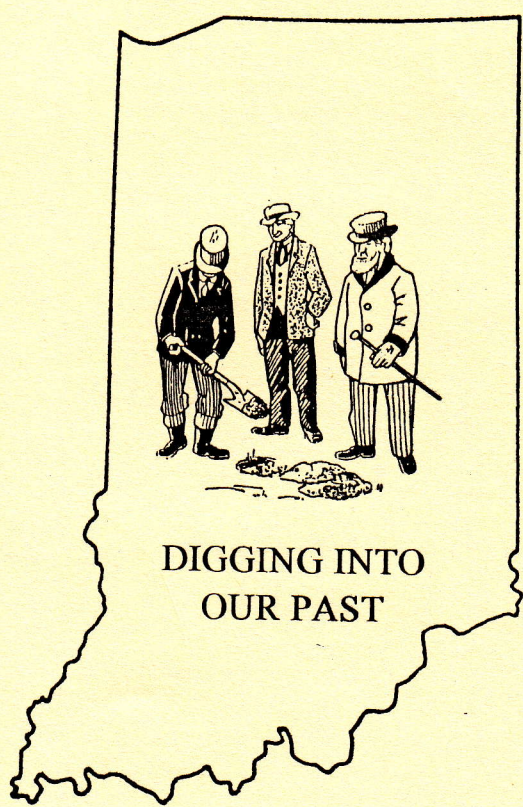


INDIANA CANALS



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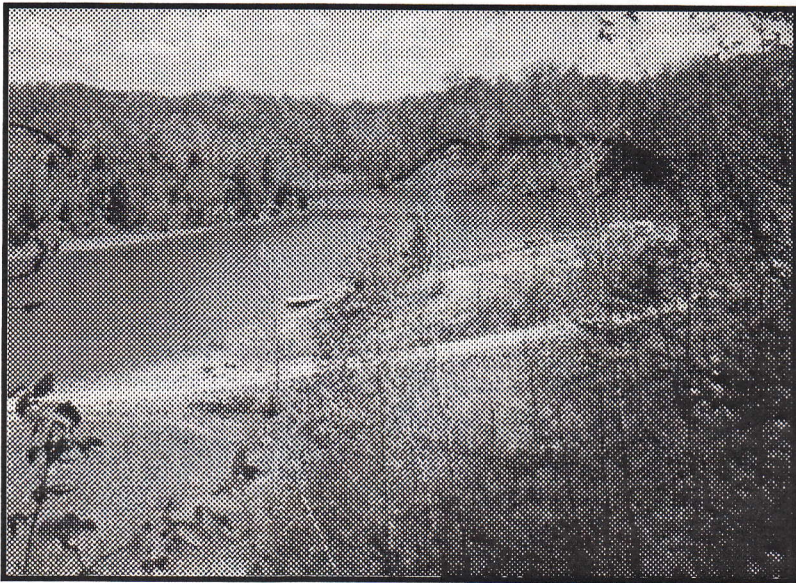
The Sugar Creek Foundry and its Wabash and Erie Canal Connections

By Charles Davis

The building of the Wabash and Erie Canal brought about the development of industries and towns along its course. Penn township in Parke county Indiana is a good example of how the canal opened distant markets to the local production of finished goods, such as iron plows and pottery, and to the harvesting of raw products, such as clay and lumber. Without the ability to transport goods, these industries and their owners would not have succeeded.

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Coke Oven Hollow located 2 miles west of Annapolis, IN, provided clay, coal, and some iron for the Sugar Creek Foundry and the potteries.

This is also an example of the influence one man often had on an early community. In this case we are talking about William Garten Coffin. He owned most of the land that is mentioned in this article. He established a foundry which became so successful that it was often referred to as Foundry or Foundry Hollow. This property changed hands many times over the years. I have documented these changes and have researched and revised an earlier map of the area done by Sam Swope in 1962 that was printed as an insert map in the Canal Society of Indiana Newsletter of August 1997. My goal is to accurately record and map the area in which I live, as a reference for future generations.

William Garten Coffin - Landowner, Foundry

William Garten Coffin was born February 22, 1811, in Guilford County, North Carolina. He married Semira in 1846. They had eleven children. He was a member of the Society of Friends. Throughout his life he moved

to Ohio, returned to North Carolina, moved to Parke county in Indiana in 1835, moved to Leavenworth, Kansas after serving as an Indiana legislator, and then returned to Parke county. He is listed as a blacksmith; foundryman; machinist; attorney; claim agent; flat-boatman; steamboat pilot; Whig; Republican; Southern Superintendent, U. S. Indian Office, CA 1861-1865; and U. S. government office in charge of mining operations on Lake Superior for four years.(1)

Mr. Coffin served in the Indiana State House of Representatives from 1842-1844 and in the Indiana Senate from 1844-1847.(2) He studied law under Parke county Judge William P. Bryant, who was also the Chief Justice of Oregon in 1850 and for a number of years thereafter. Judge Bryant practiced this profession until his death in Rockville, IN.(3)

On October 8, 1864, the Sauk and Fox Native Americans assembled in a grand council to sign a treaty reaffirming their allegiance to the United



William G. Coffin started the Sugar Creek Foundry in 1835 at this site which later came to be known as Foundry Hollow.

States and to offset efforts of Confederate officers and disloyal Native Americans of Indian Territory, who had called a rebel council in Creek county. The treaty was signed by Keokuk, Ouenemo, Black Hawk, and Batteau. One witness and signer was William G. Coffin, Superintendent of Indian affairs. (4)

W. G. Coffin's wealth and industrious background were responsible for the operations at Foundry Hollow, Coke Oven Hollow, Aetna, Stumptown and potteries in nearby Annapolis. In 1835-36 he bought up all the land necessary for the timber used for flatboats and mining. Clay was dug and his "right to dig clay" was leased near the foundry on an acre of land (later Aetna). Some of the iron used was mined in Foundry Hollow. Coal was mined and coked in Coke Oven Hollow to be used at Foundry. Clay was dug in Coke Oven Hollow for the coke ovens, the construction of smelting furnaces, the pottery companies and later for tile mills. To get an accurate account of Foundry is to read a letter by Wm. G. Coffin which appeared in some newspaper columns years later entitled "The Coffin Foundry":

Fairmount, Kas., July 5, 1893.

Exum Newlin

Parke County, Ind.

My Dear Friend:

Thee asks for a historical sketch of the old Sugar Creek foundry.

