American Glass Work, Ltd. and American Glass Works, Pittsburgh

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Occasionally, we discover that the same mark was used by two (or more) glass houses – usually at different time periods. In this case, not only the initials – but the actual name – was identical: the American Glass Works. One firm was located in Pennsylvania; the other had branches in Virginia and West Virginia. The AGW mark appears to have been used by both firms, although the slightly longer logo (AGWL) was used exclusively by the Pittsburgh plant.

Pittsburgh

Glass making began on the East Coast because that was the population center. Gradually, the production of bottles and other glass products spread westward, fueled by two main issues: population and fuel (pun intended). In the 18th century, the bulk of the population lived near the coast, so there was no need for glass factories at any other location. As western migration increased, so did the need for glass products and nearby factories to make them.

Initially, the primary fuel source was wood. As the eastern woods became increasingly denuded around glass plants, the firms sought other sources. One of these, coal, was abundant in the areas not far from Pittsburgh, and natural gas was discovered in the vicinity. Pittsburgh became one of the major glass production areas during the 19th century.

Initially, the glass plants and companies were small, but, as population grew, and additional modes of transportation became available, both the numbers and size of the glass factories grew, especially after the Civil War. In 1803, for example, Pittsburgh factories produced only $13,000 worth of glass. By 1850, however, production had risen to an even million dollars, and output climbed to $14,276,228 by 1902 (Hawkins 2009:xii). One of the larger producers of glass bottles was the American Glass Works. See Hawkins (2009) for a Pittsburgh overview.
History

American Glass Works, Pittsburgh (ca. 1865-1886)

The American Glass Works opened ca. 1865 at 21st and Mary Streets. Page, Zellers & Co. (Benjamin Page, Theodore Zellers, and Sardis T. Duff) initially operated the company, but the firm was Page, Zeller & Duff by the following year (1866). By 1876, the operating entity was Duff & Campbell (Sardis Duff and Terrence Campbell), and that lasted until ca. 1878. Duncan, Campbell & Co. took over by 1879 and remained in control until ca. 1883. T. Campbell & Co., emerged by 1884 and retained operations until ca. 1903. During this entire period, the firm specialized in the production of window glass (Hawkins 2009:24-25). McKearin & McKearin (1941:611) identified the products of the plant as “window, picture, and photographic glass, looking glass, plates, rough plate glass, stained and enameled glass.”

American Glass Works, Ltd., Redmond Mills, Pennsylvania (1887-ca. 1892)

A split in the company apparently occurred in early 1887. At that point, T. Campbell & Co. apparently dropped the American Glass Works name and continued making window glass at the 21st & Mary St. factory – although Campbell may have discontinued the name as early as 1884. Von Mechow (2013) suggested that this company was not connected with the later American Glass Works.

On February 17, 1887, the American Glass Works, Limited, organized with a capitalization of $75,000. The new plant was located at Redmond Mills, Pennsylvania, “adjacent to Pittsburgh City Line on P.V. & C.R.R” (Roller n.d.; von Mechow). The earliest known ad for the firm, issued in 1887, featured bottles. Similar ads ran in at least 1889, 1890 and 1892 and illustrated Hutchinson bottles that were also available with “seals or corks” as well as a variety of beer bottle styles. The 1889 ad noted a major expansion of the factory – by 60% (Hawkins 2009:30; Roller n.d.; Toulouse 1971:43; von Mechow). For more information about this transition, see the Discussion and Conclusions section.

In 1887, Christian F. Leng was the president of the American Glass Works, Limited, with J.H. Miller as the secretary and treasurer (Roller n.d.). A limited partnership has one or more general partners who share liabilities, responsibility, and management of the company, just as in a
regular partnership. The limited partner or partners, however, have specified limits on their control, liabilities, etc. In the U.S. (notably in the field of glass production), a limited partnership was frequently used when one partner financed a business, and the other partner managed the operation. The financier, for example, often wanted to sharply restrict his liability in return for leaving the management to his partner. The non-limited partner was happy to take the risks involved to be able to operate a business (see Discussion and Conclusions section).

As noted above, the company still advertised as American Glass Works, Limited, as late as 1892. However, Hawkins (2009:28-29) illustrated and described a billhead dated February 12, 1893, that lacked the “Limited” designation. Because the stationary for the new firm was in use by the middle of February, the change probably occurred sometime during 1892. As a confirmation, Von Mechow (2012) cited an 1894 document from the U.S. Senate Committee on Finance that lacked the word “Limited.”

