

The Adolphus Busch Glass Factories

By Bill Lockhart, Pete Schulz, Carol Serr, and Bill Lindsey

Adolphus Busch was the son-in-law of Eberhard Anheuser and the driving force behind the brewery's success (Hernon & Ganey 1991). He made a number of tremendous advances in brewing history, the most important of which (at least from a bottle research standpoint) was employing Pasteurization to the beer-making process. This, in 1872, allowed for the long-range shipping of beer and, coupled with the use of refrigerated railroad cars (also pioneered by Anheuser-Busch), accounted for the spread of lager beer across the American West and internationally.

Busch was also highly interested in beer bottles. Plavchan (1969:75), a historian researching Anheuser-Busch, discussed the series of glass houses used by Anheuser-Busch in its quest for sufficient bottles to keep up with its beer production. To maintain the increase in beer production, Anheuser-Busch even imported bottles from Germany. Because of this increasing need for bottles, Adolphus Busch became involved in bottle production, becoming one of the principals in the Streator Bottle & Glass Co. and possibly other glass houses. Of interest to us, Adolphus Busch also formed a series of companies to manufacture bottles for the brewery.

History

Adolphus Busch Glass Works, Belleville, Illinois (1886)

Adolphus Busch Glass Co., Belleville, Illinois (1889-1892)

In 1886, Adolphus Busch bought the Belleville Glass Works (Jones 1968:11; Toulouse 1971:26). It was first listed in the city directories as the Adolphus Busch Glass Works in 1887. Because some entries are missing, we have no data for the period between 1886 and 1889. By 1889, the plant was listed as the Adolphus Busch Glass Co. (Ayres et al. 1980:2). It is important to recognize that this was probably exactly the same company. It was typical during the late 19th century for a firm to have one name for the factory (usually ending in "Works") and another for the operating company. It is almost certain that the Adolphus Busch Glass Co. operated the Adolphus Busch Glass Works. The earliest listing probably named the factory, while all later listings were for the company. A letter offered on the Tavern Trove website still used the Adolphus Busch Glass Works name on November 7, 1909, and a retouched postcard photo from the same year shows the Belleville plant with "ADOLPHUS BUSCH GLASS WORKS" painted on both the roof and front of the building.

By 1891, the Belleville factory had been enlarged and made sodas, minerals, and bitters, adding fruit jars in 1892 (Toulouse 1971:26). The American Glass Worker (1886:2) noted that "a St. Louis, Mo., correspondent writes us that the

Anheuser-Busch Brewing Association are building a large bottle house and intend to import foreign blowers to run it." This almost certainly refers to the Belleville plant.

Adolphus Busch Glass Mfg. Co., Belleville, Illinois (1892-1894; 1896-1904)

Adolphus Busch Glass Mfg. Co., St. Louis, Missouri (1892-1905; ca. 1908-ca. 1926, poss. 1928)

The Adolphus Busch Glass Mfg. Co. incorporated at St. Louis, Missouri, in mid-January 1892. Adolphus Busch, with 1,580 shares, was by far the senior stockholder with 84.3% of the subscribed stock. Other stockholders were Peter Schlutter (120 shares), W.F. Modes (50 shares), Matthew Joch (25 shares), Adolphus Busch, Jr. (50 shares), and A.A. Busch (50 shares) (Roller 1997a). Although we have not discovered the exact timing, the St. Louis factory probably opened sometime during 1892. The new name was almost immediately a herald of disaster. Because of the 1893 depression, Busch closed the Belleville plant in 1894. The St. Louis factory, however, remained open (Ayres et al. 1980:2-3), and the Belleville plant reopened in mid-1896 to make amber beer bottles (Roller 1997b).

In 1897 and 1898, the St. Louis plant used 48 pots to make its bottles, and that number remained steady until 1900. The St. Louis factory was no longer listed in 1901, but the Belleville plant used 78 pots and continued that number in 1902 (National Glass Budget 1897:7; 1898:7; 1900:11; 1901:11; 1902:11). The entire operation became part of the merger that formed the American Bottle Co. in 1905 (Toulouse 1971:27).