It was commenced in the spring of the year 1835 by Joseph Woody and W. G. Coffin and my brother, Thomas C. Coffin, the firm name of Coffin, Woody & Co. Woody was succeeded soon after by William Rhubottom and him by Samuel Harvey; firm name changed to Coffin, Harvey & Co. We did a general foundry business and plow manufacturing, extensively for those times, our product going as far as Logansport north, Danville, Ill., on the West, Vincennes on the south and Danville, Ind., on the east. We used an excellent article of coke as fuel made from coal mined on our land in what is yet termed Coke Oven Hollow. Our iron was procured mostly from Cincinnati and the blast furnaces in Ohio and Kentucky. T. C. Coffin was our principal moulder, while W. G. Coffin was also moulder, pattern maker, foundryman, machinist, black-smith, carpenter, millwright, engineer, flat boat builder and Wabash River, Ohio and Mississippi River pilot. I also practiced dentistry and dealt out medicine to the sick neighbors in a very small way; was politician, stump

speaker, member of the Legislature, both House and Senate, read law under Judge Bryant, was admitted to the bar, but only practiced to a very small extent, and I think I may safely say never was a great success or entire failure at anything. I built two steam saw mills on the land, hewing the timber, doing carpenter, millwright work and built all the engines except the boilers. I built flat boats on Sugar Creek from three to eight a year, and ran two a year to New Orleans for twelve years and finally wound up and quit on the general wind-up of flat-boating on the western river in 1848. Went into the government service as agent of the copper mining on Lake Superior, and have been in government service as Superintendent of Indian affairs or claims attorney ever since, not continuously, but most of the time; have been shipwrecked on Lake Superior, water logged in the Gulf stream.

As a beggar I write all the Friends yearly meetings in the world, but once as a beggar I raised nearly twenty-four thousand dollars for the building of Kansas yearly meeting house and after all the vicissitudes of fortune, hair-breath escapes, I am still hearty, hale and stout, stand up straight, walk with a light springy step, at the age of nearly 83, with a reasonable prospect of more years to come, if it please my great Lord and master to continue his wondrous goodness and mercy to one so utterly unworthy even to bow with submission and obedience to his will.

Very Truly your friend.

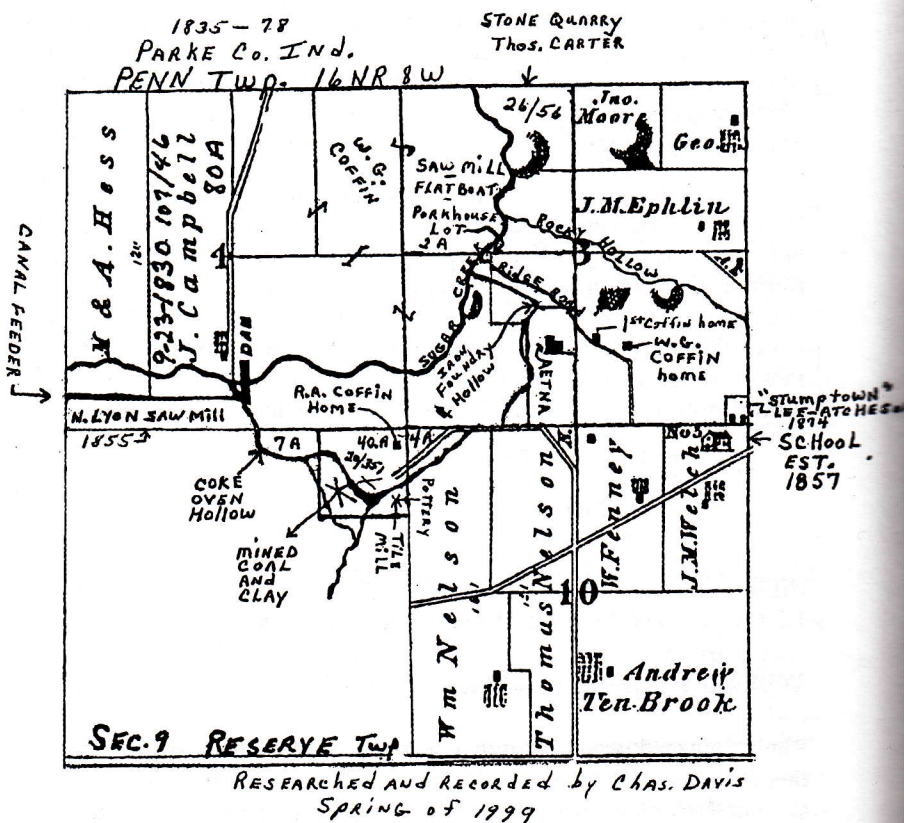
W.G. Coffin (5)

His last major purchase was February 9, 1854, when he acquired more than 1,200 acres. Mr. Coffin mentions Wm. Rhubottom.

William Rhubottom - Wooden Pumps

Rhubottom made wooden pumps one mile south of Annapolis and delivered them by wagon to various neighborhoods. He sold them out of O. J. Innis' store in Rockville and at Hines wagon shop in Waveland. His hand-made pumps took First Premium at both the state and county fairs as the best to use. Bloomingdale was Parke County's first fair grounds and was located in the northeast corner of Section 23. (6)

The four parts of Foundry consisted of the Foundry itself, a steam saw mill, a finishing shop, a blacksmith shop, and three dwelling houses. The boiler used in the foundry was hauled by a six horse team from Cincinnati. This



Map of Penn Township in Parke County with Additions by Charles Davis, 1999.

industry was situated on a 34 acre tract with two acres containing a pork house, a saw mill and a flatboat yard. (7)

Sam N. Baker - Potter

The pottery business was started in Reserve township by Sam N. Baker, who came to Parke County in 1826 from Shelby County, Kentucky. He started the red ware business not far from Leatherwood Station on the road north of the station in 1830. This road takes you to West Union, the area where Manwarring Basin was on the Wabash and Erie Canal. (8)

He hauled clay from a point near Leatherwood Creek and southwest of Bloomingdale. The "clip" clay, as it was then called, for glazing was found in "Wildman's Hollow". This is where I (Charles Davis) live and clay is still plentiful. Mr. Baker ran the shop about four years. He then located in Rockville and made red ware. The business grew rapidly for there was a steady demand for his output. Before long his trade area included western Indiana and eastern Illinois. The pottery was hauled in wagons packed with straw to the door of the immigrant or settler and to local country stores. Still later the finished ware was shipped up and down the Wabash and Erie Canal. Mr. Baker owned his own canal boat. He died in 1860. (9)

David Atcheson - Potter

The first pottery company in Annapolis two miles east of Foundry was Atcheson, Huggins and Bennage, all Ohio men from Mogader, Summit county, Ohio, the great stoneware center of the United States. David Atcheson came to Indiana in the fall of 1840. At Lafayette, Indiana, he fell in company with Albert Coffin, who was connected with the Sugar Creek Foundry located in Foundry Hollow on Sugar Creek. Atcheson asked him where to get clay. Albert Coffin told him he could get it close to the foundry. Atcheson came to the foundry. and dug some clay. He then took this sample to a blacksmith shop in Annapolis and put it through white heat, salted it, and found it made a very good body and took a good salt glaze. He concluded that this would be a good location for the stoneware business. He wrote to David Huggins about his discovery. So Huggins formed a partnership with Atcheson and took Jacob Bennage in with them. They came to Annapolis in the winter of 1840, bought a house on the lot north of the shop at this time run by Atcheson and Lee, built a kiln, and burnt their first ware in August 1841. (10)

William G. Coffin, Thomas C. Coffin, Samuel Harvey & Company granted to David F. Atcheson for the sum of one dollar the "right to dig clay" on property they lived on for his pottery. In a few years this pottery company was dissolved. (11)

William G. Coffin Sells The Foundry

Coffin, Harvey and Company sold the foundry, the steam saw mill, the finishing shop, the blacksmith shop, the pork house and the flatboat yard to Albert Coffin and Franklin Rayl for \$6000 on December 26, 1842. (12)

Next William G. Coffin sold 1.40 acre to David F. Rayl, Albert Coffin, Nathan Hunt for \$50.00 on May 15, 1843. This was land for their pottery to be erected under the name of "The Aetna Manufacturing Company." The same date, William G. Coffin sold David F. Huggins one-quarter acre, attached to the above land. (13)

William G. Coffin Buys Back Foundry

On July 9, 1847, William G. Coffin bought back the foundry and everything else he had sold to Albert Coffin and David Rayl for \$6000. This time William was sole owner of the land and business. His brother Thomas C. Coffin sold out on December 26, 1842. By 1850 Thomas was in Orange County.

