

Frederick Heitz and the FHGW Logo

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[Parts of this section were originally published in Lockhart & Whitten 2005; 2006]

The story behind the tortuous path to discovery of the user of the FHGW mark has been told in detail in Lockhart & Whitten (2005; 2006). The trail began when David Whitten insisted that bottles with the mark did not appear to be of English manufacture – as Toulouse (1971:202) had claimed in his identification of the Frederick Hampson Glass Works. They looked like American bottles. This led Whitten to examine the St. Louis city directories and discover Frederick Heitz. In 2015, Terry Schaub contacted the Bottle Research Group and ushered in a new body of information.

History

In our original study of the FHGW logo (Lockhart Whitten 2005; 2006), we examined the history of the Frederick Hampson Glass Works – identified by Toulouse (1971:202) as the user of the logo – and other firms with “FH” initials. These included Francis Hitchins (a glass maker in Lockport, New York) and the Federal Hill Glass Works at Baltimore. Since we demonstrated that those factories did not use the FHGW mark – and Francis Hitchins most likely did not – we have not readdressed their histories here. See the section on the Baltimore Glass Works for information on Federal Hill, and the Other L section for more on Francis Hitchens and the Lockport Glass.

Frederick W. Heitz was born in Prussia (now a part of Germany) in April 1829. He migrated to the United States in 1848 and applied for American citizenship at St. Louis on April 29, 1868. He married Wilhelmina (usually called Mina or Minnie) Thias on February 15, 1866. Sometimes called Fritz, Frederick was the brother of Christian Heitz, an officer of the Lindell Glass Co. at St. Louis during the 1880s. Both men were in the grocery business after their involvement in the glass trade. Frederick Heitz died on May 31, 1907. He operated a grocery store and saloon at the time of his death (*St. Louis Post-Dispatch* – 6/1/1907; State of Missouri records; U.S. Census 1880).

Frederick Heitz Glass Works, St. Louis, Missouri (1882-1898)

Although we have not discovered the date when Frederick W. Heitz began building his glass plant or when it opened, the May 11, 1882, issue of the *Sanitary Engineer* (1882:504) announced: “Fred. Heitz, owner of glass factory, Dorcas Ave, Main and Second Sts, cost: \$40,800.” Heitz was certainly making glass before the end of the year. The plant was located along the tracks of the St. Louis & Southern Railroad. Heitz appears to have initially leased the property from John C. Gmeiner; however, on April 26, 1883, Heitz purchased lots 9-14 on block 2014 (the factory location) from Gmeiner, making him full owner of both plant and grounds. According to the 1883 map in the *St. Louis Atlas* (Hopkins 1883), three side tracks extended across the Heitz property (Figure 1). Heitz was listed under the Glass Manufacturers category in the *St. Louis city directories* at the northwest corner of Main (Dorcas & Main) from 1883 to 1896.

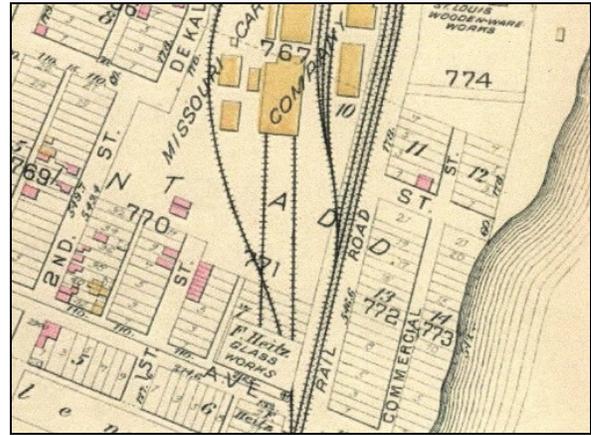


Figure 1 – Frederick Heitz Glass Works (Hopkins 1883)

The early years of the business seem to have run smoothly, although one of Heitz’s workers, Henry Duckstein, sued Heitz for \$10,000 for injuries at Heitz’ factory in 1884. Two years later, the Missouri Car & Foundry Works – a neighboring firm – was almost destroyed in a major conflagration, but the St. Louis fire department stopped the blaze short of Heitz’ glass house (*St. Louis Globe-Democrat* 9/19/1884; *St. Louis Post-Dispatch* 6/19/1886). An 1888 city map showed the factory property (Figure 2).

