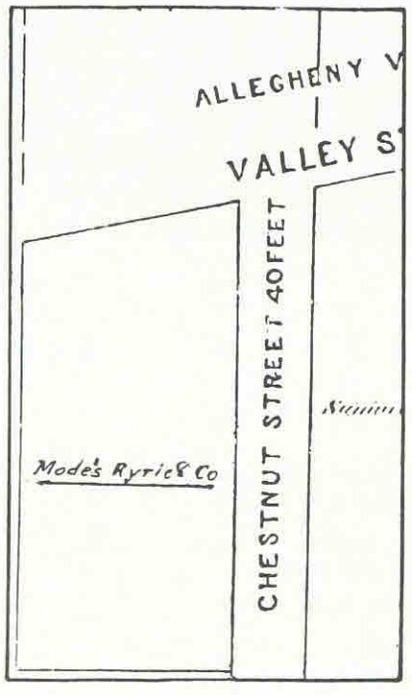
PENNSYLVANIA MANUFACTURERS

Beaver Falls Glass Company

A large number of insulators which are not attributed to any specific manufacturer have similar characteristics and may have a common origin. Research on W. F. Modes and his relationship with various glass plants in the Pittsburgh, Pennsylvania, area has resulted in the following proposed link.

In 1866 William F. Modes purchased a glasshouse in Lawrenceville, a northeastern borough of Pittsburgh, Pennsylvania. The deed, recorded on July 19, 1866, between William Rehem and W.F. Modes, states a "parcel of ground on which is erected a building for the manufacture of glass" exchanged hands. The company, sold by Rehem to Modes, had operated as the Arsenal Glass Works from 1865 - 1866. The parcel was located between Chestnut (42nd) and Borough (41st) Streets and the Allegheny Valley Railroad. (Figure 1.)

The 1867 Pittsburgh *Atlas* (research material for which was prepared in 1866 and 1867) showed the glasshouse parcel under the name of "Modes, Ryrie and Company".

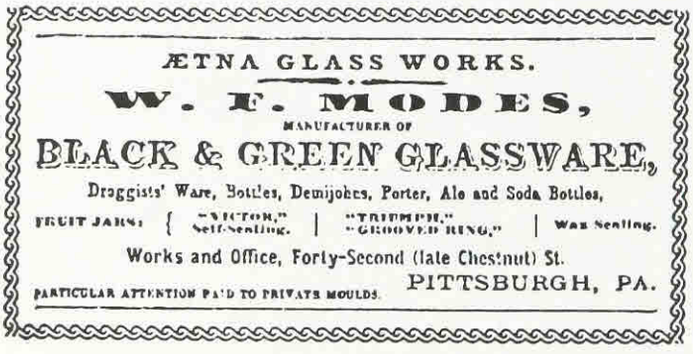


(Figure 1.) Map showing location of Modes, Ryrie & Company's glassworks on Chestnut Street, Pittsburgh, Pennsylvania, from an 1867 Borough of Lawrenceville Atlas published by James S. Henden.

No directory listing has been located for the company; however, T.B. Ryrie, glassblower, was listed in the city directory.

The 1869-70 edition of Thurston's *Pittsburgh City Directory* had an ad (Figure 2.) for the Aetna Glass Works, with W.F. Modes listed as the manufacturer of black and green bottles and fruit jars. The address given was "Forty-Second (late Chestnut) Street, Pittsburgh, Pennsylvania." Modes sold the Aetna Glass Works in 1869 which was then operated by Bagley, Young and Company and known as the "Phoenix Roll Works". (Figure 3.)

Also, on May 13, 1869, William F. Modes and Thomas B.A. David of Pittsburgh bought a tract of land from the Harmony Society in Beaver Falls, Pennsylvania. It was on this land site that the Beaver Falls Glass Company was built and operated for ten years by the firm of Modes and Eakin. (Figure 4.) In 1879, the Beaver Falls Glass Company became the Co-Operative Flint Glass Company and operated as such through 1937.


ÆTNA GLASS WORKS.

W. F. MODES,

MANUFACTURER OF

BLACK & GREEN GLASSWARE,

Druggists' Ware, Bottles, Demijohns, Porter, Ale and Soda Bottles,

FRUIT JARS: { "VICTOR," Self-Sealing. | "TRIUMPH," "GROOVED RING." | Wax Sealing.

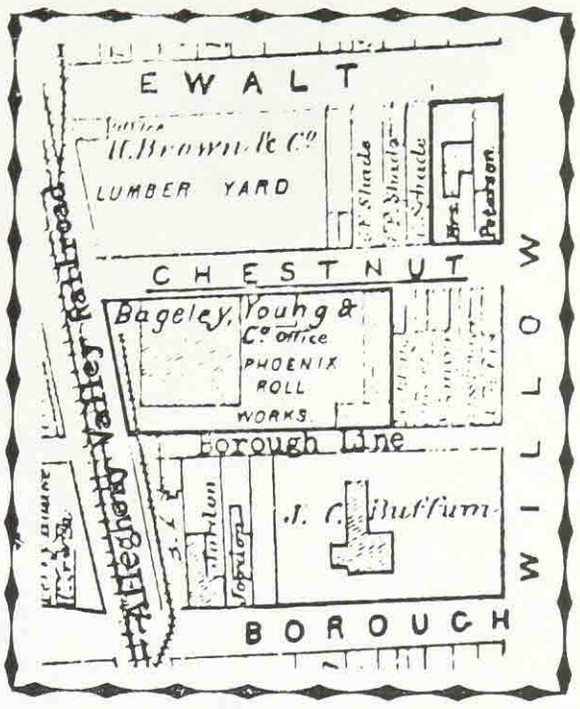
Works and Office, Forty-Second (late Chestnut) St.