I went to the Bloomingdale Cemetery and found Thomas' wife's grave stone. It reads "In loving memory of Mary Coffin consort of T. C. Coffin who departed this life March 19, 1841 in the 27th year of her age." A slab of concrete lays at the base of her stone which says, "My mother's grave visited October 4, 1893, Frank Rayl Coffin." (14)

During these years this business venture did extensive work for the Wabash and Erie Canal. Some of the products of the foundry were "Wickets" for the locks of the canal. One of these is in the possession of the Indiana State Museum. Kettles, some which could hold more than 60 gallons; logging chains; cast iron moldboard plows; and plowshares which were used in place of the wooden plows of the first settlers, were all cast there. The cast iron plows were so heavy and cumbersome that they did not come into general use.

I read that in 1916 one of these plows made at the foundry was on the property of Frank Wood in Bloomingdale. One of the kettles was also mentioned as doing service as a watering trough on the Coffin farm where it was made. I've looked into these reports to see if the products were still there but have found nothing. (15)

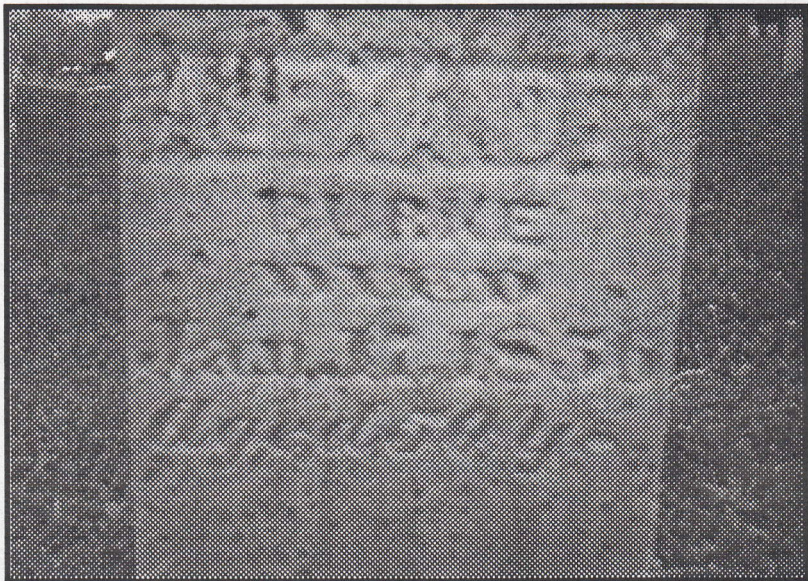


Franklin Rayl worked at Wm. G. Coffin's foundry in Foundry Hollow during the days of the Wabash & Erie Canal. His tombstone is located in the Poplar Grove Cemetery in Washington township.

Franklin Rayl - Moulder

Franklin Rayl was the general moulder at Foundry, since he had previous experience in this line of work. He was born in Guilford county, North Carolina on June 26, 1813. He came to Parke county in 1837. He served his apprenticeship at the moulders trade in Richmond, Indiana. He worked for William G. Coffin for 15 years. In 1850 he went to California to mine for two years. He returned to Parke county and engaged in farming and stock raising. He married Miss Gilla Rawlings in 1844. She later died on February 22, 1869. He then married Polly Lamb in 1870. His farm was in Section 33 Penn township and Sections 5 & 6 in Washington township.

Rayl died on August 7, 1889 and was buried in Poplar Grove Cemetery, Row 8, the eleventh stone from the drive. (16)



Alexander Burke made wickets for the Wabash & Erie Canal in Foundry Hollow. His gravesite is in Bloomingdale Cemetery.

Alexander Burke - Pattern Maker

Alexander Burke made patterns for the molds that were used in shaping the articles made at the foundry such as the wickets. When Burke died, there was a sale of his personal property in Annapolis. It consisted of one Lever watch, carpenter and millwright tools, books, a note for \$70.00 payable in machinery and castings, bed and bedding. The sale was held on March 29, 1856. Burke is buried in Bloomingdale Cemetery.

Exum Newlin owned the square used in laying off these patterns. I've inquired about these items, but no one seems to know what happened to them. (17)

Nelson McClure - Sawmill

Nelson McClure operated the steam saw mill and sawed all the lumber used

in the construction of the Feeder Dam across Sugar Creek below Foundry. This was the shipping point for Foundry, Aetna and Annapolis until the canal closed. His obituary said:

"Uncle Nelson McClure is dead at the age of 94 years. He has been a landmark in this community for most of 80 years. He came here from Virginia at the age of 13. Was the son of a Revolutionary soldier. Among those present

were Horace Wheeler of Dana, James Chapman of Paris, Illinois, Mrs. Laura Shirk of Silverwood, Mr. and Mrs. Lou Maris of Terre Haute." (18)

McClure came here with his older brother Mordecai. Another source says, "Nelson settled at Feeder Dam in 1826 on Sugar Creek, moved to Annapolis, was a painter for over 40 years." A look at land entries shows that Mordecai bought 13.41 acres SW frac. Sec. 15, in Penn Township on October 26, 1826, The Feeder Dam is in Section 4. McClure lived on lot #2 in Annapolis. He was born on July 14, 1813 and died on January 26, 1908 and was buried in Linebarger Cemetery. (19)

Thomas Carter - Flat Boat Builder

Thomas Carter built flat boats at the Coffin boatyard for canal navigation as he engaged quite extensively in shipping stone to points of construction along the canal. He died on January 13, 1873 and is buried in Bloomingdale Cemetery.