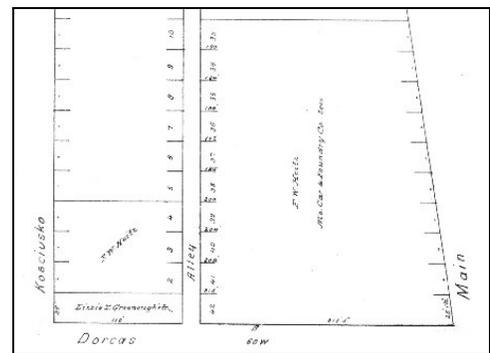


Figure 2 – 1888 city map

The business obviously prospered. Heitz signed a deed of trust to the German-American Bank on August 14, 1894, as collateral for a loan to build a new factory, and probably closed the

old plant soon thereafter. On February 1, 1895, the *Post-Dispatch* announced that Fred Heitz had started the fires at his new glass works and expected to begin production in about three weeks. About a year earlier, Heitz had decided that he had to enlarge his factory in order to compete with foreign bottle competition and closed the plant for renovation.¹ The new plant cost about \$100,000 and had an estimated production capacity of 500 gross of bottles per day. Initial production was planned for beer and soda bottles. Heitz' workers made all of the molds used at the factory. Heitz claimed that he had the largest "bottle tank" in the U.S. The plant was known locally as the South St. Louis Glass Works – although it was always listed as the Frederick Heitz Glass Works.

Heitz was noted on the "Miscellaneous Green List" as Heitz & Co. – a name that appeared in no other source – using 45 pots in 1897 (*National Glass Budget* 1897:7), but several things were occurring that would spell the demise of the firm. As noted above, Heitz had taken out a loan from the German-American Bank in August of 1894 to build the new factory.² Soon after he opened the new plant, two things conspired to destroy the business. First, the market for fruit jars began to dry up. The *St. Louis Post-Dispatch* on September 18, 1895, printed the headline: "Jar Manufacturers Say the Custom of Preserving is Dying Out." Housewives were apparently no longer canning as before, and retailers were "reporting large quantities of old stock on hand." As a result, glass houses began lowering their prices and "having a regular glass-jar war."

The newspaper claimed that "E.F.W. Meyer Glass Co. began the slashing of prices. The Krenning Glass Co., it is said, followed, and during the past few days the St. Louis Glass & Silverware Co., F. Heitz Glass Works and the Illinois Glass Co. have joined in." This was followed by a heavy price increase the next year, probably because the Ball Brothers, Marion Fruit Jar and Bottle Co., and a few other of the largest fruit jar producers had formed the Indiana Fruit Jar Sales Assn. in the spring of 1895 to control the price of fruit jars – freezing out the smaller jar producers (like Heitz). Wholesale grocers at St. Louis predicted a drop in sales

¹ The Tariff Act of 1894 removed the tariff that had protected U.S. glass factories from lower-priced foreign bottles. Many glass houses went out of business due to Act.

² Adolphus Busch was connected with this bank – which served the large German population of St. Louis.

(*Logansport Journal*, 5/6/1896; *Marion Daily Leader* 6/8/1896; *St. Louis Post-Dispatch* 5/5/1896). Since beer bottles were the primary product of the Heitz factory, this, by itself, would not have been a major issue.

Second, however, the price of coal almost quadrupled. Although the reporter for the *Post-Dispatch* had observed both wood and coal being used at the furnace that heated the continuous tank at the new factory, it was fired primarily by coal. This was probably the major undoing of the Heitz firm (*St. Louis Post-Dispatch* 4/14/1895).

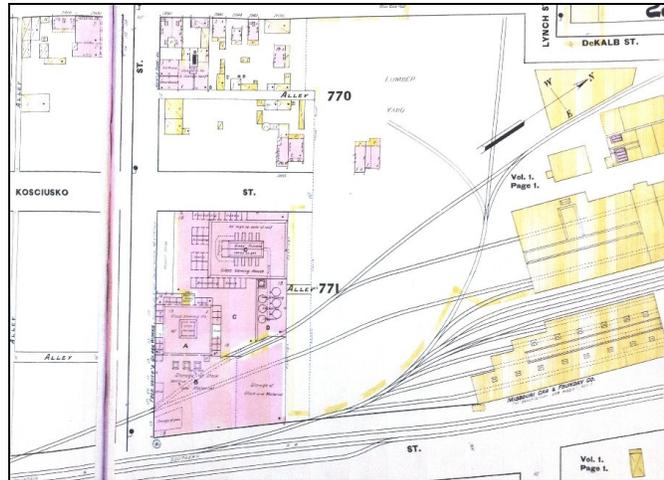


Figure 3 – 1896 Heitz plant (University of Wisconsin and Madison 2015)

In addition, Heitz had an interesting system that fell apart. The 1893 and 1896 maps (Figure 3 – also see Figure 1) shows railroad tracks running *through* the glass plant – right into an area marked “Storage of Stock and Materials” – from the Missouri Car & Foundry Co. plant to the east. This enabled Heitz to unload raw materials directly into the plant and to load glass directly onto railroad cars (Unreal City 2015). That year (1896), the railroad gave notice of its intention to reroute the tracks to the south of the factory. The *Post-Dispatch* announced on June 27 that Heitz along with Charles H. “Grate” (Grote) and August H. Theias (Thias, Heitz’s father-in-law) incorporated the St. Louis Switch Railroad Co., with a capital of \$5,000, to build and operate a switch to create a new route into the plant. The plan apparently failed.

