

KENTON COUNTY HISTORICAL SOCIETY

P. O. Box 641, Covington, Kentucky 41012

Bulletin

August 1998

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KCHS MEETING

DATE: TUESDAY SEPT. 15

TIME: 7 PM

PLACE: Kenton County Library
5th & Scott, "Kentucky
Room," 1st Floor

PROGRAM: Bernard O'Brian

O'Brian will discuss the history and development of Civil War veterans' organizations, especially the GAR (Grand Army of the Republic). He will show how their activities gave us the legacy of Memorial Day, Flag Day, etc. Free and open to the public.

From the President.....

An update on the performance of our photocopier in joint ownership with Behringer-Crawford Museum is encouraging. I'm please to report that the equipment has been functioning quite well recently. It seems to have finally been repaired properly after numerous attempts. It is, however, not the most appropriate equipment for our purposes. It is simply a photocopier that collates and prints two sides automatically. Good features, granted, but the machine is rather slow. This is a real handicap when printing a large book. We will proceed with the grant writing process to obtain a printer-copier which will cost about \$3,000.

Volume two of George Dreyer's comprehensive work on Linden Grove Cemetery is being duplicated on the equipment. Hardbound copies of the two volumes will be available in about 1 to 2 months, after they return from the bindery. Over three years of research went into the cemetery records and survey of the cemetery. They are for sale as follows:

Volume I - Interments 450 pages \$35

Volume II - Other data 250 pages \$25

They include several stone surveys, platt transfers, sales, etc. Contact KCHS for more information and orders.

Our publication "3 Volumes of Collected Papers" is presently out of print. The papers date from the late 1970's and 1980's and are not on computer disc. Volume I has been keyed in and is now on disc but we need Volumes II and III on disc as well. Please let us know if you can volunteer to work on some of this. You can contribute this service to KCHS no matter where you live as the material can be sent in the mail.

After these pages are on disc, they will be edited, some appropriate photos added, and again, they will be available in a more readable and enhanced format.

A report on the success of our presence at "Learnfest" in the McAlpin Mall, Crestview Hills, August 1st will appear in the next Bulletin.

Karl Lietzenmayer

From the Editor.....

The response to Marjory Meanwell's article last month was inspiring. If you don't have a written article but have some research, I will be glad to put it together in readable form.

I found this article, written in 1987 by Christopher Janson of Thomas More College on "The Bridges of Cincinnati," to be quite interesting. It is appropriate in light of the growth explosion along all sides of the Ohio River and the Labor Day Fireworks Display. John Roebling was prophetic when he wrote:

"Who has the imagination and foresight enough to foretell the number and the wealth of the people which, one hundred years from hence, will crowd both shores of the Ohio.....where, fifty years ago, the Indian trader hardly dared to penetrate, there your city stands now.....Queen of the West."

SPANNING THE OHIO

The Bridges of Cincinnati

by Christopher Janson

The mighty Ohio River. It's been a vital waterway for transportation and commerce in the Greater Cincinnati area for centuries. It was the safest and most practical route for early pioneers and settlers traveling westward. For the cities of Cincinnati and Covington, the Ohio River was the key to wealth and prosperity.

To build a bridge across a river so wide was an unthinkable idea to the early inhabitants of these cities. Even if the technology to build such a structure had been available, the capital needed to finance such an endeavor was not available within these river communities. Establishing a standard means of transportation that would link each community with its neighbor on the opposite shore was, however, an important issue. They found the means of accomplishing this in the ferryboat.

Robert Benham was the first man to be granted a ferry license by Winthrop Sargent, Secretary of the Northwest Territory, on February 18, 1792. Benham's ferry operated at the mouth of the Licking River "to both points of said rivulet on the opposite shore."

Several more ferry licenses quickly followed Benham's. A family named Kennedy operated their own horse-drawn team boat at this point in the river. These ferrymen were unique in that they settled on both sides of the Ohio. Thomas operated from the Kentucky shore; his brother, Francis, operated from the Ohio shore. Francis drowned while ferrying cattle for "Mad" Anthony Wayne during his campaign against the Indians.

