

This copy of

"History Resurfacing: R.G. Guptill's 'Restoration of a Lost Art'" was a complimentary handout at the first Wabash Valley Insulator Show in Shelburn, Indiana, on August 3rd, 2024. It accompanied a public display of the pieces shown in this article. Thank you for reading, and most importantly, for your support of our first

Wabash Valley Insulator Show. More info can be found at:

www.indianainsulators.com

HISTORY RESURFACING

R.G. Guptill's "Restoration of a Lost Art"

By Cole King and Bob Stahr

As you most likely already know, the annual Mid-Ohio show in Springfield, OH, is commonly regarded as one of the best shows in the world. Hundreds of collectors from around the country flock to the Clark County Fairgrounds, for three days of visiting with other members of the insulator family.

On the second day of the 2023 show, I was approached by Mike McLaughlin, of Warsaw, IN, who asked if I had seen the "glass block" that had walked in to the show. Mike explained that a man and woman from Pendleton, IN had seen that he was a fellow Hoosier, and showed him a block marked "Ube Works." Knowing I am from that area, Mike told the couple that I would likely be interested in seeing their curiosity. While I had never heard of this Ube Works, chunks of slag glass are often found in Pendleton. The town was formerly home to several glass plants, including a large plate glass factory, as well as an Owens-Illinois location.

Shortly after, the couple found me at my table, and introduced themselves as Mike and Judy Dixon, of Pendleton. I explained that I myself attended high school in Pendleton, growing up just a few miles east in the next town over. Putting introductions and small talk aside, Judy nonchalantly pulled a thick block of dark aqua glass out of her purse. Being quite passionate about Indiana Insulators, my reaction could be described as "dramatic" by some. I was left, quite literally, speechless. I picked my jaw up off the floor, and asked Mike and Judy how they had come across this... thing. They explained it simply "surfaced in our front yard, like a rock."

After quick examination, the piece was determined to likely be of late 1800's or early 1900's production. The specimen was clearly the center section of a much larger block, broken on each end. The embossing was missing several letters, the only ones visible being "UBE WORI". Two cavities, each approximately 0.25" in diameter, ran horizontally through it. My first guess was either some sort of threadless block, or early underground conduit. (The latter guess being formulated off porcelain conduit used by the exchange built in 1901 by Citizen's Telephone in Terre Haute, IN.) Running with the threadless block theory, the piece was hurried over to Dario's table to receive his opinion. Immediately the idea was shot down, as pulling the wires through the holes would simply be too inconvenient. More theories were presented in its place however, such as the possibility of it being a wall/floor tube, or that it was a brick, hollowed out simply for the purpose of using less glass. (One more theory was that the holes were for neon tube lights, though that did not match with the age of the glass.)

The next stop on the block's world tour was the table of Mr. Bob Stahr. Bob, using his amazing mental database, identified it as indeed being an early form of underground electrical conduit. The conduit, in its entirety, likely read some variation of "PENDLETON GLASS TUBE WORKS." Bob explained that period documents described that a full section would be 24-36" in length. To the best of his knowledge, this is the only known example of a Pendleton Glass conduit. Noting the location of the Dixon's home, it was concluded that they live quite close to the former site of the Tube Works.

After a bit more conversation, Mike and Judy said their goodbyes, and rode off into the sunset. Despite inquiries from everyone that saw the piece, they insisted that it was not for sale.

On Sunday, Bob and I reconvened, and decided that the now famous "UBE WORKS" block would be a wonderful topic for an article in the distinguished Drip Points Insulator Magazine. Over thirty historical articles have now been archived in the Insulator Gazette, as well as several patents, drawings, photos, and maps having been located.

Beginnings

The first mention of the Pendleton Glass Pipe and Tube Works (also referred to as Pendleton Glass Tube Works) is in January of 1890, describing the 600 X 200 foot factory that was to be built. The Boston Daily Advertiser noted on the 30th of January that, "If a factory is erected it will be the only one of its kind in the world." R.G. Guptill, the inventor of the glass pipe manufacturing process, stated that Pendleton was chosen as the site of the factory not only due to the gas boom occurring in Indiana at the time, but because of the quantity and quality of glass sand able to be sourced in Pendleton.

Article of Incorporation was filed in late November of 1891. Some interesting notes are that most of the stockholders of the company were prominent Indiana politicians. Included were Senator A.R. Shroyer, Auditor of State John O. Henderson (chosen to be President of the company on Nov. 24, 1891,) Attorney General Alonzo G. Smith, and most notably, Ralph Hemingray's brother-in-law, and Governor of Indiana, Claude Matthews. (Matthews was Secretary of State when the company was founded in 1891, elected Governor in 1892.)