Although this is pure speculation, Heitz may have had another interesting reason for wanting to retain the tracks through the factory. Glass houses used cullet (broken glass) to prime the pots and tanks. The Missouri Car & Foundry Co. created a fair amount of glass slag in its processing. With the cars from the foundry passing directly through the Heitz plant, the factory had a virtually unlimited amount of cheap – possibly free – cullet.

It was too much. A short blurb in the May 12, 1897, edition of *China, Glass & Lamps* noted that “Fred Heitz, the St. Louis beer bottle mfr., has placed his affairs in the hands of a

receiver.” At the time of the factory’s closing, Heitz operated one furnace with six pots, and a single continuous tank with 13 rings (Roller 1997).

According to a flyer, a trustee’s sale of the “entire outfit” of the Frederick Heitz Glass Works, north side of Dorcas between First and Kosciusko Streets, was to be held on February 10, 1898. Included in the sale were “1127 gro. Quart Beer Bottles, 1310 gro. Pint Beer Bottles . . . 75 gro. 1-2 gal. jars” along with boxes, blowpipes, 50 molds, horses, wagons, office furniture, and a variety of tools and other items associated with the trade (Missouri History Museum 2009) (Figure 4).

Despite the receivership, Heitz continued to operate the factory. Then, things took a bizarre turn. On January 23, 1898, *Post-Dispatch* ran the heading:

TRUSTEE'S SALE
—OF—
PERSONAL PROPERTY
BEING THE ENTIRE OUTFIT OF THE
FREDERICK HEITZ GLASS WORKS
North Side Dorcas, Between First and Kosciusko Streets.
10 A. M.
THURSDAY, FEBRUARY 10th
—CONSISTING OF—

1127 gro. Quart Beer Bottles.	2 Pot-Setting Wagons.
1310 gro. Pint Beer Bottles.	5 Trucks.
1500 Boxes for Beer Bottles.	50 Moulds.
50 Barrels Salt.	3 doz. Glass Blowers' Tools.
30,000 Pounds White Sand.	14 Batch Wagons,
75 gro. 1,2 gal. Standard Jars	1 Set Blacksmith Tools.
40,000 Pounds Culletts.	4 Horses and Harness.
200 Blow Pipes, 6 Glass Holes.	2 Wagons.
50 Clamps. 1 Oil Truck.	ALSO
6 Iron Kettles.	Office Furniture,
6 Wheelbarrows.	Stoves, Desks and Chairs.

TERMS CASH.
CHAS. H. GROTE, Trustee. **H. L. SUTTON,** Auctioneer.
J. HUGO GRIMM and A. H. STILLE, Attorneys.

Figure 4 – 1898 Flyer - Heitz sale (Missouri History Museum, Circulars Collection, Folder 5)

SEIGE LAID TO BOTTLE WORKS

Mr. And Mrs. Heitz Barricade in an Office

There they Shouted Defiance to All Who Came Near for Two Days

Coal Finally Gave Out

According to the paper, Heitz had been forced into receivership “eight months ago,” and Charles H. Grote, the trustee for the sale of the plant, had placed Heitz in charge of the factory during the interim. Although some said that Heitz was only hired as a watchman, Heitz, himself, stated that he “was retained by Mr. Grote to superintend the works and look after the property because [he had a] knowledge of the business and also to sell the bottles.” When Grote claimed that Heitz was “selling the bottles on his own terms,” he sent two employees to evict Heitz from the premises. Heitz refused, bolting the windows, locking the doors, and preparing for a siege. Heitz and his wife “stocked the pantry with provisions, laid in a supply of fuel and incidentally got out all their old firearms and weapons of defense. Pistols and rifles were their mainstay, but knives, hatchets and crowbars were not thrown aside as useless.”

John Schwartz, one of Grotte's employees, tried to peacefully reconcile the situation, but Heitz met him at the door "with a revolver in his hand" while Mrs. Heitz stood behind him "at parade rest with a crowbar clenched in her hands." Schwartz and John Meyers eventually caught Heitz outside and blocked his return to the office. The siege was over, and the Heitz family went home.