Toulouse (1971:27) asserted that "Busch had been a hand plant all these years, which is one reason why the American Bottle Co. immediately [i.e., 1905] closed the Belleville plant." In another section, however, he stated that the Belleville factory was still open when the Owens Bottle Co. bought American in 1916, and all the hand plants (including Belleville) were closed in 1917. To add to the confusion, the American Glass Review (1934:173) stated that the Belleville plant "closed in 1913." None of these are correct; the factory actually closed in 1909 (Lockhart et al. 2007:48).

Toulouse (1971:30) also noted that "eventually Busch withdrew his St. Louis operations from the merger [that created the American Bottle Co.] and operated them independently until 1928." However, the St. Louis plant was destroyed by fire on the night of February 22, 1905, at a loss estimated between \$50,000 and \$75,000. Rebuilding was in process by at least August (National Glass Budget 1905a:6; 1905b:9; Cambridge Jeffersonian 2/22/1905). It is highly unlikely that the factory was rebuilt in time for the merger. Thus, the plant may never have been a part of the American

Bottle Co. merger. Busch may have opted to rebuild on his own, completely separate from any connection with the American Bottle Co. In any event, the St. Louis plant was operating under the Adolphus Busch name again by October 1908 (Commoner & Glassworker 1908a:1).

Although the year when Busch converted to machines remains unclear, the date was probably between 1913 and 1917. A 1913 list noted that the plant used one continuous tank with 23 rings to make beer bottles. Unfortunately, the article failed to state whether production was by hand or machine. By 1917, however, Busch had 14 O'Neill and two Lynch semiautomatic machines (Bristow 1917:16; Journal of Industrial and Engineering Chemistry 1913:952). The general change in the industry from hand to machine production of beer bottles occurred between 1912 and 1918. Please note: These dates do not apply to other types of bottles.

Toulouse (1971:27) noted, "In 1919 Busch reported one continuous tank and 16 machines" probably the same ones described in 1917. By 1927, the plant made "beers, beevos [i.e., bottles for Anheuser-Busch's near-beer, Bevo], malt nutrines [another cereal beverage, Malt Nutrine] and minerals" on 15 machines. The entry remained in 1928 and 1929, although it had vanished from the 1930 edition (American Glass Review 1927:127; 1928:128-129; 1929:94). This was deep into the Prohibition period, but beer bottles were not necessarily used for beer. Near-beers were also bottled in "beer" bottles.

There is some controversy surrounding the closing of the plant. Anheuser Busch (2005) placed the closing at 1925, but Ayres et al. (1980:3) noted the last listing in the city directories in 1926. According to Toulouse (1971:27), the operation ceased in 1928. The 1927-1929 listings in the American Glass Review (1927:127) supports the Toulouse date, although directories were notorious for continuing to list glass houses after they had closed. We have elected to support a ca. 1926 closing date.

Containers and Marks

Adolphus Busch Glass Co. - A.B.G.Co. (1886-1893)

Jones (1966:6; 1968:9), Wilson (1981:113), Ayres et al. (1980:n.p.), and the Rhyolite Bottle House webpage all illustrated the "A.B.G.Co." manufacturer's mark. It was also described in Herskovitz (1978:8), although he did not note the configuration of the mark. The printed sources all have the mark across the center of the bottle base (accompanied by a "3" in Wilson and a "4" in Ayres et al.), but the Rhyolite website showed the mark in an arch on what appeared to be a post bottom accompanied by the number "26" in the center. The horizontal marks each have a lower-case "o" in "Co"; however, the "O" is capitalized in the arched variation. All marks we have seen have punctuation between the major

letters and after the "o" in "Co."

