

The Dating Game

The Strange Case of the Aetna and Arsenal Glass Works

By Bill Lockhart

The writing of history and the study of science each share one overarching principle: virtually everything we know builds on the work of those who came before us. Bottle research, of course, follows that same pattern. In the case of the Arsenal and Aetna Glass Works, each researcher discovered something new, and I, too, bring a contribution.

Early researchers barely mentioned either of these companies. The references were too obscure. Later researchers, although they complained about the dearth of information, actually had *too much* data. The data became confusing because the evidence actually related to four separate businesses – separate but all related.

Locations

Because earlier researchers have misplaced some of the locations, correctly situating each of these plants or offices is important. To compound the confusion, both the Aetna Glass Works and the Arsenal Glass Works were in one location (although at different times), and two apparently unrelated factories had the same name (at different times and different places).

Both glass houses were located at Lawrenceville, a section of Pittsburgh that was annexed to the larger city in 1868. This revision created name changes for many streets. Lawrenceville was selected as the home of the Allegheny Arsenal (or Pittsburgh Arsenal) due to its proximity to the river – hence the “Arsenal” name for one of these glass houses. Mt. Aetna is an active volcano on the isle of Sicily. The reason for choosing Aetna is currently unknown, although molten glass certainly resembles lava. Each of the following locations was important to one or both of these glass houses:

1. 28 Market St.

It is almost certain that the Market St. address was a sales outlet. An 1872

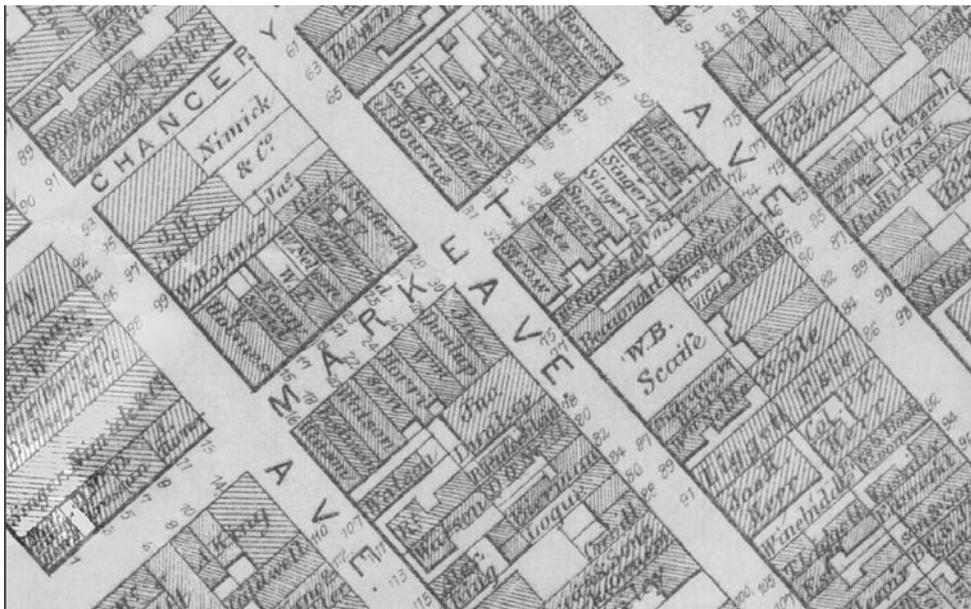


Figure 1 – 28 Market St. – first Aetna Glass Works (1872 Hopkins Atlas)

map showed that the area was tightly packed with offices, so it was an unlikely location for a glass factory. Market St. was the only location mentioned in the first Aetna Glass Works ad (Hawkins 2009:10-11), so the location of the actual factory remains unknown. No. 28 was the second building southwest from the intersection of Market and 2nd Ave. On the 1872 map (Figure 1), it was marked “Dunlap” (Hopkins Map Co. 1872).

2. Chestnut St.

The location of this factory is of prime importance in discovering a sequence of the existing evidence that makes sense. Both advertisements and historical maps indicate that the glass factory in question was located between Borough (later 41st St.) and Chestnut (later 42nd St.), running roughly northwest/southeast and between Willow St. and Valley St. (and the Allegheny Valley Railroad tracks), roughly northeast/southwest. The plant complex was on the northeast side, facing Chestnut, and a spur from the railroad extended into the northwestern end of the block, adjacent to the largest building (Roller 1996; 1998a:14-15; Hawkins 2009:11;

McDougald & McDougald 1990:106). This was the earliest currently known home of the Arsenal Glass Works and the only home of the second Aetna Glass Works (Figure 2).

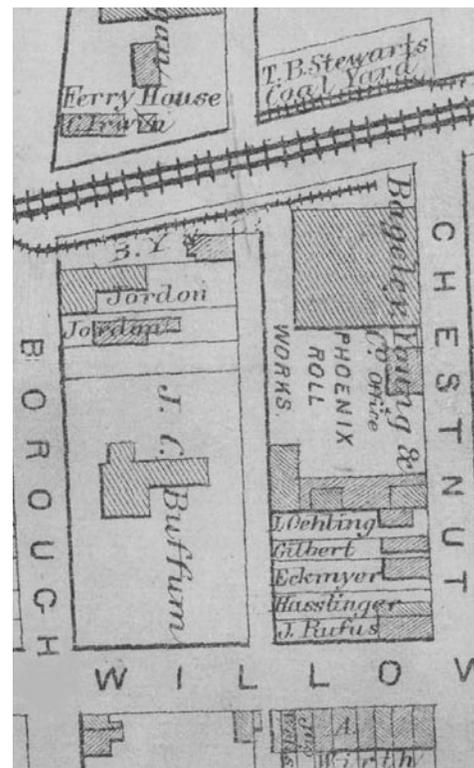


Figure 2 – Chestnut St. – first Arsenal Glass Works and second Aetna Glass Works (1872 Hopkins Atlas)

