

The Dating Game - Marks Used by the Mississippi and Lindell Glass Companies

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Although this study includes a look at other bottle and jar types, the focus is on export beer bottles. As we will discuss below, much of the older research was quite confused about both MCo and LCo manufacturer's marks, especially when the logos were found on beer bottles. This study cuts through the confusion and identifies the users of the marks with conclusive evidence.

When Anheuser-Busch adapted the pasteurization process to beer in 1872, the firm opened an entirely new chapter for the bottling industry (Hernon & Ganey 1991:30-31; Plavchan 1969:70; Wilson 1981:1). Prior to that time, only brews like ales, porters, and non-carbonated beer were bottled. Lager beer, the preferred beer in the U.S. by the 1870s, however, would rapidly spoil when bottled. Pasteurization reversed the situation, and lager beer began to be enjoyed at a distance from the brewery.

In 1873, Valentine Blatz of Milwaukee, Wisconsin, devised a distinctive bottle especially to hold pasteurized lager beer. The first containers were blown at one of the William McCully & Co. plants, probably the Phoenix Glass Works at Pittsburgh (Lockhart 2007:53; *National Glass Budget* 1909:4). These were soon

called "export" beer bottles because they were "exported" to the western territories and other countries (see Lockhart 2007:53), and they rapidly dominated the generic beer bottle market, especially in the western territories (Figure 1).

Anheuser-Busch, already a brewing giant, quickly dominated bottled beer sales. Not surprisingly, local glass houses soon appeared to fill the insatiable need for export beer bottles. According to Plavchan (1969:75), a historian researching Anheuser-Busch:

Prior to 1886 the main source[s] of beer bottles for the Anheuser-Busch Brewing Association were four glass works: the Mississippi Glass Co. and the Lindell Glass Co. of St. Louis; the Pittsburgh City Glass Co. of Pittsburgh, Pennsylvania; and the DeSteiger Glass Co. of LaSalle, Illinois.

As the need for bottles grew, the St. Louis glass houses expanded to fill the need. The *St. Louis Globe-Democrat* (1/17/1880) noted that:

the Mississippi and Lindell glass companies of this city have constantly added new furnaces to their already extensive works, and the glass trade of the west and south is now supplied by St. Louis. In consequence of the largest beer-bottling establishments in America being located here, the manufacture of beer bottles is one of the main features of the glassworks (quoted in Wilson & Caperton 1994:68).

The *Globe-Dispatch* noted that Anheuser-Busch alone used six million bottles in 1880 and had contracted with the Mississippi and Lindell glass houses for ten million for the following year. These two sources confirm that the Mississippi and Lindell glass companies were *major* producers of beer bottles.

There is some evidence, however, that the big expansion did not occur until the late 1870s. Another 1880 blurb (*Crockery and Glass Journal* 1880a:24) noted that:

Pittsburgh has a live rival in supplying the trade of the West and South. We refer to St. Louis. The manufacturers there have been enlarging their facilities steadily, and the production of beer bottles is quite extensive. Fruit jars is another specialty. There is room for all, however. Competition is the life of trade. Selah.

Despite this heavy growth, both Mississippi Glass and Lindell only advertised in the *Western Brewer* for a relatively short period of time (January 1883 to January 1885 – just over two years – for Mississippi Glass¹ and late 1884 to mid-1885 – less than a year – for Lindell). Wilson and Caperton (1994:70-71, 75), in their study of the *Western Brewer* in relation to the beer bottles found at Fort Selden, New Mexico, speculated that "if . . . the entire output of bottles was [*sic*] used by [Anheuser-Busch], then there was no need for the glass works to advertise."

Then the bubble burst. Despite the ongoing need for bottles by Anheuser-Busch, Mississippi Glass ceased bottle production in 1884, and Lindell closed its doors permanently in 1892, probably because of financial setbacks that began in 1883. We may never know the full story, but a series of events that began in the late 1870s may help explain the collapse of the St. Louis factories.

Beer sales, mostly exports to the western territories and foreign countries, increased dramatically in the late 1870s, leading to a need for more beer bottles, especially by Anheuser-

¹Mississippi Glass also advertised during part of 1878 (Wilson and Caperton 1994:7)



Figure 1

Busch, the most productive brewery in St. Louis. Coincidentally, two customer defaults caused the Lindell Glass Co., one of the major bottle suppliers to Anheuser-Busch, to lose a total of \$11,000, a large sum for that era.

Whatever the cause, Anheuser-Busch “sent to Europe for an enormous quantity [of beer bottles], now *en route*” (*Crockery and Glass Journal* 1881a:24). Since both Eberhard Anheuser and Adolphus Busch were of German extraction, the European factory was probably that of Hermann Heye in Germany². The situation in 1880 may have influenced Busch to become a major investor in the Streator Bottle & Glass Co. at Streator, Illinois, in 1881. Although the date is unclear, Streator became a major supplier for the brewery.

In 1883, the bank gained control of the Lindell Glass Co., following a \$38,000 loss when C. Conrad & Co. declared bankruptcy. The subsequent operation of the plant by bank personnel may have reduced production. The “green” bottle industry³ as a whole was also having problems in 1883. Members from 14 glass houses attended the Western Vial and Bottle Manufacturers’ Association meeting in Chicago in August 1883 to discuss the three major problems besetting the group. The Mississippi Glass Co. was the only St. Louis firm in attendance.

One major concern, not overly relevant to this study, was competition from the “flint” or colorless glass industry. The “flints,” as they were called, had been gradually lowering their prices, until pharmacists and other users of smaller glass bottles

could buy colorless glass almost as cheaply as “green” glass. Second, “beer bottles were imported into this country last year in large quantities. . . . Foreign importation, which has never been considered of serious import in the trade, now threatens to become a serious matter indeed.” This suggests that Anheuser-Busch’s imports in 1880, while perhaps the initial opening for imported beer bottles, was not an isolated event – and imports seem to have increased by 1882⁴. Finally, “all the factories, it is alleged, have been turning out a supply far beyond the market demands. The market has been glutted” (*Crockery and Glass Journal* 1883d:35-36).

The following year (1884), the Mississippi Glass Co., another major Anheuser-Busch supplier, ceased bottle production and began to manufacture flat glass. The defection of Busch to Streator and Europe, along with the “glutted” market almost certainly shaped the Mississippi Glass decision. Anheuser-Busch was in the news for importing bottles again in 1885. The brewery “imported bottles brought in via New Orleans by the barge load, consequently orders are slack in the bottle houses (*American Glass Worker* 1885b:1). In January 1886, Busch was still buying bottles from the Streator Bottle & Glass Co. (*American Glass Worker* 1886a:2). Between the German and Illinois connections, Busch seems to have ceased or at least decreased his dealings with St. Louis glass houses.

By February 1886, the *American Glass Worker* (1886b:2) noted that Anheuser-Busch “imports regularly from 110 to 150 crates of bottles per

week from Germany”⁵ and inferred that “some six hundred American bottle blowers are in enforced idleness” because of the imports. The “idleness” almost certainly referred to the St. Louis plants. This lack of business may in turn have caused the Lindell Glass Co., financially injured in 1883, to ultimately collapse.