Willaim Coffin Buys-Sells Pottery Several Times

In 1853 William G. Coffin bought out the Aetna Manufacturing Company from Albert Coffin and David F. Rayl, etal. Later in the same year he sold Aetna to Crawford Laughlin. The deed reads, "Containing 1.40 acre with stoneware manufactory erected in said lot together with dwelling houses. (20)

It was at this time that William G. Coffin started selling off vast amounts of his land. On April 24, 1854 he sold 558 acres to the Illinois Central Railroad for 60 shares of stock and \$10,000. The railroad never went through this land. (21)

The Cincinnati, Hamilton, Dayton Railroad went through Bloomingdale almost 2 miles south of Annapolis. This caused the town of Annapolis to decline. Coffin must have had inside information and made some money at it. May 19, 1854 the Parke County Whig had an ad in it which says, "Cleveland and St. Louis Railroad. William G. Coffin of Parke Co. has been appointed agent for the above named road. All persons desiring to transact business with said Railroad Co. will apply to him. (22)

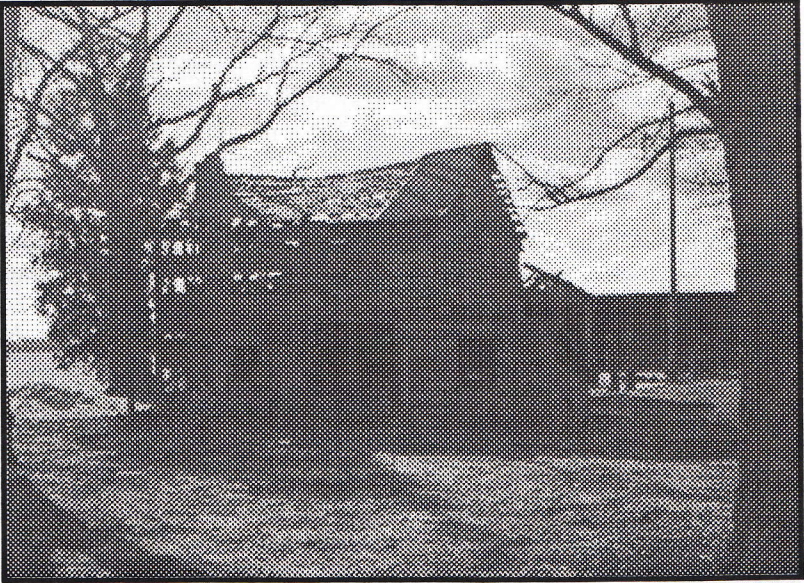
It was at this time the Aetna Manufacturing Company lost its name. It is called Foundry Pottery by A. H. Lee in his historical article in 1893. Crawford Laughlin ended up letting William Coffin have the Aetna Pottery back. (23) Also Coffin regained the "Right to dig clay" lease at the same place August 19, 1854 against David F. Atcheson. The Common Pleas Court put it up for auction and Coffin bought it back. (24)

January 20, 1855 William G. Coffin sold the former Aetna pottery to James S. Gapin for \$160.00 plus the "right to dig clay" on various places on Coffin property including Coke Oven Hollow. (25) Mr. Gapin continued the business at that place until later in 1855 when he, in company with his brother of Middletown, IN, took their departure for the California gold fields. While en route James took sick and died while aboard a vessel and was consigned to a grave in the sea. The establishment, in the mean time with closed windows and doors, was a mute witness to the departed sons of the other days and finally fell to decay.

William G. Coffin Leases Saw Mill

October 27, 1855 William G. Coffin leased his steam saw mill and five acres to Nathaniel Lyon. Mr. Lyon moved the mill to Sugar Creek running parallel to the Wabash and Erie Canal feeder pond and canal feeder in Section 4. Lyon was in full possession of mill and land but, when he no longer had need of them, the land and mill were to remain the property of Mr. Coffin. In one year's time Mr. Lyon had to pay William Coffin \$900.00 plus 1,000 bushels of crushed corn for feed.

With business booming and the population growing, one room school houses were being built. May 25, 1857 John M. Welch deeded one-half acre to Sam Davis, Geo. McDonald, and Henry Sinton, trustees of Reserve Township, for the building of school house No. 5 in Section 10. The school was located across the road where Stumptown was. It is still standing at the same place on property owned by Earl Johnston. Mr. Johnston lives in the old Welch place. (26)



School No. 5 in Penn township was built in 1857 on the land of John M. Welch during the time of the Wabash and Erie Canal. It stood across from the old Redford and Lee Pottery located about 1/4 mile east of Foundry Hollow,

John M. Welch was born in Kentucky Nov. 19, 1820 and was 18 years old when he came to Parke County. Married Elizabeth Moore in 1847. In 1867 he was converted and joined the M. E. Church at Linebarger Chapel. He was buried in the Friends Cemetery. (27)

Robert Addison Coffin

August 21, 1862, Robert Addison Coffin bought 40 acres from William G. Coffin in Reserve township Section 9 (Coke Oven Hollow). Robert built a house there for his home and started a stoneware business which was superintended by Crawford Laughlin. In regard to the deed/lease on the clay, it covered all the land belonging to William G. Coffin, and included the clay on the land in Coke Oven Hollow bought by Robert A. Coffin. As mentioned earlier, this deed was made to James Gapin. When Gapin died the deed for the clay site fell to his brother Stephen Gapin, who lived in the southern part of the state. (28)

In 1867 Welch and Lee, owners of the Annapolis pottery bought the right

of Stephen Gapin for all the clay to be used in the Annapolis pottery. The deed instructed them "not to block or obstruct at said clay banks." It included land where the Aetna factory stood. About 1870 the stone tile business was started in Coke Oven Hollow by Robert A. Coffin, superintended by William L. McIntyre and run for two years. (29)

Robert A. Coffin bought the land and shipped clay to potteries in Delphi, Attica, Covington, and Maumee via the Wabash & Erie Canal as a means of getting money to start his own pottery. The year before he built his pottery he shipped 669 tons of clay at one dollar per ton. An advertisement in the newspapers reads as follows:

STONE TILE

At Red Tile Prices

R. A. COFFIN

Coke Oven Hollow, two miles west of Annapolis

Would say to the public that he is manufacturing and selling genuine Stone Tile at Red Tile prices. That Stone Tile are superior to any other, must be apparent to all. They possess more than double the strength of any other, and will last for all time to come, if properly put down. Besides the purposes for which Tile are ordinarily used, they will answer every purpose for which metallic piping is used; by properly cementing the joints. Then we would say, call and get the best as they may be had as cheap as an inferior article.

August 23, 1874 4tf.

Little and Heyworth brothers started their stoneware business in connection with the mill in Coke Oven Hollow in 1875 and discontinued in 1878.(30) Jan. 9, 1865, William G. Coffin sold 639 acres including Foundry, Coffin farm to Sam Jordan for \$7,000. William Coffin at this time was living in Kansas settling there as early as 1860. (31)

August 13, 1868 Mr. Coffin sold 320 acres, the rest of his land in Sections 3 and 4 to the Indiana, Illinois Central Railroad.(32)

April 21, 1874 Sam Jordan sold 1 acre of land to Alex H. Lee and R. G. Atcheson. Jordan established a stoneware pottery on this spot in 1870

which went by the name of Stumptown. (33) Francis Redford was also co-owner with Lee and Atcheson. In a short time Redford sold out to Atcheson and Lee who carried on for one year and then traded the factory to George Wilkins for the factory in Annapolis. John Hart, at this time, became a member of the company after 3 years. Hart also sold out to Atcheson and Lee. This property changed hands repeatedly during a period of ten years; by 1880 it had lapsed into complete inactivity. (34)

R. G. Atcheson - Potter/Farmer

The Rockville Tribune of February 24, 1932 carried the following obituary of R. G. Atcheson:

R. G. ATCHESON PASSES AWAY THIS MORNING

**Prominent Annapolis Man
Dies After Long Illness;
Funeral to be Held Friday**

R. G. Atcheson, 88, well known farmer of Annapolis, died at his home there at 7 o'clock this morning. Death followed an illness of complications which has afflicted the deceased since about Christmas. He would have been 89 years of age March 10.

