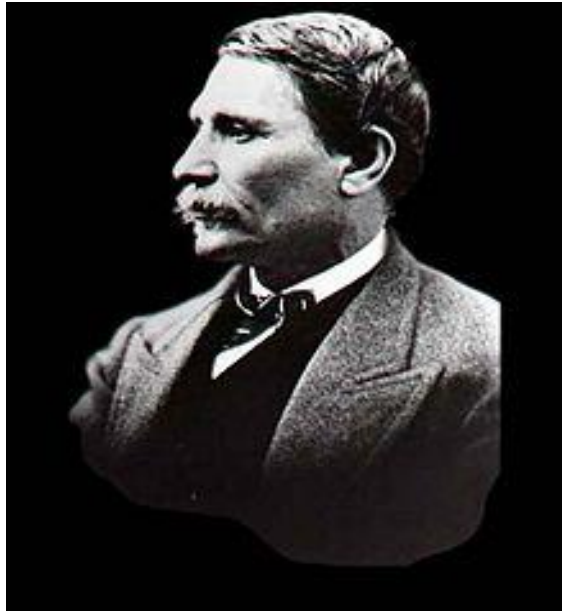


Figure 12. Edward Fitzgerald Beale (1822-1893)

Squire Whipple (1804 - 1888) graduated from Union College, Schenectady, NY, in 1830. He worked on Erie Canal and railroad bridge design problems for the next 20 years. He began to examine various bridge design and construction issues. Whipple received his first patent for a bowstring bridge truss in 1841. This patent also served a foundation for the "Whipple Trapezoidal Truss" and both designs efficiently used readily available cast iron for compression and newly available wrought iron for tension members. Whipple was involved in the construction of 70-100 bridges over the Erie Canal, mostly of two types—his lighter Bowstring/Arch truss (Figure 13) for wagon roads, and his heavier Trapezoidal truss for carrying heavier railroad loads over longer spans. In 1847, he wrote "A Work in Bridge Building," which was the first publication in modern history to present an analytical process for designing iron bridges. He was later honorably called the "Father of American Iron Bridges" by civil engineers, nationwide. See Figure 14. His legacy of ideas and vision helped shape modern American bridge design.

Just before his death in 1888, Whipple described selling in 1859 his Whipple Bowstring Arch Truss interest to his former protégé, John W. Murphy, and the firm Murphy then worked for—A. & P. Roberts & Co. of Philadelphia. Murphy had selected the famous Whipple Bowstring Arch Truss design, efficiently using both cast iron and wrought iron members to carry wagon loads, as the bridge design to be used by Pencoyd Iron Works, owned by A. & P. Roberts, both of Philadelphia, to fabricate and erect the six iron bridges built for the Beale Wagon Road in 1859. See Figure 15.

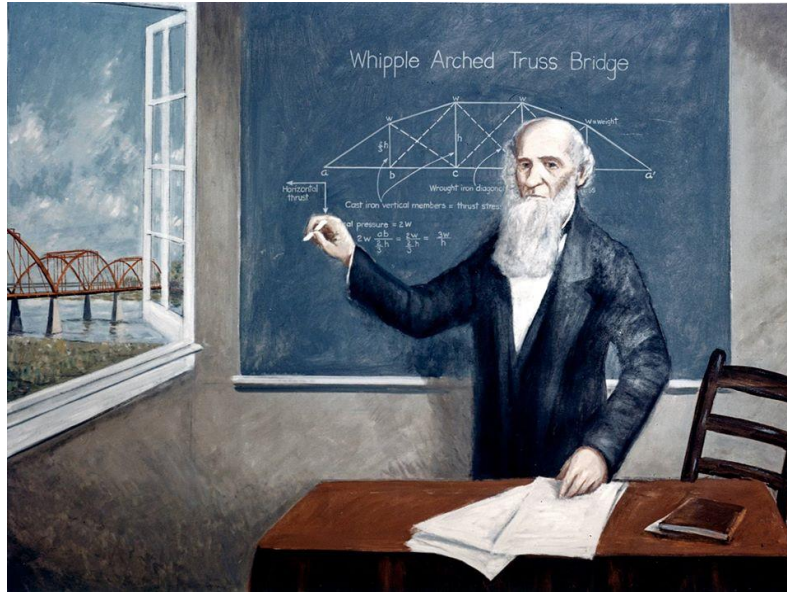


Figure 13. Squire Whipple – Developer of Whipple Bowstring Arched Truss Iron Bridges Used for Beale Wagon Road in Indian Territory of Eastern Oklahoma, 1859. (Art Courtesy of Federal Highway Administration, Washington, D. C.) The 50-foot Whipple Bowstring Arch Bridge that Beale located at Redbank Creek looked like the 5-panel Bowstring Arch Bridge shown behind Squire Whipple.