The 1898 insolvency apparently signaled the end of production at the Frederick Heitz Glass Works. The March 23, 1898, issue of the *Indiana State Journal* (Indianapolis) provided a fitting epitaph for an unusual history:

A year ago when the Heitz Glass Company, of St. Louis, failed and the works shut down, the "pot" was left full of molten glass. Recently the property was purchased and . . . the pot contains a solid piece of glass sixty-six feet long, twenty-two feet wide, and five feet thick, estimated to weigh almost 600 tons.

Postscripts

Even though the Heitz chapter of factory's history was over, the plant continued its unusual pattern. Although the *Indiana State Journal* failed to name the buyer, the German-American Bank purchased the factory for \$10,000 on April 26, 1898. Heitz had turned down a \$150,000 offer from Busch – as well as a \$90,000 bid from the Lemp Brewery – shortly after his business began to suffer, but Busch had the last laugh. Anheuser-Busch then bought the plant from the bank for \$60,000. Less than a year later, in February 1901, the Adolphus Busch Glass Mfg. Co. acquired the property for \$42,000. The new purchase soon became important. On April 1, 1900, fire destroyed the Adolphus Busch Glass Mfg. Co. factory. The damage was estimated at \$80,000, partly covered by insurance. Since Busch had recently purchased the old Heitz plant, he transferred the business to the Dorcas St. location (*St. Louis Post-Dispatch* – 4/2/1900).

Whipple's fire insurance map of St. Louis, Mo., Volume 5, 1896 (Unreal City 2015:225. Part 2) showed the factory at some point during the 1901-1905 period – including the railroad tracks south of the plant (Figure 5). Busch owned the property by then. The map was dated 1896, but numerous changes had been cut out and pasted on the map, including the notation that

the business was the Adolphus Busch Glass Mfg. Co. – even though the factory was obviously the former Heitz plant (compare with Figure 3). The pasted additions could only have been included between 1901 (when Busch acquired the property) to 1905 (when the plant burned – see below).

Bad luck continued to plague Busch. Just five years after his original St. Louis plant burned (February 22, 1905), fire destroyed the former Frederick Heitz factory. The loss was estimated at \$75,000, and several workers who were trapped in the blaze crawled on their hands and knees the entire length of the building (a city block) to escape. Fortunately for the Anheuser-Busch brewery, Busch had several warehouses of bottles at other locations (*St. Louis Post-Dispatch* – 2/23/1905). But the old Heitz factory was gone.

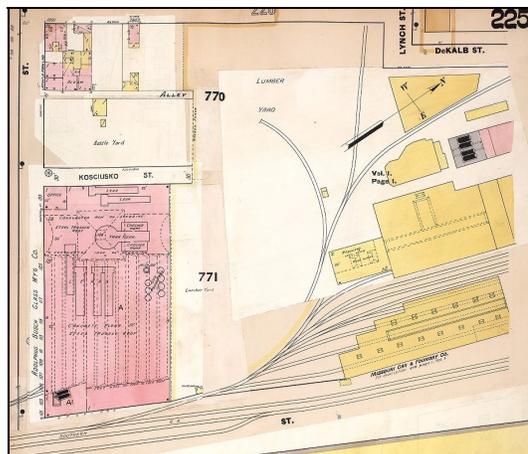


Figure 5 – Adolphus Busch Dorcas St. plant (Unreal City 2015)

However, the strange history was not over. When his widow, Minnie Heitz, died on October 1, 1916, the *Post-Dispatch* (1/4/1917) announced that her personal property was valued at \$21,257.46. At the time of his death, Heitz ran a saloon and grocery at Tenth and Mound Streets, and his widow estimated the amount of his estate at only \$200. Once Heitz lost the glass house, however, he apparently secretly hoarded money to baffle his creditors.³ According to the newspaper, after Minnie’s death, the estate administrator, acting on a tip, took up the carpet and discovered over \$20,000 in cash, including several \$1,000 bills (actually only one) and “a considerable amount of gold” (actually 72 \$20 gold pieces).⁴ Since both Frederick and Minnie died intestate and had no children, a legal battle ensued to determine the distribution of the estate. Creditors from the glass factory days claimed a share as did the Heitz family, but, since Minnie died more than five years after the death of Frederick, the entire estate went to her family.

³ Although the legal ramifications were complex, Heitz was liable for the factory debts because he was the sole owner.

⁴ According to an inventory of the estate, more than half (ca. \$11,000) consisted of uncashed checks.