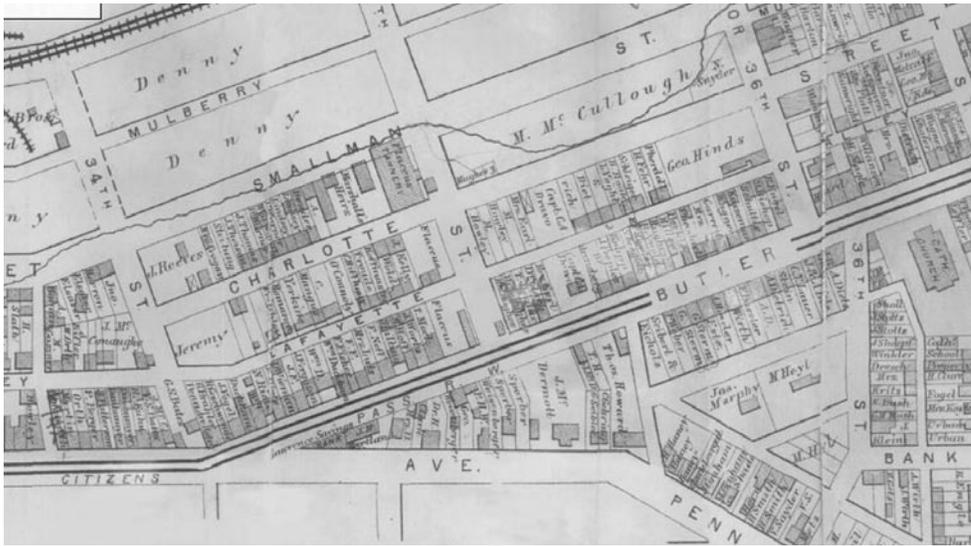


Figure 3 – Lafayette Alley – second Arsenal Glass Works

3. Lafayette Alley

This end-of-block lot bordered on Charlotte St., 34th St., and Lafayette Alley (Hopkins Map Co. 1872). This was the second (and final) home of the Arsenal Glass Works (**Figure 3**).

4. Smallman & Charlotte streets

This was the location of Modes & Nichols. Although there is no indication of what kind of business this was, it was almost certainly not a glass house. Smallman and Charlotte streets ran parallel to each other for only two blocks – between 34th and 36th streets, although Charlotte dead ended at Allen, just beyond 36th St. Formerly belonging to Charles Jeremy, this may have been the large parcel that was just north of the Lafayette Alley property (see **Figure 3**).

Histories

Aetna Glass Works, Lawrenceville (Pittsburgh) (1856-?)

Hawkins (2009:10-11) discovered an ad in the 1856 Pittsburgh city directory for the earliest (at least currently known) existence of the Aetna Glass Works (spelled with the diphthong in the ad). William Davidson & Co. (Wm. Davidson, H. Edwards, and Sam'l Stewart) operated the Aetna Glass Works in 1856. The group advertised themselves as “Manufacturers of & Dealers in Vials, Bottles, and all kinds of Green and Flint Glassware, Window Glass &c.” The location on the ad

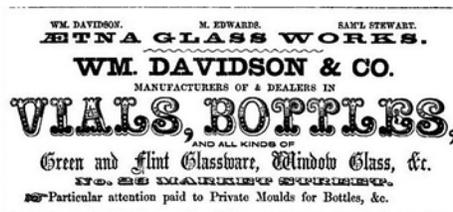


Figure 4 – 1856 ad for the first Aetna Glass Works (Pittsburgh city directory – 1856)

was “No. 28 Market Street” (**Figure 4**). Unfortunately, we have no further evidence for this company, although it had evidently closed by 1865, when the Arsenal Glass Works occupied that location.

Arsenal Glass Works, Lawrenceville (Pittsburgh) (1865-1869)

According to the 1865/1866 city directory, the Arsenal Glass Works, operated by C. Jeremy & Co., was at the Borough and Chestnut address. The firm apparently became Jeremy, Heitsman & Co. by 1867 and operated on Lafayette Alley in Lawrenceville. Jeremy, Heitsman & Co. (Charles Jeremy and, probably, George Heitsman) continued to be listed until 1869 (Hawkins 2009:11; Innes 1974:178; Roller 1996; 1998a:14). See Table 1 for a chronology of the company.

William Rehen apparently owned the Chestnut lot, with Jeremy leasing the factory. The sale of the Chestnut property by Rehen to William F. Modes in July 1866 probably prompted Jeremy's departure from the location. Jeremy subsequently sold the Smallman and

Charlotte streets lot to Modes and Joshua Nichols in October of that year. The sale of the Smallman and Charlotte lot may have financed the building of a new plant on the Lafayette Alley property. It is also likely that the partnership with George Heitsman, a local glass blower, was (at least in part) financially motivated (see Hawkins 2009:11; McDougald & McDougald 1990:106; Roller 1996; 1998a:14).

Aetna Glass Works, Lawrenceville (Pittsburgh) (1866-1869)

On July 19, 1866, William F. Modes purchased a lot from William Rehen for \$1,000. This was a “lot on which is erected a Building for the manufacture of Glass.” This indicates that a glass plant already existed when Modes bought the property. The property was in Lawrenceville, along the Allegheny Valley Railroad (Hawkins 2009:11; Roller 1996; 1998a:14). While this identification is not absolute, it is virtually certain that this was the Chestnut St. lot and the plant was the former Arsenal Glass Works, recently vacated by Charles Jeremy & Co.

