Illinois Glass Co.

Bill Lockhart, Pete Schulz, Beau Schriever, Bill Lindsey, and Carol Serr
with contributions by Russ Hoenig and David Whitten

If it had been a book, it most certainly would have been written by Horatio Alger, whose name even then – in 1873 – had become synonymous with the triumph of honesty and hard work over adversity. It was a typical Horatio Alger rags-to-riches plot: a gentleman farmer and a near-bankrupt cabinet maker join forces to take over a glass-making business that had failed three times before, and survive wars, depressions, fires and floods to make their company the biggest of its kind in the world – even though they knew less than nothing about the business when they went into it (Owens-Illinois 1973a:2).

Thus began the an article about a “Fool’s Errand” in the Centennial Issue of the Owens-Illinois newsletter celebrating 100 years at Alton, Illinois. And successful years they had been! After becoming one of the largest glass firms in the U.S., the Illinois Glass Co. merged with the Owens Bottle Co. in 1929 to create the massive Owens-Illinois Glass Co., a multi-factory, world-wide combine that continues to manufacture glass containers in 2016.

History

Although the company began at Alton, Illinois, the firm began its expansion in 1900 and encompassed five locations by the time of the merger that created the Owens-Illinois Glass Co. See Table 1.

Illinois Glass Co., Alton, Illinois (1873-1929)

William Elliott Smith and Edward Levis joined together at Alton, Illinois, in March 1873 and incorporated the Illinois Glass Co. on August 28. Levis mortgaged his home to raise $3,000, and Smith contributed $7,000 to the $10,000 capital to begin the operation – even though friends and family members warned them that they had embarked on a “fool’s errand,” since the factory they purchased had failed three times previously, and they had no glass experience (Owens-
Illinois 1973a:2). See the discussion on the Alton Glass Works in the Other A section for more information on the earlier firms.

**Table 1 – Illinois Glass Co. Plants**

<table>
<thead>
<tr>
<th>Location</th>
<th>Former Name (date opened)</th>
<th>Illinois Glass Co. Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alton, Illinois</td>
<td>Alton Glass Co. (1871)</td>
<td>1873</td>
</tr>
<tr>
<td>Gas City, Indiana</td>
<td>Thompson Bottle Co. (1900)</td>
<td>1913</td>
</tr>
<tr>
<td>Chicago Heights, Illinois</td>
<td>Chicago Heights Bottle Co. (1912)</td>
<td>1913</td>
</tr>
<tr>
<td>Bridgton, New Jersey</td>
<td>Cumberland Glass Mfg. Co. (1880)*</td>
<td>1920</td>
</tr>
<tr>
<td>Minotola, New Jersey</td>
<td>Minotola Glass Co. (ca. 1894)**</td>
<td>1920</td>
</tr>
</tbody>
</table>

* Originally Joseph A. Clark & Co. (became Cumberland Glass Mfg. Co. in 1885)

** Originally the George Jonas Glass Co. (became Minotola Glass Co. in 1911)

The first plant was a frame structure on Belle St. (between 10th and 11th Streets) with a single five-pot furnace in the center of the main building (Figure 1). The firm was successful almost immediately and made a profit within the first five years. Having outgrown its space at Alton in 1875, the company began looking for a larger property at nearby St. Louis. Alton townspeople, reluctant to lose an important local employer, raised enough money to purchase a 67-acre site and presented it to Illinois Glass. The company relented and remained at Alton (Owens-Illinois 1973a:2; 1873b:5; Paquette 1994:55-57).

The new four-furnace factory in the lower part of Alton at East Broadway, used furnaces No. 1 and No. 2 for making flint glass, while No. 3 and No. 4 produced green containers. Smith was president, while Levis filled the secretary position. Even though the plant operated at full
capacity, it could not keep up with the orders it received (Owens-Illinois 1973a:5). The factory continually expanded, adding sheds and warehouses. The *Year Book* (1882:107) presented a capsule view of the company in 1882:

The Illinois Glass Company; Wm. Elliott Smith, Proprietor. Works at Alton, Ill., but all, or nearly all product handled in St. Louis. These works make green, amber, and flint bottles, and with an invested capital of $300,000, turn out about $500,000 a year. They have the greatest capacity in green goods of any firm in the United States, employing 600 men and boys, of which 130 are blowers whose wages average $5 a day. The pay of the boys is about $5 a week. They run four furnaces, one of 16 pots, one of 14 pots, and two of 7 pots.

The firm installed a fifth furnace on January 31 1887, and a sixth furnace began production in 1890. Growth was temporarily set back by a fire that destroyed three furnaces on November 27, 1890. The firm rebuilt, and, on December 18, 1890, work commenced on No. 7. By January 1891, the company was building furnace No. 8 – that caved in on the morning of March 2, 1896, but was presumably rebuilt – followed by No. 9 by 1893. The firm was listed as using 85 pots to make its products in 1897 and using 87 pots in 1898 (*National Glass Budget* 1897:7; 1898:7; Owens-Illinois 1973a:3; 1973b:5-6; Roller 1998).

In 1900, Illinois Glass began to expand, joining as half owner with Thomas Sheldon and Adelbert M. Foster to build the Thompson Bottle Co. factory at Gas City, Indiana (see the sections on the Sheldon family (S volume) and A.M. Foster in the A volume for more information about these men). The plant began making milk bottles in 1905 but transferred the milk bottle business to the Chicago Heights plant at Chicago Heights Illinois, in 1912. Chicago Heights was another Sheldon plant, with the Thompson Bottle Co. as half owner and Illinois Glass having the other half. The firms built the Chicago Heights factory specifically to produce milk and prescription bottles. Illinois Glass purchased Thompson Bottle in 1913, acquiring full control of both plants. For reasons we have not discovered, Illinois Glass transferred the milk bottle business to the Bell Bottle Corp. of Fairmount, Indiana, transferring the machines to that plant in September 1913. After discontinuing milk bottle production, Gas City converted to making prescription and food bottles and jars (Naylor n.d.; Toulouse 1971:266; also see the Chicago Heights section).
Illinois Glass expanded to the West Coast in 1901, opening a branch office in San Francisco and operating warehouses there as well at Los Angeles and Portland, Oregon (Pacific Wine and Spirit Review 1901a:39; 1901b:13). The Illinois-Pacific Glass Co. incorporated on July 24, 1902 (Moody 1926:2111) and announced its formation as a consolidation of the Abramson-Heunisch Co., the Illinois Glass Co. (Pacific Coast division), and the U.S. Bottlers’ Supply Co. on August 18, 1902 (San Francisco Call 8/19/1902). While this was a separate firm, it was certainly affiliated with the Illinois Glass Co. See the section on the Illinois-Pacific Glass Co. for more information.