PARTICULAR ATTENTION PAID TO PRIVATE MOULDS. PITTSBURGH, PA.

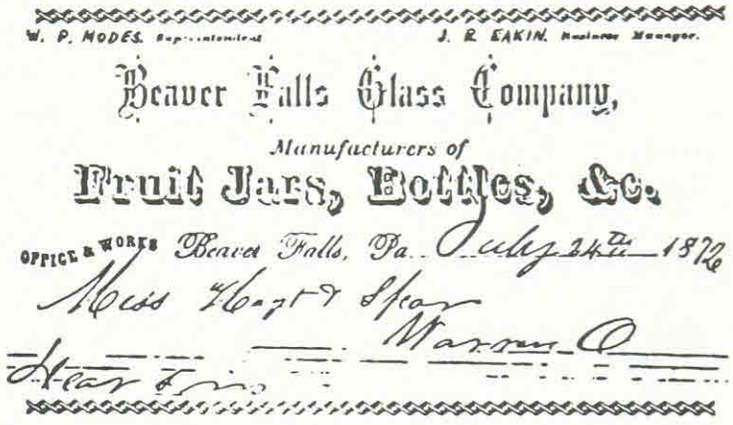
(Figure 2.) Aetna Glass Works advertisement from 1869-70 Thurston's Pittsburgh City Directory.

Only a few insulators embossed "B.F.G.CO." have been located. They are CD 133.2 and come in an aqua color. The insulators are believed to have been manufactured by the Beaver Falls Glass Company.

Comparative research of the known B.F.G.Co.-embossed insulators and those of the CD 132.2 style embossed "S.T.PAISLEY/MAKER/BEAVER FALLS, PA.," and the CD 133.2 embossed "P & W" shows many similarities. The threads are distinctively rounded and there is a crease in the glass at the top of the pinhole. It resembles the letter "Y". In the author's opinion, that crease was created when



(Figure 3.) Map from the 1872 Atlas of Pittsburgh, Allegheny & Adjoining Boroughs shows the location of the Phoenix Roll Works operated by Bageley (sic), Young & Company



(Figure 4.) Letterhead dated July 24, 1872, used by the Beaver Falls Glass Company showing W.F. Modes as superintendent, and J.R. Eakin as business manager.

a threadless plunger with the "Y" mark was used to create the pinhole, followed by a threaded plunger to form the threads. The dimple or lathe mark at the top of the pinhole would be created from the threaded plunger since it is always located in the center of the pinhole, while the "Y" marking is not always centered.

In addition to the styles and embossing already mentioned, a number of other unattributed insulators have manufacturing characteristics similar to the B.F.G.Co. These include CD 127 (W.U.P. and W/1 embossing) and unembossed CD's 131.8, 132.2 and 133.2. However, among this group are two different pinhole diameters. The smaller pinholes are found in the embossed Paisley (CD 132.2), the "W.U.P." (CD 127), and the crown embossed "P & W" (CD 133.2). Larger pinholes are found in dome-embossed "W1" (CD 127), CD 131.8, most of the unembossed CD 132.2 and skirt-embossed "P & W" (CD 133.2) and some of the unembossed CD 133.2 insulators.

Two threadless units embossed on top of the dome with a single letter, "M" or a "W", were manufactured in CD 731 or CD 728.2 styles. The CD 728.2 mold appears to have been reworked to produce the threaded CD 133.2 P & W insulators. If this is true, Modes may have produced the early threadless units and marked them with the "M" or the "W" which may have stood for William F. Modes.

The only fact available at this time is that the Beaver Falls Glass Company made insulators embossed "B.F.G.Co.". The idea of any relationship between this company and insulators which have been embossed with Paisley's name and insulators which have characteristics similar to the embossed units is still speculation. However, on June 13, 1870, the first paid fire department in the Pittsburgh area was organized, and S.T. Paisley was the alarm-telegraph superintendent. Modes' Beaver Falls Glass Company would have been in business and available to produce an insulator designed by Paisley to be used by the fire department alarm system.

Again, as of this writing, we cannot conclusively prove these speculations, but there is a possible link that needs further study.

Ora Beary of Venus, Pennsylvania, has an extensive collection of western Pennsylvania-manufactured insulators. He continues to try to unravel the production history of the area. His appreciation goes to Wendell Hunter of DuBois, Pennsylvania, for his contributions to the research on W.F. Modes.

Duquesne Glass Company

Although the location of the glassworks which produced the insulators embossed "DUQUESNE GLASS CO." remains unknown, there is some evidence that these insulators could have originated from the "Duquesne Glass Works" which existed in Belle Vernon, Pennsylvania. This organization was founded in 1834 and operated at least through 1886. Their plant was located in Belle Vernon, a community just south of Pittsburgh and west of Duquesne, Pennylvania, with a warehouse at 97-99 First Street, Pittsburgh.