An 1866/1867 atlas of Lawrenceville illustrated the Chestnut St. property with the notation “Modes, Ryrie & Co.” (**Figure 5**). Although no researchers have reported a listing for this firm, Roller

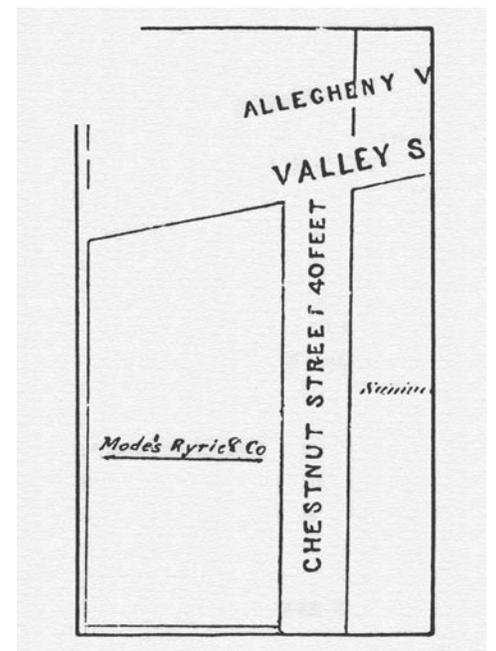


Figure 5 – Modes, Ryrie & Co., 1866/1867 map (McDougald & McDougald 1990:106)

found “T.B. Ryrie, glassblower” in the 1865/1866 city directory (McDougald & McDougald 1990:106; Roller 1996; 1998a:14). Thus, Modes appears to have taken on Ryrie as a partner shortly after his purchase of the property in 1866. Neither the firm nor Ryrie appeared in any of our other sources. Modes and Nichols (see Modes & Nichols below) were listed as the proprietors of the Aetna Glass Works in 1868, suggesting that Joshua Nichols bought out Ryrie in late 1867 or early 1868 (Roller 1996).

Although I have been unable to find an explanation, Lorenz & Wightman leased the Aetna Glass Works from at least 1867 to 1868, possibly as late as early 1869. Roller (1998a:13-14) cited an ad from the July 8, 1867, issue of the *Pittsburgh Evening Chronicle* for patented fruit jars at the showroom of Lorenz & Wightman. The ad also noted that the jars were available at the Arsenal Glass Works “foot of Chestnut Street, Lawrenceville.” The ad was explained by a glassworker’s reminiscence in 1909:

In 1865 to 68, inclusive, a company of blowers (*sic*) operated a factory at the foot of Forty-second street, in Lawrenceville, on the site of the present Phoenix Roll Works, known as Modes, Ryrie & Co. Lorenz and Wightman took possession of this plant in 1868 and operated it for several years. . . (*National Glass Budget* 1909:11).¹

The 1869/1870 edition of the city directory listed only W.F. Modes as the proprietor of the Aetna Glass Works at Chestnut (**Figure 6**). The plant made “black & green glassware, druggists’ ware, bottles, demijohns, porter, ale and soda bottles” as well as fruit jars, including the “Victor” (self sealing) and the “Triumph” (grooved-ring wax

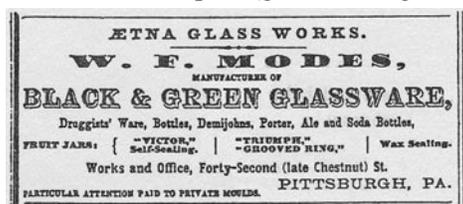


Figure 6 – Arsenal Glass Works ad 1869/1870 city directory (Roller 1983:362)

sealer). The works and office were located at “Forty-Second (late Chestnut) St” (Hawkins 2009:13; McDougald & McDougald 1990:106; Roller 1996; 1998a:13). The ad must have been submitted shortly before the dissolution of the company.²

The McDougalds noted that Modes sold the factory in 1869 to Bagley, Young and Co., who operated the plant as the Phoenix Roll Works (see **Figure 2**). This is probably conjecture on their part, although it is likely correct. The 1872 Hopkins map showed Bageley, Young & Co. with the Phoenix Roll Works at that location. The plant remained there until at least 1927 (McDougald & McDougald 1990:106; Roller 1996; 1998a:13).

The closure of the Aetna Glass Works almost certainly occurred in 1869. In May 1869, both Modes and his wife, Mary Kate, were buying (then selling) land in Beaver Falls, Pennsylvania, to build the factory of the Beaver Falls Glass Co. Modes remained involved in the plant until 1879 (Hawkins 2009:13; Roller 1998b). See Table 2 for a chronology of this and the earlier company.

The involvement of Lorenz & Wightman brings up an interesting speculation. Modes bought the property alone in 1866, but Ryrie apparently also became involved in that year. Lorenz & Wightman leased the factory *by* the next year. We currently have no way of knowing who *actually* operated the plant in 1866. It is therefore possible

(even likely?) that Lorenz & Wightman leased the factory from Modes and his partners from the ejection of Jeremy in 1866 to some point in late 1868 or even early 1869. The withdrawal of Lorenz & Wightman may have caused Modes to sell the property in 1869.

Modes & Nichols, Lawrenceville (Pittsburgh) (1866-1868)

The picture becomes more complex with the purchase of another property in Lawrenceville. On October 27, 1866, William F. Modes and Joshua Nichols bought a lot on Charlotte and Smallman streets from Charles Jeremy for \$5,000. Modes sold his share (2/3 of the property) to Christian Modes (presumably a relative) for \$4,000 on January 11, 1867, three months later. The 1868 city directory had the following relevant listings:

W.F. Modes, of Modes and Joshua Nichols, Allen St. near river, Lawrenceville.
Modes and Nichols, Aetna Glass Works, Chestnut near river, Lawrenceville.
Christian G. Modes, laborer, Allen St. near river, Lawrenceville.