Containers and Marks

Toulouse incorrectly identified the FHGW logo as belonging to the Frederick Hampson Glass Works in England. He somehow missed all of the glass plants in St. Louis, causing him to also mislabel the MGCo logo (Mississippi Glass Co.) and LGCo mark (Lindell Glass Co.). Although Heitz never applied for trademarks, there is virtually no question that the plant used both the FHGW logo and the F.H. mark.

FHGW (1882-1896)

The very scant information we have indicates that beer bottles – made for the Anheuser-Busch Brewing Co. – were the main product made by the Frederick Heitz Glass Works. However, the article on the new plant (*St. Louis Post-Dispatch* 2/1/1895) also mentioned the production of soda bottles. An 1883 article noted that Frederick Heitz made the same type of bottles as the Mississippi Glass Works, i.e., “mineral water bottles, beer bottles, etc.” (*Crockery & Glass Journal* 1883:24). The flyer announcing the sale of the plant in 1898 listed beer bottles and fruit jars in the inventory. Export beer bottles, Hutchinson soda bottles (see below), and grooved-ring, wax-sealer fruit jars apparently constituted the entire scope of production for the factory. These are also the only three regularly produced container types with the identified marks of Frederick Heitz.

Beer Bottles

The FHGW mark is found on the bases of export-style, 26-ounce “quart” beer bottles as well as smaller “pint” sizes (Figure 6). Toulouse (1971:202-203) dated the mark “circa 1880 to 1900,” based on the general timeframe for beer bottles of that type. In fact, he only discussed the bottle type – not company information. However, he attributed the mark to the Frederick Hampson Glass Works (see above). Wilson and Caperton (1994:75), however, questioned this identification, noting that beer bottle with the F.H.G.W. marks “were probably made by an Anheuser-Busch affiliated glass works in the St. Louis area.” Herskovitz (1978:11) noted that a bottle found at Fort Bowie with the FHGW basemark also had an Anheuser-Busch paper label.



Figure 6 – FHGW basemark

Ayres et al. (1980:17) only stated that the mark was “unidentified.” Jones (1968:17) noted that an FHGW bottle from Fort Union, New Mexico, had a St. Louis Lager Beer label, and the Bottle Research Group discovered a similarly labeled export beer bottle in the Fort Bowie collection at the Museum Collections Repository, Western Archeological and Conservation Center, Tucson, Arizona.



Figure 7 – Bar FHGW logo (Fort Stanton)

Wilson (1981:115-117) illustrated 37 beer bottle bases with the FHGW mark from Fort Union, New Mexico (1863-1891); Herskovitz (1978:8) found 129 beer bases with the mark at Fort Bowie, Arizona (1862-1894); Lockhart & Olszewski (1994) noted two examples at San Elizario, Texas; Ayres et al. (1980:unnumbered page) added two more at Tucson, Arizona; Wilson and Caperton (1994:56-57) listed 28 examples at Fort Selden, New Mexico (1865-1892); and Jones (1966:8) illustrated the logo. Most recently,

Lockhart et al. (2011) reported 28 examples at Fort Stanton, New Mexico. The mark has only been found embossed across the center of the base and was always accompanied by a one- or two-digit number (ranging from 1 to 89) placed

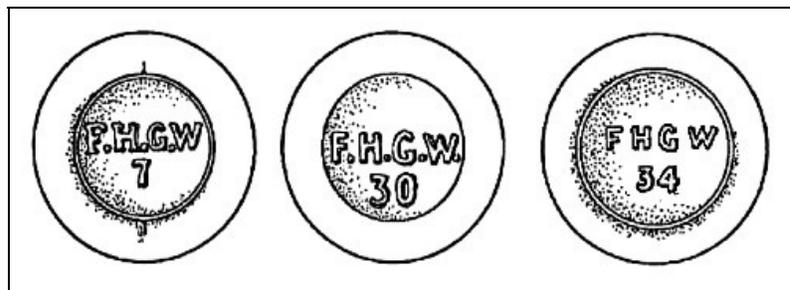


Figure 8 – FHGW marks (Wilson & Caperton 1994:65)

below the logo. In addition, a dot, Maltese Cross, or horizontal bar may be embossed above or below the mark (Figure 7). Bottles are generally amber but may be aqua (actually a light blue) in color. Punctuation may be present or absent. Wilson and Caperton (1994:65) illustrated three subtle variations of the FHGW mark and number combinations (Figure 8). While these probably represent engravers’ variations, they are worth noting.

All export beer bottles with FHGW basemarks that we have examined or seen photos of have had two-part finishes with rounded lower rings. These rounded lower rings extend farther than the typical export beer finish and are quite distinctive (Figure 9). However, Wilson and Caperton (1994:56) reported that “five specimens . . . feature a lower ring with an angled rather



Figure 9 – Export beer finish (Antique Bottles.net)

than a semi-circular cross-section.” We have described these finishes as having sharp lower rings, and they were generally in use from ca. 1873 to ca. 1883. Thus, some of these bottles from Fort Selden (1880-1888) were probably made during the earliest year or so of the manufacturer’s

existence. Figure 10 shows a typical FHGW bottle on the left and one with a sharp lower ring on the right.