It is also likely that the bottle situation influenced Busch’s decision to buy the Belleville Glass Co. in 1886 and rename the factory as the Adolphus Busch Glass Co. The diversion of beer bottle manufacture to the two Busch-influenced plants may have led to the sketchy production by Lindell between 1883 and the ultimate sale and destruction of the factory in 1892. Although we have not currently discovered the exact year, Busch opened the St. Louis branch of the Adolphus Busch Glass Co. (later the Adolphus Busch Glass Mfg. Co.) ca. 1892, possibly in reaction to the closing of Lindell. The final independent beer bottle producer in St. Louis, the Frederick Heitz Glass Works, closed in 1897, possibly a victim of Busch’s outside competition (see Lockhart and Whitten 2005; 2006 for the story of Heitz). See Table 1 for a chronology of these events.

Histories

Mississippi Glass Co., St. Louis, Missouri (1873-1971 or later)

In 1873, the Mississippi Glass Co. was built as a manufacturing center for beer bottles⁶. William F. Modes, later connected with numerous glass factories, was the first superintendent (Ayres et al. 1980:27; *Crockery and Glass Journal* 1880:12; *National*

²The Heye system was also by that time one of the largest and most diverse in Europe - and it was already exporting to the US. In addition, most late 19th century sites with large quantities of beer bottle glass contain examples of Hermann Heye green, export beer bottles in ca. 1880-1886 contexts. For examples, see Lockhart & Olszewski (1994:38-39) or Herskovitz (1978:8). For a history of Heye, see Lockhart et al. (2008)

³The term “green” was used for what we now call aqua colored glass, however, as used by the industry, the term also included amber bottles

⁴Clark (1949:499) notes that “German bottles were said to be used extensively about 1882 by Milwaukee brewers”.

⁵This makes the Heye connection even more likely.

⁶The *Crockery and Glass Journal* (1880b:12) noted that the Mississippi Glass Co. “was organized in 1873.” The *National Glass Budget* article (1909:4) implied that the plant was created in 1874 but was much more vague. An interview with J.E. Cummings, the earliest glass manufacturer in St. Louis (*Crockery and Glass Journal* 1983d:24) provided a list of the St. Louis glass houses in order of their openings: St. Louis Glass Works; Mississippi Glass Works; Lindell Glass Works; Fred. Heitz Glass Works; and Great Western Glass Works. The position of the Mississippi Glass Co. as the second to open in St. Louis supports the 1873 date for Mississippi, preceding Lindell (1874).

Glass Budget 1909:4). Although we have found virtually no other information about the company during the early and mid-1870s, the plant's furnace was noted as "one of the largest in the West" by 1879. That year, the plant employed "thirty-two blowers, sixteen gatherers, eight annealers, and sixteen carriers" (*Brick, Pottery, and Glass Journal* 1879:116). By 1881, some of the St. Louis glass houses, including Mississippi Glass, had doubled its working force (*Crockery & Glass Journal* 1881b:8).

The *Year Book* (1882:106) provided a cameo view of the firm in 1882. The president was Edward Walsh (indicating that the firm was a corporation). The plant produced "green ware, beer bottles, fruit jars, and druggist's packing bottles." The factory had one furnace with eight pots and a second one with six pots. The *Year Book* noted that "their trade is west of St. Louis and as far east as Indianapolis." Since many bottles with the MGCo mark were found in the West, this reference is significant.

The factory was one of the first to install a "Wilson producing furnace" in 1883. These were powered by gas produced from "slack coal" and were considered to be much more efficient than burning coal alone. It was suggested that the coal consumption would be one eighth of the usage under the previous system (*Crockery and Glass Journal* 1883b:14; 1883c:26).

The Mississippi Glass Co. underwent a major product change in 1884, when the plant was reconstructed for "the manufacture of rough, ribbed and cathedral glass" (Ayres et al. 1980:27). As noted above, the firm may have switched glass types because of a series of events that caused Anheuser-Busch to seek bottles outside of St. Louis. Wilson and Caperton (1994:69) cited St. Louis newspapers, noting that the company was manufacturing skylight and cathedral plate glass in June 1885 and that it exclusively made plate glass by 1887, although the plant suffered a major fire in that year. This change of product places the end of exclusive con-

tainer production at 1884, although some bottle manufacture may have continued on for as much as two more years.

The Mississippi Glass Co. was listed in St. Louis in 1897 and 1898 under the heading of "Cathedral and Rough Plate Factories," making glass in 120 pots (*National Glass Budget* 1897:7; 1898:7). In 1901, Mississippi Glass took over the Appert Glass Company at Port Allegany, Pennsylvania. The plant, constructed in 1898 and in operation by 1899, was expanded in 1903 (Catlin 1991). For a list of Mississippi Glass Co. plants, see Table 2.

The company underwent a major reorganization in April 1904, incorporating in New York with a capital of \$3 million (*New York Times* 1905). As part of the reorganization, Mississippi Glass built a plant at Morgantown, West Virginia, during 1904. Two years later, the firm purchased the former Marsh Plate Glass Co. at Floreffe (near Elizabeth), Pennsylvania. Along with its plate glass, the firm was also listed in Pittsburgh directories (where it had an outlet but no factory) as making tableware (Hawkins 2008).

This Mississippi Glass Co. continued to advertise "rough and ribbed rolled glass," wire glass, and various specialty items in 1909, with the New York City address reflecting the home office (*Commoner and Glassworker* 1909:3). We have found no evidence of an actual plant in New York. The company operated a plant at Latrobe, Pennsylvania (probably the old Besto Glass Co.), by 1912. In 1915, the company apparently split into the Mississippi Glass Co. and the Mississippi Wire Glass Co., although we have not found any details about the separation. The Highland Glass Co., Washington, Pennsylvania, became Factory 5-A of the Mississippi combine in the early part of 1930 (Hawkins 2008).

By 1927, the firm listed a large variety of wire glass, made at six continuous tanks, and noted factories at St. Louis, Missouri, Port Allegany, Pennsylvania, Morgantown, West Virginia, and Floreffe, Pennsylvania

(*American Glass Review* 1927:59, 74; 1944:178). By 1933, Mississippi Glass had added plants in Streator, Illinois, and Fullerton, California (*American Glass Review* 1933:22; Roller 1997). The Washington, Pennsylvania, plant had closed no later than 1950 (Hawkins 2008). Although the other plants had closed during the 1930s and 1940s, Toulouse (1971:358) noted that the St. Louis plant remained in business as he went to press (1971).

Lindell Glass Co.,

St. Louis, Missouri (1874-1892)

According to a 1909 article (*National Glass Budget* 1909:4), the Lindell Glass Works was initiated to make export beer bottles in 1874. A trade note from February 1875, however, reported that the factory had made "9,000 gross of different kinds of bottles" since August 1874 (*Crockery Journal* 1875), so the plant had an expanded output virtually from the beginning. The company was first listed in the St. Louis, Missouri, city directory in 1875 and last listed in 1890. The 1875 Bird's Eye View Map of St. Louis showed the Lindell Glass Co. on what appeared to be 67th St. and named W. M. Gray as president (Lossos 2000).