At this time, there is no information available on the type of wares produced by Duquesne. If the name of the company was changed to "Duquesne Glass Company" after 1886, it is entirely possible that they were the source of the Duquesne-embossed insulators.

At present, three styles have been located and are unique to Duquesne manufacture. The CD 106.1, 106.3 and 113.2 units are very similar to the common, small styles used on telephone subscriber lines around the turn of the century. Most Duquesne insulators have been found in the East and Mid-west.

The CD 106.1 is an interesting style and is nicknamed the Duquesne "peak top" pony because of its unusual, noticeably pointed dome. Both the CD 106.1 and the 106.3 are more available than the uncommon CD 113.2 style.

Another characteristic unique to Duquesne insulators is the four "ribs" which are observed around the insulator's circumference beneath the lower wire groove ridge. In some cases, one of the ribs was omitted from the mold leaving only three ribs on the Duquesne specimens. It is not known what function the ribs served.

There are some light aqua unembossed CD 121 insulators which have the same four ribs as found on the embossed Duquesne units. It is assumed that they too were manufactured by the same company.

Duquesne insulators are noted in numerous shades of aqua. The CD 106.3 specimens tend to be of aqua shades or deep greenish blue while the CD 106.1 are frequently found in a distinctive light sky blue or a vibrant cornflower blue. The CD 113.2 style is usually light aqua, blue aqua or a sky blue.

There is some variation in the embossing found on the Duquesne insulators. While most CD 106.1 and CD 106.3 specimens are lettered "DUQUESNE" on the front skirt, with "GLASS CO." on the rear skirt, some are embossed "DUQUESNE/GLASS CO." on both the front and rear skirts. In some cases, "GLASS CO." has the abbreviated embossing "G.CO.". The CD 113.2 units are embossed "DUQUESNE" on the front skirt and "GLASS CO." on the rear skirt. However, some have a misspelling of the name "DUQUSNE".

Authored by Joe Maurath, Jr. (See The New England Manufacturers chapter for biography)

Harloe Insulator Company

Morton Brock Harloe was born on October 3, 1862, in Poughkeepsie, New York. He attended the Eldridge School in West Virginia. Later he returned to New York where he worked for the Metropolitan Police force's detective bureau and studied electrical engineering. Harloe was a talented musician as well as a successful inventor. He married Mary Theresa Corbitt in 1884. The couple had six children. Mary Theresa died in 1897. On December 14, 1898, Morton Harloe was remarried to Sophie Ann Simpkins, a reverend's daughter. She was also gifted in music and both were active in the church. They had six children by this marriage for a total of twelve.

Morton Brock Harloe

(Photograph made available by Evelyn Hobday, granddaughter of Morton Harloe, to Ray Klingensmith for reproduction. Copy of photo from collection of Claude Wambold)

In 1899, Morton Harloe introduced a novel new insulator. The patent date issued to this insulator was March 21, 1899. In 1901 and 1902 Morton Harloe was granted additional patents regarding his insulators. His 1899 patent was shown in the April edition of *Scientific American* of that year. (Figure 1.) Harloe was so sure of his insulator ideas that in 1902 he formed a new insulator company in Hawley, Pennsylvania. The property of the factory was purchased on July 29, 1902, for the consideration of $932.

The company was incorporated by: J.S. Welsh, president, William Greg, vice president, Myron T. Snyder, treasurer; Marcus Tuttle, secretary, and Morton Harloe, inventor and general manager. Other stockholders were P.J. Bower, George S. Thompson, Wilton S. Bloes and George E. Shay. Total capital was $150,000.

The Hawley plant produced insulators as well as bottles and canning jars. The CD 109.5 and CD 206.5 were produced early in Harloe history, but proved to be a ''no-tie'' style which met with very limited success. A porcelain unit in the same style also was produced and was unsuccessful as well.

In March of 1903 the Harloe Insulator Company took over operations of the Sterling Glass Company in Elmer, New Jersey. (See Glassmaking in Elmer at Turn of the Century chapter) On August 14, 1903, they closed the plant for repairs on the furnace. On October 30. 1903, the glassworks, owned by A. L. Sturr and leased by Harloe, was sold to Jonathan Parker, of Parker Brothers Glass Manufacturers. Harloe vacated the plant at this time and moved production to a Hawley, Pennsylvania, location.

The standard telephone and telegraph styles were far more successful for the Harloe Insulator Company. CD's 102, 112, 121, 145, 160, 162, and 164 were manufactured in aqua glass. It appears that Harloe obtained some of its molds when Sterling ceased operations, since ghost embossings of both Sterling and the Sterling pound sign have been found on the CD 102, 112 and 164 styles made by Harloe. Harloe also produced a cable style, CD 260, in very limited quantities. All Harloe insulators are embossed with "HAWLEY, PA." and also a company logo which consists of an entwined "H.I.CO.". (See logo at beginning of this chapter)

On May 18, 1904, the Harloe Insulator Company's board of directors signed a note for $8,000 using their property as collateral. This note evidently was not paid. On July 10, 1906, E.L. Mumford, trustee on the note, filed for court action to collect the debt. Judgment was in favor of Mumford and the Hawley property was sold at a Sheriff's sale for $60. The purchaser was J.S. Welsh on Aug. 9, 1906.