The factory cast its first pipe on April 23, 1892.

"Special to the Indianapolis Journal. [Published Sunday, April 24, 1892]

Pendleton, Ind., April 23. — The Pendleton Glass-tube-works Company, having completed the buildings and placed all the necessary and costly machinery in position made the first attempt to-day to mold glass tubes. This was supposed by many to be a lost art, one that the Egyptians are known to have practiced, but which, since the fall of the Ptolemies, civilization has been a stranger to. The usefulness even the necessity — of the art has been known and lamented for centuries, yet no inventor could



perfect his machinery, nor hit upon the right combination and mixture to make the casting of glass a success. R. G. Guptill, whose invention is now being experimented with, had the satisfaction to-day of seeing his fondest hope realized. The tubes are molded in halves and cemented with a compound that is also his invention.

A large crowd was present to witness the

first output, for the factory's future prosperity depended on the success or failure of the performance. The intricate machinery, which R. G. Guptill had recently patented, proved to be a grand success, and the company is delighted with the result. Many tubes from one to four inches in diameter were molded in the presence of the visitors. The machinery did its work in a manner that convinced the most skeptical that the factory will prove a success and soon supply to the world a means of placing electric wires underground, and thus avoiding the usual danger to life and limb. The company has more orders for tubes than it can fill for several years."

The same paper covered the factory less than a month later, writing in their Saturday, May 21, 1892 edition:



"Yesterday was a gala-day for the Pendleton glass tubeworks. Early in the morning quite a crowd of fine-looking men and women alighted from the Indianapolis train, and were soon joined by other arrivals from the East. The visitors were met with carriages and taken out to the Pendleton tube-works, where the manager and inventor, R. G. Guptill, had everything nicely arranged for their entertainment. Here they were shown through the immense buildings, and closely examined the many different patterns of intricate machinery which is used in the

manufacturing of the tubes and cement. Tubes of various sizes were molded in their presence, and each step fully explained to the visitors.

The pipe has been successfully subjected to the severest electrical and other tests of its strength. All possible objections to its practical and general use seem to have been overcome. The capacity of the present plant is from one to two miles of pipe per day, although it is not yet in full opera-tion. It is made in two and three-foot sections, having a diameter of one, one and one-half, two, three and four inches. Machinery will also be added for six and eight-inch pipe. The company has already been requested to bid on over four hundred miles of pipe. The enormity of the demand is so evident that the board yesterday de-cided to reorganize on a stock basis of at least one million dollars, and in a few days the stock will be placed upon the market. The company intends to increase its facili-ties to fifteen or twenty miles of pipe per day."

"The following from the Pittsburg Commoner and Glass-worker was shown to Mr. Guptill yesterday: 'The difficulty is not in the manufacture of glass tubes but in their application to the most desirable uses. Glass tubes can be made, but they cannot as yet be successfully cemented together so as to be fit for conduit work either above or below ground. There is no known sub-stance in the world of chemistry of equal expansive power with glass which could be used to cement the pipes, making them air and watertight. Platinum is the only sub-stance which approaches glass in expansive qualities, but the great expense of this material renders its use impracticable.' Mr. Guptill said that he considers the elastic cement which he has invented for joining these tubes to be as important as the plan of molding the tubes. The composition of the cement is a secret of the in-ventor, but it is almost as elastic as rubber, and has been tested in all kinds of temperature and found to be the article required." The most informative article is perhaps the story found within a December, 1892 article in the Indianapolis Journal, entitled "Pendleton's Story." Included with the piece is a drawing of the factory. (See Photo 3.) Until we find a photograph of the plant, this is the closest we have come to knowing what the building really looked like!

"The Pendleton glass-tube and pipe-works is an enterprise of unusual interest. It possesses many novel features based upon the ingenious inventions of R. G. Guptill, who is the general manager of the company. The principle work of the company is the manufacture of glass tubes — not the small tubes such as are used in laboratories, but large, strong tubes to be used as conduits for electric wires, sewer and drain pipe, and other purposes to which earthen-ware pipes or tiles are commonly applied. It

is claimed for those tubes that they are indestructible and that their polished inner surfaces make them especially valuable as drain-pipes, there being no protuberances against which refuse may lodge; that they are better than iron pipes in many instances, because they will not rust, but their chief value is as conduits for electric wires. They not only protect the wires from injury, but provide an absolute insulation, thus preventing the escape of electricity and so insuring

protection. In this factory there is no glass blowing. It might be called a glass foundry for the reason that the melted glass is cast in molds. Besides the tubes, the concern produces various other forms

of molded glass. Among these are slabs to be used in the construction of houses much as encrustic tiles or terra cotta are

instances, because they will not rust, for electric wires. They not only provide an absolute insulation, tricity and so insuring