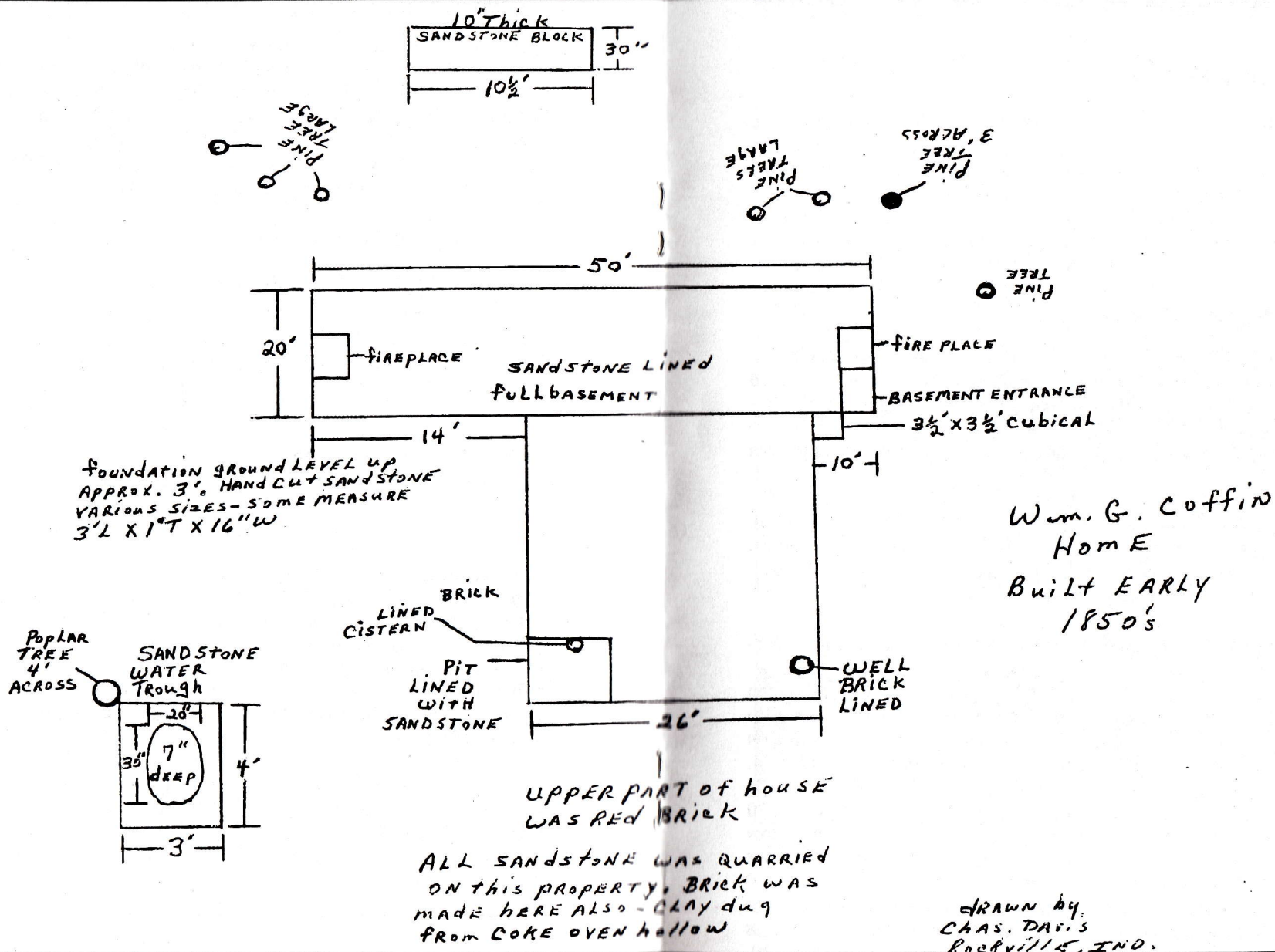
Mr. Atcheson was a Civil War veteran, serving as chaplain for the local G. A. R. post for many years. His death leaves but ten veterans in Parke county.

The deceased had lived his entire life in Parke county and for many years engaged in the potter's trade. He was a man of unusual intelligence and was prominent throughout the county.

He was a member of the Christian church.

He is survived by the wife, three daughters, Mrs. Lloyd Madden of Bloomingdale, Mrs. Frank Sibley of South Bend, Mrs. Lillian Bodreau of Illinois and one son, Howard of Scottsburg.

Funeral services will be held Friday morning at 10:30 at the Friends church in Bloomingdale with Rev. C. C. Griggs officiating. Burial will be in the Bloomingdale cemetery.



HOME OF WILLIAM G. COFFIN BUILT IN THE EARLY 1850S

George Wilkins - Miller

George Wilkins was born in August of 1810 in Franklin County, IN where he lived on the Coffin farm about 2 years in Penn township. He then returned to his farm in Sugar Creek township where he resided until his death. He was founder of the Mill Creek Church. Icy Thomas was the wife of his youth and died in 1831. The year 1858 he married Elize Jones. It was Wilkins who built the first mill in Bloomingdale on the south side of the original town. He also was co-builder and owner of the Wilkins grist mill at Mill Creek in Sugar Creek township from 1835-77. Wilkins died December 8, 1878. (35)

August 24, 1874 George Wilkins bought the Coffin farm from Sam Jordan then sold it to Thomas K. Cannon September 20, 1876. Foundry ceased operations about the time Aetna was bought by James Gapin in 1855. But when Gapin died in that year both Aetna and Foundry were nothing more than history; Coke Oven Hollow would be used for decades to come. (36)

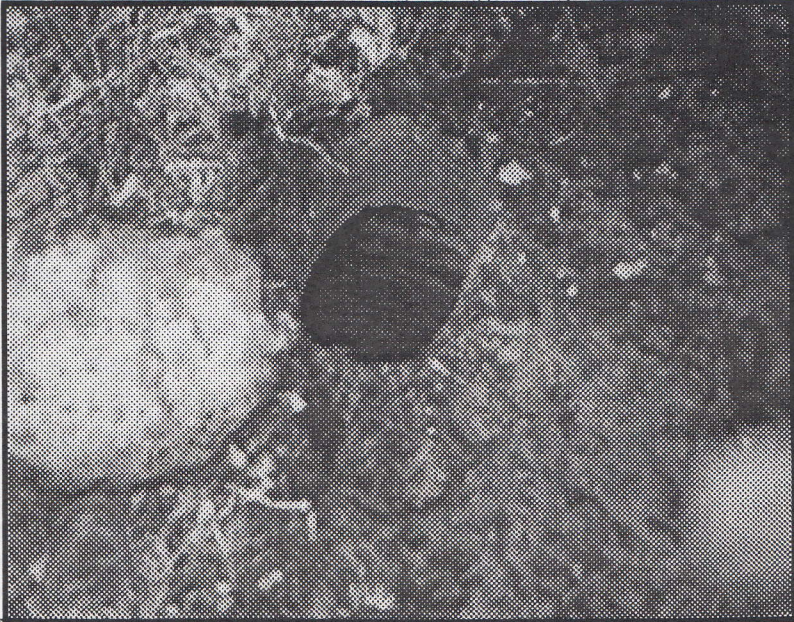
On November 6, 1894 Frank Kelly, guardian of Robert Addison Coffin, leased Coke Oven Hollow to Jacob P. Kessler and Alfred Hollingshead. This lease was for coal, clay and other mineable materials. Coffin agreed to put the tile mill and burning kiln into good running order in the deal. This lease was for three years. (37)