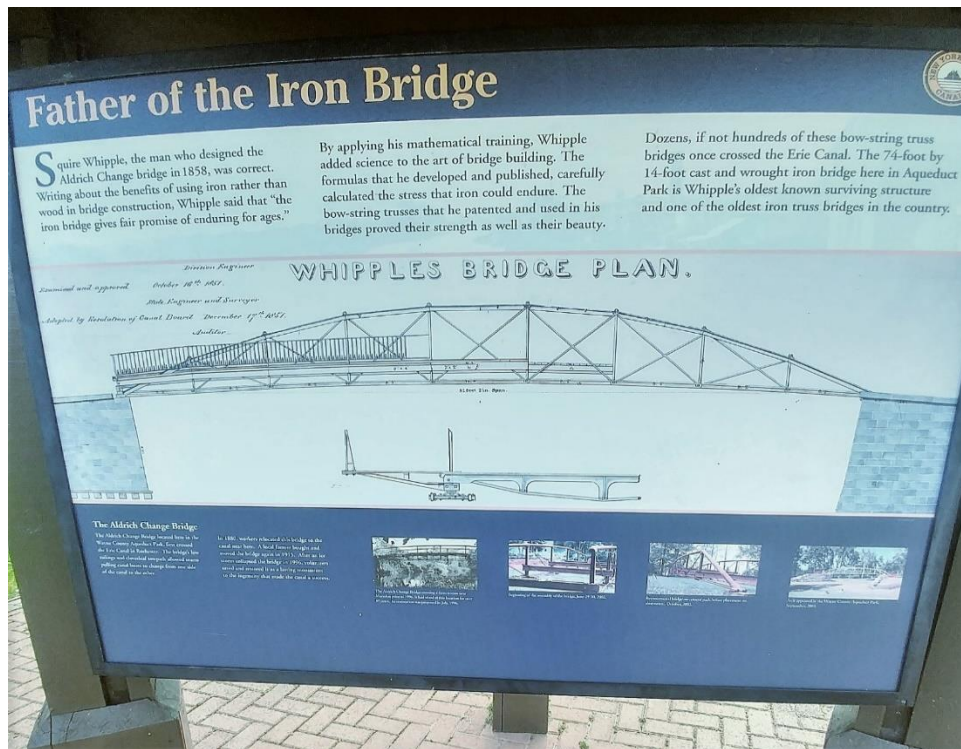


Figure 14. Squire Whipple – Father of the Iron Bridge. Aqueduct Park, Palmyra, NY.

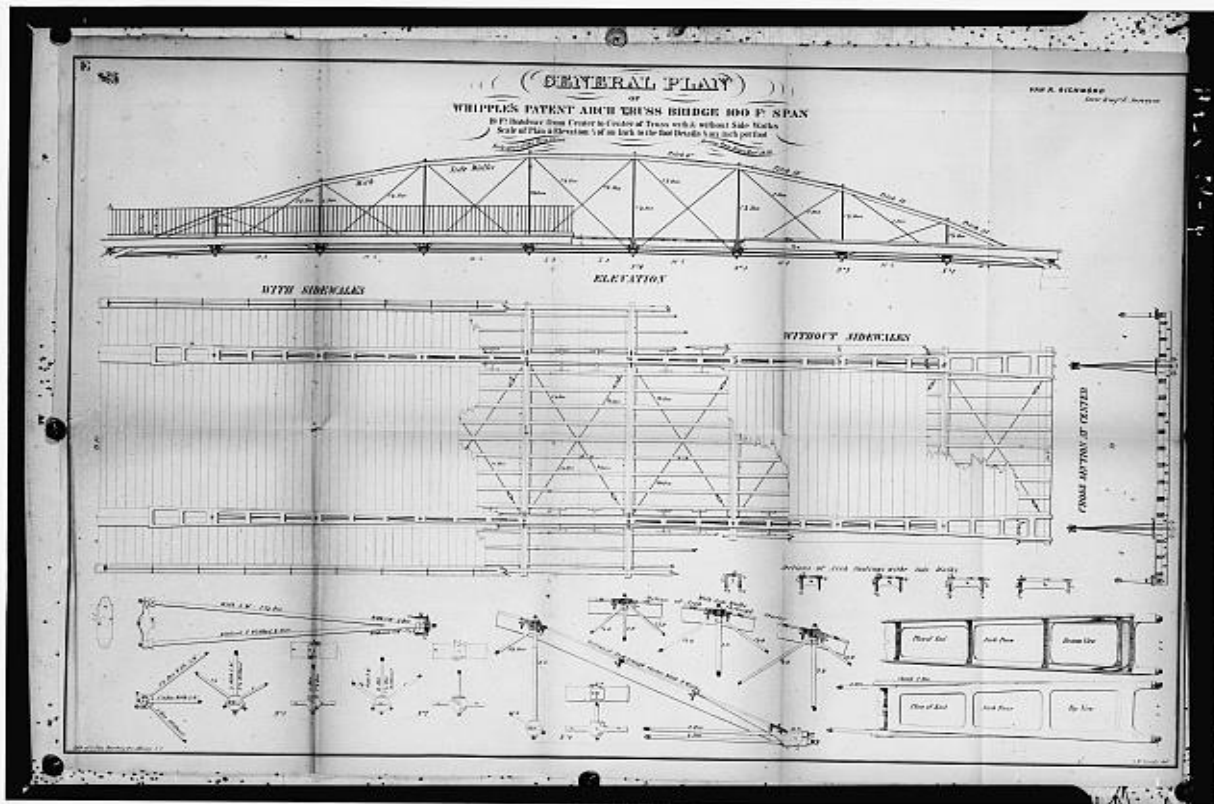


Figure 15. Squire Whipple’s Patent Arch Truss Bridge—100 Ft. Span. Approved for Erie Canal of New York, 1859. The 100-ft spans built in 1859 for Little River, Sans Bois Creek, and Poteau River Bridges for Beale Wagon Road were like this design, without the pedestrian sidewalks.