**American Glass Works, Redmond Mills, Pennsylvania** (ca. 1892-ca. 1903)

Around 1892, the limited partnership was over (forever removing the “Ltd.,” “Lim.,” or “Limited” from the company name). Leng continued to operate the business in 1895, and the plant made green and amber beer, soda, and mineral water bottles, as well as packers’ and preservers’ ware (Caniff 2007:6; Hawkins 2009:27; Roller n.d.; Toulouse 1971:43). The *National Glass Budget* (1897a:7; 1897b:5; 1898:7; Roller n.d.) noted that the plant made “green and amber bottles and ‘Pittsburg flint’ [i.e., colorless glass] in one furnace of 6-pot capacity,” and that same capacity continued in the listings until at least 1901.

The plant must have undergone another fairly major change ca. 1901 (Figure 1). Fruit jars were added to the list on the billheads, and the company was listed in the city directories under “Flint Prescription.” Although we will probably never know the full story, the end was near. Even though Toulouse (1971:43) stated that the plant remained listed in a 1905 directory, the
factory had closed by April 1904. To complete the circle, Terrence Campbell purchased all the equipment from Leng. Ironically, there were no listings for T. Campbell & Co. in the glass business after 1903 (Hawkins 2009:31; Roller n.d.; 1996).

**Patents**

Christian F. Leng and Charles Leng, probably brothers, received a number of patents, all for creating finishes on jars and bottles. They received the first of these in 1889 and continued to improve devices until 1900. In addition, Christian invented a series of bottle valves in 1914, 1916, and 1935.

**September 18, 1889**

On June 6, 1889, Christian F. Leng and Charles Leng applied for a patent for a “Method of Forming the Necks of Fruit-Jars.” They received Patent No. 411,048 on September 17 of that year (Figure 2). Although the drawing resembled typical hand-held finishing tools of the period, the two-part process was apparently somewhat different from ones used earlier.

**May 20, 1890**

On February 14, 1889, Charles Leng applied for a patent for a “Bottle-Neck-Finishing Machine” and received Patent No. 428,214 on May 20, 1890. Leng assigned half the patent to Christian F. Leng, the president of the American Glass Works, Limited. The invention appears to be a mechanized version of the hand-held finish tool that was in use during much of the second half of the 19th century. It consisted of a plug that maintained the inside diameter of the neck,
while two dies fit around the outside to create the finish. The machine-driven plug and dies turned in opposite directions so that the bottle could not be accidentally revolved in such a way as to spoil the finish.

March 18, 1890

In one of the strange sleight-of-hand maneuvers by the patent office, Christian and Charles had applied for a patent for a “Bottle-Finishing Machine” on June 11, 1888. Even though Charles had received a patent earlier in 1890 (see above) for a similar machine, this patent (No. 423,482) was not approved until March 18, 1890 (Figure 3). Although the May 20 patent is clearly a more sophisticated design, the two are obviously the same machine (or at least very similar).

April 24, 1900

Charles applied for another “Machine for Finishing Glassware” on August 26, 1899, and received Patent No. 648,272 on April 24, 1900. He assigned half of the patent to Christian. This machine was much more complex that the earlier two, and these were almost certainly the three finishing machines used by the American Glass Works in 1901 (Roller n.d.).

This version of Leng’s machine was apparently successful. Jones (1968:9) quoted an October 1892 article from the Bottlers Gazette that stated:

The West Virginia Flint Bottle Co., Huntington, West Virginia, glass manufacturers who began the business last season (1891) . . . a number of bottle blowing machines have been put in. The machines are the same as those that have been successfully operated by the American Glass - Works, of Pittsburgh, Pa.

The emphasis probably came from Jones – who was trying to make a different point – not from the Bottlers Gazette.
Containers and Marks

A.G.W.Co. (ca. 1871-ca. 1874 or later)

Farnsworth & Walthall (2011:58, 629-630) noted an “A.G.W.Co.” mark embossed in a circle around a small post bottom of an amber quart beer bottle (not an export beer) embossed “GIPPS, CODY & CO / PEORIA, ILL'” on the front body. The bottle is unusual in that it had a single bead, applied finish (Figures 4 & 5). The firm was only listed under this name between 1871 and 1874. The researchers ascribed the logo to the earliest American Glass Works, in operation between ca. 1865-ca. 1886. Van Wieren’s (1995:89) dates of ca. 1870-1875 for Gipps, Cody & Co. support those of Farnsworth & Walthall. Although the American Glass Works was a window-glass firm during those years, the plant apparently produced a few bottles.