By 1880 Lindell was noted as a "well backed" company "doing a good business" (*Crockery and Glass Journal* 1880b). At the same time, they had "constantly added new furnaces to their already extensive works" to meet the demands for beer bottles (Wilson and Caperton 1994:68). Despite these attainments, Lindell had an unfortunate history of bad debts from its customers. About 1880, when the Excelsior Bottling Co. failed, Lindell lost \$3,000. Soon after, Lindell lost an additional \$8,000, with the failure of the Urig Brewing Co. However, the firm was able to withstand both losses and remain solvent (*Crockery and Glass Journal* 1883e:24).

Ultimately more serious for Lindell, it was one of the manufacturers of beer bottles for Carl Conrad & Co. and was possibly the main bottle maker for the company. Conrad was the original marketer of Budweiser

beer (actually made for him by Anheuser Busch), and the brand reached a national audience. When Conrad declared bankruptcy in January 1883, Lindell was one of the largest creditors, being owed between \$32,000 and \$33,000 by Conrad. Although the loss hit Lindell hard, a local source stated that Lindell's "continuance in the bottling business is almost an assured fact" (*Crockery & Glass Journal* 1883a:30).

A slightly later report, however, disclosed that the actual amount was \$38,000 and that the German-American Bank held the "paper of the Lindell Co." (actually two deeds of trust) and had "taken charge of the business." J.W. Sheppard, president of the corporation, and Christian Heitz, the secretary/treasurer, were "acting as managers of the business." Heitz felt that "a great injury was done him" because Conrad failed to inform him about the situation before declaring bankruptcy. He noted that Lindell had \$19,000 worth of bottles stored in the basement, and claimed that stock could have reduced the Lindell indebtedness by half (*Crockery & Glass Journal* 1883e:24).

By late 1885, Lindell was "running five furnaces on green bottles" (*American Glass Worker* (1885a:2). A snippet from 1886 noted that "Heitz's and Lindell bottle works, St. Louis, are said to be carrying very large stocks, and the business outlook is not very promising in this line" (*American Glass Worker* 1886c:2). This may have been the beginning of the end for Lindell.

Aside from the sources cited in the introduction to this study (that addressed both the Mississippi Glass Co. and Lindell Glass Co.), we have found virtually no other information about the company until near the end. The March 18, 1891, edition of *China, Glass & Lamps* noted that Lindell "which had been idle for a long time, have resumed operations." How long the plant was idle is currently unknown, but the plant may never have recovered from the Conrad failure and takeover by the German-American Bank. The 1891 start up was short

lived. The plant and land was offered for sale on April 2, 1892, and the buildings were demolished by February 1 of the following year (Roller 1997).

Containers and Marks - Mississippi Glass Co.

MGCo (1873-1884)

The MGCo mark has been reported on beer, bitters, blob-top soda, pepper sauce, and whiskey bottles as well as wax-sealer fruit jars, barrel mustard jars and ribbed flasks. Beer bottles, bitters bottles, and wax-sealer fruit jars need to be addressed separately from all other types (see below).

Toulouse (1971:360-361) clearly wanted the Modes Glass Co. to be identified with the MGCo mark on beer bottles. He gave the following justification:

Modes made beer bottles and beverage bottles at most of the companies with which he was associated, starting at La Salle with De Steiger ("DSGCo"), but those under his own name were confined to the nine-year period of the Modes Glass Co. Many of his beer bottles are known in bottle collector's groups. There is a strong possibility that his Cicero factory started before 1895, and possibly in the mid-1880s. Beer bottles with "MGCo," made in circa -1880 techniques of crude finishing, have been found in a camp in Arizona known to have been occupied *only* in the 1880s, and along with beer bottles marked for companies that were in business only in that decade. 1895 [*sic*] is the date of reference in the *National Bottlers Gazette*, the earliest date for Modes that I have been able to find.

This is a tautological explanation. Toulouse was expressing an explanation to fit his preconceived belief. In other words, he was trying to force his identification of the mark to fit the known facts. In reality, he missed the mark.

Beer Bottles

Jones (1966:8) was the first to attempt to identify beer bottle manu-

facturer's marks in print. Her initial suggestion for the MGCo mark was: "I believe this could be a midwestern plant - How about Mentua or Moscow?" Two years later, Jones (1968:18-20) settled on the Missouri Glass Co., although she mentioned the Mississippi Glass Co. as a possibility. Toulouse (1971:359-361) attributed the MGCo mark to both the Millgrove Glass Co. and the Modes Glass Co. Although he did not directly address the issue of different marks or makers according to bottle type, he strongly associated Modes with beer bottles and Millgrove with "medicine bottles and packers."

Herskovitz (1978:9) suggested either Missouri Glass Co. or Modes Glass Co. as the users of the mark in his section on beer bottles found at Fort Bowie, Arizona, following a combination of Jones and Toulouse. Ayres et al. (1980:27-28, 212-213, 270, 347) discussed four glass companies as possible users of the mark on Tucson beer bottles: Milwaukee Glass Co., Mississippi Glass Co., Missouri Glass Co., and Muncie Glass Co. Wilson (1981:121-123) identified the maker as the Mississippi Glass Co., referring to beer bottles found at Fort Union. Wilson and Caperton (1994:74-75), in their study of Fort Selden, New Mexico, also noted the Mississippi Glass Co. as the probable beer bottle manufacturer using the mark and called the Massillon Glass Co. a "less likely candidate." Von Meechow (2008) identified the Mississippi Glass Co. as the user of the mark.

Clint (1976:116), Herskovitz (1978:9), Ayres et al. (1980), Wilson (1981:121-123), Elliott and Gould (1988:187), Lockhart & Olszewski (1994:39), Von Meechow (2008), and Lockhart (2009) all illustrated and/or discussed the MGCo mark on beer bottles, and some photos have appeared on eBay. The marks fell into six main configurations (presented in probable chronological order, with bottle finish type noted):

1. MGC² (sharp lower ring on two-part finish), no other letters or numbers; "G" with serif extending to right

(Figure 2).



Figure 2

2. MGC² (round lower ring on finish), Maltese cross or plus sign above logo and number (1-12) below; “G” with



Figure 3

Figure 4

serif extending to left (Figures 3 & 4).
3. MGC⁰ (arch) (finish unknown), “1” below logo; “G” with downward serif [this example is only known from a single eBay base photo].