Also, ca. 1901, the Illinois Glass Co. installed Haley-Bridgewater machines to make narrow-mouth ware (Scoville 1948:394). On August 18, 1899, Jonathan Haley and Harry H. Bridgwater applied for a patent for a “Machine for forming glassware” and received Patent No. 693,130 on February 11, 1902 (Figure 2). The pair specifically mentioned beer bottles in the patent description. Because this was a press-and-blow machine – with no baseplate in the parison mold – there should be no machine scar on the base. If the patent drawing is accurate, the horizontal seam at the finish should be in the center of a rounded, one-part finish or at the bottom edge of a tapered, one-part finish – but not below the finish, the normal position for the horizontal finish seam on machine-made, narrow-mouth bottles. Future research should focus on these characteristics.

Edward Levis, one of the founders, had died on April 2, 1903, at the age of 84, the same year that Illinois-Pacific experienced a $75,000 loss when floods inundated the Alton factory from June 6 to June 18. Illinois Glass initiated compressed air for augmented blowing of larger containers on October 6, 1904. At that point, the plant operated three furnaces with 42 pots, four day tanks with 22 rings, and eight continuous tanks with 111 rings (American Glass Review 1934:149; Owens-Illinois 1973a:3; 1973b:5).
The plant experienced another fire on March 5, 1906, at a loss of $40,000. One of the tanks broke twice, spilling hot glass into the plant on March 26, 1908, although firemen were able to spray cold water on the glass and halt its advance, avoiding a possible fire, both times. By at least 1908,¹ the company had installed semi-automatic bottle machines, used to make wide-mouth bottles and jars, but the machine operators stuck in September 1909. The strike was settled by October (Owens-Illinois 1973b:6; 1973b:6).

William Elliot Smith, the remaining founder, died on May 2, 1909, at the age of 64. George M. Levis (likely the son of founder Edward Levis) became president of the firm on September 24, 1909, and machine operators and mold makers struck on September 27. On October 15, 1909, the firm installed a “New Model glass blowing machine” on Tank No. 5. The plant moved from two shifts of workers to three on October 23, instigating round-the-clock production, although the plan was abandoned the following February due to refusal of the men to work on Sundays (Owens-Illinois 1973b:6).

On April 2, 1910, the factory began preparations to install the first Owens machines. Because the older furnaces would not accommodate these new machines, Furnaces No. 1 and No. 15 were selected to be rebuilt into continuous tanks to accommodate the new mechanical devices. No. 2, idle at the time, was pressed into service to pick up the load (Owens-Illinois 1973b:6).

Walbridge (1920:88) and the Illinois Glass Co. (1923) both confirmed that Illinois Glass installed Owens machines in 1910. The following year, Walbridge (1920:88) noted that “the Illinois Glass Company . . . enlarged its installation to operate twenty-two machines” (Walbridge 1920:91). The figures were apparently a bit confused. A 1910 article did not list any Owens machines in April but noted that three were to be installed with “10 to be added later” (National Glass Budget 1910:1). Owens machine production began in 1911.

Scoville (1948:106) stated that Owens machine “licenses were issued to Illinois Glass on June 11, 1910, January 18, 1911, and May 22, 1914” (also see Paquette 1994:41, 59). Miller and

¹ Scoville 1948:324) noted that Illinois Glass used at least one Haley-Bridgewater machine (for wide-mouth bottles or jars) at the Alton plant. Although Scovill noted that the machines he described were “built before 1901,” he did not include installation dates.
McNichol (2002:7-8) clarified two of the dates somewhat by saying that the 1910 license was “perhaps for branded whiskies” and the 1914 license was for “5 to 13 gallon carboys.” On the 1911 license, however, the researchers stated that “it is not clear what this license was for.” However, Scoville (1948:304) claimed in a footnote that Illinois glass was licensed for “prescription, proprietary, and whiskey ware,” so either the 1910 or 1911 license was for drug store bottles.

Naylor (n.d.), however, cleared up any misconceptions, when he stated that the Illinois Glass Co. had

acquired additional rights to pharmaceutical, proprietary and prescription ware fields from Owens Bottle in 1911. It received a sub-license from Hazel-Atlas in 1914 to make on Owens machines certain glass articles shown in a Hazel-Atlas catalogue, which license was amended to include cigar jars. In 1915 it received an exclusive license from Owens Bottle to make oil and gasoline containers as part of oil and gas stoves, and acquired the right to use the Owens Carboy machine to manufacture large glassware in 1917

On February 25, 1913, the company again instituted a night shift, but this time it was limited to certain departments (made permanent for all departments on April 4). Workmen dismantled a visible landmark, the bottle-shaped chimney above Furnace No. 7, on June 20, 1913. All new chimneys had been “straight” (actually slightly tapered to the top) (Owens-Illinois 1973b:6).

All was not joy, however. A labor shortage continued to plague the plant (as it had for years). In a complete turnaround, however, the Alton Telegraph bemoaned on September 16, 1913, the 24 shops that were eliminated by the installation of the machines – throwing 72 men out of work. Nor were layoffs the only problems. When an excavation was made at the base of No. 15 (one of the first furnaces modified for the Owens machines), it was discovered that the cinder pile, upon which the building was set, was on fire and probably had been for several years. The various floods that had beset the plant had not extinguished the fires (Owens-Illinois 1973b:7). Although the problem must have been dealt with, we have not found a record of the resolution.
As noted above, Illinois Glass purchased the other half of the Thompson Bottle Co., acquiring the factories at Gas City, Indiana, and Chicago Heights, Illinois (Figures 3 & 4) – capturing the patent for the Lyric prescription bottle in the process (see the discussion about the bottle and logo below). That year, the factory made bottles using mouth-blown, semiautomatic, and fully automatic technology (*Journal of Industrial and Engineering Chemistry* 1913:952). It is probable that the semiautomatic machines made wide-mouth bottles and jars.

The prescription identification for the 1910 Owens license was further confirmed by a 1914 article (*Journal of Industrial and Engineering Chemistry* 1914:864) that identified the Alton plant as having 22 Owens machines making “liquor, prescription and packers’ wares.” Two additional machines were in the process of installation. The Gas City plant was operating five machines that produced “a general line of prescription and liquor ware.” These were new machines; the Gas City plant was equipped with Owens machines in 1914 (Walbridge 1920:99). The plant made its last mouth-blown bottle at No. 5, the last pot furnace, on July 15, 1915. The furnace was subsequently “sledge hammered into rubble, ending an era” (Owens-Illinois 1973a:3).