On October 23, 1907, Morton Harloe assigned his patents to the Brookfield Glass Company in an agreement that he was to be paid the royalty of twenty-five cents per every thousand insulators sold. Brookfield sold Hemingray Glass Co. an undivided one-half of that right for the amount of $1.00 and other valuable considerations. This transaction took place on November 2, 1907. Harloe's royalty was also included in this transaction.

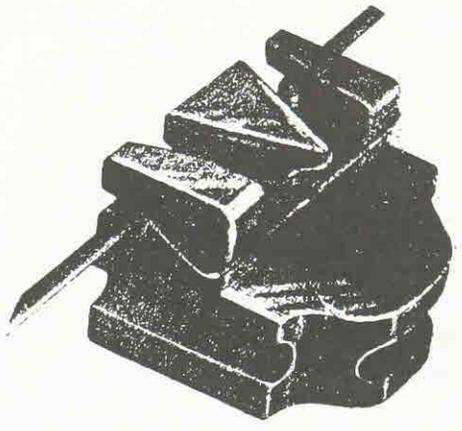
Why the "no-tie" patent was not a success is a mystery. The *Elmer Times* of Elmer, New Jersey, on August 14, 1903, stated that the Harloe insulator was "pronounced by many to be superior to any insulator now on the market."

It is not known if the Hemingray or Brookfield companies produced any of the insulators. However, a lead impression of a Harloe mold (no manufactured glass units of this particular mold number have been located) was dug in the Hemingray Glass Company dump in Muncie, Indiana, indicating that they obtained a mold of the Harloe insulator for possible production. (Figure 2.)

Scientific American.

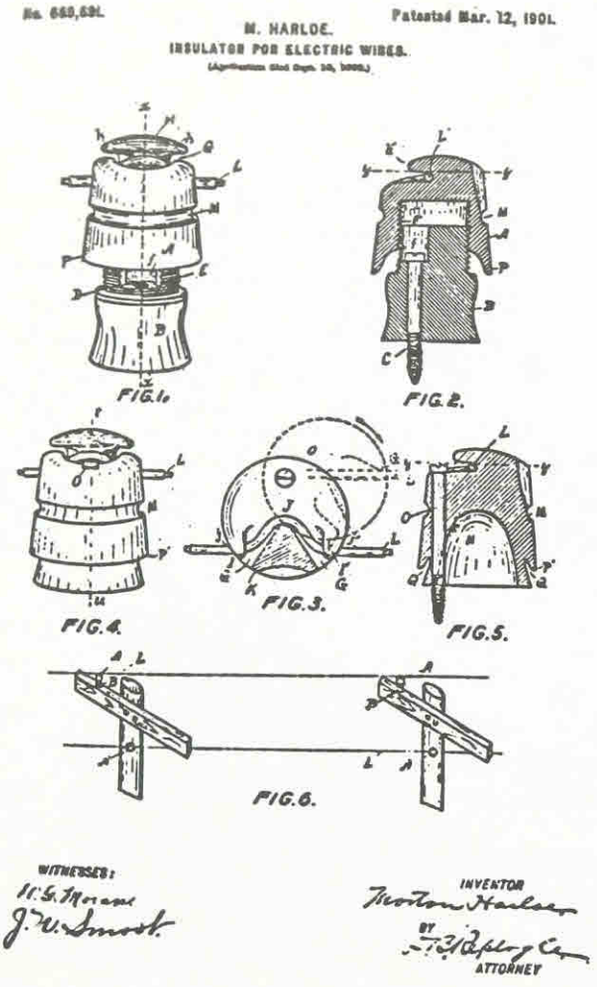
A NOVEL INSULATOR

To provide a device which will serve both as an insulator and as a bracket for sustaining a wire, and which is adapted both to exterior and interior wiring, is the purpose of the invention illustrated in our engraving. The insulator, it will be observed, has a body portion eccentrically pivoted so that it can swing. The lower and heavier portion of the body is provided with three studs separated by grooves. Of these three studs, the central one is triangular in shape and is underent [intended] to form an overhanging end. The two remaining studs are also provided with overhanging ends. In placing a heavy wire on the insulator, the body portion may be rocked, and the wire laid in one of the grooves. By rocking the body-portion to the opposite sides, the wire may be laid in the