1800-1815 was a period of rapid growth for the city of Cincinnati. More settlers moved in, economy and trade began to improve. The first steamboat came to the city in 1811. Shortly thereafter, the War of 1812

ensued, and a call for recruits. Construction of a steam cotton mill in the same year brought Cincinnati her first factory. Ambitious Cincinnati boomers began to talk about big things for their city. In 1815, the renowned Dr. Daniel Drake wrote in, *Picture of Cincinnati*:

Some enthusiastic persons already speak of a bridge across the Ohio at Cincinnati....The period at which this great project can be executed is certainly remote.

For the time being, bridge talk continued to remain just that. In 1819, Oliver Farmsworth mentioned the prospect in his first *Cincinnati Directory*:

Some consideration has at various times agitated the public, touching the practicality of bridging the Ohio opposite Cincinnati. Many have ridiculed it as an hypothesis at once absurd and visionary, whilst others have viewed it in a more serious light. It is now satisfactorily ascertained that a bridge may be permanently constructed, and at an expense vastly inferior to what has generally been supposed.... There is little doubt, if we can be allowed to formulate an opinion from the public enterprise which now distinguished our inhabitants, that very few years will elapse before a splendid bridge will unite Cincinnati with Newport and Covington.

It was several years before the first move for a bridge would come about and somewhat ironically, its genesis was from neither Cincinnati nor Newport and Covington, but from a city some 80 miles south of the river, Lexington, Kentucky. Keenly aware of the eco-

nomie benefits such a bridge could have upon their own rapidly growing city, a group of citizens journeyed to Cincinnati in the spring of 1839, and a public meeting was held to consider the feasibility of building a bridge to unite Covington and Cincinnati.

The timing, however, for this effort was unfortunate. The financial panic of 1837 hit the west with great impact in 1839. Cincinnati spent the next four or five years struggling through the crisis with the rest of the nation, but in 1846 the Kentucky General Assembly granted a charter to the "Covington and Cincinnati Bridge Company."

The bridge proponents had a bigger fight on their hands on the Cincinnati side of the river. Steamboat owners and some Cincinnati businessmen protested, and the State of Ohio Legislature refused to grant the bridge company a charter. The company, however, gained credibility when two master bridge builders showed interest. Their reputations for building suspension bridges were spreading rapidly throughout the country. Charles Ellet had already notified the company of his interest in the project, but the other man, John Roebling, a German immigrant and master bridge engineer, was invited by the board of the company to come to Cincinnati in the spring of 1846.

In a letter to the directors of the bridge company, Roebling prefaced his report with this prediction:

As one of the greatest thoroughfares in the country, and spanning one of the great rivers of the West, this bridge, when constructed, will possess great claims as a national monument. As a splendid work of art and as a remarkable specimen of modern engineering, it will stand unrivalled upon the continent.

Its gigantic features will speak loudly in favor of the energy, enterprise, and wealth of the community which will boast of its possession.

In the report itself, Roebling weaves a brilliant argument against the bridge's opponents, displaying his engineering talents by detailing the precise measurements and description of the bridge in terms of the location and the geological structure of the riverbed. Also included was a detailed description of the bridge's anchorage, cables, suspenders, stays, the floor of the bridge, and grading. In his report, Roebling leaves no stone unturned and concludes with an eloquent appeal to investors which is worth noting because of the incredible foresight it contains:

Who has imagination and foresight enough to foretell the number and the wealth of the people which, one hundred years from hence, will crowd both shores of the Ohio at Cincinnati?.....Where, fifty years ago, the Indian trader hardly dared to penetrate, there your city stands now - a new city, emphatically - boasting of the proud name of the Queen of the West, the commercial emporium of three of the richest states in the Union! When each of these states will count fifteen millions of inhabitants, who will all contribute to the growth and wealth of your city, who will then define its extent and commerce?

Despite Roebling's eloquent appeal, the Ohio Legislature turned its ear more to the opponents' response to the pamphlet, which was published immediately after, and refused to grant a charter in 1847. Ironically it was the appeal made by the other master bridge builder, Charles Ellet, that finally made the Legislature change its mind. Ellet's suspension bridge at Wheeling, West Virginia was near its successful completion and his proposal for a bridge at Cincinnati called for a single arch of

fourteen hundred feet. Ellet's plan was enough to cause the Legislature to grant a charter to the Covington and Cincinnati Bridge Company on March 26, 1849.

