

The American Bottle Co.: A Study in Contrasts and Contradictions

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As the title suggests, the American Bottle Co. was unique. An outgrowth of the Ohio Bottle Co., it was the first of the large glass conglomerates, setting a tone that would be followed two decades later by giants like the Knox Glass Bottle Co. and the Owens-Illinois Glass Co. American Bottle set the standard for small-mouth bottle production in the beer and soda bottle field and forced competitors to invent or adopt semiautomatic machines in order to compete. The company pioneered the use of date codes to establish the year a bottle was produced, but their markings were so cryptic that many of them have been misidentified, misunderstood, or ignored by researchers for decades. Ironically, most of the marked bottles associated with American Bottle are the result of hand – not machine – production, and the company refrained from using date codes on machine-made bottles until 1916.

The American Bottle Co. initiated the placement of date codes on the heels of bottles, a device for tracking the number of round trips made by soda or beer bottles. Because these bottles were intended to be returnable, the number of trips between the bottling plant and the consumer affected the profit margin. As financial planning became more important to the beverage industry, attention to the number of round trips became more important. By the mid-1920s, most returnable bottle manufacturers used date codes; by the 1950s, such codes were a standard throughout the industry. American Bottle initiated the practice in 1906.

Ohio Bottle Co. (1904-1905)

Scoville (1948:103-104) told a possibly apocryphal story about a connection between Edward H. Everett and E.D. Libbey. Libbey, one of the main forces behind the Owens Bottle Machine Co., the manufacturer of the Owens Automatic Bottle Machine, called a meeting of Pittsburgh beer-bottle makers in hopes that the group could form an association to receive an exclusive Owens license to make beer bottles. When the meeting proved inconclusive, Libbey

secretly contacted Everett and reached an agreement that formed the Ohio Bottle Co. Even though Libbey and Everett attempted to disguise their correspondence by using fictitious names, the word leaked out to the Pittsburgh crowd who “in no uncertain terms claimed that they had been betrayed.”¹ But the joining between Everett and the Owens firm had been set.

On October 11, 1904, a group of glass factories combined under the direction of Edward H. Everett to form the Ohio Bottle Co. Although Everett’s company, the Edward H. Everett Glass Co., Newark, Ohio, was to be the flagship factory, the combine also included the Massillon Bottle & Glass Co. and Reed & Co., both in Massillon, Ohio, and the Wooster Glass Co., Wooster, Ohio, the latter two owned by J. F. Pocock (see sections on each of these for more information on the companies prior to the formation of Ohio Bottle Co.). The purpose of the new company was to monopolize the use of the new Owens automatic machine in making beer and soda bottles. On November 1, barely three weeks after its formation, Ohio Bottle signed a contract with the Owens Bottle Machine Co. for an exclusive license to do just that (*National Glass Budget* 1904d:10; 1904e:1; Scoville 1948:104; Walbridge 1920:72).

The new machines could not be built and installed immediately, however. Initially, while continuing to make its own bottles by hand, the Ohio Bottle Co. served merely as the selling agent for the machine-made bottles produced by the Northwestern Ohio Bottle Co. Northwestern was a wholly-owned subsidiary corporation of the Owens Bottle Machine Co. In addition, Owens operated an experimental and demonstration plant in Toledo, Ohio, that made various bottles that were also marketed by the Ohio Bottle Co. and later by the American Bottle Co. On January 18, 1906, American was sufficiently confident in its own manufacturing abilities that it instructed Owens to cease making bottles for its account (Scoville 1948:109).

The *National Glass Budget* (1905a:11) noted that Ohio Bottle “had recently taken both the large orders of the Liquozone² Company, of Chicago, and the immense order of the Emerson

¹ Although Libbey remained a strong presence in the Owens-related firms, the Libbey Glass Co. never became involved in container production and became a leader in glass for the lighting industry.

² Liquozone was composed of red wine, muriatic and sulphuric acid that was billed as a cure for 37 different problems. Amber bottles included both embossed and paper labels on the sides. *Colliers Weekly*, apparently a 1905 issue, discussed the Liquozone fraud (Adams 1905).

Drug Company, Baltimore, Md., manufacturers of Bromo Seltzer.” The Liquozone bottles were mouth blown – as were the Bromo Seltzer containers. Due to subsequent events, the orders soon reverted to Owens.

To make the scheme even more complex, Everett incorporated the Newark Machine Bottle Co. of Toledo in May 1905 and built a new plant to house the Owens machines at the Newark property (Chessman & Abbott 1991:26). The Ohio Bottle Co. (and later the American Bottle Co.) was to be the exclusive selling agent for the Newark enterprise (*National Glass Budget* 1905c:1). At some point, the American Bottle Co. absorbed the Newark Machine Bottle Co., although we have found no direct evidence for the specific date.

Apparently, Everett had some inside knowledge from Owens. When he built the new Newark plant for the Owens machine, Ohio Bottle was only a sales agent for Northwestern, and the only Owens machines were still in the Owens factory. It was not until November 1, 1904, that Owens granted the Ohio Bottle Co. the exclusive license to make “beer, porter, ale, and soda-water bottles” with the new Owens Automatic Bottle Machine, only the second license to be issued³ (*National Glass Budget* 1904d:10; 1904e:1; Scoville 1948:104; Walbridge 1920:72). Even then, the Newark Machine Bottle Co. had no Owens machines, and Ohio Bottle was making containers by hand.