In November 1916, the Alton plant used 17 6-arm Owens machines and ten 10-arm machines to make prescription and liquor bottles. The Gas City factory used three 6-arm machines and six 10-arm machines to make “miscellaneous prescription bottles, fruit jars, packers, and preservers” (Palmer 1917:212-213). During the 1914-1919 period, Illinois Glass instigated numerous improvements in methods not directly involved with blowing glass, such as eliminating horses to draw batch materials, additional shops, etc. as well as instituting employee benefits (Owens-Illinois 1973b:8).
Several Illinois Glass Co. catalogs have survived and have been excellent references in our research. Among our group, we have Illinois Glass catalogs from 1903, 1906, 1908 (a reprint of 1906 with additions), 1911, 1920, and 1926. These provide cameo views of the company’s products, although a critical year (1912) is missing. It is instructive to note that some of the bottles in the 1911 catalog were made by semi-automatic bottle machines, but the large majority of bottles in the 1920 catalog are made by fully-automatic bottle machines, and the only remaining mouth-blown bottles in the final catalog were perfume containers.

A fire at Alton on March 5, 1919, caused $2,000 worth of damage, and it was followed by another in 1920 (Owens-Illinois 1973a:3; 1973b:8). By 1920, the restrictive clauses that prohibited Illinois Glass Co. from using other machines (primarily the Hartford-Empire machines) were lifted. The company noted:

In 1920 – just ten years after our installation of the first machine [i.e., the Owens Automatic Bottle Machine] – in order to maintain our place of leadership in the bottle industry, we added another completely new type of Automatic Machine to overcome certain license restrictions which hampered us in the operation of the original. . . . at the present time, on either one or the other of our two types of Automatic Bottle Machines, we can make any type of blown container, with the exception of milk bottles and fruit jars (Illinois Glass Co. 1923).

By this point, the Owens Bottle Machine Co. and the Hartford-Empire Co. had a virtual stranglehold on the bottle machine industry. Although some companies (e.g., Graham Glass Co.) had developed their own machines, most of these had been acquired by the industry leaders (e.g., Graham was bought by the Owens Bottle Co.). License restrictions placed the two major types of machines in the hands of only a few companies (Haas 1970:19-21). Between 1917 and the early 1920s, a number of other fully automatic machines (e.g., Miller and Lynch machines) were on the market, allowing virtually any glass house to operate automatically.

Illinois Glass continued its expansion into New Jersey by buying the Cumberland Glass Co. at Bridgeton and its auxiliary, the Minotola Glass Co. at Minotola in 1920 (Toulouse 1971:266-269 – see the files on the Cumberland Glass Mfg. Co. and the Cape May Glass Co. for more information). The Minotola plant must have been very short lived; it was not in the 1926
catalog, even though all the other factories were shown in drawings (Figure 5). On December 16, 1922, the corporation increased its capital from $1.7 to $11 million. A fire destroyed the main Chicago Heights plant on September 11, 1925 – cause unknown. Another fire at the cardboard box factory in Alton caused $3,000 worth of damage, even though it was confined to the roof (Owens-Illinois 1973b:8-9).

The 1926 Illinois Glass Co. catalog illustrated the firm’s factories and included the Kimble Glass Co. plant at Vineland (Figure 6). Since the drawing included the Kimble name, Kimble likely made some of the drug store apparatuses sold by Illinois Glass. We have not discovered when this relationship began or the exact nature of the connection. See the section on the Kimble Glass Co. for more information and the factory illustration.

By 1927, Illinois Glass was making “prescriptions, vials, beers, minerals, patent, proprietary, liquors, water bottles, fruit jars, packers, and preservers” at 20 continuous tanks with 38 Owens machines and 32 Hartford-Empire machines. The listing continued unchanged until the merger with Owens (American Glass Review 1927:137). As a publicity stunt, the employees stacked 6,200 five-gallon bottles into a giant pyramid 24-feet wide and 25-feet tall in front of the plant on May 14, 1927. Although the glass mountain remained intact long enough for a
photo, it soon collapsed making a sound “like the ringing of a thousand bells” as it destroyed ca. 1,600 bottles.

The merger between the Owens Glass Co. and the Illinois Glass Co. brought under the Owens umbrella the “largest individual bottle plant in the world” (Paquette 1994:71). The merger was formally approved on April 17, 1929 (Paquette 1994:70). With the merger, Owens-Illinois consolidated several of the plants that the older Owens Bottle Co. had controlled (Moody’s 1932:2209). A new era in bottle production had begun.

Containers and Marks

We have looked at as many Illinois Glass Co. bottles as we could find, compared them against the catalogs, and added what has been published about the company to reach the following chronology of Illinois Glass Co. marks. Our findings are somewhat at odds with those of Toulouse, and we have found a great deal of new information. See Table 2 for a chronology of logos.

Table 2 - Manufacturer’s Marks used by Illinois Glass Co.

<table>
<thead>
<tr>
<th>Mark</th>
<th>Bottle Type</th>
<th>Location of Mark</th>
<th>Dates Used</th>
</tr>
</thead>
<tbody>
<tr>
<td>I.G.Co.*</td>
<td>Returnables, liquor, food &amp; general</td>
<td>heel or base</td>
<td>1880-1915</td>
</tr>
<tr>
<td>I.G.Co.* with number to right</td>
<td>Returnable soda &amp; beer, alcohol</td>
<td>heel</td>
<td>1895-1915</td>
</tr>
<tr>
<td>IGCO in a diamond†</td>
<td>General</td>
<td>base</td>
<td>1897-1915</td>
</tr>
<tr>
<td>Diamond I</td>
<td>General but especially pharmacy</td>
<td>base</td>
<td>1915-1929</td>
</tr>
<tr>
<td>Numbers in a diamond**</td>
<td>Mostly medicinal</td>
<td>base</td>
<td>1900-1929</td>
</tr>
<tr>
<td>Lyric</td>
<td>Pharmacy</td>
<td>base</td>
<td>1913-1929</td>
</tr>
<tr>
<td>Intertwined IGCo emblems</td>
<td>Fruit Jars</td>
<td>body</td>
<td>1906-1914</td>
</tr>
</tbody>
</table>

* This mark appears with punctuation, without punctuation, or with partial punctuation.
** The numbers are catalog numbers or numbers of private molds.
IG

The IG mark was noted by Toulouse (1971:264) as “before 1890,” but he offered no substantiation for either the attribution or the date. It is possible that these were marks where the “Co” was very indistinct or even an engraver’s error, although Peters (1996:21) listed a Hutchinson bottle from Wisconsin marked IG. It is possible, however, that the mark was also an engraver’s error or typographical error and should have been IGCo. At least one base from the Fort Riley collection was embossed “16” in such a way that it looked like “IG” – creating possible confusion (Figure 7).