Christian was listed as a laborer for the Allegheny Valley Railroad the following year (Roller 1996).

Extending north/south, Allen St. was close to the Charlotte and Smallman location (**Figure 7**). In fact, Charlotte St.



Figure 7 – Allen St. in relation to the Lafayette Alley vicinity (1872 Hopkins Atlas)

dead ended into Allen at its northeastern extreme. The relationship between the lots is currently unknown, and I have been unable to discover anything about the nature of the firm. Modes and Nichols may have only owned property together – rather than operating a business.

A final detail is unimportant from a glass aspect but *is* a loose end. It is very unclear whether Modes & Nichols was composed of *William Modes* or *Christian Modes*. Of course, when William sold his interest to Christian, that may have created a reorganization of the group. Since Modes & Nichols was listed as owning the Aetna Glass Works, the firm may have included both William and Christian by that time. The company apparently disbanded in 1868, although it may have extended into early 1869.

Chronology

The above data suggest the following sequence of events:

1856 – Wm. Davidson & Co. operated the Aetna Glass Works; the factory location is unknown, but the office or showroom was at No. 28 Market St.

1865 – Charles Jeremy & Co. operated the Arsenal Glass Works on Chestnut St. – owned by William Rehen.

1866 (July) – William F. Modes purchased the Chestnut St. property, ejecting Jeremy and opening a new Aetna Glass Works (almost certainly in buildings recently vacated by Jeremy).

1866 (October) – Modes and Joshua Nichols bought the Smallman & Charlotte property from Jeremy

1867 – Modes took on T.B. Ryrie as a partner at the Chestnut St. property (Aetna Glass Works)

1867 – Jeremy moved the Arsenal Glass Works to his property at Lafayette Alley & 32nd St., operating there with George Heitsman until ca. 1869.

1867-1868 – Modes & Nichols sold the Smallman & Charlotte property;

Christian became a laborer on the railroad; Nichols replaced Ryrie as a partner on the Chestnut St. property.

1867-1868 – Lorenz & Wightman operated the Aetna Glass Works.

1869 – Modes operated Aetna alone, then closed the plant; Jeremy probably closed Arsenal; Modes moved to Beaver Falls, Pennsylvania, to build the Beaver Falls Glass Co. factory.

Containers and Marks

A.G.Co.

Knittle (1927:441) attributed the AGCo mark to the Arsenal Glass Co., Pittsburgh. Toulouse (1971:39) followed Knittle but dated the mark (probably without ever seeing it) ca. 1865 to 1868, likely based on the dates for Arsenal Glass Works. However, Toulouse noted that “no other reference has been found.” Innes (1976:216, 229), however, called the company the Arsenal Glass Works and never mentioned this mark. Jones (1966:15) agreed with the Arsenal identification and dated the mark “1755-1865 - - ??” then added, “also Avis Glass co, Avis, PA 1906-1910.” Freeman (1964:103) listed a flask with “‘AGCo’ on bottom” but did not assess the maker. Freeman was mostly describing flasks from the 19th century, although he was not specific about this one.

McKearin and Wilson (1978:666-668) noted that the AGCo mark was embossed on the bases of half-pint and quart flasks in a “smooth, large concave disk.” Flasks in both sizes were amber in color. The researchers marked the glass house as “unidentified” and suggested that these flasks were “attributed to the last quarter of the 19th century.” Each flask was marked with an anchor in a “depressed circular panel” or “medallion.” McKearin and Wilson (1978:667-668) rated the quart flask as “comparatively scarce” with a “narrow round collar, lower bevel” finish. They rated the half-pint container as “common” despite their comment that they had “not seen this flask.” They described the mark on the quart flask as having full

punctuation, but left all punctuation out of their description of the smaller flask. Unfortunately, these flasks were two of the few that they failed to illustrate.

I have also recorded several examples of this mark embossed across the bases of Hutchinson soda bottles – offered on eBay auctions. Even though I have included this information in this article, it is clear that the “A.G.Co.” initials could not have possibly belonged to the Arsenal Glass Works. There is no historical reference of any kind that suggests the word “company” was used in conjunction with the works, and Hutchinson bottles were invented far too late to have been Arsenal products. As with many of the early identifications of manufacturer’s marks, Knittle chose her best guess based on factories that she knew. The actual user is a topic for another article.

A.G.W. (1865-1869)

Although the A.G.W. mark may have been used by the Alloa Glass Works in Scotland (Toulouse 1971:41), it was certainly used by the American Glass Works at Pittsburgh (ca. 1897-ca. 1901) and the American Glass Works, Inc., at Richmond, Virginia, and Paden City, West Virginia, from 1908 to ca. 1935. However, a single flask offered at an eBay auction did not fit either venue.

The shoo-fly flask from the eBay auction was aqua in color and mouth blown. The applied finish consisted of a single ring offset below the lip or rim – often called a champagne finish, but with a rounded ring on this flask.³ The base was either a key or a post bottom (likely a key, but the photo was not distinct enough to be certain). Flasks made by the Arsenal Glass Works (see below) had both types of bases. The “A.G.W.” mark was embossed *across* part of the base seam (**Figures 8-10**).⁴ When asked, Bill Lindsey dated the flask between the late 1860s and early 1880s – based on manufacturing attributes alone – and noted that the characteristics were especially known on bottles made in Pittsburgh.