Lockhart et al. (2011) hypothesized that these “mold” numbers reflect the order in which molds were made and used by most 19th century beer bottle manufacturers based on the beer bottle dumps at Fort Stanton, New Mexico. However, this does not mean that there is a straight-line correlation between numbers and time, although it does suggest that there is generally a relative correlation. To explain, suppose the manufacturer of the FHGW-marked bottles began marking molds with numbers when he first produced beer bottles. He may have begun small with three blowers and three sets of export beer bottle molds, marked 1, 2, and 3. Molds 2 and 3 may have worn out quickly during the first year and been replaced by molds 4 and 5, leaving molds 1, 4, and 5 in use. The next year, mold 5 was dropped and broken, leaving the factory with molds 1, 4, and the new one, 6. We could thus almost certainly say that all these mold numbers were used earlier than, say, molds number 36, 37, and 38, which were almost certainly used much longer – although we could not state that mold 2 was used later than mold 1.



Figure 10 – Export beer bottles

Wilson and Caperton (1994:57) also noted another interesting characteristic about bottles with FGHW basemarks: the relationship between accompanying numbers and glass color. As noted above, the literature recorded accompanying numbers from 1 through 89. Numbers excavated at Fort Selden ranged from 2 through 34, possibly reflecting fairly early years for the company (assuming a semi-chronological numbering system was used for the molds). However,

numbers 1-23 and number 30 were amber in color. Numbers 26-34 were aqua in color. Note that mold number 30 was used to make both amber and aqua bottles (one of each at Fort Selden). Whether this indicates a shift in color preference in the general public, a shift in bottle sales from one brewery to another, or some currently unexplainable reason is not known. However, the explanation may be simpler. Since the factory only had a single tank, it likely made bottles until a significant amount of glass was used. How this applies to time, however, is unknown – if, indeed, there is such a relationship.

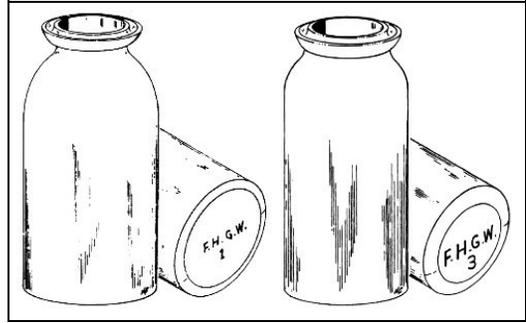


Figure 11 – FHGW wax sealers (Creswick 1987:59-60)

Grooved-Ring, Wax-Sealer Fruit Jars

Creswick (1987:59-60) showed a grooved-ring, wax sealer fruit jar with the FHGW mark across the center of the base and a single-digit number below it. The marks came in small- and large-letter variations (Figure 11). Roller (1983:123; 2011:192), too, listed the jar in colorless, citron, olive green, and amber. He suggested that the maker may have been the Federal Hill Glass Works but was uncertain. There is no doubt, however, that these jars were made by Heitz (Figure 12). Since one reference noted both a pot furnace and a tank, the unusual colors (i.e., citron and olive green) were almost certainly made from glass in pots, while the tank was used for beer bottles.



Figure 12 – Wax sealer FHGW base (eBay)

Other Containers

Although this was probably an oddity, blown into a beer bottle mold, then handworked to form this odd container, the basemark leaves no doubt that this unusual item was made at the Frederick Heitz Glass Works (Figure 13). Blowers at almost all glass houses in the 19th and early 20th centuries made



Figure 13 – Whimsey base (eBay)

these “whimseys” in their off times. Some, such as canes and figurines were blown offhand, while others, like this oddity, hats, and similar items, were blown into a mold, then altered by hand (Figure 14).