John W. Murphy (1828 - 1874) graduated from Rensselaer Polytechnic Institute, Troy, NY in 1847. During his fairly short, but sterling professional career in American bridge building, he developed an esteemed reputation from railroad executives of efficiency and dependability in bridge engineering. John W. Murphy was a protégé of Squire Whipple. In 1849 Murphy worked as an Associate under Whipple on new design issues related to the widening (from 40-70 feet) of the Western District of New York’s Erie Canal. Murphy, much like Whipple himself, saw iron’s advantages over wood for building the longer bridges needed. Moreover, Murphy and Whipple also introduced “pin connections” to the basic Whipple Trapezoidal box truss design in bridges in 1849, and by 1856 Murphy began to design improved iron bridges on the so-called “Murphy-Whipple Plan” for railroads, building several over the next few years in Pennsylvania. Murphy joined up in 1859 with a growing young iron works manufacturer, A. & P. Roberts & Co., owners of Pencoyd Iron Works of Pencoyd, Pennsylvania, a suburb of Philadelphia, to mass produce iron bridges for railroads composed only of wrought iron. Murphy’s pin-eyebars design for connecting iron truss members together into structural trusses were free of bending stresses common in bridge beams. These Whipple-Murphy designs were copied by other designers and bridge builders, with little modification after the Civil War, and they played a major role in iron bridge design for several decades to follow. See Figure 16 for a typical Whipple urban design bridge application having pedestrian sidewalks.

John W. Murphy was the Bridge Engineer for A. & P. Roberts' contract with the U.S. Army to design, fabricate and construct the six iron bridges erected along the Beale Wagon Road in Indian Territory from July 1859 - March 1860.



Figure 16. A 75-Foot Whipple Bowstring Arch Truss Bridge with Pedestrian Sidewalks.

NEW BOOK COORBORATES HOLY GRAIL SIGN

The new Pencoyd book, recently published in August 2020, strongly supports the story line presented on the “holy grail” iron bridge sign bar discovered by Kyle Burch at Redbank Creek in February 2020. It documents the history of the Pencoyd Iron Works of Pencoyd, Pennsylvania. It notes their business expansion from primarily iron railroad products (axles, rails, etc.) in the mid 1850's into iron bridges by 1860. Importantly, the author, Kevin Righter, PhD., and a descendant of a long-time employee of the iron works, provides several pages on Pencoyd's association with their newly hired (in 1858) iron bridge engineer, John W. Murphy and his relationship with Squire Whipple's iron bridges. Note is made of A. & P. Roberts & Company buying the patent rights to build Whipple bowstring iron bridges in 1859, a fact acknowledged by Squire Whipple in a letter written to the Franklin Institute of Philadelphia near the end of his life. The book notes Pencoyd's building the six Whipple bowstring iron bridges in Indian Territory in 1859 for the Beale Wagon Road being constructed for the U.S. Government. Author Righter's scholarly work, published over six months after Kyle Burch's discovery, independently corroborates most aspects of our research covering Pencoyd's fabrication and construction of Beale's Whipple iron bowstring arch truss bridges in Indian Territory. Righter even notes that Pencoyd began sending out their own bridge construction crews to assist in assembling their iron truss components in the field. See this new book at:

PHILADELPHIA'S PENCOYD IRON WORKS – Forging Along the Schuylkill River.

Publisher: The History Press, 8/31/2020, by Kevin Righter.

<https://www.arcadiapublishing.com/Products/9781467143059>

Pages 28-31, cover Pencoyd's iron bridge building prior to the Civil War by John W. Murphy & Squire Whipple. Their Beale Wagon Road bridge work is described beginning on page 30. New and used copies of the book are also available on Amazon and other similar sources.

IMPORTANCE OF THE 1859 IRON BRIDGE COSTRUCTION ON THE PLAINS

The Pencoyd Iron Works had successfully completed their contract to design, fabricate and construct six iron bridges on the Beale Wagon Road for the U. S. Army in Indian Territory by the Spring of 1860, the year Abraham Lincoln was elected President of the United States. By this time, Pencoyd Iron Works of Philadelphia, PA, owned by the powerful family of A. & P. Roberts and Company, was rolling in the Iron Bridge Fabrication and Railroad business. Philadelphia, Pennsylvania and its railroad and locomotive businesses, like the Pennsylvania Railroad and Baldwin Locomotive Works, were becoming national powerhouses.

Economic times were good, and prospects for an ever increasing business were envisioned. Philadelphia's railroad engineers were building new railroads in Georgia, Missouri, Alabama, and practically everywhere else new railroads were going in, much less in Pennsylvania. Competition was fierce, and technologically-advanced stereoscopic product advertising was considered leading-edge business practice. Advanced iron bridge design and construction successes were deemed most important "Business Card" ads to railway companies.

Pencoyd Iron Works stereo advertisements lead the way with their proud announcement in early 1861 about their newly successful Beale Wagon Road iron bridge contract completion on the Plains for the federal government. The stereo-picture advertisements proclaimed their iron bridge expertise under John W. Murphy's direction just as he was forming a new cooperative Murphy-Whipple iron bridge design venture with Pencoyd Iron Works. See the printed text in Figure 17 for one of Pencoyd's first high-tech business cards using their fabrication and construction of the six iron bridges for the Beale Wagon Road on the Plains as a recent and noteworthy national accomplishment.

John W. Murphy designed for Pencoyd the first Murphy-Whipple trapezoidal iron bridge in 1856 where it was later placed across the Lehigh River near Mauch Chunk (Jim Thorpe), PA, as shown in Figure 17 for the Beaver Meadow Railroad. This new Murphy-Whipple trapezoidal iron bridge served a highly-used and heavy-laden coal-hauling railroad line. Murphy helped build it in 1857. Later in the same year he designed a more-advanced Murphy-Whipple iron bridge for the North Pennsylvania Railroad where Edward Miller would later work as Chief Engineer. The North Pennsylvania Railroad bridge, a Murphy-Whipple trapezoidal iron bridge, was completed in late 1858. It is still thought to be the first all-pin-jointed iron bridge ever built. Many would follow.