By September 1904, it was clear that other beer bottle makers were concerned about the sale of beer bottles by the Ohio Bottle Co. Much of the early speculation centered around how much the Owens machine would depress prices. “One who has made a special investigation of existing conditions” claimed that Ohio Bottle would only sell the Owens-made containers in Mexico. The argument went that, since the Ohio Bottle Co. plants made their *own* bottles by hand, selling containers made by Northwestern’s Owens machines would hurt them as well. The Mexican connection would thus protect *all* U.S. plants (*National Glass Budget* 1904h:1). See A Possible Mexican Bottle section below for a much more comprehensive discussion of this issue.

The *National Glass Budget* (1904a:6) noted “a sort of stagnated condition” in the Massillon factories in late 1904. Although both Ohio Glass Co. plants were in “partial

³ The first license went to Baldwin-Travis, a firm that almost immediately merged with Thatcher Mfg. Co. – to make milk bottles.

operation,” they were “well stocked with bottles made last year, although practically all have been sold.” This seems to have been a common situation during company changeovers. When a new company took over, it also acquired the responsibility to fill all the existing orders of the old company. Existing evidence (e.g., see Smith 1989 about Three Rivers Glass Co.; or *Pacific Bottler* 1930:24 about Southern Glass Co.) suggests that the transition took about a year. This, coupled with the short time in business, may be why bottles with the OBCo logo are comparatively uncommon.

The first Owens machine arrived at Newark in April 1905 (*National Glass Budget* 1905a:6) and was operational by September (*National Glass Budget* 1905d:8). The additional plants at Massillon (as well as the Newark shops) continued to produce mouth-blown beer and soda bottles. The Ohio Bottle Co. was short lived due to the acquisition of two newcomers (see below) to form the American Bottle Co. in 1905 (Toulouse 1971:30-31; 399-400).

The Wooster plant did not survive. The factory closed down at the end of October 1904 (*National Glass Budget* 1904b:4). By November, there was “little prospect of reopening” (*National Glass Budget* 1904c:10). Charles Blair, an American Bottle Co. representative at Wooster explained that “our effort last season to operate this plant cost us so much money that we do not care to repeat the experiment unless we are assured that sufficient boy labor at the same price we are paying at our other plants can be secured” (*National Glass Budget* 1905e:9). A year later the plant was sued by local investors for failure to operate according to its contracted schedule (*National Glass Budget* 1906:10). We have found no evidence that the plant was ever again in operation.

Containers and Marks

The Ohio Bottle Co. was licensed to produce beer, porter, ale, and soda bottles on Owens automatic machines (Miller & McNichol 2002:6). Empirical evidence, however, shows that export beer bottles were the single most important product – and they were made by hand. Hutchinson and crown-finished soda bottles were also manufactured by hand methods. This situation apparently continued after the American Bottle reorganization, with beer bottles dominating production until prohibition.

It is unlikely that the Ohio Bottle Co. ever used the Owens machines. The machines were difficult to set up and usually took some breaking in (see discussion in Lockhart et al. 2007b). The first machine arrived at Newark in May 1905 but was not in operation until September. By August, the American Bottle Co. had incorporated.

O.B.C. (1904-1905)

Toulouse (1971:30; 399) claimed the only mark known for the Ohio Bottle Co. was O.B.C., and the company was only in business from October 11, 1904, to September 7, 1905, but the initials probably constituted a typographical error. Kroll (1972:3) also claimed this mark for Ohio Bottle Co., but his recording was *not* reliable, and he probably parroted Toulouse. Thus far, we have not located an example of this mark or any references by Toulouse and Kroll. Rydquist (2002:4), too, noted that he had not seen this mark.

O.B.Co. or O.B.CO. (1904-1905)

O.B.Co. (or O.B.CO.) was the only mark used by the Ohio Bottle Co. – always with punctuation. The mark was generally embossed on heels. Basemarks usually occurred in an arched format, always with a lower-case “o” in “Co.”) – although some were embossed in an inverted arch (Figures 1 & 2). All heelmarks we have seen used an upper-case “O” in “CO.” (Figure 3). These



Figure 2 – O.B.CO. basemark (eBay)

were generally unaccompanied by any codes, but basemarks often had a single-digit number in the center of the base. All marks should be dated to both years (1904-1905) that the company was in business. All marked Ohio Bottle Co. containers we have examined were mouth blown into molds.



Figure 1 – Arched O.B.CO. basemark

An exception to the manufacture of soda/beer bottles was those containers made for the Liquozone company. These were cylindrical and amber in color. Buchner et al. (2007:353) recorded two variations of the bottle, both embossed “OBCO” on the heel. One variation was



Figure 3 – O.B.Co. heelemark (Jason Oyadomari)

embossed “LIQUOZONE / BRITISH LIQUOZONE CO. LTD. / LONDON, E.C. / MADE IN U.S.A.” The second was embossed “LIQUOZONE / MANUFACTURED ONLY BY / THE LIQUOZONE CO. / CHICAGO, U.S.A.” (Figure 4). These bottles were likely only made during 1905.

Five Liquozone bottles in a sample on eBay were all embossed “1182” above a one- or two-digit number on the base – along with the O.B.CO. heelmark. Lower numbers ranged from 4 to 24. This suggests that the Ohio Bottle Co. used at least 24 molds to make the Liquozone bottles and that the “1182” was a catalog or model number.



Figure 4 – Liquozone bottle - O.B.CO. heelmark (eBay)

Despite a significant search, we have been unable to find a single Bromo Seltzer bottle with an O.B.CO. logo. The contract may have only been filled by the American Bottle Co., but these bottles are scarce (see ABCo section). It is possible that these bottles lacked a factory mark. We have, however, discovered a few of these with Owens basal scars but no logo, and these may have been made for the Ohio Bottle Co. by one of the two Owens plants.