GLASS, TUBE AND PIPE-WORKS.

used. Ornamental cornice work or blocks of dark green glass, molded in any design desired, may be made as cheaply as the tiles or terra cotta, and the manufacturers believe that the rich polished surface of the glass will give and effect in house construction which can not be equaled by any product of clay.

The company is preparing to make a large exhibit at the World's Fair. A handsome display of it's work will also be made at the Fair as a part of the exhibit of an electric light company. A number of hollow pillars of green glass each thirty inches in diameter and fifteen feet high will be built. They will be lighted on the inside by many electric lights, and the effect is expected to be beautiful. It is probable, also, that the tubes manufactured by this company will be put into practical use at the Fair in the laying of the system of electric wires for lighting the grounds and buildings. This company is composed principally of Indianapolis men, several of the members being State officers. The company is capitalized at \$1,000,000, [\$20.8M 2023] though as yet not more than \$20,000 [\$417k in 2023] has been expended. Twenty acres of land underlaid by glass-sand, has been purchased, and a mill for crushing and washing it will soon be erected. This is made necessary by the fact that the sand is in the form of a soft, crumbling sandstone." (Author note: Pendleton is famous for the sandstone shelfs located at the town's Falls Park.)

World's Fair

Yes, that's right, the Pendleton Glass Tube Works was set to display at the infamous 1893 World's Fair. In August of 1892, John Barrett, chief of the bureau of electricity of the world's fair, visited the plant in person.

"Mr. Barrett had spent the day at Pendleton, inspecting the glass

From the Friday, August 26, 1892 Indianapolis Journal:



John P Banet

tubing made by this company. He was much pleased with the tubing, he said, and agreed to recommend its use to the directors of the world's fair. In conversation after the meeting with a Journal reporter Mr. Barrett said: 'We have been in need of something for use as a conduit for wires. I think these glass tubes will answer splendidly every demand. We have been using iron piping, paper piping and other appliances in Chicago, but nothing has given satisfaction. It has come to a point.' continued Mr. Barrett, 'where some of the buildings in Chicago have as many telephones as a small town, and taken together with the electric-light wires, it becomes very essential to protect the wires from possible contact where harm might result. The glass tubes are just what is wanted, and I shall recommend their general use.'"



In December of 1892, the company appears on a list of manufactures requesting exhibitor space at the Columbian Exposition. In April, 1893, the trade journal "Electric Industries" (out of Chicago) says that the company has been granted floor space in the Electricity Building; Section U, Space 4A. The fair opened a month later, and ran until October 30th. In its six month run, over 27 million people attended. A world record was set for outdoor event attendance on October 9th. However, not a single photo of a Pendleton glass conduit has been found. How could that be? Unfortunately, at the time of my writing, I do not know. Pendleton Glass Tube and Pipe Works appears on no paperwork I have found published after the fair. R. G. Guptill's name is missing, as well. In 1894, John P. Barrett published a book detailing his experiences setting up and overseeing the Electricity Building. Nearly 500 pages long, illustrated, and 28 chapters, it seems few details were left to the imagination. Several conduit and pipe manufactures are mentioned... but again, no mention of Guptill or his factory. This author's opinion is that they were "no-shows." I find it hard to believe that they had specialty pieces manufactured for exhibition, travelled all that way, and left no record of their having been there. Besides, if you saw a 15 foot tall pillar of glass, lit with electric lights, wouldn't you snap a picture? Why they did not make an appearance is unknown. "WorldsFairChicago1893.com" is dedicated to collectors and researchers interested in the Columbia Exposition. I

consulted the experts here, and found no answer. These gurus even checked records for the Manufactures and Liberal Arts Building, and Machinery Hall, and found no results.

(Side note to readers: The CD 181 "Pluto" insulator was designed for use at the fair, and likely made by Hemingray. Barrett's book, "Electricity at the Columbian Exposition," Includes not only their description, but a photo of them in use underground.)

Premature Demise

On Monday, December 18th, 1893, less than two years since first production, a fire destroyed the entire facility. The Anderson Weekly Democrat reported that the fire started in the finishing department.