4. MGC⁰ (round lower ring on finish), single digit number below logo; “G”

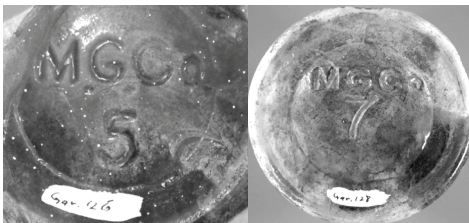


Figure 5

Figure 6

with serif extending to left. (Figures 5 & 6)

5. MGC⁰ (round lower ring on finish), “A” above logo with number (1-14) below logo; “G” with serif extending to left. (Figure 7)

6. MGC⁰ (on heel) (one-part finish), no numbers or letters; “G” almost looks like a “C” [not an export bottle –



Figure 7

champagne (also called select or lager) style]

It is possible that the crosses and letter “A” associated with the marks may be types of mold makers’ “signatures” (see Lockhart & Whitten 2005, 2006). Of interest, the “7” on the Maltese cross variation (#2 style) has a serif; the one accompanying the higher-positioned mark (#4 style) does not. To make an even stronger case for the Maltese cross as an engraver’s signature, the two IGCo marks in the San Elizario assemblage⁷ with Maltese crosses not only have crosses that are almost identical to those on the M.G.Co. molds, the fonts are equally identical.

In 2006, the Bottle Research Group (BRG) visited the Arizona State Museum in Tucson to observe and record the 140 boxes of bottles excavated during the Tucson Urban Renewal (TUR) project from 1966 to 1976 (the bottles reported by Ayres et al. 1980). When we examined the collection, we found a total of seven complete export beer bottles (all amber in color) embossed with the “A” configuration (style #3 above) and one with a Maltese cross (type #2 above). The two-part finishes on all eight bottles were identical: an upper part with vertical sides and a lower rounded ring encircling the neck. All finishes were applied.

Another distinction is important: the shape of the lower ring on two-part finishes. Two-part finishes on

export beer bottles were intended for use with wired-down corks. Historical and empirical data explored by Lindsey (2008) and Lockhart (2007:54-55) suggest that lower rings of the finishes with sharp edges (whether in wedge or flared forms) were generally used on earlier bottles (Figure 8). Empirical evidence, from Fort Stanton, New Mexico, and the TUR project suggests that sharp-edged lower rings were being actively phased out by ca. 1880, although some were still made (e.g., Carl Conrad bottles) as late as 1882.

Although there is no firm date for the initial use of two-part finishes with



Figure 8

Figure 9

rounded lower rings (Figure 9), they were probably not used until the late 1870s (possibly not until 1880). They continued in use until much later (at least ca. 1914). All two-part finishes with sharp-edged lower rings were applied to the end of the neck. Applied finishes were the industry standard for export beer bottles⁸ until at least 1896. Tooled finishes began to be used on some side-embossed beer bottles by ca. 1890 but were uncommon, especially on generic (i.e., no side embossing) bottles, until after ca. 1896. Tooled finishes completely dominated the industry by ca. 1900 (Lockhart 2007:54-56).

A final issue concerns when manufacturer’s marks began to be used on export beer bottles. Lockhart (2007:53) noted that bottle makers had begun embossing their logos on export beer bottles “by the mid-1870s,” but this may be a bit misleading. The ear-

⁷Excavated by Bill Lockhart and Wanda Olszewski, see Lockhart & Olszewski (1994) for details.

⁸In the case of smaller bottles, applied finishes were used much earlier.

liest verifiable marks on export bottles were applied ca. 1876 on bottles made for Carl Conrad & Co. This CC&Co monogram was *not* a manufacturer's mark; Conrad had his bottles made for him (see Lockhart et al. 2006). Although marks had been used on some bottle types since the early 19th century, manufacturers likely followed Conrad's lead on export beer bottles ca. 1878.

Bitters Bottles

Griffenhagen and Bogard (1999:126) noted that the MGCo mark was used on pharmaceutical [*sic*] bottles made for Mette & Kanne, St. Louis, from 1898 to 1911. They attributed the mark to the Millgrove Glass Co. Apparently, Griffenhagen and Bogard obtained their information from Fike (1987:41), who actually recorded the mark on the bottom of a S^I Gotthard Herb Bitters bottle as MGC C^o (the first "C" is obviously a typographical error). Fike attributed the mark to Millgrove but dated the use by Mette & Kanne from ca. 1895 to 1904. Fike cited Ring (1980:415) who recorded the mark as M.G.CO. and noted that the brand was advertised in 1895. She included a copy of the ad which identified Mette & Kanne as wholesale liquor dealers (not a pharmaceutical company).

Pre-Pro.com (2008) presented the actual history of the firm extrapolated from St. Louis city directories. The company was originally Mette & Flacke (1868-1869), but a reorganization in 1870 created Mette & Kanne. The new firm operated until late 1892 or early 1893, when the name was changed to Mette & Kanne Distilling Co. The company ceased operations in 1918.

As shown in eBay auctions, the actual variation of the mark on the bottle was MGC^o (Figure 10). According to our research, this mark was used at a fairly early period and is not consistent with the dates provided by Ring and Fike, although it fits quite well with the actual dates the company was in operation. The mark was embossed parallel to the sides of the base rather than across from corner to cor-



Figure 10

ner as was typical of manufacturer's marks on many bitters bottles.

An eBay auction offered a bottle embossed "DR. HARTER'S / S^I. L. M^o. / WILD CHERRY" with MGCo ("G" with serif extending to the left) embossed on the base in a post bottom. The bottle was aqua in color and was an oval flask with a long neck. Ring (1980:230-232) devoted three pages to the product and its bottles, but all of her illustrations were of a rectangular bottle with an indented area for the embossing. The eBay bottle had no indented area. Although Ring presented 11 variations of the bottle, none were embossed with the MGCo logo.

Fike (1987:35) noted that Milton G. Harter began business in 1855, introduced his famous bitters in 1885, and received his trade mark authorization in 1887. The St. Louis operation was closed and moved to Dayton, Ohio, upon Harter's death in 1890. The eBay bottle is interesting for two reasons. First, it does not contain the word "BITTERS" in its embossing. Second, it is highly unlikely that the Mississippi Glass Co. made a bottle after 1884, although there is a slight chance that a few bottles were made until 1887. It is our contention that this bottle was made ca. 1884, at the end bottle production by the Mississippi Glass Co. The product may have been test marketed in 1884, and Harter decided to add the word "BITTERS" to his concoction the following year.

Wax-Sealer Fruit Jars

In his earlier book, Toulouse (1969:214) noted an MCCo mark on

the base of a fruit jar. He listed the mark as "maker unknown." On page 216, he also gave the exact same description for a jar with the MGCo mark on the base. Creswick (1995:157) showed both MGCo and MCC^o on the bases of grooved-ring



Figure 11



Figure 12

wax-sealer fruit jars (Figures 11 & 12). The jars were both aqua and amber in color and were occasionally accompanied by a letter from A to D (we have also seen numbers 1-4 on eBay auctions). Creswick attributed the mark to the Missouri Glass Co., St. Louis, Missouri, 1859-1866, although the company was open until 1911. She did not specify why she

chose 1866 as a date for discontinuance. Roller (1983:250) only included one variation and did not set a date or guess at a manufacturer.

Examples we have seen on fruit jars have the MGCo configuration, but the letter “G” can appear in three formats. The most common is a “G” with the serif extending to the left, and these jars are probably the most recent. The “G” with the serif extending downward was probably the earliest. The final mark has a “G” that looks like a “C” – although all other aspects of the mark, including a single-digit number below the logo (and one with no number), look like the MGCo mark. This was probably an engraver’s error, and it might fit anywhere in the sequence. Examples we have seen (of all three variations) have a “rough” texture as though the cast iron mold were pitted.