The bridge company scrambled to secure stock subscriptions. Bridge proponents turned hopeful eyes toward a suspension bridge connecting Newport and Covington which was completed in 1853 at a cost of \$80,000. For the first two weeks after the bridge's opening, everything went well. Then tragedy struck. It collapsed into the river when a drove of cattle crossed the bridge, dashing, in the same stroke, the hopes of many investors. The next ten years or so told a story of continued disappointment for the bridge company.

Early in the 1850's, gold was discovered in California, and a railroad boom swept the country. Prospects of a bridge over the Ohio in the west faded in the midst of gold fever and railroad zeal. The company desperately needed a new spirit of enterprise. The election of Amos Shinkle to the board of directors of the Covington and Cincinnati Bridge Company on February 5, 1856 was just the right spirit.

Shinkle was well-known as president and founder of the First National Bank of Kentucky, a self-made man who made his fortune through the coal supply stations for steam-ships on the Ohio. Shinkle made many trips to and from Covington by steamboat and road in his early years. He understood the importance of a strong transportation system that linked trade and prosperity to the community. He brought new spirit to the stagnated dream of a bridge. The company was reorganized and Roebling was brought back to the city to negotiate a contract. The company called on stock subscriptions for the first ten percent (\$10.00) on each share.

By September 1, 1856, \$314,000 in stock was subscribed, and all was ready for work on the bridge to begin. Timber was laid to form a solid platform on which to construct the

masonry. Pumps were employed on the Cincinnati side to remove water flow into the excavations.

The process of constructing the masonry piers was tedious and slow because of flooding and the rough winter of 1856-57. In addition, a series of national financial problems created the Great Panic of 1857 further hampering efforts to build the bridge. As the towers neared completion, it was now apparent that the bridge was going to cost nearly \$1 million dollars, much more than the company had originally planned.

As if the company did not have enough problems on its hands, the Civil War began. In April of 1860, the guns which fired on Fort Sumter split the country in two, pitting North against South. Work on the great structure was temporarily suspended.

Cincinnati was threatened by Confederate bands marching through Kentucky in September of 1862. In order to defend the city against possible attack General Lew Wallace ordered the construction of a pontoon bridge. They lashed barges together in order to transport men and supplies across the river for defense. This was a great advantage to the bridge company. People saw for the first time that a permanent bridge could be beneficial to people on both sides of the river. Preferred stock subscriptions were once again secured and by the middle of 1863, work on the bridge resumed.

By the end of the war, the masonry towers were completed and in early 1865, the first shipment of wire arrived from England. The wire was wrapped into ropes at the Roebling Factory in Trenton, New Jersey, and delivered to Cincinnati on reels. Then it was drawn on flatboats and raised by steam tackle. The suspending of the wire allowed the completion of the first footbridge on October 4, 1865. Through the following year, the cables were hung and suspenders attached to connect to the floorbeams. The bridge's promenade was opened to the public on

December 1, 1866; a formal opening was celebrated January 1, 1867.

Since its opening, the bridge has seen several renovations. The first was in the 1890s, designed by William Hillenbrand. Steel cables, a new floor and the present metal tops on the piers were added. In the 1920s, a new ramp was constructed on the Cincinnati side to allow street cars to cross the bridge into the Dixie terminal. The bridge's greatest trial came during the Great Flood of 1937. It was the only bridge that remained open to cross the Ohio River. In 1963, the toll was removed from the bridge and it was purchased by the Kentucky Department of Transportation presently in charge of maintaining the structure. In 1975, it was designated as a National Landmark by the Department of the Interior and in 1982, through the efforts of the Cincinnati chapter of the American Society of Civil Engineers, it was renamed The John A. Roebling Suspension Bridge. The grandeur and splendor of this structure was enhanced further in 1983 with the addition of lights to the bridge through the efforts of the Light the Bridge Committee.

To this day, 131 years after its opening, it continues to serve those people on both sides of the river and stands as a monument to the courage and determination of the men who saw through so many obstacles to its completion. Roebling wrote in his final report to the Bridge Company:

Thus united by strong cords of wire, we all fervently hope, for the sake of a common country, that these two great commonwealths will forever continue to use this national highway as a perpetual link of mutual interests and amicable relations, commercially as well as socially and politically.