Horizontal A.B.G.Co. numbers in our sample range from 3 to 12 (Figure 1); the ones on the arched variation are 8, 12, 21, and 28 (Figure 2). Assuming that the mold



Figure 1 – ABGCo mark, horizontal (Tucson Urban Renewal Collection)

numbers were applied sequentially, the arched variation may have been used after the horizontal format. The horizontal marks are also more common (although our sample is small), suggesting that the arched variation was not used for a long period of time. Since both styles have been found on cobalt blue "Liquid Bread" bottles, made between ca. 1890 and 1915, the horizontal variation was probably used between 1886 and ca. 1892, with the arched mark used from ca. 1892 to 1893. See Liquid Bread section below for more discussion



Figure 2 – ABGCo mark, arched (eBay)

about mold numbers.

Herskovitz found a total of 12 bottles from Fort Bowie (1862-1894) with the A.B.G.Co. mark along with numbers from 1 to 10 in association with the mark. Wilson showed only one base from Fort Union (occupied from 1863 to 1891). Our examination of the TUR collection revealed that the four examples there all had applied, two-part finishes.

A.B.G.CO. / STL (1892-1893)

At this point, we have only recorded a few bottles with this designation. According to an eBay seller, "The A.B.G.C. was in large letters and was embossed around the bottom with the St.L in a line below with a large dot in the center - might have been a number but the whole thing was so crude I couldn't tell. The top was the standard AB blob with bottom ring (like the Liquid Bread bottles)." Since the seller described the base as "crude," the logo was almost certainly "A.B.G.CO." Another eBay seller photographed

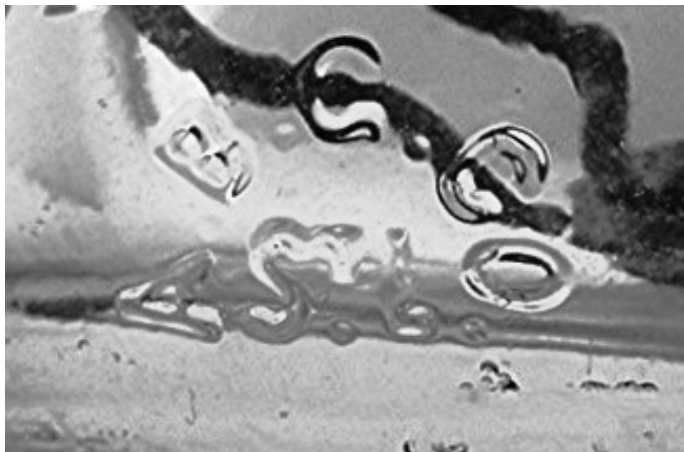


Figure 3 – ABGCo / St.L on Hutchinson heel (eBay)

a similar mark on the heel of a Hutchinson soda bottle – A.B.G.CO. (tombstone-shaped arch) / STL (horizontal) on the back heel (Figure 3). Miller (1980:17) also illustrated the mark, but his drawing was crude.

Busch opened his St. Louis factory about 1892 and changed names either late that year or the following year, so this designation should only fit into the two year period of 1892-1893. Since the Belleville factory was a long-established operation, it was the "default" plant and used no special designation.

Adolphus Busch Glass Manufacturing Co.

A.B.G.M.Co. (1893-1905 and ca. 1908-1920 or earlier)

This mark is found on post bottom beer bottle bases, often encircling a letter/number in the center. Two different types of variations occur, but neither appears to be temporally relevant. One dichotomy centers on the size of letters, with both smaller and larger variations. The second concerns the shape of the

arch. In one variation, "A.B.G.M.CO." forms a complete circle around the central letter/number combination; in the other, a notable gap is present between the "O" and the "A." Hutchinson-style soda bottles use yet another configuration and placement of the mark – small letters embossed horizontally on the back heel of a bottle (Figure 4). In all examples we



Figure 4 – A.B.G.M.CO., heel (eBay)

have seen, the "O" in "CO" is upper case, and punctuation occurred between the major letters.