A.G.W.L. (1887-ca. 1892)

The A.G.W.L. mark has been found on beer bottles, Hutchinson soda bottles, grooved-ring wax-sealer fruit jars, and flasks. Although Toulouse (1971:43) – as well as later researchers, such as Whitten (2013) and Von Mechow (2013) – identified the American Glass Works, Limited, as the user of the A.G.W.L. mark, these are better discussed by individual bottle types to determine variations or placement of the marks. In the case of beer bottles, we will even discuss the export beer style separately from other beer formats.
All these bottles seem to have some attributes in common (aside from the initials). All in our sample (except fruit jars – see below) have the A.G.W.L. logo embossed horizontally across the center of the bases (or horizontally as heelmarks), although they may be in either a cup or post mold. The vast majority of these basemarks have clear punctuation – frequently slightly offset below the letters. There are two photos from eBay that appear to be lacking punctuation, but that is not otherwise confirmed (except on fruit jars).

Previously, we had only discovered tooled finishes on beer bottles beginning ca. 1890, although applied finishes were the norm on export beer bottles until ca. 1896 or later (Lockhart 2007:56). However, all photos we have seen of beer bottles with A.G.W.L. marks show no indication of any applied finishes on bottles with the A.G.W.L. mark. Admittedly, this is based on a limited sample. As noted in the patent section, however, the Lengs applied for a patent for a machine to make tooled finishes on June 11, 1888. Although they did not receive any machine patent until 1890, the plant could have begun to use one of the machines as early as the beginning of the firm in 1887, and the machines may even have been the reason for the founding of the company.

An ad by the American Glass Works, Limited, in the June 1892 Gazette noted the factory as “Manufacturers of All Kinds of High Pressure Ware. . . such as Beers, Sodas, Minerals and Apollinaris Bottles, which we make in Green [i.e., aqua], Ruby [i.e., amber], Imported Green and Flint Colors.” They added, “We have a large selection of Stock Moulds, which are provided with plain plates, upon which we can insert your name and address at a very slight cost, thus saving you the cost of a mould.” The company offered “one size stopper holes only unless otherwise ordered. No Leakers” (Putnam 1965 – Figure 6). An identical ad appeared the following year (Hawkins 2009:30).
Champagne, Porter, and Weiss Beer Bottles (1887-ca. 1892)

The 1892 and 1893 ads from the American Glass Co., Limited, illustrated a row of ten bottles at the bottom. These were identified as beer bottles and shown with plate molds. Most of these were Champagne style, but there were also Porter and Weiss Beer bottles in the drawing. These bottles were almost certainly made during the entire period of the “Limited” company.¹

Numerous archaeological studies and collectors’ books have cited the A.G.W.L. mark on the bases of beer bottles, including Herskovitz (1978:8), Kroll (1972:97), Mobley (2010), and Rigby (n.d.). The mark was consistently embossed horizontally across the center of beer bottle bases in our eBay sample (Figures 7 & 8). Some of these bottles were used by soda bottlers as well (e.g., Peters 1996:112, 125). In contrast to the basemarks from eBay, Von Mechow (2012) recorded 38 beer bottles, mostly used in the Midwest and Baltimore, although a few were from far western locations. All but one of these had AGWL heelmarks (the other, of course, was a basemark).

¹ Ads from several glass houses during this period appear to have used generic drawings – especially of beer bottles. While the written descriptions were likely accurate, the photo may not actually reflect the products made by the American Glass Works.
Export Beer Bottles (1887-ca. 1892)

Export beer bottles were noticeably missing from the 1892 and 1893 ads – although the plant certainly made them. They also seem to be missing from early contexts. This may indicate that American Glass only made export beer bottles during its last few years of existence (Figure 9). The firm clearly solicited orders from bottlers wanting proprietary bottles (those embossed with their company names. In fact, the 1894 report to the U.S. Census Committee on Finance, specifically stated that “much of our goods is [sic] sold to small buyers, who order only when they are in actual need, and who have their name and registered trademark blown in their bottles” (quoted in von Mechow 2012).

To place these frequencies in perspective, there were only five A.G.W.L. basemarks found at Fort Stanton, compared with 49 marked C&CoLIM (Cunninghams & Co., Lim.); 44 with DOC (D.O. Cunningham) basemarks; and 28 with FHGW (Frederick Hampson Glass Works). At Fort Bowie, there were nine with the A.G.W.L. logo; 40 with C&CoLIM; 49 with DOC; and 129 with FHGW. These small numbers in the distribution patterns suggest a limited production of export beer bottles. Herskovitz (1978:8) also noted a “1” or “2” accompanying the basemark, and Lockhart (2009; 2011) only found the number “1” at Fort Stanton (Figure 10). This lack of larger numbers in mold codes further suggests a limited production. Numerous mold codes suggest a larger number of molds, therefore a larger production (Lockhart et al. 2010).