F.H. (1882-1896)

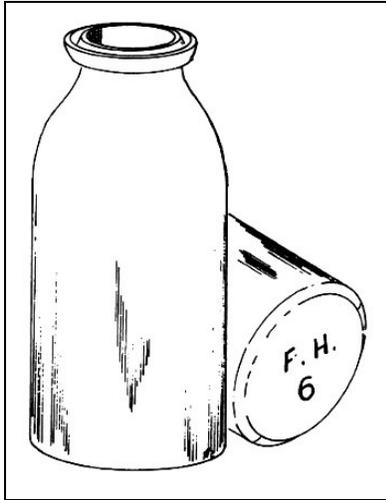


Figure 15 – F.H. wax sealer (Creswick 1987:59)

Creswick (1987:59) listed three slight variations of the F.H. mark (with 1, 6, or no number below the initials) on bases of grooved-ring, wax sealer fruit jars (Figure 15). She attributed the mark to the Federal Hill Glass Works, 1790 to ca. 1905. Roller (1983:123; 2011:191) noted that the jars may have been made by Federal Hill but dated the company 1800-1860s. An examination of wax sealer fruit jars marked with FHGW and F.H. indicate that both are identical in all observable ways except for the marks (Figures 16 & 17).



Figure 16 – F.H. base

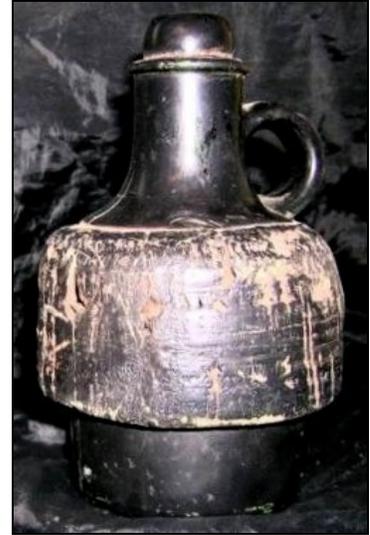


Figure 14 – Whimsey (eBay)

The F.H. logo only appears to have been used on wax-sealer fruit jars and soda bottles. The mark was most common on the reverse of soda bottles, usually slightly above the heel, although two examples had the initials in large letters on the bases. All examples on fruit jars were on bases, and all examples of the mark on any container had full punctuation.

Grooved-Ring, Wax-Sealer Fruit Jars



Figure 17 – Wax sealer jar

Soda Bottles

Von Mechow (2015) listed four “pony” soda bottles embossed with “F.H.” on the reverse lower body – all used by bottlers in St. Louis (Figure 18). Hutchbook (Fowler 2015) noted five Hutchinson soda bottles, three embossed “F.H.” on the reverse (Figure 19), two with the initials on the bases (Figure 20). Two of these were used in East St.



Figure 19 – F.H. on Hutchinson heel (eBay)



Figure 20 – F.H. on Hutchinson base (Fowler 2015)

FH

Toulouse (1971:202) noted the underlined “F.H.” as the “modern mark” used by the Frederick Hampson Glass Works, Salford, England. While we cannot verify the accuracy of Toulouse – because we have never seen an example – the underlined logo was not used by Frederick Heitz.

Louis, two more in nearby Illinois towns, and the final one in Geneva, New York. Hutchinson bottles with this basemark have also been reported by Paul and Parmalee (1973:89), Miller (1980:11, 14-15; 1982:5) and eBay auctions – all used by bottlers in St. Louis or East St. Louis (Figure 21). Unfortunately, we could only find dates in business for two of nine bottlers or brewers. One of those – Geo. A. Peel, Geneva, New York – was shown on an 1893 historical map of Geneva. The other – C.W. Fries, a St. Louis brewer was in business from 1888 to 1891 (Van Wieren 1995:185). These tie in perfectly with the years when Heitz was in business.



Figure 18 – Soda bottle – F.H. (Antique Bottles.net)



Figure 21 – Hutchinson bottle (eBay)

Discussion and Conclusions

New information provided by Terry Schaub has transformed the history of the Frederick Heitz Glass Works from a recitation of dates into one of the most fascinating stories in bottle making history. In fact, this has been the most unusual historic study we have yet presented in this Encyclopedia.

Although our earlier articles (Lockhart & Whitten 2005; 2006) went into a great deal of justification for the FHGW logo belonging to Frederick Heitz, there is no need to reproduce that evidence here, and there is no reason to assign the mark to any other glass house. Everything fits.

In our 2005 study, we noted that bottles and jars with the F.H. mark remained in question. Although we may never know why Heitz chose to mark his soda bottles and fruit jars with the abbreviated logo, he certainly made both container types, and those seem to have been the only non-beer bottle items that he produced – although, as noted above, his workers made occasional whimsies. Since all examples of soda bottles with the F.H. mark were used by bottlers in St. Louis or nearby Illinois towns – and the two that can be identified temporally were in business in the early 1890s – the identification of Frederick Heitz as the manufacturer is virtually assured.

A final consideration centers around the use of both “F.H.” and “F.H.G.W.” on wax-sealer fruit jars. It seems likely that there was some temporal significance to the different configurations. We can hypothesize that “F.H.” was the earlier logo, but we have no direct evidence to make that distinction. Perhaps future researchers will discover a way to distinguish which was earlier.