The mark actually has two date ranges. With the name change in 1893 (to include the word "Manufacturing"), the mark would doubtless have been used by both plants. Although the Belleville plant was closed from 1894 to 1896, once reopened, it would have used the mark until the 1905 merger. The St. Louis plant continued to use the mark until the merger that created the American Bottle Co. (or the fire) in 1905.

However, since Busch withdrew the St. Louis plant from the merger "after a few years" (Toulouse 1971:400), or the plant was destroyed by fire and never became part of the merger (see discussion above), the mark would have again been used from ca. 1908 (Commoner & Glassworker 1908b:1) to the end of hand manufacture (ca. 1917? later?). Note that this second date range only applies to the St. Louis plant as the Belleville factory remained part of American Bottle Co.



Figure 5 – A.B.G.M.CO., large letters – letter and number (eBay)

We should expect some significant changes in bottle styles between the two date ranges, and the two variations may indicate the two time periods. Although the sample is small, current empirical data suggest that the only notable variance that might suggest a temporal change is the numerical system used for mold marks. The vast majority of the bottles we have recorded have marks that surround letter/number combinations, ranging from A2 to Y6 (including some two-



Figure 6—A.B.G.M.CO., small letters—letter and number (eBay)

digit numbers, e.g., S45). We suggest that these belong in the post-fire period, beginning in 1908 (Figures 5 & 6).

A few bottles, however, have numbers without letters (only “1,” “13,” and “76” recorded so far), and one was recorded by the Ayres group as having only the letter “F” in the center. These, we suggest, were used during the pre-fire period, 1893 to 1905 (Figure 7). The very few crown-



Figure 7—A.B.G.M.CO., large letters—numbers only (eBay)

finished bottles we have seen had no numbers or letters accompanying the A.B.G.M.CO marks.

By 1908 (and probably both earlier and later), most if not all of the Busch bottles were sold to the Anheuser-Busch

brewery. A 1908 article noted that the Busch glass factory had “a capacity of 1,000 gross of beers per day. They will run on Budweiser bottles exclusively” (Commoner and Glassworker 1908b:1). Since Budweiser advertisements offered cork finishes until ca. 1914, the two-part finish (made for cork stoppers) was probably used by Anheuser-Busch until then, although the company used corks in crown finishes as well.

Occasional bottles have the A.B.G.M.Co. marks with no accompanying letters or numbers (Figure 8). Unfortunately, these were used during both periods. Clint (1976:128, 153) illustrated two Colorado beer bottles with the mark and no letters or numbers. He dated one of these ca. 1895-1899 and the other ca. 1902-1908, confirming that the unaccompanied mark was used during the first period. As noted above, however, marks with no numbers are also found on bottles with crown finishes.

The discovery of only tooled finishes on A.B.G.M.Co. bottles is intriguing. In general, beer bottle makers continued using applied finishes on their bottles until 1896 or later (see Lockhart 2007). Although some beer bottles were made with tooled finishes as early as 1890, they were usually embossed with the name of the brewery. Generic bottles for paper labels generally retained the applied finishes. Since we have not found a single example of an applied finish on a bottle with the A.B.G.M.Co. mark, it seems that Busch may have been the trendsetter, using tooled finishes about three years or more ahead of his competitors. This may even have forced the trend. Glass factories had made virtually all smaller, non-beer bottles with tooled finishes decades earlier. Alternatively, of course, Busch may not have embossed bottles until after 1890 or later.

Busch certainly had machines to make beer bottles by at least 1917 and probably earlier. It is thus likely that these machines were used to produce beer bottles. However, we have yet to find a single machine-made beer bottle with the A.B.G.M.Co. mark. Apparently, like the American Bottle Co., the company only marked its handmade bottles with its logo. To extrapolate a legitimate end date for the A.B.G.M.Co. mark, we need two missing pieces of data: 1) the year machine manufacture began; and 2) the year hand blowing ended, especially the latter date. It is virtually certain, for example, that Busch had joined almost all the other returnable bottle producers in the exclusive use of machine methods no later than 1920.