This date range did not fit with our knowledge of the American Glass



Figure 8 – Flask with AGW basemark (eBay)



Figure 9 – Closeup of finish of AGW flask (eBay)



Figure 10 – Base of AGW flask (eBay)

Works of Pittsburgh, a known user of the logo. Prior to ca. 1886, American Glass was almost exclusively devoted to the production of window glass. I have found no data to suggest that American Glass made any bottles prior to the reorganization as the American Glass Works, Ltd, ca. 1886.

However, the dates fit quite well with either the Arsenal Glass Works, a known maker of flasks during the 1865-ca. 1869 period, or with the Aetna Glass Works (ca. 1856; 1866-1869). In its 1869 ad, Aetna made black & green glassware, druggists' ware, bottles, demijohns, porter, ale and soda bottles, and fruit jars. Although neither flasks nor any form of liquor container were specifically noted, their manufacture was possible. Because Arsenal was a known manufacturer of flasks, it is more likely that flasks marked with A.G.W. were made by the Arsenal Glass Works between 1865 and ca. 1869. We cannot, however, fully discount the Aetna Glass Works as a possible user of the mark.

A.G.Wks.L.

This mark was identified by Innes (1976:216, 229) as used by the Arsenal Glass Works on fruit jars. He noted that the company also made flasks but did not directly associate the mark with any flask. Innes very likely confused this mark with the A.G.W.L. mark used on wax-sealer fruit jars, and "Wks." may have been a typographical error. We have not found any examples of this mark.

A.G.W.L. / PITTS, PA

There is no question that the A.G.W.L. mark was used by the American Glass Works, Ltd., Pittsburgh, on a variety of bottles and flasks between ca. 1886 and ca. 1897. However, none of these other containers included any embossed reference to Pittsburgh (e.g., PITTS, PA). The Pittsburgh designation only appeared on grooved-ring, wax-sealer fruit jars.

Toulouse (1969:16; 1971:43) attributed this mark (with "PITTS PA") to the American Glass Works, Ltd. (Pittsburgh) and showed it in the form of AGWL in a downward arch above PITTS PA in an upward arch. Innes (1974:178) attributed the A.G.W.L. Pitts. Pa. on a "preserving jar" to "the mysterious Arsenal Glass Works" (correctly identifying the mark in this earlier work – see A.G.Wks.L. above). Roller (1983:7) described the same jar and added:

It seems likely that these jars were made by the American Glass Works, Ltd., of Pittsburgh, who advertised fruit jars among their wares in the 1880s and 1890s. But, the initials could stand for either Arsenal Glass Works, Lawrenceville (part of Pittsburgh) or Aetna Glass Works, Lawrenceville. Both of these works advertised fruit jars during the 1860s, with the latter works listing "Grooved Ring Wax Sealing" jars.

Creswick (1987:4) showed a drawing of a grooved-ring, wax-sealer fruit jar with "A.G.W.L. (arch) / PITTS, PA. (inverted arch)" embossed on the base (**Figure 11**). She dated the jar ca. 1866-1880 and attributed it to the American Glass Works. All of the jars in our sample (eBay and Jay Hawkins collection) had a smaller capital "A" in "PA" and either lacked punctuation or had very weak punctuation between the initials.

Roller (1998:13) referenced the A.G.W.L PITTS, PA mark, citing the jar number from his earlier (1983) book and Creswick's number for the same jar in his discussion of the Arsenal Glass Works – indicating that he still considered Arsenal or Aetna as a possibility as the user of the mark. Aside from Innes unsupported ascription of the AGWL mark to the Arsenal Glass Works, I can find no other reference to fruit jar manufacture by that company.

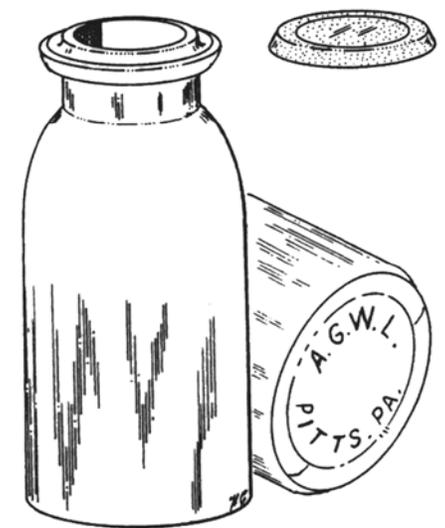


Figure 11 – Wax-sealer fruit jar with AGWL basemark (Creswick 1987:4)

While there is strong reference to wax-sealer fruit jars in the 1869 ad for the Aetna Glass Works, no other direct reference exists (at least that I can find). In comparison, the American Glass Works, Ltd., advertised fruit jars from 1887 to 1896. In addition, if the “L” equals “Lawrenceville,” why would “PITTS” be included? As a counter-argument, however, the flasks with the entire Arsenal Glass Works name included a “PITTS PA” designation. See the Discussion and Conclusions section for further discourse.

ARSENAL / GLASSWORKS / PITTS PA (1865-1866)

McKearin and Wilson (1978:175-176, 639) discussed and illustrated three flasks embossed on the front with “ARSENAL / GLASSWORKS / PITTS PA” in an oval frame below an eagle. The reverse of these flasks was embossed with the illustration of a prospector. There is virtually no question that these flasks were made by the Arsenal Glass Works at some point between 1865 and 1869. Eatwell and Clint (2001:149-151) illustrated all three variations of the flasks, one in quart size, two in pints, noted in the McKearin and Wilson numbering system as GXI-13, GXI-14, and GXI-15 (Figures 12-14).