Mobley (2004) listed 12 beer bottles, all “OBCO” (probably *with* periods) along with numbers in two lines (with one exception) on the base. The top line was a two- to four-digit number, but the bottom number was always a single digit (in one case, an “A”). Top numbers extended from 37 to 1239, and bottom numbers ranged from 1 to 7. All were on mouth-blown bottles with a variety of finish styles. Similar configurations on beer and soda bottles were reported by von Mechow (2013), although almost half of his 22 bottles had O.B.Co. logos embossed on bases.

As with Liquozone (above), the top numbers were probably catalog numbers or numbers identifying specific customers, and the bottom numbers were mold codes. Some of the catalog numbers seem to have carried over between Ohio Bottle and American Bottle Co. Two identical codes (1109 / 2) were found on virtually identical bottles for the Ebling Brewery, one embossed with OBCO, the other with ABCo (Mobley 2006).

Hutchbook (Fowler 2013) listed 41 examples of Hutchinson soda or beer bottles with O.B.Co. marks (listed with both capital and lower-case “o” in “Co.”). A total of 38 of these (92.7%) had O.B.Co. heelmakes, with basemarks on the remaining three (7.3%). The basemarks were accompanied by the same style of code as described above.

American Bottle Co. (1905-1929)

On August 23, 1905, the American Bottle Co. incorporated in Ohio with a capital stock issue of \$4 million. Mather W. Jack was president of the firm, with H.G. Phillips as vice president and assistant general manager at Newark, and L.S. Stoehr as the vice president and assistant general manager at Massillon. W.J. Crane was the secretary and treasurer, with Edward H. Everett as the chairman of the executive committee and general manager (*Commercial & Financial Chronicle* 1905:1102; *Poor’s Manual of Industrials* 1913:892).

The combine was strengthened with the addition of two factories owned by Adolphus Busch (in Belleville, Illinois, and St. Louis, Missouri) and the Streator Bottle & Glass Co., Streator, Illinois (see sections on both these companies for more information). With this strong influx from Illinois and Missouri, “Ohio” was no longer appropriate, so the name was changed to the American Bottle Co.⁴ The new merger took place between August and September of 1905 and increased the number of plants in the conglomerate to seven (*Commercial & Financial Chronicle* 1905:1102; Scoville 1948:104; Toulouse 1971:31).⁵ The *National Glass Budget* (1905f:1) reported the new combine on August 26 and noted that the Owens machine had “been giving perfect satisfaction; the product, owing to its uniformity in structure and fluid capacity, has been finding a ready market.”

⁴ Note that this is an inference by the authors. It is also of interest but not relevant that an American Bottle Co., New Castle, Indiana, was listed under the “Flint Bottle Factories” category in 1902. The plant used 12 pots to make its products. The firm was probably related to the American Flint Bottle Co., listed in Summitville, Indiana, in 1901. The Summitville plant had 10 pots (*National Glass Budget* 1901:11; 1902:11). According to Roller (1998), the plant made flasks and patent medicine bottles at one 50-ton continuous tank in 1901. The factory apparently caught fire and was destroyed soon after it was built. Unfortunately, Roller had no entry for the New Castle plant.

⁵ Toulouse (1971:399) placed the date at September 7, 1905.

American Bottle had maintained the same arrangement for selling Owens-made products as its predecessor. The Newark Machine Bottle Co., now equipped with two Owens machines, actually made the bottles, and American bottle marketed the product. Anheuser-Busch was one of the largest customers (*National Glass Budget* 1905g:1). Like its predecessor, the American Bottle Co. also manufactured bottles with mouth-blown production at all of its plants. In 1907, however, the entire Newark plant was renovated specifically for the use of Owens machines.

American Bottle was quite aware of the advantage it held with the exclusive beer and soda bottle license for the Owens machines. Its generic beer bottles could be produced at greatly reduced prices. So, in 1911, the firm decided to undercut its rivals by reducing the price of beer bottles from \$3.75 per gross to \$2.75. During this period, the Owens company was attempting to control prices in the bottle-making industry, but American Bottle was very independent minded. The Owens Board of Directors determined that they needed to rein in the upstart company and set about a takeover of American Bottle in 1915 (Skrabec 2007:226, 234-235).

The Owens Bottle Machine Co. acquired control of the majority of American Bottle Co. stock (more than 80%) in 1916, but the plants continued to operate under the American Bottle name. The management made that position clear by stating that:

the present officers of The American Bottle Co. will continue in charge of its operations; that The Owens Bottle Machine Co. has simply acquired a majority of the American company's stock, and that the transaction will in no manner change the personnel of The American Bottle Co. and its Management (*National Glass Budget* 1916:1).

It was not until the merger that created Owens-Illinois Glass Co. in 1929 that American Bottle officially lost its standing as an independent company (Moody's 1932:2209).

Although not fully pertinent to this study, the American Bottle Co. – under Owens management – began selling machine-made bottles within the U.S. It is likely that the Owens takeover in 1916 coincided with a revivification of Vidriera Monterrey, creating increased competition for Mexican business. Of even greater consequence, a series of “gob feeders” in 1914 and 1915 converted semiautomatic machines into fully automatic ones. Ironically, by

1916, U.S. machine competition forced the Owens firm – the originator of the fully automatic machine – to shift its machine production to the American market in order to keep up.

The 1920s Slump and Its Consequences

When the 18th Amendment for the Prohibition of alcohol in the U.S. took effect at the beginning of 1920, it created a general decline in sales of products throughout the country. The Owens Annual Report for the fiscal year ending December 31, 1921, explained to its stockholders that:

The general slump in sales extended . . . to the glass container industry. It affected the sales of all our companies and of the American Bottle Company in particular. Its soft drink business was considerably less than of prior years and this, coupled with the entire loss of the beer bottle business, reduced operations very materially. During most of the year, the American company operated at less than one-third of its productive capacity.