Roller (1983:2) and Creswick (1987:1) both noted that the A.B.G.M.Co. mark was also found on the bases of a grooved-ring, wax-sealer fruit jars in an arched shape with a number in the center of the base. Roller suggested an 1880-1890 date range, and Creswick dated the jars as “circa 1886 and later.” Unfortunately, neither source noted the presence or absence of ejection (valve) scars or any other marks that would denote either machine or hand manufacture. Jars on eBay did not have ejection scars, suggesting that they were mouth blown. The only number noted on the jars by



**Figure 9 – A.B.G.M.CO.
on fruit jar base
(Creswick 1987:1)**

Creswick was a “2” – also the only number we have seen on eBay (Figure 9).

*A.B.G.M.Co Belleville Ill.
(1899-1905)*

This mark is shown in Adams (1972:47) and Miller (n.d.:12), both on cobalt blue “liquid bread” bottles. In both cases, “A.B.G.M.Co.” is embossed in an arch around the edge of the base, and “BELLEVILLE / ILL.” is marked horizontally across the center (Figure 10). Since



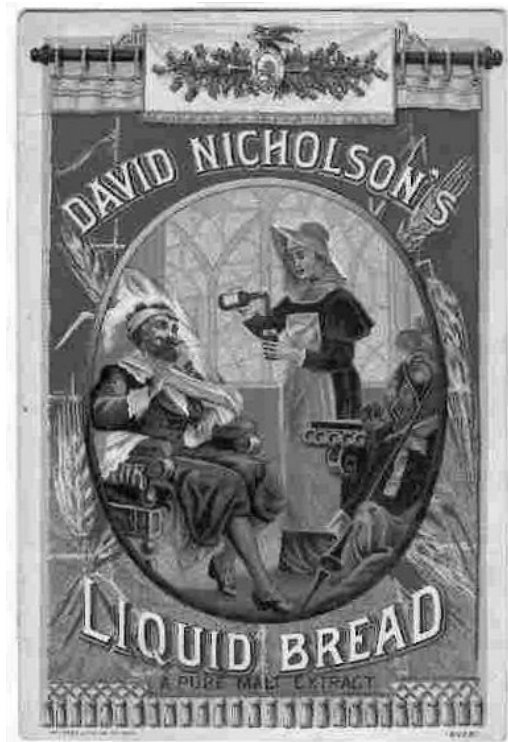
**Figure 10 – A.B.G.M.Co./2/BELLEVILLE/ILL.
(Tucson Urban Renewal Collection)**

the only time the Belleville name would have been needed is when both the Belleville and St. Louis plants were under Bush’s name, the mark was probably used from 1896 to 1905. All known liquid bread bottles had cork (two-part) finishes. We found a single example of this mark on a cobalt blue export-style beer bottle in the TUR collection. Photos from eBay show the same style bottle. Possibly, this was the only style of bottle produced by the Belleville plant during the time period. Unlike the more common style (without “BELLEVILLE”) discussed above, the “o” in “Co” is always lower case.

By 1905, a plant in Belleville (almost certainly Busch) had installed six fruit jar semi-automatic machines (National Glass Budget 1912:1). This occurred just about the time that the Belleville plant became part of the American Bottle Co. Like the machine-made beer bottles from American, jars produced by these machines were apparently not marked with any Busch or American bottle logos.