However, we discovered an olive oil bottle in the Tucson Urban Renewal collection (Arizona State Museum, Tucson) that was clearly embossed with IG centered on its base (Figure 8). The bottle was aqua in color and made with a two-piece mold. The bottle was crudely made and could easily fit a “before 1890” description. The initials, however, could just as easily indicate the Ihmsen Glass Co. We consider the connection to Illinois Glass tenuous at best.

IGC (1873-1894)

Herskovitz (1978:8) noted six examples of this mark on beer bottles from Fort Bowie, Arizona Territory, although we did not find any of them when we examined the collection. We discussed this mark more thoroughly in section on the Ihmsen Glass firms. It may not actually exist, or it may belong to Ihmsen, Illinois Glass, or some other glass house.

IGCo (ca. 1880-ca. 1915)

We have observed the “I.G.Co.” logo on most types of containers known to have been made by the Illinois Glass Co., including beer, soda, catsup, food containers, household jars, liquor flasks, and other bottles. Toulouse (1969:157; 1971:264) dated the mark ca. 1895-1905 on jars and ca. 1880-1900 in general. Herskovitz (1978:8), Wilson (1981:117-118), and Ayres et

We have seen the “I.G.Co.” logo with full punctuation, no punctuation, and periods behind the initials in every conceivable pattern. The vast majority of the marks, however, had full punctuation, so that is certainly the default. Most often, the logos were embossed on bottle heels, although they were also placed on bases, especially on food, medicinal, and beer bottles, notably in 1880s to mid-1890s contexts (Figure 9). Although the logo was almost always embossed horizontally, Lockhart et al. (2011) also noted an unusual variation: IG Co in an arch (see Figure 3). We have observed four variations of “o” in “Co.”:

1. IGCo² – also reported by Herskovitz (1978:8), Lockhart and Olszewski (1994) (Figure 10)
2. IGCo⁰ – also reported by Roller (1983:230) (Figure 11)
3. I.G.Co. – by far the most common (Figure 12)
4. I.G.CO. – probably an engraver’s whim (see Figure 9)

As we have discussed elsewhere (e.g., Lockhart et al. 2011), the superscript “o” in “Co” (IG Co²) was generally used during the 1870s and into the early 1880s – rarely after ca. 1883. The first two variations were therefore

² Richard Siri (pers comm 2/13/2010) stated that all IGCoL Hostetter’s Bitters bottles had applied finishes; however, all IGCo bottles had tooled finishes.
the initial logos used by the Illinois Glass Co. As noted above, the vast majority of the “I.G.Co.” marks had the lower-case “o” in “Co.” The same dating applies to the “IGC” logo (or the underlined variation).

An interesting variation of this mark on a fruit jar was shown in Creswick (1987a:87). The mark, IG ‘ Co, obviously an engraver’s error, was located on the base of a grooved-ring wax-sealer fruit jar (Figure 13). Creswick dated the jar “circa 1873” but gave no explanation for the time frame. Roller (1983:230) also revealed that some jars made for the Consolidated Glass Co. had I.G.Co. embossed on their bases. Although Roller called the user of the mark an “unknown glass house,” the logo was most likely that of the Illinois Glass Co. It is interesting that the “o” in “C” was superscripted (but not underlined).

In studies on soda bottles at El Paso, Texas, and in New Mexico, Lockhart (2010) and Lockhart & Wood (2013) demonstrated beyond a doubt that at least three Hutchinson bottles with the “I.G.Co.” logo were made no later than 1880. On the other extreme, Miller (2008) illustrated the mark used at least as late as 1906, and Lockhart (2010) showed that the mark was used until at least 1908, probably 1909 or later, based on a solidly-dated soft drink bottle from El Paso, Texas. Clint (1976:101) illustrated a Hutchinson bottle with an “I.G.Co.” heelmark that was used by a local bottler ca. 1914-1915 (Figure 14).

In conclusion, the “IGC” logo was probably used prior to 1880, possibly as early as the mid-1870s, while the “I.G.Co.” mark was likely used from 1880 to ca. 1915. Also see the discussion about catalog codes accompanying the “I.G.Co.” logo below and in Appendix A.
Illinois Glass Co. or Ihmsen Glass Co.?

We have discussed the question of whether this logo was used by the Ihmsen Glass Co. in Lockhart et al. (2005a; 2005b; 2011), so we will not repeat those arguments here. To summarize, the Ihmsen Glass Co. was a limited partnership during most of its tenure and made only window glass during its last period in business. None of the Ihmsen firms regularly used any kind of glass marks – with the possible exception of the “IGCoL” logo on export beer bottles, a few champagne beer bottles, and a few Hutchinson soda bottles.

The evidence for the use of the “I.G.Co.” mark by the Illinois Glass Co., however, is overwhelming (see the above sources). The dating (discussed above) shows that the logo remained in use too late to have been used by Ihmsen. Farnsworth & Walthall (2011:64-65) provided additional evidence for the use of the IGCo logo by the Illinois Glass Co. rather than the Ihmsen Glass Co. The researchers noted that bottles with the mark made during the 1873-1880 period in Indiana were used by firms in the west central section of the state – in the vicinity of Alton. This clustering would be unlikely if the mark had been used by the Ihmsen Glass Co. Although the use of an “I.G.Co.” logo by Ihmsen cannot be entirely refuted, it is clear that the mark should be considered to have been used by the Illinois Glass Co. in virtually all cases.

I.C.Co. (mid-1870s-ca. 1880)

Griffenhagen and Bogard (1999:124) claimed that a mark of “I.C.Co.” was found on bottles used from 1873 to 1881 by the Home Bitters Co. of St. Louis. They almost certainly took their information from Ring (1980:248). Ring listed the Home Stomach Bitters and noted either “I.C.CO” or “IPGC” on the base of the bottle. According to Fike (1987:35) the Home Bitters Co. advertised during the 1870-1873 period and was last listed in directories in 1881 – all within the period when Illinois Glass used the “I.G.Co.” mark. Hutchinson Bottles made for William F. Johnson, Socorro, New Mexico, (embossed “WFJ” on the front), were actually embossed “ICCo” on the heel instead of “IGCo.” (Figure 15). This is almost certainly an engraving error – a very common occurrence in the late 19th century (Lockhart & Wood 2016).
**IGCO in a Diamond (1897-1915)**

Jones (1966:16) observed that the “Illinois Glass Co. used those letters in combination with [elongated diamond] 1880’s.” Dated by Toulouse (1971:264) as “circa 1900 to 1916,” this mark appeared in the 1903, 1908, and 1911 catalogs but was absent from the 1920 catalog (Figure 16). The catalog dates suggest that the Toulouse range is reasonably correct, although the use probably ceased with the inauguration of the Diamond-I mark and the cessation of mouth-blown production in 1915. The only examples we can currently cite were made by hand. It is clear that these marks were used concurrently with the “I.G.Co.” mark rather than being used exclusively during the period as Toulouse stated.