Other Bottle Types

Peters (1996:9, 28, 47, 76, 180, 186), Miller (1982:3), and Paul and Parmalee (1973:82) each listed blob-top soda bottles with MGCo marks, but none supplied photographs, although one was posted on eBay (Figure 13). The only mark we have



Figure 13

actually seen had the MGC^o variation on the heel of a soda bottle embossed “CULLINANE / ST. LOUIS” on one side. John Cullinane & Co. operated a soda bottling plant in St. Louis. Cullinane died on April 1, 1887.

We have also seen the MGC^o mark on a barrel mustard jar and cylinder whiskey bottles. The MGCo variation with the downward serif on the “G” appears on cylinder whiskey



Figure 14

(Figure 14) and peppersauce bottles. MGCo with the serif on the “G” extending to the left is found on a cathedral (gothic) pickle bottle and a ribbed flask. Many of these identifications are from eBay photos.

M/G

In this case, the slash is part of the mark. Although Toulouse (1971:358-359) had no idea of the background of the company, he noted two marks used by the



Figure 15



Figure 16

Mississippi Glass Co. on plate and possibly window glass. He noted that the “M/G” was used “possibly before 1950” (Figure 15). The same mark but with circles around each of the letters was used after 1950, when it was first advertised (Figure 16). The marks could not have been used prior to the conversion to plate glass production in 1884.

Discussion – Mississippi Glass Co.

As noted above, Toulouse really wanted to identify the Modes Glass Co. as the user of the MGCo mark. However, Modes sold a single railroad carload of pint and Jo-Jo flasks to the South Carolina Dispensary in 1897. None of these bottles was embossed

with a manufacturer’s mark (Teal & Wallace 2005:100). While not definitive, this shows that Modes did not use a logo on these bottles, and we have found no evidence that the company marked any of its wares with MGCo.

The above research, however, points to the Mississippi Glass Co. as the exclusive user of the MGCo mark in all of its variations. The arched variation with a capital “O” in “CO” is the only possible exception, and that may be explained as the whim of a single mold maker – a circumstance not unusual during the late 19th century. Despite the Toulouse contention for the Modes Glass Co., we have found no other factory in business during the 1880s that had “MGCo” as initials and was making beer bottles.

A closing date of 1884 for the mark (when Mississippi Glass converted to the manufacture of flat glass) is solidly established, but an opening date is less obvious. The firm began business in 1873, but there is no evidence that *any* glass house was applying marks on *export beer bottles* by that date⁹. As noted above, it is unlikely that export beer bottles were marked by manufacturers until ca. 1878, although it is possible that some marks appeared earlier¹⁰.

This date range of ca. 1878 to 1884 probably applies to the MGCo mark in general, although the mark could have been used on non-beer bottles as early as 1873 or 1874. It is almost certain that the MGC^o variation was used earlier than the MGCo variation. Use of the MGC^o variation probably ceased by no later than 1882, although the MGCo variation may have been used as early as 1880. During its brief 11-year stint at bottle making, the Mississippi Glass Co. made an incredible number of containers.

Containers and Marks – Lindell Glass Co.

⁹This is not meant to imply that there were not manufacturer’s marks on other bottles by that time. Manufacturer’s marks date to at least 1811, if not earlier. However, marks on beer bottles do not seem to have appeared until a few years after the establishment of Mississippi Glass.

¹⁰This line of reasoning needs more research. Beer bottles from contexts datable to the 1873-1879 period are few. Marks on export beer bottles are very solidly dated from 1880, and the Carl Conrad & Co. basemarks were almost certainly used prior to that time. Little else can currently be documented.

LGCo (1874-1892)

The LGCo mark has been found on several different kinds of bottles, covering time periods from the 1870s to at least the 1920s. Virtually everyone is in agreement that more than one company used the mark. At a minimum, these included the Lindell Glass Co., Lamb Glass Co., Lockport Glass Co., Lyndeborough Glass Co., and (possibly) Loogootee Glass Co. The marks are found on (at least) export beer bottles, flasks, bitters bottles, packers' bottles, pharmacy bottles, soda bottles, milk bottles, and fruit jars. Of these, export beer bottles, soda bottles, bitters bottles (probably), and some fruit jars were produced by the Lindell Glass Co.

Export Beer Bottles

Toulouse (1971:323) claimed that the LGCo mark on beer bottles was used by the Louisville Glass Works (Co.), Louisville, Kentucky (1855-1873) and the Louisville Kentucky Glass Works (1873-1886 or later). Even if the first firm used the word "Company" in its title, it was in business too early for the type of bottles that carried this mark, and the later company's initials simply do not match. Jones (1965:[16]) initially stated, "Might be an old mark of Latchford Glass Co., Los Angeles. Not sure, don't know dates." She added (Jones 1965:[20]) that the mark was found on "Boca 'Bob' Beer and plain labeled, 1875[.] Both used wire closures."

Later, however, Jones (1966:8) identified "Lyndeboro Glass Co. 1866-'86, Lancaster Glass Co., and Lockport Glass Co. 1840-1900?" as possible users of the LGCo mark. Later in the same volume (1966:17), she added Libbey Glass Co. "1890? Huh?" By her 1968 volume (p. 18), she added Leathe [possibly Lythgoe?] and Louisville to the list. In all cases, she was discussing the mark on beer bottles. Wilson and Caperton (1994:74) were the first to identify Lindell Glass Co. as the user of the LGCo mark, although Whitten (2005:48) and Von Meechow (2008) each later reached the same conclusion independently.

Wilson (1981:118-121) reported 44 beer bottle bases with the LGCo mark that were excavated from Fort Union (1863-1891). All but one of the bases was amber in color. The exception was "blue" and was the only base where the logo was accompanied by a letter (below the mark) rather than a number or no digits. The marks fell into two variations: LGC^o and LGCo. The "blue" base had the first style mark. Both marks were generally accompanied by numbers below the logo and occasionally dots or elongated bars or lines above or below the mark. Two examples, both of the second variation, had Maltese crosses embossed above the marks. Although these examples were only available in drawings, they appear to be identical to the Maltese crosses that accompany MGCo marks (see Lockhart & Whitten 2005:54; 2006:38-39 for a discussion of Maltese cross marks).

Herskovitz (1978:8) excavated 75 LGCo bottles from Fort Bowie (1862-1894). He did not note colors and only showed the first variation, but he reported numbers from 2 to 28, "1 dot, 2 dots," and the letters A through C. Lockhart & Olszewski (1994:38-39) found nine bases with the mark, including both variations. All were amber except one (variation 2) that was light blue. Only one contained a number (19) and one a letter (D). The letter was on an amber bottle, second variation. Three were accompanied by dots. Jones (1966:8) showed only the second variation and included dots, keyhole marks, and a Maltese Cross but not numbers or letters. In her later analysis (Jones 1968:18), she added that she found numbers from 6 to 23. Von Meechow (2008) added that the mark is occasionally found on the heels of beer bottles with side embossing that identified the breweries. We have not found this placement on bottles that had paper labels.