Figure 12 – Arsenal Glass Works quart flask, GXI-13 (Eaton & Clint 2001:148)



Figure 13 – Arsenal Glass Works pint flask, GXI-14 (Eaton & Clint 2001:149)



Figure 14 – Arsenal Glass Works pint flask, GXI-15 (Eaton & Clint 2001:150)

Eatwell and Clint (2001:138) also noted basal characteristics. Although each base of the three Arsenal Glass Works flasks had a slightly different style, the bases of the two pints were both what is often termed “key” bottoms. These had a mold line that extended across the long axis of the oval base with a semicircular bend in the center. The quart base had a post bottom.

Although the figure on the reverse resembles a hobo from a later period of history, Freeman (1964:100) and McKearin & Wilson (1978:496-499) used the word “prospector” to describe him. Eatwell and Clint (2001:133, 138) discussed this figure and identified it

as a prospector, miner, gold-seeker, or traveler. During the mid-1800s, this depiction of a man with a stick over his shoulder and tools or belongings in a bag tied to the stick was the symbol of the “traveller” walking his way to the gold fields.

Eatwell and Clint (2001:148-149, 151-152) also noted that Wm. McCully & Co. used the same molds to make its version of both pint flasks (Figures 15 & 16). It seems likely that McCully purchased the molds when Arsenal ceased operations. The name “ARSENAL” was peened out, and “W.McC&Co” was engraved in its place. McCully likely made the flasks shortly after Arsenal closed.

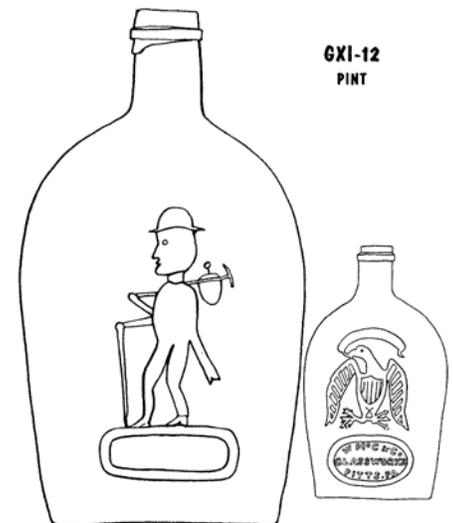


Figure 15 – Wm. McCully quart flask, GXI-12 – corresponds to GXI-14 (Eaton & Clint 2001:148)



Figure 16 – Wm. McCully quart flask, GXI-16 – corresponds to GXI-15 (Eaton & Clint 2001:148)

Eatwell and Clint (2001:138) also included a rarity scale. According to their system, all three Arsenal flasks were rated “scarce 36-75 known.” The McCully flasks, however, were “rare 25-31 known.” Unfortunately, this could be interpreted in two ways. First, McCully made the flasks first (older, less likely to survive). Second, McCully just made less flasks.

TRIUMPH No. 1 (or 2 or 3) (ca. 1869)

Roller (1983:362) reproduced the 1869 ad by the Aetna Glass Works that included “TRIUMPH” jars. Although “TRIUMPH” was offset from “GROOVED RING” in the ad by separate quotation marks, the jars are noted as having a grooved wax seal. These jars were made in a three-piece mold and had a distinct shoulder that tapered up to the grooved-ring finish. “TRIUMPH / No. 1” (or No. 2) was embossed on the shoulder. Creswick (1987:209) added a “No. 3” and illustrated the jars, also citing the Aetna Glass Works as the maker (**Figure 17**).

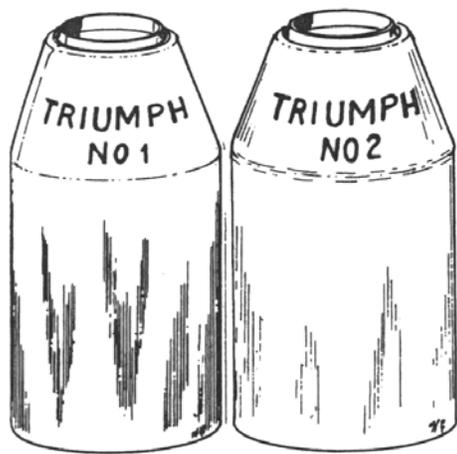


Figure 17 – Triumph jars (Creswick 1987:209)

Modes only operated the Aetna Glass Works alone for a very short period – no more than a year, possibly a much shorter period. This brings up questions and gives cause for speculation. Given the short period of production by Modes, could he have made three separate numbers? Or do the numbers only indicate three different molds? Was Modes the only manufacturer of the Triumph jar? Although the jar was not one listed in

the 1867 Lorenz & Wightman ad, could Modes have inherited the jar from them?

VICTOR

The Aetna Glass Works 1869 ad also included the “VICTOR Self Sealing” jar. The only Victor jar, shown in both Roller (1983:371-372) and Creswick (1987:214) was patented in 1899 and 1900 – far too late to be the jar in the Aetna ad. The shape of the Victor jar made by Aetna is unknown; the jar was likely unmarked.

W.F.M.

Creswick (1987:148) illustrated a jar embossed “MASON.S (slight arch) / 2 / PATENT NOV 30TH / 1858 (all horizontal)” on the front and “W.F.M.” on the base. She also noted that a variation of this jar had an unmarked base. Leybourne (2001:266) noted two minor variations, one with “W.F.M. (plated out) with mold #214.” Whitten (2010) identified the mark as belonging to the “Aetna Glass Works (William F. Modes, Proprietor), Pittsburgh, PA (circa 1869).” In a personal communication (3/12/2010), David said that he based the identification on the 1869 Aetna Glass Works ad. I suspect that the initials *do* represent Modes, but the 1869 ad did not specify Mason jars. The jar was probably made by another Modes factory (and there were several of those).