This may explain why the Owens Bottle Machine Co. was able to capture the majority stock for the American Bottle Co. in 1916 and the remaining stock later. The fight to bring about Prohibition created major decreases in the sales of beer and other alcohol (and bottles) in many states where either state Prohibition or local options halted beer production.

From a bottle angle, this may explain the sudden shift to generic soda bottles with paper labels ca. 1926. It certainly explains why we find large numbers of ABCo bottles with 1916-1919 date codes but a dramatic decrease beginning in 1920, until we find almost no date codes from 1924 to 1926. In 1926, the American Bottle Co. logos migrated to the bottle bases in a slightly different format than the heelcodes that had been used since 1916. See the sections on the individual marks below for details about differences.

Individual Plants

Each plant also developed its own history. Although the factories all belonged to the same firm, they were treated quite differently, and the smaller ones were gradually eliminated.

Wooster (1900-1904)

The former Wooster Glass Co. was only open from 1900 to 1904. The plant made beer bottles both before and after its inclusion in the Ohio Bottle Co. (*American Glass Review* 1934:193). It was the first casualty of the Ohio Bottle/American Bottle combine. A labor problem (see above) closed the factory in 1904, and it was never resolved. Although the Wooster plant remained in the possession of American Bottle, it never reopened.

St. Louis (possibly 1906-ca. 1908)

The Adolphus Busch Glass Co. (1886-1891) was replaced by the Adolphus Busch Glass Mfg. Co., which operated from 1891 until the merger. The second Busch operation included locations at St. Louis and Belleville. The initial 1905 corporation included “the entire plants, the real estate upon which they are situated, together with the good will [and] all the plants of the Adolphus Busch Glass Manufacturing Co. of St. Louis, Mo., some of these plants being located at Belleville Ill.” (*Commercial & Financial Chronicle* 1905:1102). This confirms the Toulouse claim that both factories were included in the initial merger.

The St. Louis plant had burned in early 1905, but it was being rebuilt by August. By that time, Busch had

acquired . . . the Belgian building at the World’s Fair which is being reconstructed at Main and Dorcas streets South St. Louis. The building will have cost the Adolphus Busch Glass Manufacturing Co. about \$150,000 taking the place of the factory destroyed by fire last winter (*Commercial & Financial Chronicle* 1905:1102).

Although rumors circulated that the plant might get Owens machines, there is no indication that it ever happened (*National Glass Budget* 1905f:9).

Busch’s St. Louis plant was only part of the combine for a short time. Terry Schaub discovered a clipping that stated on April 3, 1906, Busch paid \$278,800 to the American Bottle Co. for a glass works. This was almost certainly the “withdrawal” of the St. Louis plant. The

1913 *Poor's Manual of Industrials* noted the date of Busch's withdrawal as 1907, possibly suggesting that the transfer was not complete until that year – although *Poor's* was probably a year off. See the section on Adolphus Busch for more information about the Stl Louis plant.

Belleville (1905-1909)

Early, there were rumors that the Belleville plant would receive automatic machines (*National Glass Budget* 1905b:6), but we have found no documentary evidence that the plans materialized. However, we have hypothesized that the AB-ligature mark⁶ was used exclusively by the Busch plants. We have observed only four machine-made, 11- or 12-ounce beer bottles embossed with the AB-ligature mark. The machine scar on these bottles was not feathered, and the bottles appear to have been made later – probably after 1916 (Figure 5).



Figure 5 – Machine scar on AB-ligature base

It is possible that some molds were made for the St. Louis plant in anticipation that it would receive Owens machines (see just above). When the machinery never arrived, the molds were shipped to one of the other plants. The unlikely baseplate may not have been discovered until several runs of bottles had already been made – at which time the baseplate was scrapped and a new, more appropriate one, was inserted.

Belleville was American Bottle's third casualty. According to the *Belleville News-Democrat* (12/27/1998), "Walkouts and strikes by American Bottle workers in other places resulted in closure of the Belleville plants in 1909. They never reopened." These "walkouts and strikes" may have been in reaction to a serious reduction in production by beer bottle manufacturers. The American Bottle Co. noted that the effects of state and local prohibition had resulted in a 40% reduction in production. According to the company, payroll, normally \$300,000, was reduced by \$180,000 (*Commoner & Glassworker* 1909:2). Possibly, problems with "small help" (i.e., boys), such as was experienced at Wooster, contributed as well.

⁶ The term "ligature" means a character, letter, or type, such as æ, combining two or more letters and is the correct name for the joined A and B logo used by the Belleville plant.

Massillon (1905-1913)

Reed & Co. opened in 1881 and specialized in beer bottles. Apparently, all three Reed & Co. plants survived into the Ohio Bottle Co. era, although they were discussed as “furnaces, Nos. 1 and 3” by the *National Glass Budget* (1904c). The article added that “the No. 1 furnace at the Reed & Co. plant is the largest in the city.” A follow-up article noted the lighting of the furnace in No. 2 (*National Glass Budget* 1904c).⁷

David Reed, former owner of Reed & Co. became manager of the Massillon plants (*National Glass Budget* 1904c:10; 1904g:5). However, the Massillon plants (both the former Reed & Co. and the former Massillon Bottle & Glass Co.) all closed in 1913. A major flood that lasted from March 23 to March 27 flooded a third of the town and damaged the former Reed & Co. plants so badly that they never reopened (Ohio Historical Society n.d.). The flood destroyed the former Massillon Bottle & Glass Co. factory as well (Kane 1978:84; Reed 1980). All of the Massillon plants had continued their former hand production and never operated machines. For more information, see the respective Massillon Bottle & Glass Co. and Reed & Co. sections.