Ayres et al. (1980:unnumbered page) noted five variations of the LGCo mark. Along with the two variations already noted, the researchers added L.G.Co in a small post-bottom mold mark, and two variations on the letter "G," both on bottles with

the C^o variation. This increases the number to five variations (all with sans serif fonts and all horizontally placed across the center of the bases). When the BRG examined the TUR collection, we discovered all five of the variations listed by the Ayers researchers, and each one had a two-part, applied finish (see discussions of finish types in the MGCo section above).

An examination of lower rings on LGCo two-part finishes provides interesting data. Bottles that have marks with the "unusual" fonts for the "G" were made with sharp lower rings on the two-part finishes, and, with a single exception, all bottles marked with LGC^o had sharp lower rings, including an example illustrated by Wilson and Caperton (1994:65) with an intact Anheuser-Busch St. Louis Lager Beer label. A single example of the LGCo ("o" not superscript or underlined) had a two-part finish with a sharp lower ring; the others in our sample had two-part finishes with rounded lower rings. The only example with the small post seam had rounded lower rings. Thus, an ordering based on lower rings would suggest the following:



Figure 17

1. LGC^o – "G" with a tail extending outward, i.e., to the *right* (Ayres et al. 1980; TUR photo) Figure 17)
2. LGC^o – "G" with a tail extending downward (like a "C" with a reverse comma added) (Ayres et al. 1980; eBay photos) (Figure 18)
3. LGC^o; standard "G" with a number below (eBay photos shows sharp lower ring) (Figure 19)
4. LGCo; standard "G" with a number

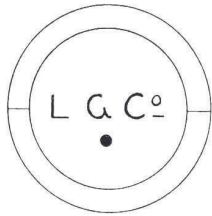


Figure 18



Figure 19



Figure 20

below (Figure 20)

5. LG.Co with the letters crowded due to the limited space in a small post mold (only in Ayres et al.) (Figure 21)
 6. L.G.Co. at heel (Von Meechow 2008)¹¹

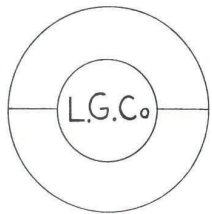


Figure 21

As mentioned above, the LGCo logos may be divided into two types, and they may be dated relatively (the LGC^o mark occurring before the LGCo logo) and, to a certain extent, chronologically. The LGC^o variation was used from ca. 1878 (possibly a year earlier) to ca. 1882; and the LGCo logo was used from ca. 1880 to ca. 1892, based on finish types. Although many of the logos (both types) were embossed by themselves, accompanying numbers, letters, and symbols also varied according to logo type:

LGC^o – numbers from 1-22; dots (above the logo, below, and both) or a bar or lines above and/or below the logo

LGCo – numbers to at least 36; Maltese Cross above the logo (sometimes with a number below);

letters from A to at least D; 1G; a dot above the logo.

Bitters

Ring (1980:320) illustrated a Malarion Bitters bottle with L.G.CO. embossed on its base. The bitters was made by Snyder Gue & Condell, St. Louis, Missouri. The product was advertised in at least 1878 and 1879. Ring (1980:392) also described a bottle embossed “D^R RATTWIGGER’S HERB & ROOT BITTERS, S^L LOUIS, Mo.” with L.G.Co. embossed on the base. The Rattwigger’s was probably made by Lindell, but the Malarion may have been produced by the Lyndborough Glass Co. See Discussion and Conclusions sections for a discourse of the difference in marks between the two companies.

Griffenhagen and Bogard (1999:125) recorded an LGC mark as being used on medicinal bottles by McConnon & Co., Winona, Minnesota, in the 1880s. Their information almost certainly came from Ring (1980:323), who noted McConnon’s Stomach Bitters, made by McConnon & Co., Winona, Minnesota, with an LGC mark on its base. Unfortunately, neither source gave further information. It is possible that the bottle was marked LGCo with a very indistinct “o” that was unseen by the authors.

Fruit Jars

Several types of jars have been found with LGCo logos or LGCo monograms embossed on bases or bodies. Some packer jars are too recent (and machine made) to have been



Figure 22

produced by Lindell. Mason jars could have been made by the company, but that identification is currently uncertain.

Toulouse (1969:183) noted (incorrectly) that the LGCo mark on a grooved-ring wax sealer fruit jar was used by the Louisville Glass Works or Co. Creswick (1987a:100-101) illustrated four slight variations of the jars, with “CF,” “F,” or “P” below the LGCo mark or no accompanying letter (Figure 22). Creswick (1987a:103) also illustrated a single wax sealer embossed with LINDELL GLASS CO. around the edge of the base (Figure 23). Roller (1983:193-194)

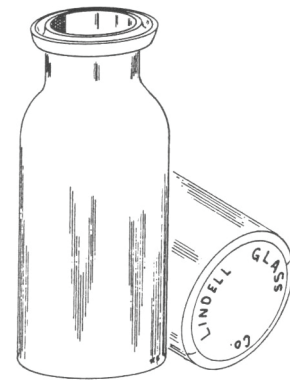


Figure 23

also noted variations of the jars. Roller (1983:194) dated the jars ca. 1870 and added that “it is possible that the L.G.Co. wax seal jars . . . may have been made by Lindell, since both jars [i.e., those marked “LINDELL” and those marked “LGCo”] are found in aqua and amber.”

Although Roller suggested Lindell as the user of the LGCo marks on these jars, Creswick (1987:100) cited Brantley’s *Guide to Ball Jars* as claiming the maker to be the Loogootee Fruit Jar Co. The company’s name was actually the Loogootee Glass Co., and it made jars from its inception in 1901 to 1904, when the Ball Brothers bought the plant and closed it. In support of Creswick, the “L” on all of the LGCo fruit jar bases is different from the “L” used on the jar embossed “LINDELL” or any of the beer bottle bases or the soda or pickle bottles. The fruit jar “L” has serifs, frequently including a pointed serif on the lower bar and a “heel” serif at the lower left. These serifs were probably intended on all the jars,

¹¹We have not yet actually observed an example of this placement of the mark.

although some of the embossing is too weak to show them. The “L” on the beer logos and other bottle marks lack serifs. If the jars were made by Lindell, they were probably manufactured during the 1880s because the logos do not have the superscript “o.”

Packer Bottles

Although later packer and fruit jars embossed with LGCo were machine made, at least one Gothic¹² pickle bottle (offered on eBay) was almost certainly made by Lindell.

Soda Bottles

The L.G.CO. mark was also reported on the back heel of “blob-top” soda bottles, including one used by Christ. Gross of Darmstadt, Illinois, from the 1870s to early 1880s (Miller 1980:18; eBay). Paul and Parmalee (1973:87) also listed a bottle with the LGCo mark that was used by John Gundlach of Columbia, Illinois, but they offered no dates. These were probably made by the Lindell Glass Co. The only actual photo we have

seen (eBay) showed the mark with a lower-case “o,” so the capital “O” noted by Miller may be a mis-recording.