Liquid Bread

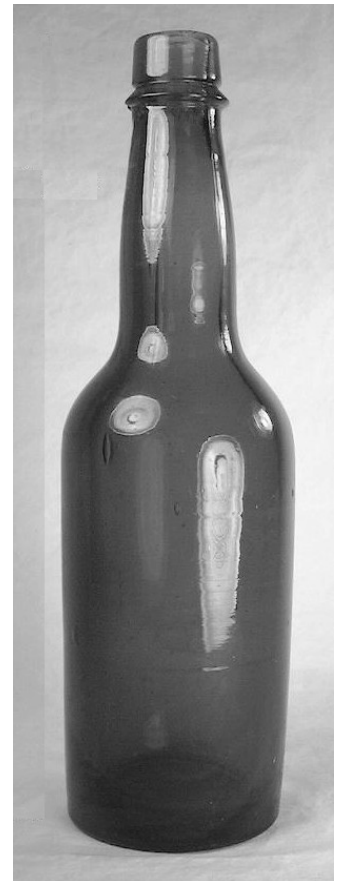
According to Munsey (2007:63), David



**Figure 11 – Trade Card for Liquid Bread
(Bill Lindsey)**

Nicholson’s Liquid Bread (Figure 11) was produced between ca. 1890 and 1915 (see Lindsey 2010 for a more thorough discussion of Liquid Bread). Anheuser-Busch bottled the product in the distinctive cobalt blue bottles described above. Munsey also noted that the product “came in both ‘turn-mold’ bottles with no vertical seam marks and ‘two-piece mold’ bottles” (Figure 12). Currently, we have found no evidence that either of the Adolphus Busch companies made turn-mold bottles. Streator Bottle & Glass Co., however, was noted for them and had distinct connections with Anheuser-Busch.

Cobalt blue beer bottles are known with four variations of the Busch company manufacturer’s marks. Two are A.B.G.Co. marks from the earlier Adolphus Busch Glass Co. One of these (Variation A) is embossed horizontally across the base with a one- or two-digit number below it (currently, we have recorded 1 and 11) (Figure 13); the other (Variation B) is in an arch at



**Figure 12 – Turn-mold Liquid
Bread bottle (Bill Lindsey)**



Figure 13 – ABGCo mark, horizontal on Liquid Bread bottle (eBay)

the

top of the base (with ends extending halfway down) with a two-digit number in the center (21).

The other two logos are from the Adolphus Busch Glass Mfg. Co. and are marked A.B.G.M.Co. One of these (Variation C) is arched with the ends drooping well below the center line to almost complete the circle (Figure 14). These are embossed in the center with a letter and a single-digit number (P3, V1, X5, Y2, Y5, Y6). The other variation (Variation D) is described above with BELLEVILLE / ILL. in the center and the numeral “1” between the company initials and the location (Figure 15).

Using the company information, we can deduce a chronology for the marks. Nicholson’s Liquid Bread was offered by Anheuser-Busch from ca. 1890 to 1915; A.B.G.Co. was used from 1886 to 1893; A.B.G.M.Co. was used during two periods: 1893-1905; ca. 1908-ca. 1917; and the mark with Belleville added was only used during the 1896-1905 period.

Variation A – ca. 1890-1893

Variation B – ca. 1890-1893

Variation C – 1893-1905; 1908-1915

Variation D – 1896-1905

This broad chronology requires some speculation. Lockhart (2006) has discussed the likelihood that mold numbers on pre-Prohibition beer bottles followed a sequential order that could roughly be used to establish ordinal scales for such containers. Lockhart further hypothesized (based partly on historical information in Jones 1963:[19-20]) that letter/number combinations occurred temporally after the use of numbers alone. Thus, Variation A was likely used during the early part of the ca. 1890-1893 period, and Variation B was used during the later years. Variation A marks on amber bottles also have single-digit numbers, suggesting an earlier use.

Numbers alone and letter/number combinations below “P” appeared on amber and aqua-colored bottles with Variation C marks (as low as “1” up to “13” and “A2” up to “Y2” with numbers as high as “S45”). Assuming that the mold codes follow a sequential order, and assuming that numbers were used prior to the letter/number combinations, the lack of numbers-only on Liquid Beer bottles coupled with the high range of letter/number combinations suggest that these bottles were used during the 1908-ca. 1917 period. In other words, even though Variation C has the potential to have been used during the 1893-1905 period, it was probably that only the logo/number combination was used then. It is likely that turn-mold bottles were also used during that period.

Since the three Belleville bottles we have observed were all apparently made in the same mold (with the numeral 1 between the logo and location), Variation D bottles were probably only manufactured during overload situations, when the St. Louis plant could not furnish enough bottles. This analysis leaves a gap in the chronology between 1905 and 1908. It is probable that the turn-mold bottles were made during the 1905-1908 period.