Discussion and Conclusions

As mentioned in the introduction to this article, our knowledge grows from standing on the shoulders of those who came before us. While it is distasteful to second-guess previous authors (especially ones who are personal friends), such revisions are necessary for the growth of our understanding. All of those upon whose shoulders I now stand did excellent jobs of finding data and reaching conclusions. I could not have achieved the new conclusions without their work.

Accordingly, I present the following recap of previous work on these two glass houses:

McKearin & McKearin (1941:586) only discovered an Aetna Glass Works

in Frederick County, Maryland, possibly in business as early as 1871. Knittle (1927:198, 441) mentioned the Arsenal Glass Works but had no information about the company. Innes (1974:178; 1976:216, 229) knew that the factory existed but had very little actual knowledge about it.

McKearin and Wilson (1978:175-177) were the first to attempt to place information about the plants into a sequence. They noted that the firm of Charles Jeremy & Co. was connected to the Arsenal Glass Works from 1865 to 1869 and that W.F. Modes acquired the glass house and renamed it as the Aetna Glass Works. In 1990, McDougald and McDougald (1990:106) had discovered more data, especially about the Modes chain of companies. However, they maintained the same date ranges. The McDougalds discovered Modes, Ryrice & Co.

Roller (1998a:13-15) connected the dates found by previous researchers (although he rediscovered them independently) and came to a different conclusion. He noted that Jeremy (Arsenal Glass Works) leased space in the Aetna Glass Works, owned by Modes (or Modes and partners). Roller, too, discovered new information and came to a different conclusion.

Hawkins (2009:10-14) discovered an entirely new aspect to the sequence. He found a much earlier Aetna Glass Works – 1856! The new sequence became Aetna / Arsenal / Aetna. Again, Hawkins discovered new information.

What caused this rather bewildering set of data to fall into place in its current context was my discovery of the section of the 1872 Hopkins Atlas (Hopkins Mapping Co. 1872) that encompassed Charlotte and Smallman streets and Lafayette Alley. Smallman, Charlotte, and Lafayette Alley all ran parallel to each other northeast/southwest, creating long, thin blocks in between them. Between Charlotte and Lafayette at 32nd St., the large, end lot was labeled “Jeremy.” The map showed no buildings on the lot in 1872. With that clue, everything fell into place.

The Perplexing A.G.W.L. / PITTS, PA Fruit Jar

Although there is virtually no question that the American Glass Works, Limited, made the beer/soda bottles, Hutchinson bottles, and strap-sided flasks with the AGWL mark, the identification of the same mark (with PITTS, PA) on grooved-ring, wax-sealer fruit jars is not so easy to place. As noted above, both Innes (1974:178) and Roller (1983:7) suggested that the fruit jar mark could have been used by the Arsenal Glass Works (or Aetna Glass Works). In this interpretation, Lawrenceville provided the “L” at the end of the logo.

Ads cited in Roller (n.d.) listed fruit jars for the American Glass Works, Limited, from 1887 to 1901. The Arsenal/Aetna situation was much more complex. The original operating firm advertised a variety of bottles and vials but did not specifically mention fruit jars. However, there is a vast empty space in our knowledge until the William F. Modes ad of 1869 (Hawkins 2009:12; Roller 1996). Only the 1869 ad (Aetna Glass Works) specified the Victor, Triumph, and “Grooved Ring” fruit jars.

The inclusion of both “L” (Lawrenceville) and “PITTS” seems redundant. The argument that the “PITTS” would have been superfluous, if the “L” indicated “Lawrenceville” is somewhat nullified, however, by the flasks that bear the entire Arsenal Glass Works name *and* “PITTS PA.” But the flasks have no “L” to create a redundancy. Of course, neither argument is conclusive.

Although this may be irrelevant, another point concerns the shape of mark. Except for the wax-sealer fruit jar base, all other examples of the A.G.W.L. logo that the Bottle Research Group has found were embossed in a straight line either at the heel or across the base. Although a change in a single case is possible, the fruit jars do not fit the pattern observed in all other uses of the mark. **See Figures 18 and 19 for a comparison.**

If the 2001 value for the jars marked “A.G.W.L.” (\$30-35) is any indication



Figure 18 – Base of an AGWL fruit jar (Jay Hawkins collection)



Figure 19 – Base of an AGWL flask made by the American Glass Works, Ltd. (Jay Hawkins collection)

of scarcity (Leybourne 2001:5), then they must be fairly common. Of course, the lack of side embossing may have made them less popular. Tom Caniff (personal communication 3/9/2010) stated that the A.G.W.L. jars were not common, but there was also almost no demand for them. Jay Hawkins (personal communication 2/15/2010) noted that he had seen these jars “with some regularity” – suggesting that they cannot be too scarce in the Pittsburgh area.

The Triumph jars (from the Aetna period), on the other hand, were valued at “\$500 and Up” during the same year (Leybourne 2001:366-367). Like Leybourne, McCann (2010:184) did not specifically discuss rarity, but he *did* were “not available.” Tom Caniff these “are indeed as scarce as the price guide suggests. You don’t see them often.”

Admittedly, trying to compare these jars by level of scarcity is tricky at best. As Bill Lindsey (personal correspondence 3/11/2010) warned, “The Triumph jars are unusual and uniquely shaped and body (shoulder) embossed raising their desirability multi-fold over the base embossed AGWLs - even with the same rarity

level (or even if the AGWLs were much rarer than the Triumphs).” Even with these cautions, we could expect jars made by Arsenal (or Aetna), produced during an earlier period (1856-1869) to be more scarce than ones made by the American Glass Works, Limited (ca. 1886-1897). This look at scarcity supports the hypothesis that the A.G.W.L. jars were made by American Glass.