L

Ayres et al. (1980) illustrated a beer bottle base embossed with the letter “L” (with serifs) above a “5” (same style “L” as on the fruit jars). When the BRG visited Tucson in 2006 to view the Tucson Urban Renewal collection at the Arizona State Museum, we found the “L” mark (with “5”) on a single export beer bottle with a tooled, one-part finish – too late to have been made by Lindell (Figure 24). We also discovered a similar export bottle embossed on the base with a single “L” and no accompanying number (Figure 25) at the Fort Bowie Collection, housed at the Museum Collections Repository, Western Archeological and Conservation Center, Tucson. This mark had no serifs and was on a bottle with a one-part, applied finish. Although the manufacturer is unknown, it unlikely

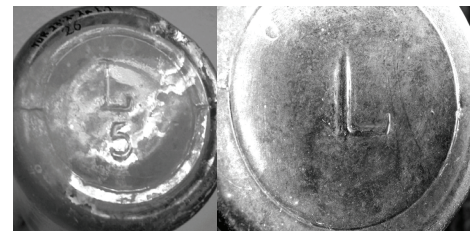


Figure 24

Figure 25

that the Lindell Glass Co. made either bottle.

Discussion – Lindell Glass Co.

There is virtually no question that Lindell made all the export beer bottles with the LGCo and LGC^o base-marks. The two bitters bottles described by Ring, however, could have been made by two different companies. All the marks that can be positively assigned to Lindell were marked either LGC^o or LGCo. (note lower-case “o”). Flasks made by the Lyndeborough Glass Co. seem to have all been marked with an upper-case “O” on the bases. Since both companies were open during the same general period, each could have made one

¹²Collectors often call these Cathedral pickle bottles, and the glass company catalogs usually called the large ones hexagon pickle jars.

continued on page 56

Table 1 – Chronology of Events Related to Beer Bottle Production – St. Louis

- 1872 – Anheuser-Busch adopts Pasteurization to beer and begins bottling
- 1873 – Export beer bottle invented and first made in Pittsburgh Late 1870s – expansion of beer sales by Anheuser-Busch
- ca. 1879 – major expansion of beer “exports” – especially by Anheuser-Busch
- 1880 – Lindell loses \$3,000 when Excelsior Bottling Co. fails – soon after, Lindell loses \$8,000 with the failure of the Urig Brewing Co.– Anheuser-Busch imports bottles from Europe
- 1881 – Busch becomes one of the major investors in the Streator Bottle & Glass Co. – buys bottles from Streator
- 1883 – Lindell management loses control of the company following a \$38,000 loss when C. Conrad & Co. declares bankruptcy
- 1884 – Mississippi Glass Co. ceases bottle production to make flat glass
- 1885 – Anheuser-Busch still imports bottles
- 1886 – Anheuser-Busch regularly imports bottles from Germany – “outlook is not very promising” for Lindell – Busch buys Belleville Glass Co. and converts factory to Adolphus Busch Glass Co.
- 1891 – Lindell opens after being idle but closes again

of the bitters bottles. The Gothic pickle bottles and “blob-top” soda bottles with the LGCo logo were very likely made by Lindell.

Although the wax-sealer fruit jars embossed “LINDELL GLASS Co.” on the base were undoubtedly made by Lindell, the serif “L” makes it tempting to agree with Creswick that the jars were made by Loogootee. However, the “L” logo on one of the TUR beer bottles is very similar to the serif “L” on the fruit jars.

Three other glass houses with LGCo names made fruit jars during the late 19th century. The LaBelle Glass Co., Bridgeport, Ohio (1872-1888), made the Eclipse Jar and was the possible maker of a wax sealer embossed “THE ECLIPSE” – two entirely different jars (Creswick 1987a:51).¹³ The Lyndeborough Glass Co., Lyndeborough, New

Hampshire (1866-1886), probably made the AMERICAN IMPROVED PRESERVE CAN (actually a glass jar – despite the name) (Creswick 1987a:6), but we find no other record of fruit jars made by the company. We have found no evidence that either of these companies made beer bottles.

The Lythgoe Glass Co., Bowling Green, Ohio (1887-1893), made both fruit jars and beer bottles, although the plant closed just about the time that tooled finishes were first being used for beer bottles with side embossing (i.e., the name of the brewery, etc.). We have been unable to determine what type of fruit jar was made by Lythgoe.

Wax sealers with the LGCo mark are fairly common.¹⁴ It seems highly unlikely that a company in business for about three years (Loogootee Glass Co.) would have made the required number for that survival rate. Lythgoe must remain a possibility, but the greatest likelihood remains with

Lindell. The company was in business for many years, was a known producer of wax sealers, and made glass of the same color as the LGCo jars.

Acknowledgments

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Sources Cited:

American Glass Review

1943 “Glass Factory Yearbook and Directory.” *American Glass Review*, Pittsburgh, Pennsylvania.

American Glass Worker

1885a “Trade Notes.” *American Glass Worker* 1(13):2.

1885b “St. Louis Notes.” *American Glass Worker* 1(14):1.

1886a “Trade Notes.” *American Glass Worker* 1(18):2.

1886b “Trade Notes.” *American Glass Worker* 1(19):2.

1886c “Trade Notes.” *American Glass Worker* 1(21):2.

¹³As usual, Creswick did not give her reasons for this attribution. Other sources (McKearin & McKearin 1941:612; Welker and Welker 1985:68-69) only ascribe tableware to the plant.

¹⁴Leybourne (2001:194), for example, priced the more common variations in \$20-25 price range. Unusual jars run into the thousands of dollars.

Table 2 – Factories Operated by the Mississippi Glass Co.

Location	Dates in Operation
St. Louis, Missouri	1873-1971 or later*
Port Allegany, Pennsylvania	1901-ca. 1934
Morgantown, West Virginia	ca. 1904-closed by 1943
Floreffe, Pennsylvania	1906-at least 1944
Latrobe, Pennsylvania	ca. 1912-closed by 1927
Washington, Pennsylvania	1930-closed by 1943**
Streator, Illinois	by 1933-ca. 1935
Fullerton, California	by 1933-at least 1944

* End dates were mostly derived from the Glass Factory editions of the *American Glass Review*. However, there is a gap in our information between 1936 and 1942. Toulouse (1971:358) noted that the St. Louis plant was still in business in 1971.

** Hawkins (2008) supplied a 1930-ca. 1950 date range for the Washington plant. The plant was not listed in the 1931 edition of the *American Glass Review* but was in the 1933 edition. The factory was still in the 1936 edition but was no longer in the 1943 edition (1933:22; 1936:22).