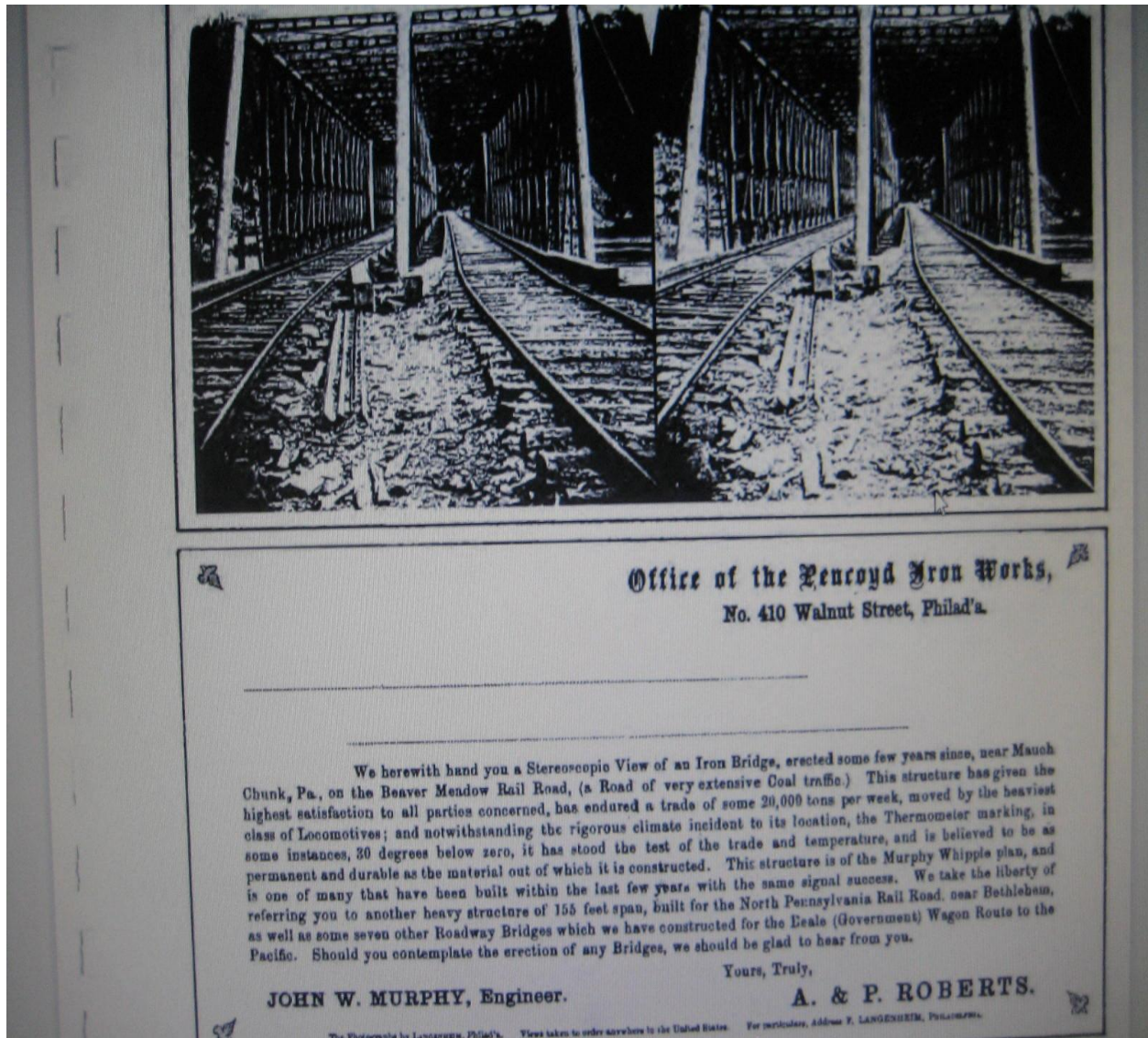


Figure 17. Pencoyd’s Stereoscopic View Business Card Showing Mauch Chunk, PA Iron Railroad Bridge Constructed with Added Reference in Text to Building Beale Wagon Road’s Iron Bridges on the Plains as an Example of Their Expansion and Success into National Iron Bridge Work.

A separate personalized Pencoyd Iron Works business card to Chief Engineer Edward Miller is presented in Figure 18. Notice in Figure 18 Pencoyd/Murphy’s reference again to “We have also constructed seven (sic) other Roadway Bridges for the Beale (Government) Wagon Route to the Pacific.” Neither Murphy nor Pencoyd apparently realized that Beale’s iron bridge foreman, Henry B. (Harry) Edwards, used two of the seven arch truss spans that Pencoyd had fabricated in 1859 to build the longer Poteau River iron bridge in Indian Territory, the last of Beale’s six bowstrings, completed in early 1860. See a full stereo-pair rendering of this North Pennsylvania Railroad bridge advertisement (re: Figure 18) at:

<https://bridgehunter.com/pa/montgomery/bh83236/>

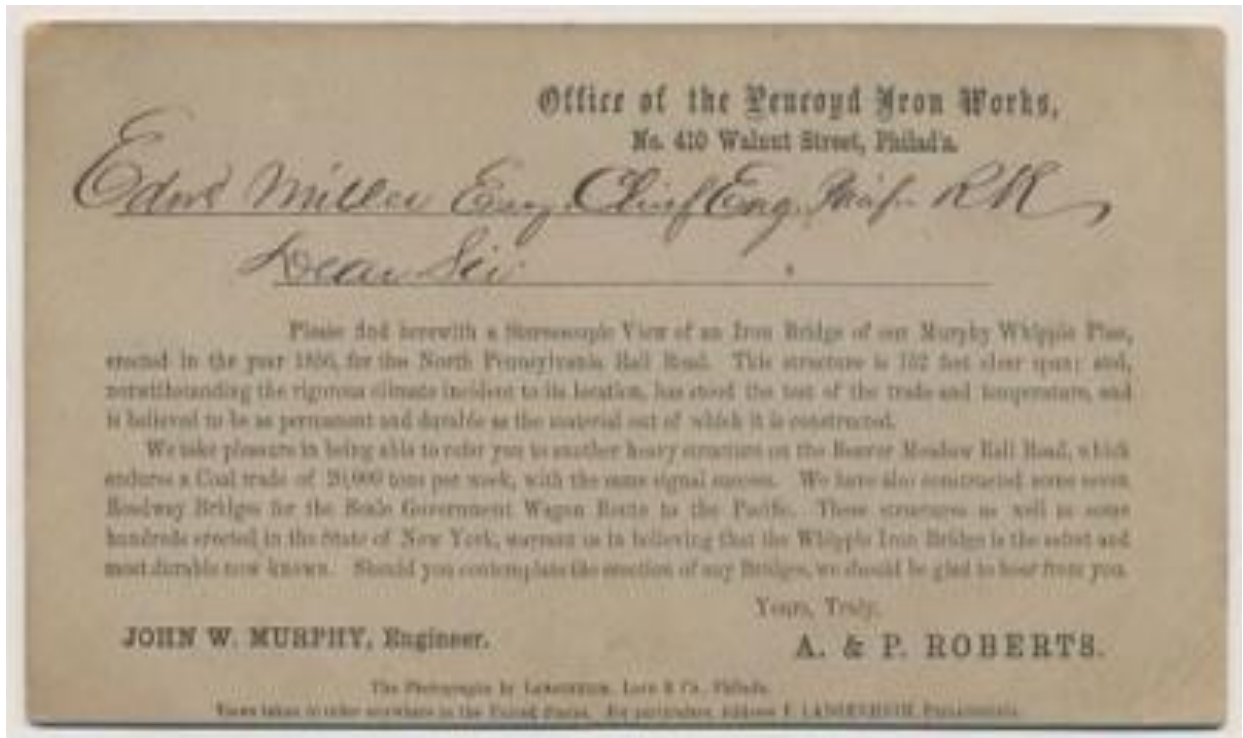


Figure 18. Close up View of Backside of a Personalized Business Card to Chief Engineer of North Pennsylvania Railroad, Edward Miller, with Reference to Beale Wagon Road to the Pacific’s Iron Bridges as Designed by John W. Murphy, Bridge Engineer, for A. & P. Roberts, Owners of Pencoyd Iron Works, 410 Walnut Street, in downtown Philadelphia, PA.

SUMMARY OF CORROBORATORY RESEARCH FINDINGS

1. A talented young newspaper correspondent, later becoming the 7th Librarian of Congress (John Russell Young), wrote an eyewitness account of the construction of Beale’s six iron bridges in Indian Territory in late 1859. Young wrote eleven letters as the Wanderer during his trip out West that were routinely published as a serial storyline in a leading Philadelphia newspaper, *The Press*.
2. Pencoyd Iron Works produced in early 1861 at least two stereoscopic view business advertising cards in which they claimed building Beale’s Iron Bridges on the Plains for the federal government.
3. A scholarly book was published in August 2020 by Kevin Righter, PhD., covering the history of Pencoyd Iron Works. Pages 28-31 cover the Whipple-Murphy-Pencoyd story of their collective design and fabrication of Beale’s six iron bridges for the federal government in 1859 at their Pencoyd Iron Works in Philadelphia.
4. Kyle Burch found at Beale’s iron bridge site on Redbank Creek in early 2020: (a) the lost masonry stone abutments previously described by Professor Grant Foreman in a 1934 *Chronicles of Oklahoma* article, and (b) an iron bar buried 160 years nearby which clearly was an advertising “bridge sign” having the embossed inscription reading: **BEALE, SUPT. 59 J. W. MURPHY’S WHIPPLE BRIDGE**. Note that the latter font is about 25% larger than the former size. Amazing ground truth to the entire Beale story line!

CHAPTER 7

THE SIX WHIPPLE CAST- AND WROUGHT-IRON BOWSTRING ARCH TRUSS BRIDGES BUILT FOR THE BEALE WAGON ROAD IN INDIAN TERRITORY IN 1859-60 BY PENCOYD IRON WORKS, JOHN W. MURPHY, BRIDGE ENGINEER

1. Poteau River, 7.4 miles south of Fort Smith, just below the mouth of Cedar Creek (two 100 ft. spans), [35 17.00 N, 94 27.90 W] [North lat., West long., degrees + minutes.], T9N, R27E, Sec. 5, Le Flore County, OK; this bridge was completed by the Spring of 1860. The iron bridge was reported by Federal cavalry officer, Lt. W. W. Averell, as having been destroyed, as he rode west from Fort Smith into Indian Territory seeking Lt. Col. W. H. Emory, commander of Indian Territory, on 4-27-1861, at the start of the Civil War.

https://glorerecords.blm.gov/details/survey/default.aspx?dm_id=21581&sid=3nui35lq.r2h#surveyDetailsTabIndex=1

Gene McCluney's essay: <https://bridgehunter.com/ar/sebastian/poteau-river-iron/>

Whipple two-span bowstring arch truss example: <https://bridgehunter.com/ny/columbia/shaw/>



2. Redbank Creek, 4.6 miles west of Spiro (50 ft. span), [35 15.14 N, 94 42.13 W], T9N, R25E, Sec. 18, Le Flore County, OK; (site found by Kyle Burch in late January 2020, as seen in his photo provided below)

https://glorerecords.blm.gov/details/survey/default.aspx?dm_id=21558&sid=r4df0gpv.2yt#surveyDetailsTabIndex=1