2 Export beer bottles were designed in 1873 especially for “export” to the western territories, Central, and South America. Although other styles were and still are used, the export bottle rapidly became the standard for the brewing industry.
Table 1 – Archaeological Contexts for Amber A.G.W.L. Basemarks

<table>
<thead>
<tr>
<th>Location</th>
<th>Date Range</th>
<th># Bases</th>
<th>Citations</th>
</tr>
</thead>
<tbody>
<tr>
<td>San Elizario, Texas</td>
<td>ca. 1880-ca. 1886</td>
<td>0</td>
<td>Lockhart &amp; Olszewski 1994:39</td>
</tr>
<tr>
<td>Fort Selden, New Mexico</td>
<td>1865-1877; 1880-1888</td>
<td>0</td>
<td>Wilson &amp; Caperton 1994:56-57</td>
</tr>
<tr>
<td>Fort Laramie, Wyoming</td>
<td>1849-1890</td>
<td>0</td>
<td>Bottle Research Group 2009*</td>
</tr>
<tr>
<td>Fort Union, New Mexico</td>
<td>1863-1891</td>
<td>0</td>
<td>Wilson 1981:113-114</td>
</tr>
<tr>
<td>Fort Bowie, Arizona</td>
<td>1862-1894</td>
<td>9</td>
<td>Herskovitz 1978:8</td>
</tr>
<tr>
<td>Fort Stanton, New Mexico</td>
<td>1855-1896</td>
<td>5</td>
<td>Lockhart 2009:128</td>
</tr>
</tbody>
</table>

* No written report, but we found no A.G.W.L. marks when we examined the collection.

**Hutchinson Bottles (1887-ca. 1892)**

The 1892 and 1893 ads make it clear that the American Glass Works, Limited, made bottles with actual Hutchinson stoppers – instead of the later imitations. Unlike A.G.W.L. beer bottles, these had the fully punctuated mark embossed on heels as reported by Fowler (1986:27, 237), Miller (1999:15; 2008:40), and Peters (1996:47-48, 55, 63, 82) as well as the ones we have seen on eBay. These heelmarks appeared on either the front or reverse of the bottles (Figures 11 & 12). All date ranges given by all of these researches fell easily within the 1887-ca. 1892 span for the use of this mark.

Figure 11 – A.G.W.L. heelmark on Hutchinson bottle (eBay)

Figure 12 – Hutchinson bottle with A.G.W.L heelmark (eBay)
Fowler (2013) listed 164 Hutchinson soda bottle embossed with the A.G.W.L. logo. Most of these were embossed on the back heels, although front heel embossing was common. Not a single bottle was embossed with the logo on the base. Many of the bases, however, were embossed with the initials of the soda bottling firm or the owner of the bottling company. Since Fowler’s study was an attempt to catalog all “known” Hutchinson bottles, it is safe to say that all Hutchinson containers made by the American Glass Works, Ltd., were marked on the heels.

As noted above, Champagne beer bottles were also used by soda bottlers (e.g., Peters 1996:112, 124-125). The shapes of the “beer bottles” in the 1893 ads are virtually identical with some of the soda bottle styles offered by the Illinois Glass Co. in the 1903 catalog. Hutchinson bottles were also used for both soda and beer.

**Flasks** (1887-ca. 1892)

The A.G.W.L. mark was also embossed horizontally across the long axis of the bases of amber and aqua flasks. All we have seen (mostly eBay photos) were strap-sided (union oval) flasks with two-part (double-ring) finishes. The bases in our sample were all cup bottom, and none of the flasks had side embossing (Figures 13 & 14).
Fruit Jars (1887-ca. 1892)

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 an arch above PITTS PA in an inverted arch (Figures 15 & 16). Innes (1974:178) attributed the A.G.W.L. Pitts. Pa. on a “preserving jar” to “the mysterious Arsenal Glass Works.” 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 (1987a: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 17). 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 “A” in “Pa” and either lacked punctuation or had very weak punctuation in the mark. See the Discussion and Conclusions section for our position on these jars.
Other Bottles

Although most bottles with AGWL logos are found in the above categories, the plant also made at least some other types. An eBay auction featured a green olive bottle with AGWL embossed horizontally across its base. The bottle was probably made just prior to the shift that removed “Limited” from the name, ca. 1892.