- 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, Folder 220.
- Brick, Pottery, and Glass Journal*
1879 "Trade Notes." *Brick, Pottery, and Glass Journal* 6(10):115-117).
- Catlin, Charles H.
1991 *Glass in Port Allegany*. <http://www.smethporthistory.org/port.allegany/glass.factories/mississippiglass/mississippiglass.htm>
- Clark, Victor S.
1949 *History of Manufactures in the United States*. Vol. II. Peter Smith, New York.
- Clint, David K
1976 *Colorado Historical Bottles & Etc., 1859-1915*. Antique Bottle Collectors of Colorado, Inc., Boulder.
- Commoner and Glassworker*
1909 Ad for Mississippi Glass Co. *Commoner and Glassworker* 27(37):3.
- Creswick, Alice
1987 *The Fruit Jar Works, Vol. I, Listing Jars Made Circa 1820 to 1920's*. Douglas M. Leybourne, N. Muskegon, Michigan.
- Crockery Journal*
1875 "Trade Notes." *Crockery Journal* 1(6):10.
- Crockery and Glass Journal*
1880a "Pittsburgh Trade Reports." *Crockery and Glass Journal* 11(6):24.
1880b "St. Louis Trade Reports." *Crockery and Glass Journal* 11(21):12.
1881a "Glass Factories." *Crockery and Glass Journal* 13(21):24.
1881b "St. Louis Trade Reports." *Crockery & Glass Journal* 14(25):8
1883a "St. Louis Reports." *Crockery & Glass Journal* 17(6):30 [February 8].
1883b "The Glass Factories." *Crockery and Glass Journal* 17(10):14 [March 8]
1883c "St. Louis Reports." *Crockery and Glass Journal* 17(10):26 [March 8]
1883d "Green Glass Bottle Trade." *Crockery and Glass Journal* 17(10):35-36.
1883e "St. Louis Reports." *Crockery and Glass Journal* 17(18):24 [March 29].
- Elliott, Rex. R. and Stephen C. Gould
1988 *Hawaiian Bottles of Long Ago*. Hawaiian Service, Inc., Honolulu, Hawaii.
- Fike, Richard E.
1987 *The Bottle Book: A Comprehensive Guide to Historic, Embossed Medicine Bottles*. Peregrine Smith Books, Salt Lake City.
- Griffinhagen, George and Mary Borgan
1999 *History of Drug Containers and Their Labels*. American Institute of the History of Pharmacy, Madison, Wisconsin.
- Haynes, D. O. & Co.
1900 *The Era Blue Book: A Universal Price List and Directory of Manufacturers for Drug Trade Buyers*. D. O. Haynes & Co., New York.
- Hernon, Peter and Terry Ganey
1991 *Under the Influence: The Unauthorized Story of the Anheuser-Busch Dynasty*. Simon & Schuster, New York.
- Herskovitz, Robert M.
1978 *Fort Bowie Material Culture*. University of Arizona Press, Tucson.
- Jones, May
1965 *The Bottle Trail, Volume 5*. Nara Vista, New Mexico.
1966 *The Bottle Trail, Volume 6*. Nara Vista, New Mexico.
1968 *The Bottle Trail, Volume 9*. Nara Vista, New Mexico.
- Kroll, Wayne, L.
1972 *Wisconsin Breweries and Their Bottles*. Privately Published, Jefferson, Wisconsin.
- Leybourne, Douglas M.
2001 *The Collector's Guide to Old Fruit Jars: Red Book 9*. Privately published, North Muskegon, Michigan.
- Lindsey, Bill
2008 "Historic Glass Bottle Identification & Information Website." <http://www.sha.org/bottle/index.htm>
- Lockhart, Bill
2007 "The Origins and Life of the Export Beer Bottle." *Bottles and Extras* 18(3):49-57, 59.
2009 "Ten Wagon Loads of Beer Bottles: A Study of Fort Stanton Trash Deposition." In *Archaeology of the Jornada Mogollon: Proceedings from the 10th Jornada Mogollon Conference*: in press.
- 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.
- Lockhart, Bill, Pete Schulz, David Whitten, Bill Lindsey, and Carol Serr
2006 "The Dating Game: Tracking the Elusive Monogram – Carl Conrad & Co., Olean Glass Works (Co.), and a Man Named O'Hara." *Bottles and Extras* 17(4):38-47.
- Lockhart, Bill, Carol Serr, and Bill Lindsey
2008 "The Dating Game: Hermann Heye Glasfabrik." *Bottles and Extras* 19(1):57-59, 62.
- Lockhart, Bill and David Whitten
2005 "The F H G W Mark." *SHA Newsletter* Summer:40-43.
2006 "The Dating Game: The F H G W Mark (and Update on Illinois Glass)." *Bottles and Extras* 17(1):36-43, 64.
- Lossos, David A.
2000 "Index to 'Pictorial St. Louis

1875' – Part II of II." <http://genealogy-instlouis.accessgenealogy.com/1875-2.htm>

McKearin, Helen and George McKearin

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

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.

Mobley, Bruce

2004 Dictionary of Embossed Beers. <http://www.one-mans-junk.com/beerbottlelibrary/1.htm>

National Glass Budget

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

1898 "Flint, Green and Cathedral Glass Factories of the United States and Canada in Operation." *National Glass Budget* 13(38):7.

1904 "The Marietta Glass Co." Advertisement. *National Glass Budget* 20(8):10.

1909 "The Export Beer Bottle." *National Glass Budget* 25(7):4.

New York Times

1905 "New Incorporations Effected (*sic*) During 1904 and their Capital Stock–Record of Dividends Paid." *New York Times*, January 8, 1905:18

Paul, John R. and Paul W. Parmalee

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

Peters, Roger

1996 *Wisconsin Soda Water Bottles, 1845-1910*. Wild Goose Press, Madison, Wisconsin.

Plavchan, Ronald J.

1969 "A History of Anheuser-Busch, 1852-1933." Doctoral dissertation, St. Louis University.

Pre-Pro.com

2008 "Pre-Pro.com: A Web Site Devoted to the Appreciation of Pre-Prohibition Shot Glasses. http://www.pre-pro.com/midacore/view_vendor.php?vid=STL3861

Ring, Carlyn

1980 *For Bitters Only*. Nimrod Press, Boston.

Roller, Dick

1983 *Standard Fruit Jar Reference*. Privately published.

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

Teal, Harvey S. and Rita Foster Wallace

2005 *The South Carolina Dispensary & Embossed S.C. Whiskey Bottles & Jugs, 1865-1915*. Privately published, Columbia, South Carolina.

Toulouse, Julian Harrison

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

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

Von Meechow, Tod

2008 "Soda and Beer Bottles of North America." <http://www.sodasandbeers.com/>

Welker, John and Elizabeth Welker

1985 *Pressed Glass in America: Encyclopedia of the First Hundred Years, 1825-1925*. Antique Acres Press, Ivyland, Pennsylvania.

Whitten, David

2005 "Louisville Glass Factories of the 19th Century – Part 1." *Bottles and Extras* 16(2):45-49.

Wilson, John P. and Thomas J. Caper-

ton

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.

Year Book of the Commercial, Banking, and Manufacturing Interests of St. Louis

1882 Year Book of the Commercial, Banking, and Manufacturing Interests of St. Louis, with a General Review of its Transportation Facilities and Business Progress. S. Ferd. Howe & Co., St. Louis.

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