The L & N Bridge

Inspired by the success of the Covington-Cincinnati Bridge Company, one year after the opening of the Suspension Bridge, in 1868, the Newport-Cincinnati Bridge Company was

chartered and the bridge we today know as the L & N Bridge was formally opened May 16, 1872. Ushering in a new era of railroad expansion, this bridge would serve as both a highway and railway link.

Jacob Linville was the chief engineer for the L & N Railroad as well as the designer of the original bridge whose construction was carried out by the Keystone Bridge Company. The design incorporated simple Whipple-Murphy trusses. The bridge's 42 foot width encompassed a single track rail line, a roadway next to it and a walkway in between the two. The bridge's channel span was 418 feet and total length between shore piers was 1,640 feet.

In 1896-97, the bridge was found to be unsafe and was completely reconstructed to its present design. The new design incorporates four parallel trusses in subdivided Pratt form and was designed by M. J. Becker, chief engineer of the railroad at the time. The rail line has since been taken out of service by its owners, Seaboard System Railroad.

The Southern Railroad Bridge

The next bridge to be constructed was built expressly for rail traffic. In 1877, the Southern Railroad Bridge was completed between Cincinnati and Louisville establishing a vital link between the coal fields of Kentucky and the industrial areas of the Great Lakes. Like the L & N, this bridge also incorporated the Whipple-Murphy truss and its designer was Jacob Linville in collaboration with a man named Louis Ferdinand Gustave Bouscaren. Once again the contractors for the job were the Keystone Bridge Company. At the time of its construction it was, at 515 feet across the channel, the largest truss span in the world.

The bridge we see today is the result of two major reconstructions. Between 1890 and 1911, the Cincinnati, New Orleans and Texas Pacific Railroad, operator of the Cincinnati Southern Railway under a lease arrangement, supervised the gradual replacement of

the approach spans to the bridge. The 30 foot spans of the Cincinnati viaduct were replaced with steel plate girder forms and Warren trusses.

In 1921, after almost a four year delay, work was begun to rebuild the entire bridge. Plans were drawn up by Ralph Modjeski, and the American Bridge Company began its reconstruction. It was composed of Warren trusses around the framework of the old bridge so that the bridge could remain in service during the construction. Today the total length of the river crossing is 1,481 feet as compared to the 1,472 feet length of the original bridge.

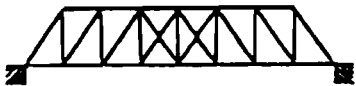
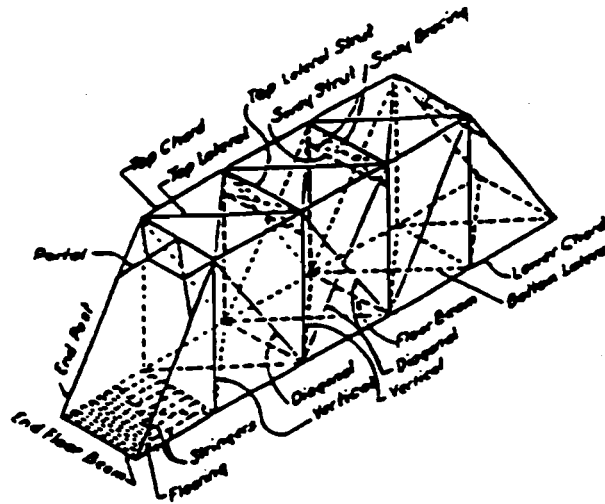
The Newport Central/Taylor-Southgate Bridge

"Inadequate" was the best way to describe the L & N Bridge's narrow roadway, and the citizens of Newport quickly found themselves in dire need of a new road bridge. From the beginning, the Central Bridge project was destined for success. The success of the project is credited to the determined men who stood behind it, most notably, Captain John Williamson, an influential Newport businessman and former steamboat captain. Williamson traveled east to solicit stock subscriptions. He made a public vow to complete the project within two years, a promise he kept. The bridge was completed in 1891.