Farnsworth & Walthall (2011:58, 461-462) illustrated and described what may be the earliest use of the AGWL logo. The mark was embossed horizontally across the post-bottom of the base of a Saratoga-style mineral water bottle with a double-taper finish (Figures 18 & 19). The body was embossed “YPSILANTI (slight arch) / SPRING / COMPANY / CHICAGO / ILLS. (all horizontal).” The firm was only advertised between May 1885 and April 1886. This suggests that either the bottling plant was in business slightly later (the most likely explanation), or American Glass began using its mark a bit early.

AGW (ca. 1892-ca. 1901)

Peters (1996:9) dated the AGW mark from ca. 1893 to 1905 and attributed it to the American Glass Works (Pittsburgh). He illustrated 10 examples of bottles (e.g., 1996:22, 40, 112, 124-125, 128, 132, 192, 200) with the AGW mark, all Hutchinsons except for two Weiss Beer bottles (p. 112, 124-125). Date ranges he presented for the bottles and associated companies fit within the ca. 1892-1901 period we have proposed. Von Mechow (2012), however, listed a total of 28 bottles with the AGW mark – including Hutchinson bottles, a single bottle with a Matthews Gravitating Stopper, and beer bottles. Auctions from eBay have also included the AGW logo on Hutchinson bottles (Figures 20 & 21)
Although there is little question that crown-finished soda bottles (and several other container types) were made by the American Glass Works at Richmond, Virginia, and Paden City, West Virginia (see Discussion and Conclusions and the section on the “other” American Glass Works), Peters presents strong evidence that the AGW mark continued to be used by the Pittsburgh American Glass Works after the “Limited” period. Since all of these bottles were used by Wisconsin soda bottlers, the likelihood of a manufacture at Pittsburgh is much greater than in much more distant Virginia and West Virginia plants.

Of greater import, Peters (1996:20, 92, 94, 113, 124-125) listed two examples of soda bottlers who used Hutchinson bottles with both AGWL and AGW logos and one where the bottler had both marks on identical Weiss Beer bottles. These companies were in business, respectively, during the periods of 1896-1910, 1877-1900, and 1888-1898, all spanning the important 1892 transition between the “Limited” company and the later firm. Of even greater interest are three other Wisconsin soda bottlers (Peters 1996: 200-201, 112, 124-125) that used identical bottles with both AGWL and AGW marks. These bottles have the identical shape and same plate mold – the only difference is the lack of the “L” on one logo.

Martin Van Zant also sent photos of a Weiss Beer bottle embossed with “A.G.W.” on the front heel below a round plate that identified the Crown Brewing Co. of Crown, Point, Indiana. According to VanWieren (1995:95), the Crown Brewing Co. was in business between 1894 and 1909 – an almost perfect fit for the probable use of the mark.

All examples we have seen had heelmarks, and at least one lacked punctuation (Figure 22). Von Mechow (2010), however, listed three Hutchinson bottles with the AGW mark from such diverse locations as Philadelphia, Lead City, South
Dakota, and Yazoo City, Mississippi. He recorded the AGW mark on the base of the South Dakota Hutchinson bottle. Since Hutchinson bottles with the AGWL logo in our sample were used at least as far away as Tampa, Florida, the diverse distribution is not surprising.

A bottle in the champagne beer style was used by James M. McMorris, Importer & Bottler, Pittsburgh (Figure 23). Although the eBay seller did not photograph the AGW logo, it was applied to the heel of the bottle. Thus, bottles of this type were also used by both the “Limited” and the following firms.

Whitten (2012) noted that “various bottles that date after 1880 (such as certain hutchinson sodas, and aqua coffin or ‘shoofly’ flasks) do carry ‘A.G.W.’ (no L).” Although we have recorded a “Warranted” flask with the “A.G.W.” mark and a three-digit number (indicative of the Richmond plant) and have discussed picnic flasks that may have been associated with the southern company, we have not observed the flasks described by Whitten. If they lack the accompanying numbers, they very well may have been made at the Pittsburgh factory.

Although not everyone agrees,3 we have found no other bottle types that we can ascribe to the Pittsburgh plant after the transition away from the limited partnership ca. 1892. The factory seems to have reduced its production ca. 1897, then moved away from soda bottles entirely, shifting to prescription bottles ca. 1901. It is possible that some prescription bottles were embossed with A.G.W. basemarks, although most (probably all) with the mark were made by the Virginia plant (Figure 24).