If we limit our search to the Arsenal Glass Works, the length of time in business becomes equally important. We would expect more jars to have been made (thus, a probable greater survival number) during the decade-long tenure of the American Glass Works rather than the possible four-year period when the Arsenal Glass Works was in business. The scarcity factor favors a manufacture of these jars by the American Glass Works, Limited.

After this lengthy and speculative discussion, however, the maker of the wax-sealer jars embossed “A.G.W.L.” remains in some contention, although the bulk of the evidence leans toward the American Glass Works, Limited, as the maker of them. At this point, there is no reason to believe that the Aetna Glass Works used any marks on any of its products. The Arsenal Glass Works certainly used its full name on the faces of two flasks and probably used AGW on some flask bases. Neither firm used an AGCo mark. The Aetna Glass Works almost certainly made the Triumph series of jars, although some of those may have been manufactured by another company either before or after those made by Aetna.

Future researchers still have much to learn, especially about the 1856 Aetna Glass Works. Was the plant open earlier? Where was the factory? How long did the company remain in business? Although the time periods seem to be set for the Arsenal Glass Works and the later Aetna, many details need to be filled in – for example, did the Arsenal Glass Works actually begin in 1865, as the listing indicates, or was it 1864 – but too late in the year to be included

in the directory? It would also be nice to know more about the mysterious firm of Modes & Nichols. As noted in the entry on the Triumph jars, there are many unanswered questions related to them. Finally, the enticing identification for the maker of the A.G.W.L. fruit jar remains a bit unresolved. Some more solid evidence would be nice. I wish good luck to the next researcher who arises to stand on the shoulders of the group that brought us this far.

Acknowledgment

Although I wrote this article alone, I need to thank the other members of the Bottle Research Group (Bill Lindsey, Carol Serr, and Pete Schulz) for proofreading and support. We have been working together for so long, now, that there is literally nothing I can write about bottles that is not strongly influenced by each of them. Gratitude also to Jay Hawkins, Tom Caniff, and the many other collectors/researchers who contribute ideas and support.

Special thanks to Doug Leybourne for allowing the Bottle Research Group to use the drawings from the Alice Creswick books in our articles. And a final bouquet of gratitude to my wife, Wanda Wakkinen, for listening to my endless speculations.

Sources:

Creswick, Alice

1987 *The Fruit Jar Works, Vol. I, Listing Jars Made Circa 1820 to 1920's*. Privately printed, Grand Rapids, Michigan.

Eatwell, John M. and David K. Clint

2001 *Pikes Peak Gold*. Effective Graphics, Las Vegas, NV.

Freeman, Larry

1964 *Grand Old American Bottles*. Century House, Watkins Glen, NY.

Hawkins, Jay W.

2009 *Glasshouses & Glass Manufacturers of the Pittsburgh Region, 1795-1910*. iUniverse, Inc., New York.

Hopkins Company Maps

1872 "Atlas of the Cities of Pittsburgh, Allegheny, and the Adjoining Boroughs." G. Hopkins Company Maps. "Historic Pittsburgh," University of Pittsburgh. <http://digital.library.pitt.edu/pittsburgh/>

Innes, Lowell

1974 "Pittsburgh Glass, Part II. In *American Glass: From the pages of Antiques, I. Blown and Molded* by Marvin D. Schwartz. Pyne Press, Princeton.

1976 *Pittsburgh Glass, 1797-1891: A History and Guide for Collectors*. Houghton Mifflin, Boston.

Jones, May

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

Knittle, Rhea Mansfield

1927 *Early American Glass*. Appleton-Century, New York.

Leybourne, Douglas M.

1993 *Red Book of Fruit Jars, No. 7*. Privately published.

McDougald, John & Carol McDougald

1990 *A History and Guide to North American Glass Pintype Insulators*. Volumes 1 & 2. The McDougalds, St. Charles, Illinois.

McKearin, Helen and George McKearin

1941 *American Glass*. Crown Publishers, New York.

McKearin, Helen and Kenneth M. Wilson

1978 *American Bottles & Flasks and Their Ancestry*. Crown Publishers, New York.

National Glass Budget

1909 "In a Reminiscent Mood." *National Glass Budget* 25(9):11.

Roller, Dick

n.d. "American Glass Works History Notes."

1983 *Standard Fruit Jar Reference*. Privately published.

1996 "Arsenal Glass Works History Notes." Dick Roller files.

1998a "Pittsburgh Glass Factory Notes (Part I)." In *Fruit Jar Annual: The Guide to Collecting Fruit Jars*, pp. 6-55. Jerry McCann. Privately published, Chicago.

1998b "Beaver Falls, PA History notes." Dick Roller files.

Toulouse, Julian Harrison

1969 *Fruit Jars*. Thomas Nelson & Sons, Camden, New Jersey.

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

Whitten, David

2010 "Glass Factory Marks on Bottles." <http://www.myinsulators.com/glass-factories/bottlemarks.html>

Footnotes:

¹ Although this 40-plus-year-old memory was slightly off on the Lorenz & Wightman years, all of the other details describe the Aetna Glass Works quite accurately.

² For a directory to have been printed in 1869, it could *only* have information for that year. Each of these double-year directories in effect leave the second year as a blank spot in the historical record.

³ The most common champagne finishes have squared rings.

⁴ The photos of the AGW flask are small and poor quality, but these are the ones posted on eBay.

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