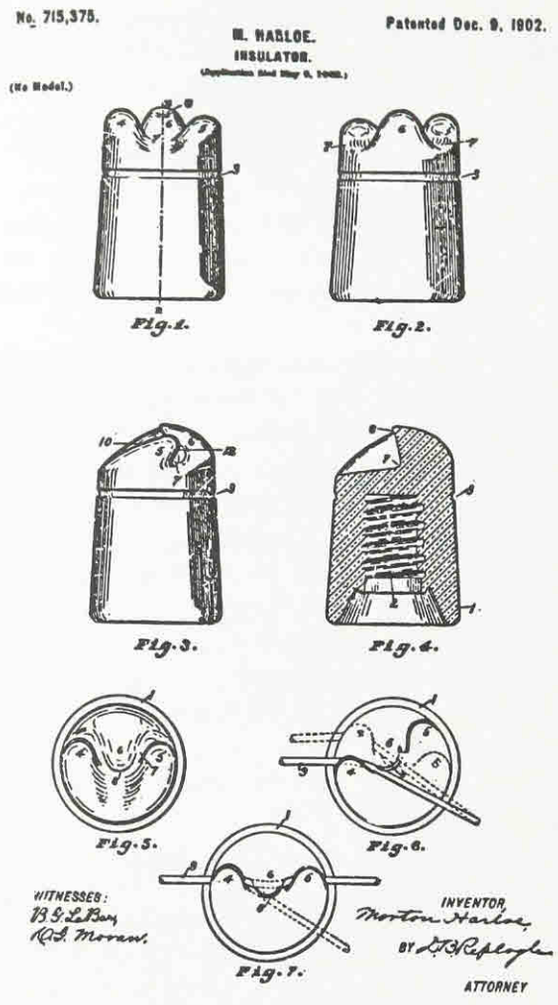


other groove and on the triangular central stud. In this manner the heaviest wire may be bent upon the insulator with ease. If it be so desired, the wire may be further secured in place by a fastening, as shown in the illustration; but the use of such a fastening is not always necessary. By mounting the body portion so that it can rock, the insulator is enabled to yield to the sag of the wire and is not readily jarred or broken. The insulator has been patented by the inventors, Wilton S. Bloes and Morton Harloe, of Peckville, Penn.

(Figure 1.) April 1899 issue of Scientific American illustrating the Bloes' and Harloe's Insulator. (Courtesy of Glenn Drummond)

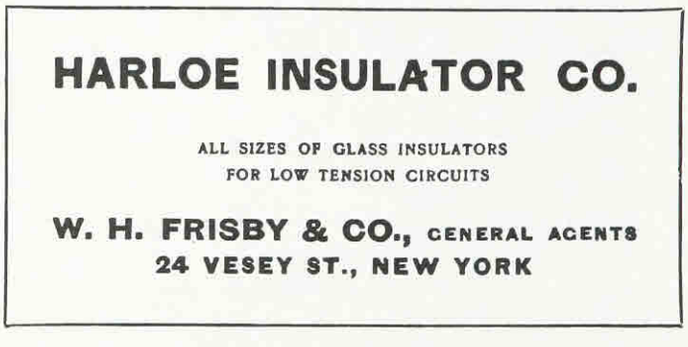


Morton Harloe's March 12, 1901 patent for a two-piece self-tying insulator design. One half of the patent was assigned to Wilton S. Bloes.



Morton Harloe's December 9, 1902 patent for a self-tying insulator. This patent is represented by CD 109.5 and CD 206.5 styles.

(Figure 2.) Lead impression of a Harloe insulator mold dug in the Hemingray Glass Company dump in Muncie, Indiana. (Photo Courtesy of John McDougald)



June 20, 1903 Electrical World and Engineer ad for Harloe Insulator Company. (Courtesy Elton Gish)

Authored by Bob Harding. (See Ohio Valley Glass Company chapter for biography)

H. C. Fry Glass Company

"Where New York Avenue in Rochester Township meets tiny, gurgling McKinley Run near a recently closed bridge. One might have trouble imagining that amid this subtle blend of grown-up weeds and redeveloped buildings stood the H.C. Fry Glass Co., a factory that historians once called 'the most modern and best-equipped factory in all the world.'" So stated the *Beaver County Times* on January 16, 1983.

For more than thirty years the factory employed thousands of workers. For the immigrant master glassblowers and the teenage boys dreaming of earning an apprenticeship, the company established some of the finest working conditions for its employees who labored over the glass pots, furnaces, and presses, which yielded some of today's most collectible domestic glassware.

On page 6 of the December 17, 1955 issue of the *National Glass Budget* we find the following information: *Mr. Henry Clay Fry was known as the dean of the flint glass manufacturers, philanthropist, Civil War veteran, and the 'grand old man' of Rochester, Penna.* (Figure 1.)

The eldest son of Thomas and Charlotte Fry, Henry Clay Fry was born near Lexington, Kentucky, on September 17, 1840. Following his common school education in Kentucky, Fry left at the age of seventeen for Pittsburgh, Pennsylvania, where he was employed in the glassworks of the Wm. Phillips & Co. as an assistant shipping clerk. During the five years he worked for the company, Henry Fry filled various positions concluding finally as manager and head salesman. In August of 1862, he enlisted as a private in the 15th Regiment, Pennsylvania, Cavalry; and served until mustered out in 1864, having particpated in all the engagements of the army of the Cumberland.

At the conclusion of his military service in 1864, Fry returned to Pittsburgh and glass manufacture with Lippincott, Fry & Co., who were succeeded by Fry & Scott, and then by Fry, Sample & Reynolds, which operated their plant at the foot of 17th Street, South Side, Pittsburgh. The *National Glass Budget* stated, "At that time every plant had a nickname and this factory was known as the 'circus'. Later on this plant was taken over by the late Thos. Evans. In 1869 Mr. Fry retired from the firm of Fry, Sample & Reynolds and accepted the position of general manager with James B. Lyon & Co. of Pittsburgh and conducted it with great sucess for the next two years."