Newark (1905-1916)

Newark (Edward H. Everett’s original plant) became the flagship factory for the combine and eventually converted entirely to machine production. At least partly because of Everett’s commanding position in the firm, his original factory received the greatest transformation. The first Owens machine arrived at Newark in April 1905 (*National Glass Budget* 1905a:6), although it was not in actual production until September.

An interesting and connected event also occurred in late 1905. The training of apprentices was a long tradition among glass factories. Skilled gaffers (blowers) were the backbone of the glass industry. Machine production destroyed the tradition, and Everett made the first move. By December 1905, he had virtually eliminated the apprentice program at Newark. Although he retained very few apprentices in the “western factories” (i.e., Massillon, St. Louis, and Belleville), he abolished the practice at Newark, stating that “he would be

⁷ Another article, however, stated that the Reed plant had only one furnace (*National Glass Budget* 1904f:8).

ashamed to put a boy on the bench to learn to blow because there would be no trade before his apprenticeship was ended” (*National Glass Budget* 1905h:4; also see Chessman & Abbott 1991:26).

In 1907, Everett built a “huge new addition that would cover seven acres” at the Newark factory. Although the sources are unclear, at some point, the Newark Machine Bottle Co. dissolved, and American Bottle became the direct producer of machine-made bottles, rather than the selling agent. This may have been connected with Everett’s major construction move at Newark in 1907 or may somehow have been related to Busch’s withdrawal of the St. Louis plant that year.

In 1907, the plant had 15 Owens machines that produced six railroad carloads of bottles per day, yet orders demanded almost 17 carloads per day. The new operation may have included furnaces for mouth-blown bottle production (Chessman & Abbott 1991:32).⁸ The number of machines had grown to 27 by 1909 (*National Glass Budget* 1909:1). Chessman & Abbott 1991:36) noted that “the Company started to phase out its hand-blowing furnaces, until by 1914 there were just 34 Owens machines doing all the work in its remaining plants at Streator, Illinois and Newark, Ohio.” The phasing out was almost certainly correct, but mouth-blown production was probably only ongoing at the Massillon plants (until the 1913 flood) and Streator. With the massive concentration on machine production at Newark, it is likely that the factory discontinued the manufacture of mouth-blown bottles no later than 1906.

In 1916, the Owens Bottle Co. became the majority stockholder of the American Bottle Co., thereby controlling its operation. By November 1916, the Newark plant operated 19 6-arm machines, two 10-arm machines, and four 15-arm machines, for a total of 25 Owens machines (Palmer 1917:212). By 1927, the combined plants used 23 continuous tanks with 43 Owens machines (*American Glass Review* 1927:125; 1929:93). The Newark plant operated under Owens control until the merger of the Owens Bottle Co. and the Illinois Glass Co. that created the Owens-Illinois Glass Co. on May 1, 1929, but the factory was closed the following year (Chessman & Abbott 1991:37; Toulouse 1971:32).

⁸ As will be explained below, Chessman and Abbot are the *only* source that placed ongoing hand production at Newark. It is probable that the plant only produced machine-made bottles after 1907.

Streator (1905-1916)

Streator also became a machine plant, but the conversion was more gradual. The number of machines, however, continued to grow, and the plant abandoned hand manufacture by 1914 (Chessman & Abbott 1991:36). By November 1916, Streator maintained 17 6-arm machines and seven 10-arm machines at its two plants (Palmer 1917:212). The Streator factory remained a production center for Owens-Illinois, although the “lower works” ceased glass making in 1918. In 1930, the remaining factory (by then plant #9 of Owens-Illinois) was “completely rebuilt and is for all practical purposes a new plant. . . . The finest glass sand is almost at its door”⁹ (Owens-Illinois 1930:10).

Containers and Marks – American Bottle Co. (1905-1916)

Manufacturer’s marks used by the American Bottle combine fall into two temporal categories: 1) those used by the American Bottle Co. from 1905 to 1916; and 2) those used by the American Bottle Co. under the control of the Owens Bottle Co. for products made at Streator and Newark from 1916 to 1929. It is important to note that virtually none of the American Bottle Co. marks appeared on machine-made containers until after 1916.

Timing is important. Few bottles were probably produced during 1905. The merger that formed the American Bottle Co. did not take place until April. There was almost certainly some administrative delay, and contracts under the Ohio Bottle Co. name were almost certainly marked with the O.B.Co. logo. Production under the American Bottle name is unlikely to have commenced prior to October and probably began later. If any bottles were made using American Bottle marks in 1905, they were not date coded. The earliest date codes we have seen are “6-B” and “6-S.” We have thus used 1906 as an initial date in the date ranges below. See Table 1 for a summary of marks and codes.

⁹ Toulouse (1971:32) claimed that the remaining Streator plant burned in 1938 and was never rebuilt. He was incorrect.

Table 1 - The AB-Series of Manufacturing Marks

Mark	Company	Dates
AB	American Bottle Co. (Belville, Illinois)	1906-1909*
AB Co	American Bottle Co. (probably St. Louis or Belville)	1906-1907?
A B Co	American Bottle Co. (Streator, IL, poss. other plants)	1906-1916
6-B, 7-B, 8-B, 9-B	American Bottle Co. (Belville, Illinois)	1906-1909
6-S, 7-S, 8-S, 9-S, 0-S, 11-S, 12-S	American Bottle Co. (Streator, Illinois)	1906-1912
S-12, S-13, S-14 (probably S-15)	American Bottle Co. (Streator, Illinois)	1912-1915
16 S through 29 S on heels**	American Bottle Co. (Streator, Illinois)	1916-1929
16 N through 29 N on heels	American Bottle Co. (Newark, Ohio)	1916-1929
25S through 31S on bases	American Bottle Co. (Streator, Illinois)	1925-1931†
25N through 30N on bases	American Bottle Co. (Newark, Ohio)	1925-1930†

* On machine-made bases, the AB-ligature may have been revived from ca. 1915 to ca. 1917.