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3 Jay Hawkins contends that the Dr. Hostetter’s Bitters bottles with AGW basemarks were made in Pittsburgh. See the section on the American Glass Works, Virginia and West Virginia, for a complete discussion.
Discussion and Conclusions

The Companies and Plants

Other researchers have fallen into what we call the “first hypothesis” trap when dealing with the American Glass Works. This is familiar to archaeologists. When the first researcher makes a definitive statement, whether or not it stands up in the face of evidence, almost everyone begins at that point and steadfastly refuses to look at alternatives. The best original research on manufacturer’s marks – the books and articles written by Julian Harrison Toulouse – is often the biggest stumbling block to full understanding.

While the epic works of Toulouse (1969; 1971) were without parallel in their time, he simply lacked the resources available today. He relied on a great deal of hearsay, and he made inferences that he reported as fact. The main problem with Toulouse was his typographical errors, especially in the realm of numbers. In at least two places, his dates are incorrect by a century; decade differences are common; and he frequently gave two or even three dates for the same occurrence – often on the same page – almost certainly caused by typos (Lockhart 2004).

In this case, Toulouse (1971:43) connected T. Campbell & Co. to the American Glass Works (correctly), then made the assumption (incorrectly) that the American Glass Works, Limited, was a continuation of the same factory. As noted in the history section, the two plants were at different locations, and the American Glass Works name was apparently disassociated with Campbell from some point after 1884, probably ca. 1892.

A.G.W.Co.

This is the only mark we have discovered that is connected with the earliest American Glass Works. It is probable that Campbell used this logo rarely; we have discovered only one example. The brewery that ordered the bottle may have requested the identifying initials. Unlike the later bottles, this is the only one that appears to have an applied finish. Campbell generally made window glass but apparently produced a few bottles.
A.G.W.L.

Although there is virtually no question that the American Glass Works, Limited, made the beer/soda bottles, Hutchinson bottles, and strap-sided flasks, the identification of the AGWL mark on grooved-ring, wax-sealer fruit jars is not so easy to place. As noted in the Containers and Marks section, 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), both at the same factory, located at Lawrenceville, a section of Pittsburgh, annexed to the larger city in 1868. 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 the glass house. Lawrenceville, in this interpretation, provided the “L” at the end of the logo (see Lockhart 2010).

Ads cited in Roller (n.d.) list 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 bottle 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.

Roller (1983:362) noted that “TRIUMPH” was offset from “GROOVED RING” by separate quotation marks in Modes’ 1869 ad (which Roller reproduced). These jars were made in a three-piece mold and had a distinct shoulder that tapered up to a 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. 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.

If the 2001 price for the jars marked “A.G.W.L.” ($30-35) is any indication of scarcity (Leybourne 2008:7), then they must be fairly common. Of course, the lack of side embossing may have made them less popular, even if they were scarce. If the jars had been made by Arsenal (or Aetna), they would have been produced early (at some point during the 1856-1870 period). American Glass Works (Limited) jars, however, would have been much newer, manufactured during the firm’s decade-long tenure (ca. 1886-1897).
After this lengthy discussion, the maker of the wax-sealer jars embossed “A.G.W.L.” remains in some contention. However, we would expect jars made earlier and for a shorter period of time to be high priced. The Triumph jars (from the Aetna period), for example, were worth “$400-500” in 2008 (Leybourne 2008:415). In 2011, one quart jar sold for $605 and another for $353 on the North American Glass Auction (McCann 2013:300). It is thus most likely that the A.G.W.L. jars, despite the difference in configuration (i.e., arched rather than horizontal) and the inclusion of “‘PITTS, PA,” were most likely made by the American Glass Works, Limited (also see the section on Aetna and Arsenal).

A.G.W.

The identical bottles with both AGWL and AGW marks clearly establishes that the American Glass Works at Pittsburgh continued to produce some of the same kinds of bottles that it had made during its “Limited” period but with the AGW mark.

There are, however, numerous crown-topped soda bottles, many machine made, also embossed with the AGW logo. These were certainly made by the American Glass Works at Richmond, Virginia, and Paden City, West Virginia. These Southern plants, unrelated to the Pittsburgh operation, also made Warranted Flasks, Dr. J. Hostetter’s Stomach Bitters bottles (although some Pittsburgh collectors question this identification), and possibly prescription bottles – all embossed A.G.W. on the bases (also see the section on American Glass Works, Richmond).

Acknowledgments

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