Robert Addison Coffin (Additional information to earlier reference)

Robert Addison Coffin was born in Randolph county, North Carolina, on August 17, 1818. He lived there until about the age of 12 and moved with his parents to this county in 1830. He was married to Sarah J. Swaim on February 13, 1849. They lived together until her death on October 14, 1860. He was again married to Luzenia Swindell about 1871, who survived him. He died on June 6, 1896 at the age of 77 years, 9 months, 20 days with wife and two children living at his home in Coke Oven Hollow just two miles west of Annapolis. During his later years he lived in various places and had almost lost his mind. After short funeral services at the old home, he was taken to Montezuma (Oakland Cemetery) for burial. Probate records show he owned Coke Oven Hollow which encompassed 40 acres and also owned an additional 4 acres in the northwest corner of Section 10. Robert A. Coffin also was a member of the Friends Society and was responsible for the underground railroad operation before the Civil War. (38) (Editors note: Levi Coffin, head of the underground railroad in

Wayne county, was a Quaker from North Carolina who came to Indiana in 1826. More research needs to be done to see if these two men were related.)

In 1907 the Bloomingdale pottery known as the Union Clay Products Company was established. The plant included 133 acres of land along Sugar Creek of which Foundry Hollow was a part. It was capitalized at \$50,000. and the original corporation consisted of John Daily, John Barbazett, Charles Vincent, George Parker, Martin Hidden, Otto Hoonung, Joseph Friz of Terre Haute, and Arthur Zimmerman of Brazil. 1916 John O'Bovle was the owner and directed its management. (39) 1938 William T.



William G. Coffin first built a frame home. This large sandstone lid was hand chiseled from quarried stone and placed over the brick lined well. The brick was made on site by Coffin.

and wife Susie H. Dee were the owners. The Dee family has a long history in Parke county for its brick and tile business. The last one to run this plant was Ronald "Mac" White, son-in-law of Wm. T. Dee. Mac told me the last clay dug out of Coke Oven Hollow was in 1981. (40) Coke Oven Hollow had clay dug out of it for 141 years! Present owners Tom and Debbie Riggs have turned the clay pit into a fish stocked lake. (41)



Wm. G. Coffin built his second home on this foundation near Foundry Hollow in the early 1850's.

This area has a colorful past and its Wabash and Erie Canal connection made it blossom. William G. Coffin made it possible. I found the history of his home in an old scrapbook which had the date April 17, 1930 written in the margin. I know it is not out of a Parke county newspaper. It follows:

**T. C. Rockwell Home,
West of Annapolis,
IN RUINS**

**LARGE BRICK HOUSE
Was Erected by the Late Wm.
G. Coffin in the Early Fifties--
Nearly 80 Years Ago**

About 12:30, Saturday afternoon, the Thomas C. Rockwell home, west of Annapolis, was destroyed by fire. A large portion of the household goods, including

antiques and other valuables, were also destroyed. Mrs. Edna Moore, a daughter of Mr. Rockwell, and the wife of Harvey Moore, proprietor of the Clinton Hotel, had gone to the farm home to do housecleaning, and sparks from a pile of trash she was burning are believed to have been carried to the roof. Mrs. Moore called the local fire department and they were quick to respond but the fire had gained too much headway to be checked upon their arrival, and

it was not long until all that remained of that large brick homestead was the blackened walls and a portion of them fell, due to intense heat.

Some insurance was carried, but far short of enough to cover the loss.

The building was one of the oldest in Parke county, being erected by William G. Coffin in the early fifties. Dr. and Mrs. Horace Cannon, parents of the late Hon. Joseph G. Cannon, occupied the property for a short time. Later, Mr. and Mrs. Samuel Jordan, parents of Mrs. Andrew F. Mitchell, of Whittier, Cal. owned and occupied the property for many years as did the George Wilkins family. The Rockwells have owned the farm for several years.

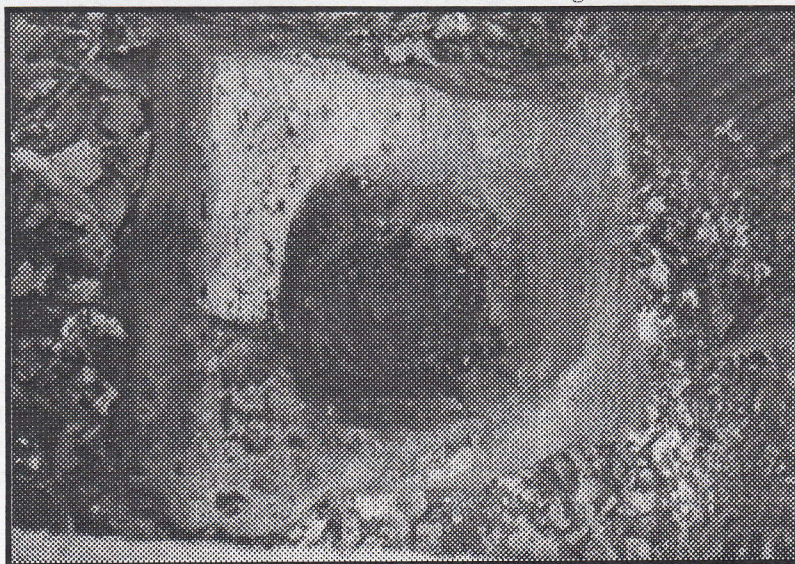


This cistern remains at the site of Wm. G. Coffin's second home.

Many thanks to Earl Johnston, who kindly let me spend several days on his property to research, map and take pictures; to Tom and Debbie Riggs, who allowed me to take pictures of Coke Oven Hollow; and to Charles White and Clarence Norman of Annapolis, who provided me with local information. All were very kind and friendly for which I am grateful.



Above: This large quarried sandstone step was once the entrance of the Wm. G. Coffin home located 2 miles west of Annapolis. Below: Wm. G. Coffin watered his livestock at this old sandstone trough near his home.



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Note: All Parke County Deed and Miscellaneous Records Books can be found in the Records Office at the Parke County Court House in Rockville, IN.