"He [Guptill] says the factory was entirely destroyed, the loss he estimates at \$20,000 [\$683,713 in 2023.] The company did not carry insurance. The insurance companies, Mr. Guptill says, asked about 5 percent for insurance, and the stockholders considered the rate so high that they decided to carry the risk themselves. The company had been in operation only two years, and was, Mr. Guptill says, doing an excellent business." – The Indianapolis News, Dec. 19, 1893.

Newspapers listed shareholder meetings for the company through the end of the year, to determine whether or not to rebuild.

Sadly, the factory was never re-opened. At the time of their closing, 150 men were employed.



Mike and Judy Dixon show off their discovery

More on the Factory's Founder

Founder and General Manager of the plant, Roderick G. "Rodney" Guptill, was an interesting man, to say the least. Born in Elgin, Illinois on November 9th, 1854 to Daniel and Rosana (Bryant) Guptail, his resume includes multiple professions outside of glassmaking. In 1880, he is listed as an Actor in the federal census. In 1884 he is mentioned as an actor in Joliet, Illinois, playing the role of Reuben Gray in the play "State's Attorney." I agree, this seems a bit out of left field, but I can substantiate that we have the same R. G. Guptill by making mention of his 1886 patent for a stage scenery rotary mechanism. (See photo 8.) He had five more patents issued in 1890. On June 17th of that year, he is granted Patent numbers 430,283 and 430,284. They are for a "plate glass carrier" and a "traveller for transporting glass."



On Sept. 23, 1890, He is granted patents 437,027 (annealing oven for plate glass), and 437,028 (plate glass rolling mechanism.) More relevant,

however, is Patent 438,807, granted on October 21 of that year, for a glass pipe casting machine. See Photo 9.

His father, Daniel, was also an inventor. His inventions included several farm implements, a steam ironing machine, a dishwasher, and even a flying machine, which he called a "Sailing Sheet." (Yes, really. See photo 10.) R. G. invented another glass pipe casting machine after the factory opened, and was granted Patent 494,951 on Apr, 4, 1893. (Photo 11) Sometime after the plant closed, Rodney headed west. In 1902, he married Margaret Ann "Maggie" Murphy in Oklahoma. His marriage didn't tame his eccentric tendencies, however, and he made headlines again in 1911 for discovering an abandoned Civil-War era mine near Ravia, Okla. In 1917, his son, Robert "R. G. Jr.", was born. His last patent



was issued on Aug. 14, 1923. Patent No. 1,464,569 was for a "Bearing material and method of making the same." In the 1930 census, he was listed as an alchemist. He died at age 77 on October 2nd, 1932.



Other Products

Before its demise, Pendleton Glass Tube and Pipe Works was designed to manufacture several products outside its namesake duct featured in this article. The Pittsburgh Dispatch claimed "various forms of pipes, jars, vases, etc., will be on the market." One 1890 article simply called it "fancy glassware." Other period articles mention large pieces such as keystones and monuments, but whether that ever came to fruition is anyone's guess.

On November 1st of 1893, R.G. Guptill donated six items to the Field Museum in Chicago. The Field Museum had this to say:

"Hi Cole King, Thank you for reaching out to the Field Museum. Your request was forwarded to the Field Museum Archives. Unfortunately, there are no photos of the collection and the disposition of the collection is unknown. I have scanned the accession records and related documents to the request and attached them to this email."

After obtaining the accession records from the museum, as well as several related documents, it appears the objects were destroyed. A letter to R.G. from the museum, dated November 19, 1906, reads,

"The trustees of the Field Museum having decided to confine the scope of the institution to natural history, it becomes necessary to abandon or distribute the material now on exhibition that is not appropriate to this classification. It has been suggested that the ceramic collection be presented to the Art Institute of Chicago or some similar institution, and that any specimens not acceptable as art objects be otherwise disposed of as industrial examples or sold and the proceeds devoted to Museum purposes. Before making these alternative dispositions, however, the consent of the donor will be obtained. I shall be glad therefore to hear from you as to whether you approve of these suggestions as to the distribution of your gift as stated below:

648 A Nov. 1, 1893 Pendleton Glass Tube Works, Specimens of glass castings invented by R. Guptill (restoration of a Lost Art)."

The next page then describes the six items as:

| "77691 Glass Pedestal | 77694 Corrugated plate of glass |
|--------------------------------------|---------------------------------|
| 77692 Glass Cylinder | 77695 Bar of glass |
| 77693 Thick heavy glass plate oblong | 77696 Green glass cylinder" |

Before 1906, the glass known as "Accession No. 194" was displayed in the ceramics section, under the title "Restoration of a Lost Art." Several of the newspaper articles about the company had the same title, referencing the "Ancient Egyptian" glass casting process Guptill claimed to have re-discovered.