Acknowledgments

As always, our gratitude to Doug Leybourne for allowing us to reproduce the drawings from the Alice Creswick books. And a bouquet of thanks to Wanda Wakkinen for proofreading.

Sources

Ayres, James E., William Liesenbien, Lee Fratt, and Linda Eure

1980 "Beer Bottles from the Tucson Urban Renewal Project, Tucson, AZ." Unpublished manuscript, Arizona State Museum Archives, RG5, Sg3, Series 2, Subseries 1.

Creswick, Alice

1987 *The Fruit Jar Works, Vol. I, Listing Jars Made Circa 1820 to 1920's*. Douglas M. Leybourne, N. Muskegon, Michigan.

Crockery and Glass Journal

1983 "St. Louis Reports." *Crockery and Glass Journal* 17(18):24 [March 29].

Fowler, Ron

2015 "Hutchinson Bottle Directory." Seattle History Co., Hutchbook.com.

<http://www.hutchbook.com/Bottle%20Directory/>

Herskovitz, Robert M.

1978 *Fort Bowie Material Culture*. University of Arizona Press, Tucson.

Hopkins, G.M.

1883 *Atlas of the City of St. Louis, Missouri: From Official Records, Private Plans and Actual Surveys*.

Jones, May

1966 *The Bottle Trail, Volume 6*. Nara Vista, New Mexico.

1968 *The Bottle Trail, Volume 9*. Nara Vista, New Mexico.

Lockhart, Bill, Carol Serr, and Bill Lindsey

2011 "Do Numbers Matter? A Study of Beer Bottle Bases." In *The Beer Bottles and Breweries of Fort Stanton, New Mexico*, edited by Bill Lockhart. Privately published, Alamogordo, New Mexico.

Lockhart, Bill and Wanda Olszewski

1994 "Excavation and Analysis of a Nineteenth Century Bottle Pit in San Elizario, Texas." *The Artifact* 32(1):29-49. [Note that data cited comes from the actual record sheets]

Lockhart, Bill and David Whitten

2005 "The FHGW Mark." *SHA Newsletter* Summer:40-43.

2006 "The Dating Game: The FHGW Mark (and Update on Illinois Glass)." *Bottles and Extras* 17(1):36-43, 64.

Miller, Thomas

1980 "A Survey of Early Soda/Mineral Water Manufacturing in St. Clair, Co. A Glimpse of Illinois History through Glass (1840-1910)." Unpublished manuscript for the Metro-East Antique Bottle and Jar Club.

1982 "A Supplemental Guide to A Survey of Early Soda/Mineral Water Manufacturing in St. Clair, Co. A Glimpse of Illinois History through Glass (1840-1910)." Unpublished manuscript for the Metro-East Antique Bottle and Jar Club.

Missouri History Museum

2009 "Circular advertising a trustee's sale of personal property, being the entire outfit of the Frederick Heitz Glass Works, north side of Dorcas, between 1st and Kosciusko Streets, February 10, [1898]." Circulars Collection: Folder 5. 1890-1910.

National Glass Budget

1897 "Glass Directory." *National Glass Budget* 12(42):7.

Paul, John R. and Paul W. Parmalee

1973 *Soft Drink Bottling: A History with Special Reference to Illinois*. Illinois State Museum Society, Springfield, Ill.

Roller, Dick

1983 *Standard Fruit Jar Reference*. Privately published.

1997 “St. Louis, MO History Notes.” Unpublished manuscript. [October 26, 1997]

2011 *Standard Fruit Jar Reference: 2011 Update*. Edited by Jerome McCann and Barry Bernas. Fruit Jar Annual/Phoenix Press, Chicago.

Sanitary Engineer

1882 “Building Intelligence.” *Sanitary Engineer* 5(24):504. [May 11]

Toulouse, Julian Harrison

1971 *Bottle Makers and Their Marks*. Thomas Nelson, New York.

Unreal City

2015 “Historic St. Louis Maps.” Washington University <http://digital.wustl.edu/w/whi/>

Von Mechow, Tod

2015 “Soda & Beer Bottles of North America: Bottle Attributes - Beer & Soda Bottle Manufacturers.” <http://www.sodasandbeers.com/SABBottleManufBeerSoda.htm>

Wilson, John P. and Thomas J. Caperton

1994 “Fort Selden, New Mexico: Archaeological Investigations of the Latrines and Magazine, 1974-1976.” *The Artifact* 32(2-4):i-ix,1-145).

Wilson, Rex

1981 *Bottles on the Western Frontier*. University of Arizona Press, Tucson.

Last updated 9/12/2015