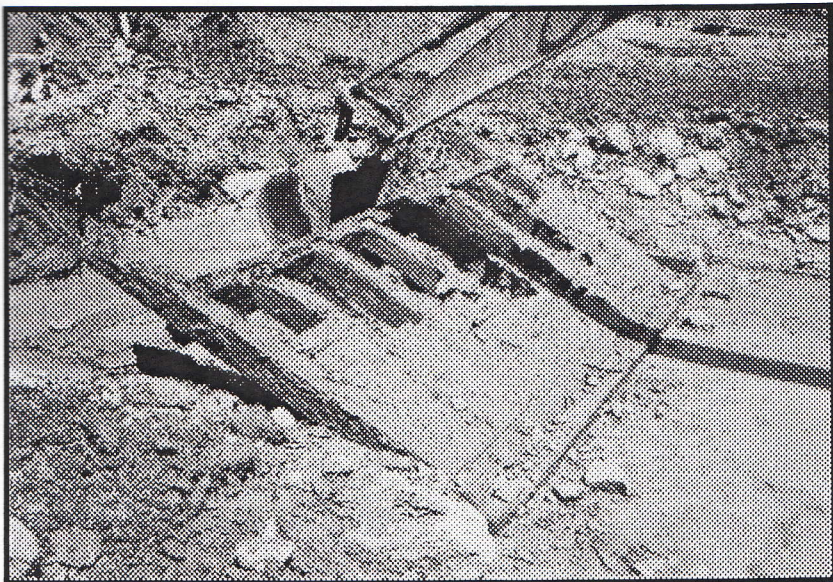
Charles Davis of Midway near Rockville, IN has been researching the Wabash & Erie Canal in and around Parke county. His articles about the canal and the businesses and people associated with it can be found in Indiana Canals Vol. 9 No. 1, Vol. 9 No. 4, and Vol. 10 No. 3 and in the CSI Newsletter Vol. 11 No. 3 and Vol. 11 No. 8.



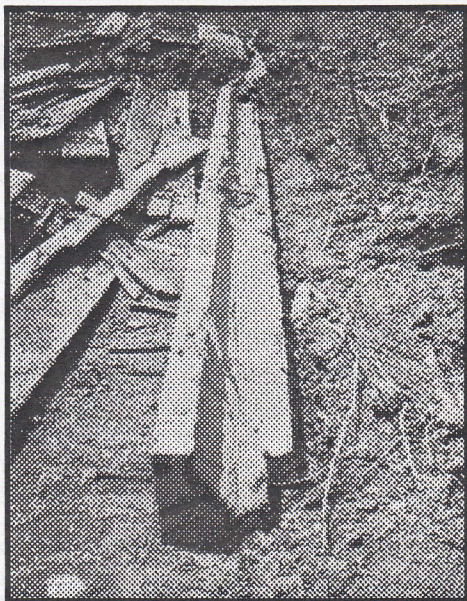
THE OPERATION OF THE CLEAR CREEK Floodgate

Written by Allen Vincent, Photography by Bob Schmidt

The two articles about the Clear Creek flood gate discovery (June 1999 CSI Newsletter and Summer 1999 Indiana Canals) aroused my curiosity about the workings of this enigmatic machine. I have read both articles several times and have come to the conclusion that the flood gate could not have easily worked as theorized in the Newsletter and Indiana Canals articles. The gate, as shown in its normally vertical position in Tom Castaldi's drawing on page 11 of the CSI Newsletter, would have been difficult to move against flood waters. In fact, as the flooding worsened, the gate would have become increasingly more difficult to tip inward toward the canal to provide a spillway and relieve the flooding. This action seems to be the opposite of what would be needed for flood control.



The excavator lifts the flood gate into approximately a 30° position that shows how the canal water on the left could flow beneath the top rail of the gate and over the planked lower portion which acted as an apron. This article suggests this would be the normal operating position of the gate.

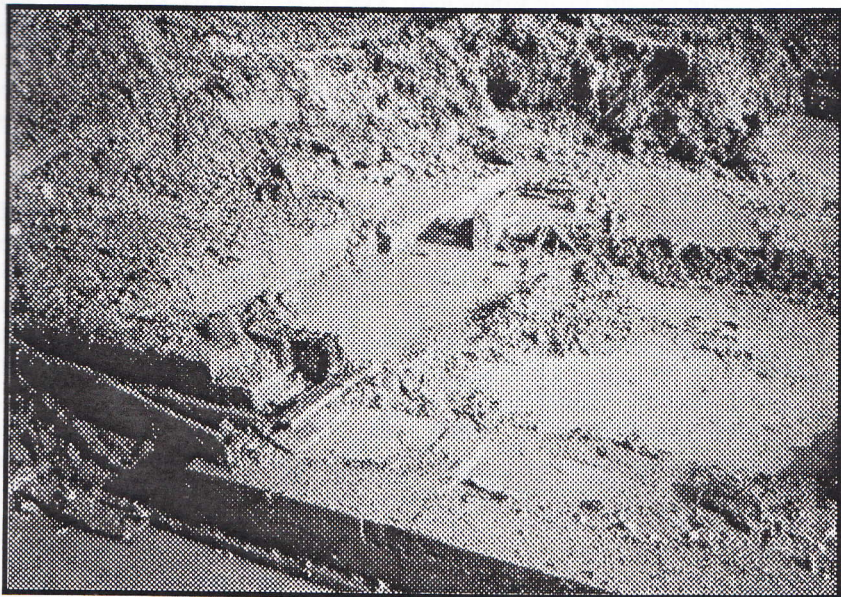


Above: A view of the hollow quoin (referred to as the fixed hinge beam in the text) after it was removed from the flood gate. It is theorized that the gate would probably not rotate a full 90° in this quoin. Below: A portion of the nine courses of stone as mentioned in the text.





Above: One of the two flume wickets. Below: The box flume was located on the left side of the flood gate in this picture.



At first glance, it also seems that the planking was nailed to the wrong face of the gate for effective flood control, i.e., the water pressure against the gate would have tended to pop the planking off its framework. However, since the gate was designed to act as a spillway as well as a dam, planking the outside makes sense as long as the planks were fastened properly which seems to have been the case.

Several other factors tend to indicate that the gate was probably not used in this way. First, two of the photos on page 10 of the Newsletter seem to show that the quoin channel in the fixed hinged beam would not permit rotation through a full 90 degree angle from horizontal to vertical. It appears that the rotation angle was limited to about 60 degrees. A second conflict appears when one compares the height of the gate to the height of the stone abutments at each end of the structure. Nine courses of stone stacked on a floor mounted crib would have put the towpath bridge at a height of about 10 feet above the floor. It seems unlikely that the 13 foot high gate could be raised to an upright position without hitting the bridge.

The box flume with its two wickets presents still another mystery if we accept that the gate worked as suggested. True, the flume could have been used to relieve some minor flooding. However, if opening the flume outlet could have lowered the canal level to a point that permitted tipping the huge gate inward, there would have been no need for the gate. Also, had the flume been used as suggested, one wicket to open or close the flume outlet would have sufficed; and in fact, the flume itself would not have been required. Since the canal would have filled the entire gate floor area up to the hinge beam, a single wicket positioned in the gate just above the hinge would have done the job.

These considerations aside, one must ask why the builders would have used such a mechanism when a simple wooden weir would probably have sufficed for flood control. I think the key to the riddle lies in the 1845 Superintendent's report and the 1847 Chief Engineer's report, excerpts from which were printed in the June Newsletter. Both of these reports credit the design of the flood gate to an 1841 plan by canal contractor Robert English. Tom Castaldi's article in Indiana Canals describes Mr. English's patent for the design of a novel lock gate; but I'm not sure that Tom drew the right conclusions in trying to reconcile the patent description with the evidence found at the Clear Creek site.