Clint (1976:190) illustrated a flask with a continuous-thread finish, embossed on the base with the IGCo-in-a-diamond mark (Figure 17). He dated the bottle ca. 1900. Toulouse (1969:301), Roller (1983:348), and Creswick (1987b:65) each showed a jar with a glass lid (Figure 18). The outside of the lid was embossed SUNSHINE in an elongated diamond. The inside was embossed IGCo inside a diamond. Creswick dated the jar ca. 1905.

Discussing the South Carolina Dispensary, Teal (2005:99) noted that “from 1897-99 Illinois Glass Company supplied the Dispensary with twenty-two carloads of clear, quart, round, palmetto-tree Dispensary bottles. These bottles carry the
company’s trademark on their base, a diamond with the initials, ‘I.G.Co.’ inside of it.” Teal visited the former Illinois Glass Co. factory in Alton and obtained his information from their records. This indicates that the IGCo-in-a-diamond mark was used at least as early as 1897 – about three years earlier than indicated by any other source we have found.

It is even possible that the diamond form of the mark was developed specifically for the Dispensary bottles. According to Teal (2005:130):

The requirement for a glass house supplying bottles to the [South Carolina] Dispensary to have their initials blown into their bottles was a quality control measure that resulted from having more formal and specific bids and contracts. All of the glass house contracts from 1897 forward in the Dispensary records at the State Archives carry this provision.

This requirement seems to have originated with the purchase of Illinois Glass Co. bottles. Thus, Illinois Glass may well have devised the mark especially for the Dispensary and continued to use it sporadically on other containers after that time. More research is needed to determine which types of bottles bore the mark and if these were related to the Dispensary styles. This also may have given rise to the use of the numbers within a diamond mark discussed below.

It is possible that the mark was used as early as 1894. Herskovitz (1978:17) discovered the diamond mark at Fort Bowie, Arizona, “from Building 3, and if it is not a post-occupation deposit, it would move the initial date for this mark back to at least 1894 [the date the fort closed].” Since the fort was occupied by civilians after its closing, this evidence is not conclusive.

This mark may have only been used on prescription bottles, flasks, and Sunshine Jars (Figure 19). Although our sample is small, these are the only container types we have found bearing this mark. Conversely, we have not discovered any of these containers with an “IGCo” logo. The reason for limiting the use of the Diamond-IGCo mark is currently unknown to us.
‘01, ‘02, or ‘03 (1901-1903)

Clint (1976:101, 171, 188), Wood (1998), Kyte (2005:10), and Wood & Lockhart (2016) all listed, described, or illustrated Hutchinson soda bottles embossed on the heels with “144 ‘02,” “122-02,” “11, ’02.” etc. with numerous examples on Hutchbook (Fowler 2016). According to the 1903 Illinois Glass Co. catalog, Hutchinson bottles were offered with catalog numbers of 11, 22, 33, 44, 55, 66, 111, 122, 133, 144, and 155. All were available with round plate molds except 55, which only came with a horseshoe plate. Most were available with “Hutchinson Stopper, or Baltimore Seal, or Cork and Wire.”

Similar codes are found on crown-finished bottles. The last page of the 1903 Illinois Glass Co. catalog shows crown-finished sodas numbered 322, 333, 344, 355, 366, 377, and 388, although the numbers in the 1903 catalog extended to 477. See Appendix A for more information on the numbering system. The basic two- and three-digit codes were obviously model or catalog numbers. All reported numbers on Hutchinson-style bottles have corresponded to both the 1903 catalog numbers and the catalog drawings. The second set of codes have been reported as separated from the catalog codes by a dash (-), comma (,), apostrophe (’), and – in a single case – both a comma and apostrophe (Figures 20). In some cases, the codes were accompanied by the “I.G.Co.” logo (Figure 21). The secondary code is found only in “01,” “02,” and “03” numbers, and these could be two-digit date codes. On at least one New Mexico example (11, ’03), a date code for 1903 would easily fit within the duration of the bottling works (Wood & Lockhart 2016).

Two soda bottles from an El Paso, Texas, bottler marked 322.02, however, question the validity of the suffix numbers as date codes. Woodlawn Bottling Co., the bottler using both containers with the .02 suffix, began business as the Martin R. Sweeney Bottling Works from 1905 to 1908. It did not become Woodlawn (the name embossed on two different bottles with
the code) until 1909. Thus, the company was not in business in 1902. It is important to note that this exception questions the hypothesis but does not disprove it. There are numerous instances where glass makers reused old molds, often at much later dates. In fact, the embossing of the codes is identical on both bottles (including a slight dip in the second “2” – indicating that both bottles were made in the same mold with different circular plates inserted. Unless other exceptions are found, it remains possible (probable) that the ’01, ’02, ’03 series actually indicates the year the bottle was made.

**7 on Milk Bottle Heels** (ca. 1910-1912)

In 1913, Wisconsin passed a law requiring all glass factories selling milk bottles to dairies within its boundaries to register a numerical code. The Illinois Glass Co. received number 7 (*Stevens Point Journal* 1913:1). Similar laws enacted by other states about this time, created a de facto national system of numbering for milk bottle manufacturers, and many glass houses merged the number into a company logo. Some of the better-known marks are L52 (Lamb Glass Co.), BB48 (Berney-Bond Glass Co.), and 5W (Winslow Glass Co.). These were embossed on the heels or bases of milk bottles.

The use of these numbers began in 1910, when New York instituted the first of these ordinances. Bottles earlier than that did not have the codes. Since the Illinois Glass Co. only made milk bottles between 1905 and 1912, the system had to have been in place no later than 1912, probably earlier. According to Giarde (1980:147), the number “7” was later used by the Liberty Glass Co., probably around 1918 when the company opened. It is likely that Illinois Glass never actually made any bottles marked with the “7.” See the section on Liberty Glass Co. for more information about that firm.

**Diamond I** (1915-1929)

Creswick (1987b:154) noted that the Illinois Glass Co. registered the “I within diamond” trademark (No. 224,561) on March 1, 1927, and claimed the mark was first used on June 1, 1915. All examples of this logo appeared on machine-made bottles. The mark continued in use until the merger with the Owens Bottle Co. in 1929. The 1920 company catalog repeatedly called the mark the “Diamond I.”
Numerals, such as 3, 5, 9, 11, 12, and 17 often (but not always) accompany the Diamond-I mark (Figure 22). These cannot be date codes because most are too early. They cannot be catalog numbers because the number 9 appears on two different bottle styles (one a medicine bottle, one an ink bottle). We checked the numbers against the 1920 catalog. The numbers are sometimes accompanied by letters, and letters occasionally appear without numbers. Currently these codes remain a mystery, although they could simply be related to identifying individual molds for quality control.