It is possible, of course, that turn-mold bottles were used at any time period. The table is intended to show the probable time periods when the Adolphus Busch marks were used. It is unlikely that any turn-mold bottles were produced by Busch; we have found no record of turn-mold technology at either Belleville or St. Louis. The only beer bottle manufacturer we have found that made turn-mold bottles during this period was the Streater Bottle & Glass Co. Although Streater was not noted for making cobalt blue glass, a change in formula was probably fairly easy to accomplish in any remaining hand tank. Busch was one of the principals at Streater.

Discussion and Conclusions

The Adolphus Busch glass houses used two major variations in their manufacturer’s marks, each with a single sub-variation. The “A.B.G. Co” mark represented the period when the firm, located at Belleville, Illinois, was named the Adolphus Busch Glass Co. (1886-1893). The St. Louis plant, only open in 1892 (under that name), used “A.B.G.CO. / STL.”



Figure 14 – A.B.C.M.CO / Y2 on Liquid Bread bottle (eBay)



Figure 15 – A.B.G.M.Co. / 1 / BELLEVILLE / ILL. on Liquid Bread bottle (eBay)

Adolphus Busch Glass Mfg. Co. in 1892, only the St. Louis plant remained in operation, using the “A.B.G.M.Co.” logo until the fire that destroyed the St. Louis factory in 1905. The Belleville plant reopened in 1896 and used the “A.B.G.M.Co./BELLEVILLE / ILL.” mark until the merger that created the American Bottle Co. in 1905 and shifted the Belleville factory to that company. When Busch rebuilt the St. Louis plant ca. 1908, it resumed the name Adolphus Busch Glass Mfg. Co. and used the “A.B.G.M.Co.” logo again until the factory discontinued hand manufacture ca. 1920 or earlier. We have discovered no mark used by the firm on machine-

made bottles. See Table 2 for a chronology.

In addition to the marks discussed in this section, we have observed and recorded export beer bottles with “A.B.” and a two-digit number embossed on the bases. Although it is tempting to assign the mark to Adolphus Busch, it does not fit with the known sequencing for the Busch marks. The bottles were probably made during the ca. 1900-1918 period. The initials may indicate a brewer instead of a glass house, although the numbers would be more in keeping with a bottle manufacturer. It is possible that this was a mark used by the American Bottle Co.

Table 1 – Chronology for Bottles and Marks Used on Cobalt Blue Liquid Bread Containers

Description	Date Range
A.B.G.Co. (horizontal on base) with numbers from 1-11*	ca. 1890-ca. 1892
A.B.G.Co. (arched on base) with number 20	ca. 1892-1893
A.B.G.CO. (arch) / S ^{TL} L (horizontal) (both on heel)	1892-1893
Turn Mold	ca. 1893-ca. 1899
A.B.G.M.Co. (arch) “BELLEVILLE / ILL (horizontal) with number 1	1899-1905
Turn-Mold	ca. 1905-ca. 1908
A.B.G.M.Co. (arch) with letter/number combination	ca. 1908-1915

* These are the numbers we have observed. At this time, we do not know what number between 11 and 20 separates the two configurations.

Table 2 – Chronology of Marks used by Adolphus Busch

Mark	Company	Location	Date Range
A.B.G.Co.	Adolphus Busch Glass Co.	Belleville, IL	1886-1893
A.B.G.CO. / S ^{TL} L	Adolphus Busch Glass Co.	St. Louis, MO	1892-1893
A.B.G.M.Co.	Adolphus Busch Glass Mfg. Co.	St. Louis, MO	1893-1905
A.B.G.M.Co. / BELLEVILLE / ILL.	Adolphus Busch Glass Mfg. Co.	Belleville, IL	1899-1905
A.B.G.M.Co.	Adolphus Busch Glass Mfg. Co.	St. Louis, MO	1908-1920

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