Whipple bowstring arch truss example: <https://bridgehunter.com/ny/monroe/ehrmtraut-farm/>



3. Otter Creek, 1.4 miles southwest of Keota (50 ft. span), [35 14.45 N, 94 56.37 W], T9N, R22E, Sec. 23/24, Haskell County, OK;

https://glorerecords.blm.gov/details/survey/default.aspx?dm_id=21522&sid=2jsz3dd3.2ya#surveyDetailsTabIndex=1

Whipple bowstring arch truss example: <https://bridgehunter.com/ny/monroe/ehrmentraut-farm/>



4. Sans Bois Creek, 0.6 miles northwest of Iron Bridge (100 ft. span), [35 14.54 N, 94 58.02 W], T9N, R22E, Sec. 22, Haskell County, OK;

https://glorerecords.blm.gov/details/survey/default.aspx?dm_id=21522&sid=2jsz3dd3.2ya#surveyDetailsTabIndex=1

Whipple bowstring arch truss example: <https://bridgehunter.com/ny/albany/whipple/>



5. Emachaya Creek, 0.8 miles west of Whitefield (50 ft. span), [35 14.90 N, 95 15.07 W], T9N, R19E, Sec. 13, Haskell County, OK; (site noted by Larry D. Duke, Canadian, OK, in OSU Thesis, Dec. 1975); and

https://glorerecords.blm.gov/details/survey/default.aspx?dm_id=21487&sid=pymxvmx2.eiu#surveyDetailsTabIndex=1

Prior to these ODOT bridges: [https://bridgehunter.com/ok/haskell/55100000000000/](https://bridgehunter.com/ok/haskell/5510000000000/)

Whipple bowstring arch truss example: <https://bridgehunter.com/ny/monroe/ehrmentraut-farm/>

6. Little River at Edwards Trading Post (100 ft. span), [35 0.44 N, 96 23.28 W], T6N, R9E, Sec. 8, Hughes County, OK; and can be noted with some study in

https://glorerecords.blm.gov/details/survey/default.aspx?dm_id=20086&sid=cdms5ti5.gf1#surveyDetailsTabIndex=1

Jack Beale Smith's photos: <https://bridgehunter.com/ok/hughes/little-river/>

Gene McCluney's report: <https://bridgehunter.com/ok/hughes/little-river/>

Whipple bowstring arch truss example: <https://bridgehunter.com/ny/albany/whipple/>



Smith, McCluney and Messer believe that the upper portion of the piers show above for the Little River Pratt Thru Truss Iron Bridge of 1909 are setting on those of the 1859 Beale Iron Bridge. Photo taken by Mike Shockley of Holdenville, OK, and provided by Jack Beale Smith of Oklahoma City. BH Photo #292784.

The six bridges were built on the Squire Whipple patented bowstring arch truss bridge design of cast- and wrought iron from only two arch truss span lengths: 50-feet and 100-feet. The three smaller creeks, Redbank, Otter and Emachaya, were assigned three 50-foot spans; whereas, the three larger rivers, Poteau, Sans Bois and Little River, were assigned four 100-foot spans, with the 200+ foot wide Poteau, completed last, requiring two of the four 100-foot spans. Thus, a total of seven spans were fabricated.

All six iron bridges would be supported on each end by masonry stone abutments, constructed by local Van Buren, Arkansas stone masons, James Greig and Alexander Graham, during the Summer and Fall of 1859. Wooden approach ramps would be added where needed to match variable river beds to the available (fixed) iron bridge spans, such as at Little River. The even wider Poteau River was to be crossed by connecting two 100-foot spans together by building an additional large stone masonry pier near the middle of the river on a known hard shale riverbed just downstream (north) of the mouth of Cedar Creek.

A bit of “tailoring” was necessary at each site to make the fixed-length iron bridges fit, as they were all prefabricated in Philadelphia, disassembled and shipped by railroad and steamboat in wooden crates to Fort Smith. The components then were hauled by freight wagons west into Indian Territory, where each bridge span was assembled using wooden false work on-site to fit the masonry stone abutments, most already placed by Greig and Graham for each stream crossing. Redbank Creek appears to be an example where the 50-foot bridge span selected for it was a bit too long for the relatively narrow creek. Consequently, the northwest side was set back over a sandbar to reach higher ground, whose front side may have been cut away a few feet by the construction crew to best fit the desired masonry stone bridge seat (abutment). The southeast masonry stone bridge abutment fit nicely into a six-foot sturdy creek bank. See Kyle Burch’s photos of these 1859 Redbank Creek abutments at Jack Beale Smith’s website at:

<https://bealewagonroad.com/2020/05/12/797/>

Construction of the six iron bridges occurred along a 120-mile section of the Beale Wagon Road headed west from Fort Smith, Arkansas. Building of the five most western iron bridges seemingly went on schedule during the Summer and Fall of 1859. The largest and most complex bridge, initially planned to cross the 300-foot-wide Poteau near the doorsteps of downtown Fort Smith, was another matter. Major political, military, and local business interest of Fort Smith disagreed as to where Beale’s largest and first sited iron bridge should be located, given that only 200-feet of iron bridge spans were still available, and the wider 300-foot river crossing near downtown Ft. Smith was really not feasible. Consequently, bridge construction was delayed nearly six months until a feasible, compromise location for crossing the Poteau could be found. See more about this issue, as written by Dr. Grant Foreman on pages 1861-1862, at:

<https://books.google.com/books?id=-Dp4qxWDOMUC&pg=PA92&dq=Bridge+Edwards,+Poteau+River&hl=en&sa=X&ved=0ahUKewi7houUx8XeAhUUmoMKHTsjDKUQ6AEINDAC#v=onepage&q=Bridge%20Edwards%2C%20Poteau%20River&f=true>

The Choctaw Nation would be happy when the Poteau River iron bridge was built and conveniently connected Fort Smith to Skullyville, CN. The Choctaws planned on building a new toll road from the new Poteau River bridge to Skullyville to replace the revenue lost since Bower’s Ferry, serving the Poteau near downtown Fort Smith, was being bypassed by the new iron bridge being located nearly seven miles south of the ferry. The new road would well serve the Butterfield Overland Stage and Mail Service, the Beale Wagon Road, and the U. S. Army’s military supply needs from their depot at Fort Smith to Forts Washita, Arbuckle and Cobb in Indian Territory until the start of the Civil War came to Fort Smith in April 1861.

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2. **Edward Fitzgerald Beale—A Pioneer in the Path of Empire 1822-1903.** Stephen Bonzal. G. P. Putman's Sons. The Knickerbocker Press, New York and London, 1912.

Chapter XIII—The Journey along the 35th-Parallel, pages 230-255.

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Chapter XV: **Beale's Wagon Road Along the Thirty-fifth Parallel: Fort Smith to the Colorado River: 1857-59, pp. 241-256.**

[https://babel.hathitrust.org/cgi/pt?id=uc1.\\$b97819;view=1up;seq=263](https://babel.hathitrust.org/cgi/pt?id=uc1.$b97819;view=1up;seq=263)

4. **Eastern Beale Wagon Road map.**

<https://babel.hathitrust.org/cgi/pt?id=uc1.%24b97819;page=root;view=image;size=125;seq=246;num=224;orient=1>

5. **Western Beale Wagon Road map.**

<https://babel.hathitrust.org/cgi/pt?id=uc1.%24b97819;view=image;seq=270;page=root;size=100;orient=1>

6. **Survey of A Wagon Road from Fort Smith to the Colorado River.** Grant Foreman, *Chronicles of Oklahoma*, Vol. 12, No. 1, March 1934, pp. 93-96.

https://glorerecords.blm.gov/details/survey/default.aspx?dm_id=20086&sid=cdms5ti5.gf1#surveyDetailsTabIndex=1

7. **Philadelphia's Pencoyd Iron Works – Forging Along the Schuylkill River.**

Publisher: The History Press, 8/31/2020. ISBN: 9781467143059 by Kevin Righter.

<https://www.arcadiapublishing.com/Products/9781467143059>

Kevin Righter was born in Pittsburgh, Pennsylvania, attended Haverford and Bryn Mawr Colleges, the University of Michigan, and the University of California–Berkeley. His family is from the Philadelphia area dating back to 1680s. His great-grandfather, Walter Righter, worked at Pencoyd Iron Works for nearly fifty years from 1885 to 1933, first as a mechanic, then as a supervisor, and finally as superintendent of motive power. Chapter 3, pages 28-32, cover Pencoyd's iron bridge building prior to the Civil War by John W. Murphy & Squire Whipple. The Beale Wagon Road bridge work is described beginning on page 30.

LEGACY BEALE WAGON ROAD PUBLICATIONS IN CHRONICLES OF OKLAHOMA

The California Overland Mail Route Through Oklahoma. Grant Foreman, *Chronicles of Oklahoma*, Vol. 9, No. 3 (Sept. 1931), pp. 305-7.

Waterman L. Ormsby, Reporter for New York *Herald*, 9-19-1858 wrote:

p. 305 "We forded the Poteau at Fort Smith ..." about 3:45 a.m., Sept. 19, 1858

p. 306-7 "About 17 miles from the crossing of the Poteau we came to the residence of Governor Wm. (Tandy) Walker, the Governor of the Territory. The place is called Skullyville."

Survey of A Wagon Road from Fort Smith to the Colorado River. Grant Foreman, *Chronicles of Oklahoma*, Vol. 12, No. 1, March 1934, pp. 93-96.

E. F. Beale's wagon road survey left Fort Smith and crossed Poteau River, Oct. 28, 1858. Beale wrote: "The country is so well known that it is hardly worthwhile to say anything of it between Fort Smith and our first camp (ten miles); only one stream is crossed that requires bridging, which is the Poteau. The stream is about 100 yards wide, and is bold and rapid. Its mouth is at Fort Smith, emptying there into the Arkansas."

Sans Bois Creek, p. 61, Oct. 30, 1858, "Creek here is 35 yards wide with steep banks, and was delayed two hours cutting a passable temporary access road. I shall therefore bridge it."

Grant Foreman's commentary notes:

Abutments of the old bridge of Yellow (Red) Bank Creek still visible. p. 77

Part of the iron frame of the old bridge was still visible in Sans Bois Creek. p. 77

At a low stage of the water on Little River, the abutments may still be seen on both sides of the river. p. 80. (Jack Beale Smith in bealewagonroad.com said this statement was misleading.)

Beale crossed Poteau River, October 28, 1858, p. 76

Beale crossed Little River, Nov. 5, 1858, p. 64

Temporary Markers of Historic Points. J. Y. Bryce, *Chronicles of Oklahoma*, Vol. 8, No. 3, September, 1930, p. 289.

August 27, 1930. "(J. Y. Bryce) Set marker at site of **Iron Bridge**, built across Little River about one hundred years ago. This was built by contract with the U. S. Government, and was known as the Star Mail Route. The route was from Ft. Smith via Eufaula, Fort Holmes and other points west in Indian Territory, leading into Texas. The contractors reported the route completed, and were paid. The fact is it was never completed, the U. S. Government was defrauded out of several thousands of dollars. The records concerning this mail route have been destroyed by order of Congress, so the writer (J. Y. Bryce) has been informed by the First Assistant Post Master General, at Washington, D. C. This location is in Hughes County." (A strange version based on currently known evidence.)