The Diamond-I was used in both sans serif and serif forms (occasionally with ridiculously long serifs) and even appeared as a dot on some small bottles (Figures 23 & 24). It is likely that this was done at the whim of the individual engraver and has no relevance to the individual factory in which the bottle was made or to any datable period.

**Numbers in a Diamond** (ca. 1900-1929)

The Illinois Glass Co. embossed a diamond mark surrounding two-, three-, or four-digit numbers on bottle bases from ca. 1900 to the end of the company in 1929, based on catalog studies. Although we went into much greater detail in our initial report (Lockhart et al. 2005a), we will only summarize our findings here. Both Clint (1976:132) and Miller (2008) listed whiskey bottles that suggest a ca. 1900 beginning date for the mark (Figure 25).
A good example is a bottle bearing the Diamond 817 mark that matches the Barrel Mustard shown on page 91 of the Illinois Glass Co. 1920 catalog (Figures 26-28). The drawing in the catalog is labeled mold number 817. Not all bottles with the mark, however, appeared in the catalogs. Some were “private label” bottles, special orders from various companies. Because these styles were “private,” the mold numbers would not be expected in the catalogs. A great example of a private label mark that was used consistently is 600 in a diamond. This mark was embossed on the bases of bottles containing Sloan’s Liniment. Bottles with the mark were illustrated in both Colcleaser (1965:57) and Eastin (1965:7), and several examples have been verified by the authors (Figure 29).

The Illinois Glass Co. was issued an Owens machine license on June 10, 1910, to make whiskey bottles. Prior to that time, Owens only issued exclusive licenses (e.g., American Bottle Co. was the only company allowed to use the Owens machine to make soda or beer bottles). However, Owens licensed both Illinois Glass and the Charles Boldt Glass Co. to make whiskey bottles in 1910 (Scoville 1948:103), and Owens continued to manufacture liquor bottles, itself. Actual production of bottles, however, did not begin at Illinois Glass until 1911. Therefore 1911 is the first year for the use of the diamond mark with internal numbers on bottles with the Owens scar.
One confounding element remains. Von Mechow (2016) discovered that the Diamond Glass Co. also used a diamond logo with numbers inside on the bases of some soda and beer bottles. Diamond Glass Co. bottles will have a machine base scar without feathering and may include letters (Figure 30). See the section on the U.S. Diamond Glass Co. (not the one in Canada) for more information.

Prescription Bottles

The Illinois Glass Co. highlighted two brands of prescriptions bottles: Lyric and Signet. Lyric rapidly became the firm’s flagship drug store bottle.

**LYRIC** (1913-1929)

On June 22, 1912, Charles M. Schofield filed for a patent for a bottle design. The office issued Design Patent No. 43,782 on April 1, 1913. The patent drawings show a graduated oval prescription bottle with a curled-line design at the shoulder. The base was embossed “SANITIZED / LYRIC” with a shield around the “S” and “D” in “SANITIZED” as well as the “T” in the center of the word being outlined and larger than the other letters (See the patent drawing in the Chicago Heights section).

Schofield, a resident of Marion, Indiana, assigned the patent to the Sheldon-Foster Glass Co., Chicago Heights, Illinois. By the time the patent was actually issued, that Sheldon-Foster factory had become the Chicago Heights Bottle Co., then it was absorbed into the Illinois Glass Co. later in 1913 (also see the Chicago Heights Bottle Co. section). Chicago Heights made and advertised the bottles. These were marked with the “SANITIZED” label, but “SANITIZED” was removed for the Illinois Glass Co. usage.
Page 14 of the Illinois Glass Co. 1920 catalog described the “Lyric” bottles. It stated that the Lyric bottle was patented and was “a graduated oval.” Lyric bottles came in sizes ranging from ½ to 32 ounces, although the “5, 7, 10, 14, and 28 ounces are plain – not graduated” (Figure 31). The catalog described the bottle as:

A bottle of excellent design, correctly graduated in both the Metric and American scales, to be used by the druggist – who may desire to add a touch of refinement and good taste, coupled with practicability to his prescription department. . . . [The bottle] is offered in Washed, Corked and Sterilized, or the Regular Service. . . . The style, finish, corkage, capacity, packing and excellent labeling space has made this our most popular Prescription Bottle.

Page 15 of the catalog showed a drawing of the bottle style, front, back, and base. Every Lyric bottle we have examined has matched the drawings in the 1920 catalog (as well as the patent drawings). The 1926 Illinois Glass catalog illustrated both continuous-thread and cork-finished variations (Figure 32). With a single exception, all Lyric bottles we have seen have been made on an Owens Automatic Bottle Machine and also had the Diamond-I mark (Figure 33). The exception was mouth blown and had SANITIZED / LYRIC embossed on the base. This was almost certainly blown prior to the merger of Sheldon-Foster into the Illinois Glass Co.
Although intended for pharmaceutical use, Lyric bottles were occasionally used for other purposes. Ring (1980:305) listed a bottle with LYRIC on the base that contained Lincoln Bitters. At some point, certainly by 1926, Illinois Glass separated the Lyric Oval (with graduations on the sides) and the Illini Oval for the same bottle without the graduations (Figures 34 & 35).

**SIGNET** (1913-early 1920s)

According to Peterson (1968:40), the SIGNET name was used by the Chicago Heights Bottle Co. in 1913. The Signet Oval bottle also appeared in the 1920 Illinois Glass Co. catalog (Figure 36). Illinois Glass purchased Chicago Heights in late 1913, but the firm had received the rights to the Owens bottle machine in 1912. It is likely that pre-machine bottles embossed SIGNET were made by the Chicago Heights Bottle Co., and ones made by machine were produced at the Illinois Glass plant (Figure 37). The Illinois Glass Co. catalog showed the base with the Diamond-I logo, first used in 1915, but the bottle was no longer listed in the 1926 catalog.

**Fruit Jars**

The Illinois Glass Co. made several brands of fruit jars. At least one of the ones discussed below has a perplexing history.

**IGCo Monogram** (ca. 1906-ca. 1914)

According to Toulouse (1971:264), two similar marks, both intertwined logos, were used “circa 1914, fruit jars.” However, in his earlier book, he claimed a range of “circa 1906-1914”
Both intertwined monograms were found on the sides of fruit jars above “MASON’S / PATENT / NOV 30TH / 1858.” He further stated that “the design of the monogram first appeared in their 1906 catalog and was used on fruit jars only until about 1914.”