** Toulouse (1971:30) incorrectly showed this mark as S₁₇ and Newark as N₁₇. The marks were most common from 1916 to 1923, then the use decreased dramatically.

†† The use of these codes continued for the first year or so after the plants had become part of the Owens-Illinois Glass Co.

Date Codes

Early Date Codes - Bottlers and Brewers

The American Bottle Co. appears to have been the first glass manufacturer to offer consistent date codes to its customers. The Illinois Glass Co. embossed some Hutchinson-style and crown-finished soda bottles with “01,” “02,” or “03” (in .03 or ‘03 or -03



Figure 6 – 322.02 code on heel



Figure 7 – Henry Lubs & Co. 1885 date code (eBay)

formats – following a three-digit catalog or model code), and we originally thought that those could be date codes. However, some of those codes appeared on soda bottles used by bottlers that were initially in business well after 1901-1903, such as the heelcode in Figure 6 on a bottle used by a company that was not in business until after 1906. However, there is a possibility that the factory used older molds without changing the codes.

The date code story actually began when some soda bottlers started using date codes during the 1880s. For example, Henry Lubs & Co. used a bottle with an 1885 date code (Figure 7). The American Bottle Co., however, may have picked up the idea for date codes from brewers and soda bottlers. Bottles from the Rochester Brewing Co., Boston Branch, were embossed with cursive “93,” “95,” “96,” and “97”

under the name (also in cursive) on the body. These are almost certainly date codes for 1893-1897.

The Harvard Brewing Co. had the word “REGISTERED” at the heels of its bottles, along with “98,” “00,” “1900,” “1901,” and “1902” embossed on the body (in quotation marks) below the company designation – again references to 1898-1902 (Figure 8). Some of the bottles for each of these breweries were made by Edward H. Everett, one of the forerunners and founders of the Ohio Bottle Co. Since Everett became the top executive for the



Figure 8 – Date code on Harvard Brewing Co. (von Mechow 2013)



Figure 9 – 1907 W.H. Jones & Co. (Peter Samuelson)

American Bottle Co., he may have remembered these beer bottles from his independent days. Another example, W.H. Jones & Co. (a distillery, not a glass house), used a four-digit date code on its whiskey bottles from 1896 to 1915 (Figures 9-11). These were mostly embossed on bases (Samuelson 2006:11-12).

Chessman and Abbott (1991:flyleaf) showed codes of E1, E2, E3, E4, and E5 that they attributed to Everett’s factory. Unfortunately, they offered no explanation for the marks nor any indication of bottle/jar types. However, Creswick (1987:50) listed grooved-ring wax-sealer jars with “E1,” E2,” and “E5” embossed on the bases

(Figure 12). Although Creswick made no attempt to identify the maker, these are probably the marks referred to by Chessman and Abbott. Since the Edward H. Everett Glass Co. was in business from 1885 to 1904, there is no intuitive reason to believe that these marks were date codes. It is more likely that they were mold codes. An E4 mark was also used by Essex Glass Co. on milk bottles, but that cannot be confused with Everett, who never made milk containers.

American Bottle Co. Date Codes

Both the Belleville and Streator plants of the American Bottle Co. used date and factory codes on many of their bottles. These were always embossed in small font on the heels (usually reverse) of bottles. The codes generally followed a system of $x - y$ – where x was the one- or two-digit date code, and y was a single-letter plant code. Thus, 6-B would equal a 1906 manufacture at the Belleville factory. A 9-S mark indicated production at Streator in 1909. As discussed below, many bottles either lacked date/plant codes, or they were so faint that recorders missed them.

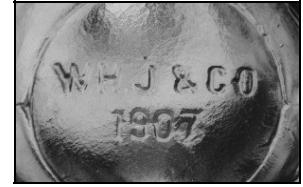


Figure 10 – W.H. Jones & Co. 1907 (Peter Samuelson)



Figure 11 – W.H. Jones & Co. 1915 (Peter Samuelson)

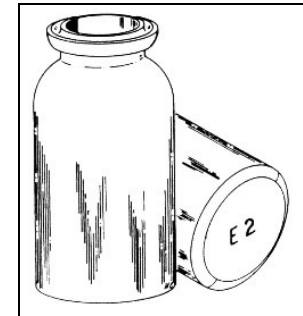


Figure 12 – Wax-sealer with E2 (Creswick 1987a:50)

Date codes we have seen associated with the AB-ligature mark (see below) range from “6-B” (identifying the Belleville plant and the year 1906) to “9-B” (1909). It is possible that bottles were made with no date codes during the September to December period of 1905, although it is more likely that no bottles were



Figure 14 – 6-S – the date/plant code (Fort Stanton collection)

made with American Bottle Co. logos and codes during 1905. The Belleville factory closed in 1909, and we have only discovered a single “9” date code along with the ligature logo. We therefore suggest a date range of 1906-1909 for the mark (Figure 13).



Figure 13 – 6-B – date/plant code

The Streator plant used a virtually identical code, except that an “S” indicated the plant (Figure 14). This was accompanied by the A.B.Co. logo. However, the “S” code was often recorded without the hyphen. These, indeed, may have been engraver’s errors, although the hyphen was frequently indistinct and may have been overlooked. Since Streator was making



Figure 15 – 0-S ABCo



Figure 16 – 12S date-plant code (eBay)

mouth-blown bottles until 1914, the sequence extended to higher numbers. A single zero “0” indicated 1910, but a double-digit code appeared in 1911 (Figure 15). The 1911 code maintained the left-date configuration, but 1912 codes have been reported with the date both to the right *or* the left of the plant letter, often without the hyphen (Figure 16). By 1913, the date had fully migrated to the right and remained in that position in 1914.