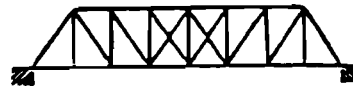
The bridge's combined cantilever-truss design was a form perfected by Louis Ferdinand Gustave Bouscaren, the nationally famous bridge engineer who had also helped design the Southern Railway bridge. Two 252 foot end sections with a 520 foot span reach across the river channel. The design incorporates a long middle cantilever section with Whipple trusses at either end. The opening of the Central Bridge marked a crucial turning point in the history of Newport and was celebrated with great fanfare in the city. Newport leaders declared a city-wide holiday and organized a gala parade.

In the 1980s, the Kentucky Department of Transportation found the bridge, originally built by Keystone

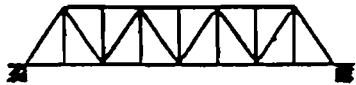
DIFFERENT TRUSS DESIGNS



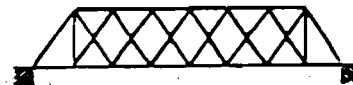
THROUGH HOWE TRUSS



THROUGH PRATT TRUSS



THROUGH WARREN TRUSS



QUADRANGULAR THROUGH WARREN TRUSS



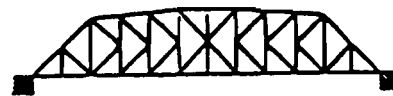
THROUGH WHIPPLE TRUSS



CAMEL BACK TRUSS



THROUGH BALTIMORE TRUSS



K-TRUSS



THROUGH TRUSS



PONY TRUSS



DECK TRUSS

SOURCE: FHWA 1969

Bridge Company of Cleveland, Ohio, to be in a deteriorating condition. [It was demolished on February 17, 1992, and on November 30, 1995, in the same place, the new bridge was dedicated. Previously, called the Broadway Bridge as well as the Central Bridge, the Taylor-Southgate spans the Ohio from York Street in Newport to (near Broadway in Cincinnati.)

The C & O/Clay Wade Bailey Bridge

Of the great railway bridges of this period, the last to be constructed was the old C & O railway bridge. William H. Burr was the designer of the original bridge which was constructed using a technique of building timber caissons out across the river to facilitate the construction of each consecutive cantilever. When the bridge was completed in 1888, it was the longest simple truss span in the world at the time at a length of 1,502 feet over the river. The design of the bridge employed subdivided Pratt trusses made of steel and wrought iron.

Over the first few years of its use, the weight of the rail loads it carried began to increase to a capacity which the design could no longer sustain. As a result, in 1928 the bridge was replaced by another bridge built next to it on the same piers. The total length of this new railroad bridge is 1,575 feet, composed of two subdivided Warren trusses over the bridge's four piers. The old bridge was bought by the Commonwealth of Kentucky who re-opened it in 1938 exclusively to pedestrian and vehicular traffic.

In 1968, the old C & O railway turned roadway bridge was determined unsafe by the Kentucky Department of Transportation. It was closed and subsequently demolished. In order not to damage the railroad bridge resting next to it on the same piers, the old bridge was jacked up using hydraulic jacks and tipped over into the river where it was then very carefully dismantled.

In its place, a span was designed by Hazelet and Erdal, a Louisville engineering firm. Though sched-

uled for completion in 1972, the new bridge named Clay Wade Bailey, was not opened until October 24, 1974. The Clay Wade's 1,475 feet of three span steel cantilever truss carries U. S. Routes 25 and 42 across the Ohio River. Its namesake was a newspaper reporter who covered the capitol beat in Frankfort from the 1920s to the early 1970s. During the latter part of his career, he worked as correspondent for the Kentucky Post.

The Brent Spence Bridge

A 1948 Master Plan proposed a new expressway system for the Greater Cincinnati Area. As part of this proposal, a new bridge was planned to carry the Millcreek Expressway, Interstate 75, across the Ohio to Kentucky. This bridge would serve to bring Greater Cincinnati Airport, Kentucky's industrial development, and expanding suburbs to within minutes of downtown Cincinnati.