Creswick (1987a:143, 233) illustrated four examples of the IGCo monogram – all on Mason’s Patent jars – and attributed them to the Illinois Glass Co. (Figure 38). Although the initial Roller volume (1983) seems to have missed this logo, the 2011 revisions (Roller 2011:349) illustrated one example of the logo – also assigning it to the Illinois Glass Co. – noting that the monograms “may be found in several minor changes in lettering style to include dual outline” (Figure 39).

Kath (1996:50) stated that “gobs of minor variations are found among the IGCo monograms,” and she illustrated three of them (Figure 40). She further noted that all were “embossed above MASON’S PATENT NOV 30 TH 1858 on the front of the jars.” She suggested that the jars were made “during the 1890s.” Although McCann (2016:251) mentioned that there were numerous variations, Leybourne (2014:310) described seven of them – including two where he said the
monogram “resembles a bug.” We deal with the “bug” variation in the Other L section because these derived from an LGCo monogram. Leybourne valued the five non-bug jars in the $10-40 area (with two rare color exceptions), and McCann only placed them slightly higher. With the two exceptions, all the jars were aqua or colorless. None of the sources specifically addressed rarity.

The 1903 catalog illustrated Mason jars with the Hero cross above the “MASON’S” embossing – but showed no monograms on fruit jars – nor were any monograms illustrated on fruit jars in later catalogs. Illinois Glass catalogs from 1896, 1900, 1903, 1906, and 1908 all illustrated a variety of IGCo monograms on liquor, soda, and/or beer bottles – as well as one product jar (Figure 41). We have never seen any of these monograms on actual liquor, soda, or beer bottles. All fruit jars had vanished again by 1920 as well as all monograms. This suggests that Toulouse invented the monogram connection with the Illinois Glass Co. In looking at the monograms in all the catalogs from 1896 to 1908, none of them even remotely match the three IGCo monograms illustrated by Kath or found on actual jars (see Figure 40).

Although there is no doubt that the Illinois Glass Co. made fruit jars or even that the firm manufactured Mason jars, there are two lines of evidence that suggest the IGCo monograms were not used by Illinois Glass. First, Mason jars appeared in the 1900, 1906, and 1908 catalogs, but all of these had the Hero Cross embossed above “MASON’S / PATENT / NOV 30TH / 1858.” Why would the firm illustrate the Hero version if it manufactured its own? Second, if Illinois Glass used the logos on actual Mason jars, why would the firm consistently show nonexistent monograms in its catalogs? These things simply make no rational sense – if the company made Mason jars with IGCo monograms. We need to seek another venue.

Although several other glass houses with IGCo initials made bottles, we have found no references to Mason jars (with the exception of the Iroquois Glass Co. in the 1930s—too late to have made these jars) in association with any of them. We are thus in the embarrassing position
where we have evidence to refute an identification but no counter presentation to explain a different venue. In addition, the jars were apparently fairly common, judging by the low prices in collectors’ lists. If that assessment is correct, the jars would have been made by either a large glass house or over a long period of time. Future researchers should therefore look for resources we do not possess to seek an alternative IGCo factory for this mark or more positive evidence linking the monograms to Illinois Glass. Until such a time, the Illinois Glass Co. remains the only logical possibility – and, indeed, the firm may have made the jars.

COLUMBIA

Although the Illinois Glass Co. advertised the Columbia Jar in the 1900-1908 catalogs, other glass houses also made the jars. See the section on the De Steiger Glass Co. for more information about the Columbia jars.

Electric (1920s)

Page 139 of the 1926 Illinois Glass Co. catalog illustrated the Electric Jar and Electric Fruit Jar (Figure 42). The fruit jar variation was only available with Lightning finishes, but the Electric Jar could be ordered with either Lightning or continuous-thread finishes. The jars looked very similar to the Electric jars attributed to the Gayner Glass Co. – except that the ones in the Illinois Glass catalog lacked the name embossed on the sides. See the section on the Gayner Glass Co. for more information on Electric jars.

Presto (1927-1929)

Toulouse (1969:247-248), Roller (1983:293-295), Creswick (1987b:106-108), and the Roller update (2011:431-433) all discussed and illustrated a series of jars embossed “Presto” in upwardly slanted block letters (Figure 43). The Illinois Glass Co. apparently only made the original Presto in the half-pint size, square in cross-section for the Cupples Co., a glass jobber at St. Louis (Figure 44). Illinois Glass also produced the “Presto GLASS TOP,” “Presto
SUPREME MASON,” and “Presto WIDE MOUTH” (Figure 45). It is probable that all of the Presto series was made for the Cupples Co. All but the initial style were also made by the Illinois Pacific Glass Corp., Illinois Pacific Coast Co., the Owens-Illinois Glass Co., and the Owens-Illinois Pacific Coast Co., probably for a wider audience than Cupples alone.

Toulouse and Creswick included the “Presto FRUIT JAR,” but that variation was absent from both Roller volumes. The “Presto” and “Presto GLASS TOP” were sealed by a Lightning-style closure held in place in round bosses embossed on the sides of the finishes as was the “Presto WIDE MOUTH GLASS TOP.” The “Presto SUPREME MASON” used a continuous-thread bead-seal finish with a zinc or aluminum screw cap and glass liner or a shoulder-seal continuous-thread finish with a glass or metal lid held in place by an aluminum or gold-lacquered metal screw band. The latter band had an hourglass-shaped opening and a notch to facilitate opening that was patented by Raymond H. Parker on February 29, 1929, although the closure was not offered by the Owens-Illinois Glass Co, until 1931. The “Presto WIDE MOUTH” used this closure and thus was not made until after the merger that created the Owens-Illinois Glass Co.
An interesting example of the “Presto SUPREME MASON” was embossed “MFD. BY ILLINOIS GLASS CO.” on the reverse heel but had the Owens-Illinois Oval-and-Diamond-I logo on the base (Figures 46). A close look at the base reveals that two arcs were added to the Illinois Glass Diamond-I mark to create the Owens-Illinois logo. The date code was “1” indicating 1931. This is an example of a plant using up the old molds.

**SMALLEY, KIVLAN & ONTHANK**

This mark appeared on a variety of jars with clamped-on lids. Creswick (1987b:123-124) noted that patents for the jars were filed on February 9, 1909, December 7, 1915, and June 28, 1921, by John L. Kivlan, Boston, Massachusetts. However, she claimed that the jars were made by the Illinois Glass Co. but offered no explanation for her assertion. Smally, Kivlan & Onthank also trademarked the word Queen within a shield (#82,475) on June 27, 1911, and claimed first use of the mark on October 10, 1910. Jars were marked Queen in upwardly-slanted cursive. At least eight varieties were supposedly made by the Illinois Glass Co. and at least two by the Hazel-Atlas Glass Co. Some jars were also made by Consumers Glass Co., Toronto, Canada (Creswick 1987b:51, 108-109). The firm also registered the VICTORY trademark (#222,660) on January 4, 1917, with first use in 1917. The jar lids were embossed with an upwardly-slanted Victory in a shield. As with the Queen, Victory jars were made by Illinois Glass, Hazel-Atlas, and Consumers (Creswick 1987b:154, 134-135).