Systems tend to be imperfect, and this one is no different. Mold makers have bad days just like everyone else (Figure 17). Thus, some numbers and/or letters may be incorrect and not fit into the above categories. In Hutchbook (Fowler 2013), collectors and researchers reported Hutchinson soda bottles to the central source for inclusion in the database of all known Hutchinson bottles. For example, an entry like 9-3 was probably 9-S, and 3-B was likely 8-B. Others are not as intuitively obvious (e.g., 4-S ABCo or 2-S ABCo), but these are still probably misreads. Other unusual codes may be real. Hutchbook



Figure 17 – Reversed AB-ligature (Scott R. Keene)

reported codes of ABCo S-15 (two examples) and 16-S ABCo (one example). These *may* indicate that a few bottles were still mouth-blown in 1915 and even 1916 – just before the Owens takeover.

Another type of code appeared to the right of the heelmark. These were two to three digits in size and probably indicated a catalog code, model code, or proprietary order number. Most of these were reported without date/plant codes, although that may only indicate that the codes were too faint to be noticed or were just overlooked. Many bottles in Hutchbook were reported with “33” instead of a logo. A total of 35 other bottles (6.0% of the total) were listed on Hutchbook with codes that were deemed to belong to the American Bottle Co. – but logos were not reported.

A final code set appeared mostly on bases. These were one- to four-digit numbers embossed beneath the logo. These could also include number-letter combinations, and they could appear in one or two rows. These probably constituted an elaborate system of mold codes for quality control. The numbers probably represented sequential molds. Thus, lower numbers were *probably* used earlier than higher numbers, and double rows were likely later than single rows. However, this information can *never* be used in an absolute way. As molds wore out, they were replaced, and some molds would have been placed on the shelf during slack periods – but not removed in any specific order. Thus, the order would have been at least somewhat randomized within a very few years or even months. See Lockhart et al. (2011) for more discussion about mold codes.

The Hutchbook reporters recorded a total of 582 Hutchinson bottles with American Bottle Co. logos. Of these, 147 (25.3%) had the AB-ligature, 400 (68.7%) were embossed with the ABCo logo, and 35 (6.0%) had some form of code that suggested the American Bottle Co.

Bottles with the AB-ligature included 129 examples (87.8%) with the logo but no date/plant codes and only 18 (12.2%) accompanied by Belleville codes. It would be instructive to know if a similar situation occurred in beer bottles. The percentages were somewhat reversed on reports of ABCo bottles. Of these, 283 (70.8%) wore Streator codes, while 117 (24.3%) lacked the codes. A final interesting statistic is that Belleville made date-coded bottles for four years (1906-1908), 33.3% of time that Streator was making coded containers (1906-1914).

Although Belleville production technically continued into 1909, we have only seen one example. Thus, the statistic is more correct with Belleville production set at four years than at five. During that period of time, Belleville produced 157 bottles with the AB-ligature Hutchinson bottles, 37.5% of the output of Streator, ABCo logo (400 bottles).

Connection – American Bottle and Owens Bottle Date Codes

Both the American Bottle Co. and the Owens Bottle Mfg. Co. appear to have adopted date codes during the same year – 1905. In each case, the codes included a single-digit year code and a letter code for the producing plant. This virtually simultaneous adoption of date and plant codes is not surprising, considering the close working between the two firms in production, development, and marketing.

Since the codes seem to have been used more consistently in the beginning by American Bottle, that firm was likely the originator of the idea. Most of the very early codes were required by breweries and bottlers, almost certainly to help track the lives of returnable bottles. The early factory logos also appeared on returnable containers, again probably within the context of bottle longevity. Although this is speculative, American Bottle likely first adopted the system, then Owens Bottle picked it up when it made containers for American Bottle.

The Owens codes differed from those of American Bottle in that they were mostly embossed on bottle bases and lacked a hyphen between the codes. Most Owens codes placed the plant letter in the center of the base with the date code below it, and these were used much more sporadically than the American Bottle logos. In 1919, the newly renamed Owens Bottle Co., adopted the Square-O logo and switched to double-digit codes, one single-digit numeral indicating the plant, the other the date – plant code to the left, date to the right. The codes could appear on either side of the Square-O logo or one number on each side. For more information, see the section on the Owens Bottle Co.

A, B, and S

When the Bottle Research Group analyzed Pitcher's and Fletcher's Castoria bottles (Lockhart et al. 2013), we developed a hypothesis that most of the mouth-blown Pitcher's bottles

and all of the mouth-blown Fletcher’s bottles were made by the American Bottle Co. between 1905 and ca. 1914.¹⁰ The Ohio Bottle Co. made medicinal bottles, and the American Bottle Co. apparently followed in its footsteps.

We developed a sample of 20 mouth-blown bottles embossed “DR. S. PITCHER’S” on one side panel. One had a very different base from the others and was almost certainly made by a different (probably earlier) glass house (and has only a “1” or an “I” embossed on the base). All the others had identical patterns – a single letter, followed by a period, a one- or two-digit number, then another period. However, only three letters were used: A, B, and S (Figure 18). The letter “A” appeared seven times in our sample (A.23.-A.33.); B also had seven examples (B.19.-B.90.); and S showed up five times (S.1.-S.89.).