Work on the Brent Spence was begun January 9, 1961, and the bridge was finally dedicated November 25, 1963. The federal government financed 90 per cent of the cost of the bridge, Kentucky 9 per cent and Ohio 1 per cent. Modjeski and Masters, an engineering firm based in Harrisburg, Pennsylvania, was responsible for the design. The span incorporates a through cantilever double-deck type and consists of three spans of 453 feet, 830 feet, and 453 feet, to make a total of 1,736 feet. This bridge is name after Brent Spence, who served Northern Kentucky for 37 years in the U. S. House of Representatives.

Besides the Brent Spence, three more expressway bridges were planned as early as 1963 but it was almost twenty more years before they would become a reality. In the meantime, the late 1960s and early 1970s saw mounting concern over increased traffic congestion in the Greater Cincinnati Area. A great part of the concern centered around the bottleneck created by the arrangement of the lanes on the Brent Spence Bridge which carries Interstate 75 south-bound on its top deck and north-bound on the lower

deck. Notorious for its traffic jams, the bridge often earned such infamous nicknames as the car-strangled spanner. It is only in the past few years that the bottle neck has been relieved with the addition of one new approach lane on each side of bridge.

An August 17, 1969 article in the Cincinnati Enquirer summarized the city's growing concern over the traffic by pointing out the source of the difficulties:

Northern Kentucky's increasing population and Cincinnati's expanding job opportunities have created a local traffic cycle that gives planners and traffic engineers a major headache.

Finally, in 1971, construction was begun on the Daniel Carter Beard Bridge to carry traffic from Interstate 471 in Campbell County across the Ohio and connect with Interstate 71, Columbia Parkway, and the downtown area. The Beard Bridge was not completed until 1977. Next to the Suspension Bridge, this bright yellow steel tied-arch span is one of the most esthetic on the river. The bridge's main span is 750 feet in length. The delay in the bridge's completion was the result of complications by Coast Guard regulations on navigational safety on the river which arose during the building process. Funding for the bridge was once again 90 percent federal and 10 percent state. Though named after Dan Beard, founder of the Boy Scouts of America and famous painter, author, and illustrator from Covington, the bridge is at times more familiarly known because of its color as the "golden arches" or the "Big Mac Bridge."

Carroll Cropper and Combs-Hehl Bridges

The completion of the Carroll Cropper and Combs-Hehl Bridges established the circle freeway link in Interstate 275.

Completed in August of 1976, just six months after the death of its namesake, the Carroll Cropper bridge connects Boone County, Kentucky, and Dearborn County, Indiana. Again, 90%

of the cost was provided by the Federal Government. This bridge's design is a three span continuous truss with a tied arch center span. The maximum span is 750 feet. Carroll Cropper, aside from being a Boone County Judge from 1942 to 1962, was a banker, church leader, and state representative.

The other I-275 bridge, the Combs-Hehl Bridge, was completed in 1979 at a cost of \$30.5. The bridge is constructed of two continuous thru-truss spans; each twin span has three lanes and full shoulders. As the last link in Interstate 275, its completion made I-275 the first federal circle freeway to cut across sections of three states. It is named after two men: former Kentucky Governor Bert Combs and Campbell County Judge Executive Lambert Hehl.

Franklin D. Roosevelt once wrote:

There can be little doubt that in many ways the story of bridge building is the story of civilization. By it we can readily measure an important part of a people's progress.

If what Roosevelt wrote is true, then this study of Cincinnati's bridges and their builders might be accurately described as the study of the growth of a civilization, or more accurately a community. Each one of these bridges is, in its own way, a work of art and each serves a different purpose whether it be the transportation of pedestrian, rail, or highway traffic. They stand as monuments to the men whose talent and determination brought about their construction. Today they continue to stand as symbolic and physical links between communities.

More Facts and Figures

Costs

Brent Spence Bridge

Total cost \$33 Million	
Super structure	\$ 3.878 Million
Sub structure	1.125 Million
Covington approach	3.8 Million
Cincinnati approach	20.5 Million

Clay Wade Bailey Bridge

Total cost	\$16 Million
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Taylor-Southgate Bridge

Toatal cost	\$38 Million
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Vehicular Traffic per day

Brent Spence Bridge 150,000

Clay Way Bailey 13,000

Taylor Southgate 5,000

Daniel Carter Beard
90,000



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August 1998



**INSIDE: Spanning the Ohio
The Bridges of Cincinnati**

Kenton County Historical Society
P. O. Box 641
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