Another museum document provides more detail of the donation.

"Description of Objects

Green glass pedestals Glass Stones for columns – (cast) Glass tubing for Electrical purposes (Cast) Glass Rolls for Photographic paper (Cast)"

Seeing as the factory was already destroyed by 1906, the letter was returned to the museum.

The Art Institute of Chicago has not responded to my request for comment at the time of this writing.

In 2013, the Pendleton Historical Society Museum (just a quarter mile from the factory site) acquired two "ACME Airtight Butter Jars" manufactured by the firm. I reached out to the museum at the start of my research, and quickly received a reply from Nancy Noel. I was invited to take photographs of the jar, despite the museum being closed for the season. The jars were quite clear in color, not ice aqua or SCA as I was expecting. (See photos) Only one other is known to exist, and is in an unknown private collection. While it took me four months to finally make it to the museum, I wish to extend my sincere gratitude to its staff for their hospitality.

194 ACCESSION Nu. Date/L/V FIELD COLUMBIAN MUSEUM Report-Department Catalogue No Description of Objects THIS CARD IS ADCOMPANIED B Detailed report by Catalog of Correspondence of Signed





The last stop on my research trip was to the factory site itself. There is a historical home on the site, built in 1908, just 15 years after the fire destroyed the factory. I showed up unannounced, on the evening of Sunday, March 10, 2024. I was met in the driveway by the property's owner, Joshua Ring. I explained that a glass factory once stood on his property, and hoped perhaps he had found a few pieces of slag glass in the yard. Not only was he aware of this fact, he was reasonably educated on the subject. I was completely unprepared for what he had to show me. Following him around back of the house, he motioned to a table with a pile of glass shards on it. To him, they are a sharp and dangerous neusance. To me, priceless historical artifacts. Already having seen more than what I was hoping for, he said to follow him further back on the property. Tucked behind some trees, two brick furnaces still stand, in a

depression in the yard. All around them, slag glass surfaces. Huge boulders of glass, some several feet long, sit untouched next to the massive 132 year old ovens. Not wanting to overstay our welcome, no excavation was performed. However, several pieces of slag glass were retreived off the surface. Josh and his family are fairly new to the property, and has already found pile after pile of glass. Who knows what could have been found by previous owners. Interestingly, nothing similar to the conduit found by the

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Dixon family was retreived. However, in examining specimens that Josh had retreived previously, along with what was found on the surface near the two furnaces, three new styles of conduit were identified. One, a simple round pipe. Outside diameter is estimated at 2.5". Inside diameter, 1.25". This style was retreived in both a blue aqua, and a yellowish green specimen. Another, very thick, aqua glass, had an estimated 3" outside diameter, with a ¾ " square hole inside. The last was retrieved in small fragments. Both specimens were flared at the end for connecting two separate pieces, just like a modern stick conduit. The thickness of the glass varied on these two specimens, however both were much thinner than any of the others. This author assumes its intended application was for a water or sewer line.

A very special thanks to Mr. Ring and his family for not only welcoming a stranger such as myself onto his property, but for maintaining this historical site.



Alarge pool, partially filled in, sits to the south of the furnaces.



This piece was found by the Ring family, and is the only amber piece yet to surface on the property. It is unclear what this red glass was used for.



The largest piece of glass is easily as large as a washing machine



Slag glass litters the property.



The furncaces

Glass fused to stone



Mr. Ring holds up a piece of slag glass he has just found



This is no crystal formation, these are the remnants of Pendleton Glass Tube Works



Mark and Judy's specimen







You can see quite clearly where the glass was poured into the mold



The next set of images are the three different styles of conduit found at the factory site.





This style is approximately 3" in diameter, with a ¾ " square hole. Aqua.



This style was found in small pieces, so discerning diameter would prove quite difficult. However, it does showcase the flared ends to connect two pieces.



The flanged style was found in two separate colors







Last but not least is what I would call the "standard" conduit style. A simple tube. Approx. 2.5" outside diameter and 1.25" inside diameter. This style was also found in two different colors. One a yellowish green, the other a blue aqua. Slag glass from the site ranges from celery green, to blue aqua, to amber.



This second style of Butter Jar was found in further online research after the initial article was published in Drip Points. It sold in an online auction to an unknown buyer in February of 2012.