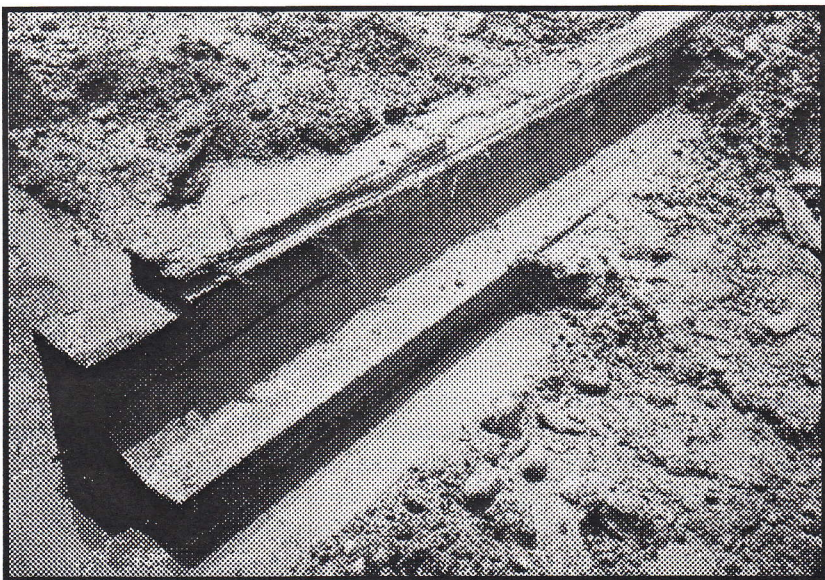
English's Patent Used In A Lock

The English design used hydraulic forces supplied by the canal itself to open and close the gate which was essentially a movable weir. The hydraulic system is controlled by two wickets in a box flume with its inlet connected to the canal and its outlet connected to a discharge port. Two large movable panels are used to open and close the upper entrance to the lock. The panels are hinged horizontally with their hinge pins (quoins) running across the lock at a level below the bottom of the incoming canal. One panel (the lower gate) works as a movable brace while the other (the upper gate) acts as a movable weir or dam. The two gates and the bottom and sides of their enclosure form a reasonably water tight chamber with a small side aperture connected to the box flume between the two control wickets. When the wickets are set to let water into this actuator chamber, the lower gate pushes the upper gate upward to close off the lock entrance. Conversely, when the wickets are set to let water out of the actuator chamber, the lower gate returns to its relaxed position and the upper gate tips back down permitting the flow of canal water over its top edge into the lock.

English's Patent As Used In The Flood Gate

As stated in the two canal status reports noted above, a system based on "the English patent" was used in the Clear Creek flood gate. The 1845 Lucas Report to the General Assembly implies that the primary purpose of the gate was not so much to control flooding as it was to permit easy draining of the canal for the repair of flood damage. Flood control - dumping excess water from the canal into the nearby Wabash river - could have been effectively done by a cheap, simple, and reliable weir as noted previously. If the Clear Creek gate was truly based on Mr. English's design, answers to several questions become clear, but a few puzzles still remain.

The purpose of the box flume with its two wickets is immediately evident-- it is the hydraulic system control valve in the English design. The huge horizontally hinged gate is the "lower gate" of the English design; its required rotation angle was probably less than 30 degrees which explains



Another view of the hollow quoin while still in place upon the deck. The gate has been removed

the apparent rotation limit of about 60 degrees imposed by the quoin channel in the hinge beam. Since his design requires a "tight chamber" with an "upper gate" as an integral part of that chamber, the original structure must have incorporated an upper gate. Without the upper gate, the tight (actuator) chamber is nonexistent; the canal fills the floor area, the box flume and twin wickets have no significant purpose.

Presuming that there indeed was an upper gate at one point in the life of the structure, its operation is no longer mysterious. It worked just like Mr. English's clever lock gate, and it employed the hydraulic power of the canal, controlled by the two wickets in the box flume, to do its job. Both gates doubtless had stop rails (as used in the English design) fastened to the abutments to keep the "tight chamber" tight. The height of the top edge of the upper gate, which depended on the amount of water in the actuator chamber, was controlled by the wickets. Normally, the upper gate would have been kept in its "dam" position by keeping the flume inlet open and the outlet closed. Closing the inlet and letting some water out of the actuator chamber would have tipped the upper gate away from the canal

and allowed water to spill onto the lower gate (which acted as a spillway apron) and flow thence to the river. Conversely, closing the flume outlet and letting water into the actuator chamber would have pushed both gates upward and stopped the flow over the top of the upper gate.

The system thus configured could also have been used to completely drain the section of the canal on which it was located to facilitate repair work. The upper gate hinge was likely positioned on the actuator chamber side of the small knee wall next to the canal at a level slightly below that of the bottom of the canal. The upper gate could be lowered (by draining the actuator chamber) to the point where it rested on the outer face of the lower gate and sloped down away from the canal. When repair work was completed, the wickets set to fill the actuator

Rising canal water the flume would then filled the chamber and hard work or raising the

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did happen to the
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What about the missing While the float is shown lock gate design where it part, it is not required in

float tank? in Mr. English's is an essential the flood gate

design. The flood gate application, though similar to that of the lock gate, was not identical. The lock gate would have had water on both sides of the lower gate when the lock was full; without the float tank, the water entering the actuator chamber could, at best, merely neutralize the force produced by the water in the lock on the top side of the lower gate. Thus, without the float tank, no net lifting force would be produced. The flood gate, on the other hand, would have seldom had water on the top side of the lower gate; water entering the actuator chamber could thus easily raise both gates by virtue of its hydraulic pressure alone.

Although the answers presented here seem to solve the riddle, there are still questions remaining. If this hypothesis is true, what really did happen to the upper gate and its hinge beam? One answer might be that the engineers (rightly) determined that the upper gate was not essential to the function of the structure and could be safely eliminated; so they either

removed it during one of the maintenance sessions or never put it in. The lower gate with some minor modifications was fully capable of acting by itself as a combination dam and spillway. The canal would have usually kept it pressed against its stop rails providing automatic flood protection, and it could have been forced into a spillway position by some simple mechanical means. The box flume would have become a superfluous but harmless artifact; so it was left alone.

If this were true, Tom Castaldi's suggestion that the large open space at the top of the gate might have been a float chamber makes sense. Although such a chamber was not required in the original English design for this gate, it might have been beneficial to the single gate design. Alternatively, since the lower gate no longer served its original purpose as a brace for the upper gate, the stop rails on the abutments may have been re-set to a slightly higher angle such that the gate top beam was normally above the canal surface. Had the space between the two top beams been left open, the lower section of the gate might then have acted as the weir with excess water flowing over the planking through the opening below the top beam. The latter might then have been used with some mechanical system for pushing or pulling the gate down into a lower spillway position. Anyway, the whole thing begins to look like Tom's drawing with the gate and its stops angled at about 30 degrees above horizontal instead of 90 degrees.

Allen Vincent, CSI member from Fort Wayne, is a retired electronics engineer. In the past he has been the treasurer of CSI and has written the CSI Newsletter column "Phineas T. Phrogg: Philosopher & Engineer."



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