The *National Glass Budget* continues: " In 1872 Mr. Fry left Pittsburgh with a crew of highly skilled workmen for Rochester, Pennsylvania, where he formed the Rochester Tumbler Company specializing in the production of common tumblers and beer mugs. He continued with this company until it had seven furnaces in a row with a total of about 100 pots in operation. The company was sucessful until destroyed by fire in 1899." (Figure 2.)

(Figure 1.) ***Henry Clay Fry***

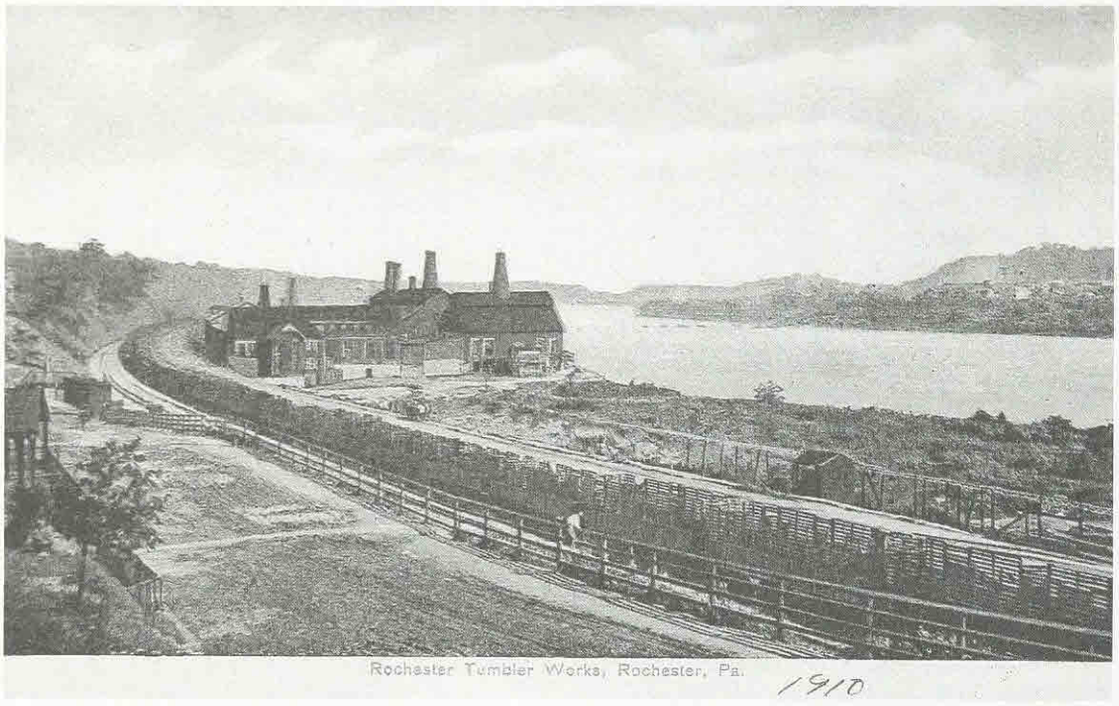
(Courtesy of Beavery Valley Library as printed in *Beaver County Times*, January 16, 1983)

Following his election and service as president of the National Glass Company which operated nineteen factories, Fry's ambition to build and operate his own glass company became a reality with the erection of the H.C. Fry Glass Company of North Rochester, Pennsylvania, in 1901. (Figure 3.)

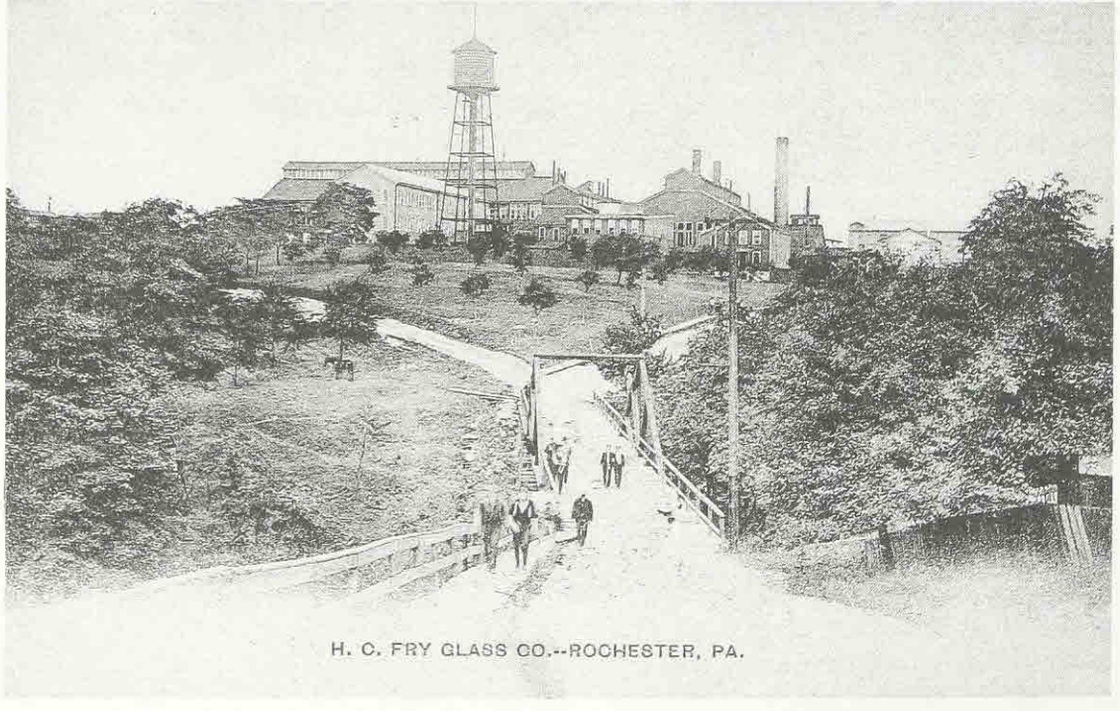
The *National Glass Budget* described the plant as "considered to be one of the largest of its kind, most modernly equipped, and on account of the spacious grounds and the beautiful flowers and shrubbery, it appeared more like a residence than a manufacturing institution."