Lieutenant Averell's Ride at the Outbreak of the Civil War. Muriel H. Wright, *Chronicles of Oklahoma*, Vol. 39, No. 1, 1961, pp. 2-14.

p. 7, Lt. W. W. Averell of the Federal Army crossed the Arkansas River from Van Buren toward Fort Smith on a ferry boat early on the morning of April 27, 1861. On arriving soon thereafter at 9 a. m. in nearby Fort Smith, he heard from locals that Fort Smith had been captured by rebel Confederate forces, bridges had been burned, and the streams were swollen by recent rains. He soon traded for an unbroken horse to ride southwest out of Fort Smith into the Choctaw Nation to find Lt. Col. W. H. Emory, commander of Indian Territory, and Capt. S.D. Sturgis, commander of Fort Smith, both officers in his evacuating Federal Army. Lt. Col. W.H. Emory had left Fort Smith on 4-13-61 to check on his three exposed forts; and Capt. S. D. Sturgis and his post command (being threatened at Fort Smith) hurriedly evacuated Fort Smith at 9 p.m. on the evening of 4-23-61, and headed for Fort Washita. Lt. Averell reported the start of his ride from Fort Smith occurred about 11 a.m. on 4-27-1861. Lt. Averell wrote about his leaving Fort Smith:

“I managed to guide him (his newly acquired unbroken horse) in a westerly direction and mastered him before reaching the Poteau River. This stream, 100 yards wide, was bank full from recent rains and the bridge destroyed.... I swam my horse across, ... Twenty miles west of Fort Smith the road forks, the right hand going to Fort Arbuckle (California/Marcy Road) and the left to Fort Washita (Butterfield Overland Mail Route), these points being separated by sixty-five miles.” (Lt. Averell said he saw fresh and heavy tracks along the Butterfield Route. Lt. Col. Emory was expected to be headed to Fort Washita first, then Fort Arbuckle, and then perhaps on northwest to check on his far western fort at Fort Cobb. Lt. Averell was carrying a secret message from Washington for Lt. Col. Emory to withdraw his entire federal command north to Kansas.)

LEGACY MAPS AND SURVEYS

1. Capt. Randolph B. Marcy's 1849 Map.

Marcy's Survey Map of IT of 1849 made by Lt. James H. Simpson shows a connecting road from North Fork crossing the (South) Canadian which then goes eastward passing over a "High Ridge" (at the location and orientation of Beale's Winchester Mountain) and joining another ferry road near Brooken, all then proceeding eastward {toward Whitefield of today}. {Magnification of subject area clearly shows this observation}. Marcy's 1849 southern trail {~ OK 31} will soon become known as the California Trail.

<https://texashistory.unt.edu/ark:/67531/metaph192522/m1/1/>

California Road – Randolph B. Marcy's northern road for California gold mining immigrants of 1849 had perhaps as many as 20,000 migrants traveling west in 1849 alone. See at:

https://en.wikipedia.org/wiki/California_Road

Marcy's return southern "California Route" from El Paso later became the 1858 route of Butterfield's Overland Stage line to Colbert's Ferry, CN, IT.

<https://www.okhistory.org/publications/enc/entry.php?entry=CA012>

2. Capt. Lorenzo Sitgreaves 1851.

Sitgreaves 1851 Expedition from Zuni, NMT to Yuma, AZT

<https://archive.org/stream/reportanexpidit00sitggoog#page/n8/mode/2up>

Sitgreaves 1851 Union Pass Drawing approaching Colorado River

<https://archive.org/stream/reportanexpidit00sitggoog#page/n238/mode/2up/search/map>

3. Lt. A. W. Whipple's Railroad Survey of 1853.

Diary of Lt. A. W. Whipple's 1853 railroad survey through IT

<http://quod.lib.umich.edu/cgi/t/text/text-idx?c=moa&idno=AFK4383.0003.002>

1853-4 Lt. Whipple's Maps 1 & 2 Railroad Survey: use Full Meta Data Views for Maps 1 and 2

<https://mappingmovement.newberry.org/selection/survey-pacific-railroad-near-35th-parallel-1853-54>

4. Beale's Map of Beale's 1858-59 Route Survey from Ft. Smith to Albuquerque.
(excellent 2014 digital conversion.)

<https://dc.library.okstate.edu/digital/collection/OKMaps/id/8787/rec/1>

5. USGS Historical Topo Map (Perry-Castaneda maps) for 1887 for Poteau River.

http://legacy.lib.utexas.edu/maps/topo/arkansas/txu-pclmaps-topo-ar-fort_smith-1887.jpg

6. USGS Historical Topo Map (Perry-Castaneda maps) for 1897 Sans Bois, Little Sans Bois and Redbank Creek.

<http://legacy.lib.utexas.edu/maps/topo/oklahoma/txu-pclmaps-topo-ok-sallisaw-1897.jpg>

7. Emachaya Creek Bridge west of Whitefield & BWR for 1897 passing west thru Broken up and across Winchester Mountain Road.

<http://legacy.lib.utexas.edu/maps/topo/oklahoma/txu-pclmaps-topo-ok-sansbois-1897.jpg>

8. Little River Bridge south of Holdenville in Hughes County, OK in 1897.

https://glorerecords.blm.gov/details/survey/default.aspx?dm_id=81008&sid=wrhu1qr4.hfp#surveyDetailsTabIndex=1