**SUNSHINE JAR (1908-ca. 1915)**

Toulouse (1969:301), Roller (1983:348), and Creswick (1987b:126) all noted the SUNSHINE JAR, sometimes marked on the base with I.G.Co. in a diamond (Figure 47). The jars were shown in the 1908 catalog as a new item (not shown in the 1906 catalog) and was last in the 1911 catalog (Figure 48). This makes it likely that the jars were
made between ca. 1908 and ca. 1915. Although these earlier sources disagreed on the lids for the jar, the Roller update (2011:498) noted that Roller (1983:348) conflated the Sunshine Jar with the jars patented and manufactured by William Fenn (see the Perfection Glass Co. section for the story of Fenn and the jars). According to the Roller editors, some of the glass caps were unembossed, while others were embossed on the underside with the IGCo-in-a-diamond logo. The jars were probably made to the Fenn October 24, 1905, patents, but that is not completely demonstrated.

**Other Glass Houses with Similar Logos**

**Ihmsen Glass Co.**

Along with the traditional venues (e.g., Toulouse 1971:261) the Bottle Research Group (e.g., Lockhart et al. 2005a; 2005b; Ihmsen section of the Encyclopedia) has discussed the relationships between the IGCo logo, IGCoL mark, Illinois Glass Co., and Ihmsen Glass Co. with the conclusions that IGCoL was used by Ihmsen, and IGCo belonged to Illinois Glass.

**A.H. Heisey & Co. (1896-1915 – for prescription bottles)**

A.H. Heisey & Co. used a mark that may be confused with the Diamond I logo used by the Illinois Glass Co. The confusion in the marks arises from the tremendous variation in the letter “I” in the Illinois Glass Co. marks. Embossed marks include a dot instead of an “I,” sans serif “I,” serif “I,” and an “I” with extended serifs. The Heisey “H” is within a vertically-extended diamond, whereas the “I” from Illinois Glass is in a horizontally-extended diamond. Heisey used the mark on tableware from ca. 1896 to ca. 1915, but there is no evidence for the use of the logo on prescription bottles – hence, what may appear to be an “H” in a horizontal diamond on such bottles is actually an “I” with extended serifs – the logo of the Illinois Glass Co. See the Other H section for a discussion of Heisey bottles.
Discussion and Conclusions

The IGCo mark mostly appeared on the heels and bases of bottles and was especially prevalent on soft drink bottles. It was in use by at least 1880 and continued until ca. 1915. It appears that the IGCO in a diamond was used concurrently with the IGCo mark, although the diamond mark was probably not adopted until ca. 1895 or later. About 1895, the firm began using catalog codes in conjunction with date codes on the heels of soda bottles (also see Appendix A).

Toulouse was almost correct with his dates for use of the Diamond-I mark (1916-1929), although actual use was cited by the company as beginning a year earlier (1915). The mark was also used, often in conjunction with the term LYRIC, on the bases of pharmaceutical bottles (although LYRIC, alone, may have been used as early as 1913), and its use extended to the merger with the Owens Glass Co. in 1929. The intertwined logo was apparently only used on fruit jars and then rarely – if it was actually a mark of the Illinois Glass Co. The final mark, an elongated diamond containing numbers, was used by Illinois Glass and probably dates from 1900 to 1929.

Acknowledgments

We wish to express our gratitude to Doug Leybourne for granting us permission to reproduce the drawings from the Alice Creswick books and to Wanda Wakkinen for tireless proofreading.

Sources

American Glass Review

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

Clint, David K

Colcleaser, Donald E.
1965 *Bottles of Bygone Days*. Privately Published, Napa, Cal.

Creswick, Alice


Eastin, June

Farnsworth, Kenneth B. and John A. Walthall

Fike, Richard E.

Fowler, Ron
http://www.hutchbook.com/Bottle%20Directory/
Giarde, Jeffery L.
1980 *Glass Milk Bottles: Their Makers and Marks*. Time Travelers Press, Bryn Mawr, California.

Griffinagen, George and Mary Bogard

Haas, Paul Francis
Doctoral Dissertation, Boston College, Boston, Massachusetts.

Herskovitz, Robert M.

Illinois Glass Company
1923 *Fifty Years of Achievement in Building up a Service of Better Bottles*. Illinois Glass Co.

Jones, May

*Journal of Industrial and Engineering Chemistry*


Kath, Vivian S.
Kyte, David L.

Leybourne, Douglas M.

Lockhart, Bill


Lockhart, Bill, Bill Lindsey, David Whitten, and Carol Serr

Lockhart, Bill and Wanda Olszewski

Lockhart, Bill, Carol Serr, and Bill Lindsey

Lockhart, Bill, David Whitten, Bill Lindsey, Jay Hawkins, and Carol Serr
Lockhart, Bill and Zang Wood
2013 *The Remarkable T.L. Reber; Soda Bottles and Bottling in the Black Range and Silver City, New Mexico*. Privately published.

McCann, Jerry

Miller, George L. and Tony McNichol

Miller, Michael R.

Moody’s Investors Service


*National Glass Budget*


Naylor, J.E.
Owens-Illinois
1973a “‘Fool’s Errand’ Transformed into ‘Rags to Riches’ Story.” *Centennial Issue: Faithfully Serving the Alton Community for 100 Years.* (Owens-Illinois newsletter, September 13, 1973)

1873b “Chronology of the Illinois Glass Company.” *Centennial Issue: Faithfully Serving the Alton Community for 100 Years.* (Owens-Illinois newsletter, September 13, 1973)
[These were compiled from the microfilm files of the *Alton Telegraph.*]

*Pacific Wine and Spirit Review*


Palmer, Walter B.

Paquette, Jack K.

Peters, Roger

Peterson, Arthur G.
1968 *400 Trademarks on Glass.* Washington College Press, Takoma, Md.

Ring, Carlyn
Roller, Dick


Scoville, Warren C.


Siri, Richard


Teal, Harvey S.


Toulouse, Julian Harrison


Von Mechow, Tod


Walbridge, William S.

Wilson, Rex

Wood, Zang

Wood, Zang, and Bill Lockhrt

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

Last updated 8/10/2016