In James R. Lafferty's *Fry Insights*, compiled in 1968, we find evidence of the ideals and principles of H.C. Fry which he used to maintain a firm business market and strived to pay the highest possible wages and establish the best of working conditions for his employees. (Figure 4.)

Although known primarily for the manufacture

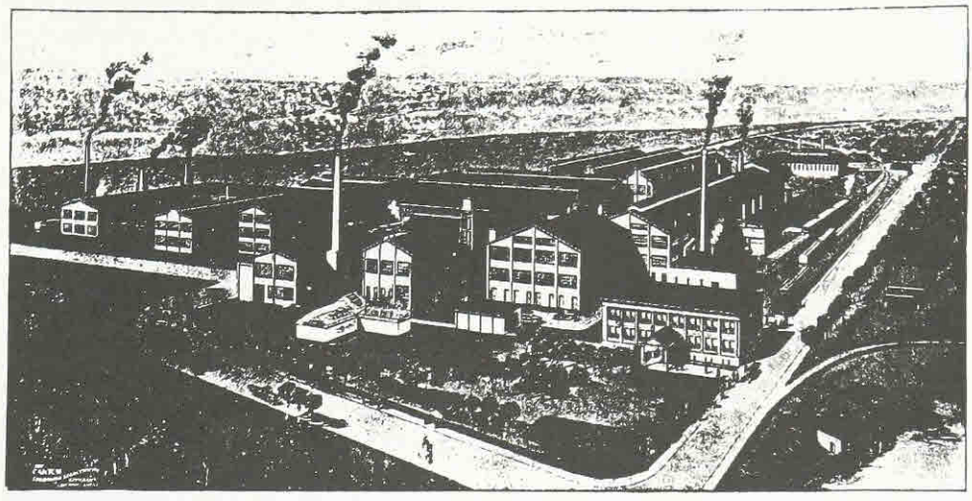


(Figure 2.) Post card of the Rochester Tumbler Works, Rochester, Pa., postmarked October 11, 1911.
(Courtesy of Ray Lanpher)



(Figure 3.) Post card of the H.C. Fry Glass Co. -- Rochester, Pa., postmarked August 8, 1907.
(Courtesy of Ray Lanpher)

Fry Quality Glassware



THE above bird's eye gives the buyer a fairly good view of one of the most modern factories on this continent. Founded by Henry C. Fry in 1901, after a destructive fire had destroyed his other factory, known the world over as "The Rochester Tumbler Company."

The above plant covers many acres of ground. There are four large furnaces of 64 pot capacity, also one large and one small tank. The principal articles manufactured are Blanks for the cut glass trade, the famous Fry Oven Glass for baking purposes, Cut Glass, Parabola and Motion Picture Lenses, refined Plate and Needle Etchings, Stemware, Table Tumblers, Cylinders for gasoline pumps, as well as numerous other specialties. Barrels, boxes and other containers for packing are made in the above factory. The natural gas used is brought in through fifty miles of pipe line from wells owned by the Company. A rest room is provided for female employees, one of the first plants in Pennsylvania to install such a room. The administrative building is large, modern and handsome in appearance. The first floor or basement contains samples of blanks for cutting. The second floor houses all the administrative bodies that care for the business of the plant, while the upper floor besides housing several of the superintendents and Oven Glass Sales Department, displays samples of all the finished products. A photograph gallery and drawing studio, where all designs are made, photographed, tested and adopted, is also located on this floor. An up-to-date laboratory is maintained under the supervision of a competent chemist.

About 1000 people are employed, with a payroll of over $1,000,000.00 per year.

For years, the company has encouraged higher education among its employees, even to the extent of maintaining a thirty piece band directed by a paid instructor and considered one of the best semi-professional bands in the State of Pennsylvania.

Mr. H. C. Fry conceived the idea of a club house to be conducted along the lines of a Y.M.C.A. This is known as "The Welcome Club," and any man found worthy in the Beaver Valley, is privileged to become a member.

A beautiful brick school house, where the foreign born employee is taught to become 100 per cent American, is also a part of the factory.

The above brief history is printed herein simply to give the trade a perspective of our plant and an acquaintance with a few of the many articles we manufacture.

FRY QUALITY *has a world wide reputation. A trial will convince you*

H. C. FRY GLASS COMPANY, *Rochester, Pa.*

(Figure 4.) Printed from James R. Lafferty's Fry Insights. (Courtesy of Ray Lanpher)

of utilitarian ovenware and beautiful art glass, insulators were also manufactured by the H.C. Fry Glass Company. There are four unique pintype CD styles which are attributed to Fry. They are a signal style (CD 164.4) and three cable power styles (CD 229.6, CD 299.2, and CD 301.2). Also unique to Fry manufacture is the color of the glass in which their insulators were produced.

On May 9, 1922, a patent was granted to Ralph F. Brenner, assignor to the H.C. Fry Company, which covered the process of making a high heat-resistant glass. The process resulted in a glass referred to as "Foval" glass which is characterized by its white, pearlized opalescent color.

In the January 1971 issue of *Old Bottle Magazine*, Dennis Rogers describes the Foval glass as a "colloidal (suspension) condition of the alumina in the glass batch [which] results in the neutral gray, cloudy, bluish hue that is predominant in this glass, giving it a translucent or opaque appearance."

The CD 164.4, CD 299.2, and CD 301.2 styles have been found manufactured in the opalescent Foval glass. However, the CD 164.4 and CD 301.2 are more commonly found in an opaque black-glass, an extremely dark purple color, which permits no penetration of any light source.

One rare sample of the CD 164.4 signal style has been located in a opaque cobalt color. There are also at least two units which have been found in a light, translucent straw color.

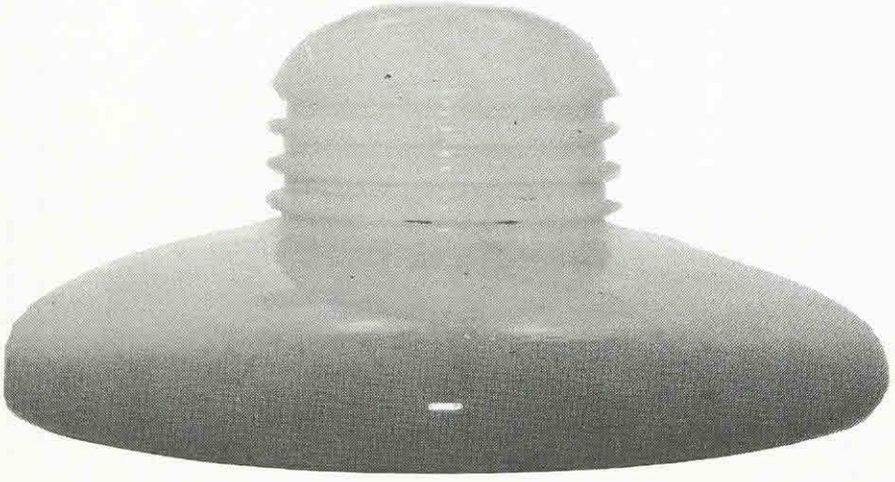
The CD 229.6 cable style has only been located in the opaque blackglass color.

Since most of the specimens of Fry glass insulators have been dug only through excavation at the plant site and not found installed for service on poles, it is assumed that the insulators produced never made any impact upon the purchasing agents for utility companies during the 1920's. None of the insulators which have been found and attributed to Fry are embossed with a Fry trademark or name.

One nonpintype insulator which was located at the Fry plant dump is a "sombrero"-shaped insulator which would have been used as one of a number of similar units as part of a high tension string for utility high voltage towers. (Figure 5.) Claude Wambold is the current owner of this Fry insulator which is white opalescent in color. Claude indicated that Robert Whippo, a resident of western Pennsylvania, had originally owned the insulator. Whippo had been instructed by a gentleman who was renting part of the original Fry plant in Rochester to "take that trash out on the dump." There were originally eight of the sombreros, but Mr. Whippo only saved one while the rest were destroyed.

Henry Clay Fry was listed as the first president of the Duquesne Light Company, Duquesne, Pennsylvania, and one might assume that his intention was to become the insulator supplier for the utility company, by having four unique molds designed and a limited number of units pressed. However, it is evident that insulator production was short-lived and seems to have had no distribution further than the factory dump site.

Sometime during 1933 the Fry Glass Company ceased operations. The January 16, 1983 issue of the *Beaver County Times* states, "The demise of the Fry factory was caused not by inefficiency but the times and national economy. Silver, not cut glass, had become the household item most in demand. Also, the continuation of Prohibition had reduced the need for glass. The factory stacks ceased to stand decades ago. Only a few storage houses and one building, a squarish office structure of blood-red brick, are left intact."



(Figure 5.) The only Fry Glass Company "sombrero" in white opalescent glass known to exist.
(Photo courtesy of John McDougald)

The research for this article was gathered by Ray Lanpher of North Attleboro, Massachusetts. Having acquired several Fry glass insulators at an auction, Ray's interest in the company and its history was triggered. With the assistance of fellow collectors, the Beaver Valley Library and Fry glass collectors' group, Ray has amassed as complete list of existing Fry insulators currently in collections, as well as the most definitive historical information that has been printed to date.