Figure 19 – Comparison of Pitcher’s and Fletcher’s Castoria bases with “S” codes



Figure 18 – Pitcher’s Castoria A, B, and S basecodes

Our sample of mouth-blown “Chas. H. Fletcher’s” bottles consisted of eleven examples. Each of the mouth-blown bottles shared all the manufacturing characteristics of the Pitcher’s bottles (except the substitution of the Fletcher’s side panel), and all were embossed with the “S . # .” pattern on the base – and *only* the letter S in the code. The range of these in our sample is from S.12. to S.88. (Figure 19). Interestingly, there is an “S.88.” mark on both Pitcher’s and Fletcher’s bottles.

The limit of only these three letters cannot be accidental. Ignoring the “A” for a moment, the two main factories of the American Bottle Co. that made mouth-blown beer and soda bottles were Belleville and Streator, and they used “B” and “S” heelcodes, respectively, to identify each plant. Our dating of the Pitcher’s bottles – based entirely on manufacturing characteristics (notably vent mark patterns) – was ca. 1900-ca. 1905 or later. We had dated the Fletcher’s mouth-blown bottles from ca. 1905 to ca. 1916.

¹⁰ These were the *very* common Pitcher’s and Fletcher’s Castoria bottles that had embossing on both side panels and used paper labels for the main identification.

Recall that the Belleville plant was only open from 1905 to 1909 – the period when Pitcher’s bottles were made. Fletcher bottles, however, were almost certainly produced after the Belleville plant ceased operations. In addition, when Fletcher began using machine-made bottles, he chose the Owens Bottle Co., the firm that had purchased the American Bottle Co. in 1916. The earliest example of a machine-made Fletcher’s bottle in our collection was manufactured in 1917. This suggests a continuation of bottles from the same firm.

Returning to the “A” basemarks, the reason for these is not as intuitively obvious. The pattern is exactly the same as both the “B” and “S” logos (A.23. and A.33.), and the font style and size are identical. It is virtually certain that these bottles were made by the same mold shop – possibly the same mold maker. The “A” likely indicated “American” and these bottles may have been made by one of the Massillon plants. When Belleville, later Streator took over, the “B” and “S” heelcodes appeared. Bases with the “A” mark may have continued until the molds wore out – regardless of factory. See Table 2 for a chronology of the bottles.

Table 2 – Chronology for Plant Codes on Pitcher’s and Fletcher’s Castoria Bottles

Date Range	Probable Bottle Manufacturer	Basemark
DR. S. PITCHER’S		
ca. 1900-1905	unknown glass house – poss. Ohio Bottle Co. in 1904	1 or I
ca. 1906-1907	on of the Massillon plants, American Bottle Co.	A. {number}.
1907-1909	Belleville plant, American Bottle Co.	B. {number}.
ca. 1908-ca. 1910	Streator plant, American Bottle Co.	S. {number}.
Chas. H. Fletcher’s		
ca. 1910-ca. 1914	Streator plant, American Bottle Co.	S. {number}.
ca. 1917-1919	Charleston plant, Owens Bottle Machine Co.	C {number} + dots

AB or A.B.

Initially, we classified this mark as belonging to the American Bottle Co. The mark was listed by Ayres et al. (1980), and they guessed that it was used by the Adolphus Busch Glass

Works during the 1886-1888 period. The Ayres bottle was embossed on the base “A.B. / 77.” We examined a second example embossed “A.B. / 74” with both the logo and the numerical code reappearing as a double stamp (Figure 20). These double stamps were apparently only found on bottles that were mouth blown into two-piece molds during the ca. 1895-1915 period (see discussion below). The bottle we examined had a tooled finish, and we had tentatively identified the maker as the American Bottle Co. However, the discovery of an example with an applied finish caused us to reexamine our stance. See the section on the Perplexing AB Logo on Beer Bottles for a discussion of the “AB” and “A.B.” logos.



Figure 20 – A.B. / 74 basemark

AB-ligature (1905-1909)

Toulouse (1971:26-27) attributed the AB-ligature manufacturer’s mark to the Adolphus Busch Glass Mfg. Co., Belleville, Illinois, and dated its use between about 1904 and 1907. Ayres et al. (1980), however, noted cases where the mark was followed by “Co.” – a configuration that is much more in keeping with the American Bottle Co. name. We concur with the Ayres group and further assign the mark to the Belleville, Illinois factory. For more discussion of the background of the mark and research leading to the identification, see Lockhart (2004a; 2004b). Although we have dated the logo to the 1905-1909 period of the Bellville factory, see the Discussion and Conclusions section for a possible alternative.

The AB-ligature mark is generally found embossed on the bases of generic (slick-sided) export beer bottles (Figure 21). We have yet to find it on body-embossed beer bottles, although the logo was used as a heelmark on Hutchinson soda bottles that were also embossed with the bottlers’ names on the sides. All known examples were blown into a mold, and the only paper labels we have seen on bottles with this logo were from the Anheuser-Busch Brewing Co. – specifically Budweiser. Because generic (slick-sided) beer bottles could be reused by *any* brewer, however, other brands can certainly be found.



Figure 21 – AB-ligature on an export beer bottle base (eBay)

The AB-ligature mark varied in three aspects. First, the distance between the “legs” of the “A” was inconsistent. This affects two visual impressions: 1) the “A” looked wider or thinner; and 2) the slant of the “B” changed. Second, the baseline of the “B” was usually horizontal. However, occasionally, the baseline was so short that it appeared more slanted. Finally, the comparative size of the upper part of the “B” (relative to the lower part) was inconsistent. Usually, the lower part was larger; sometimes the two parts were the same size; and occasionally, the upper part was larger. These variations were probably based on the whim or skill level of the individual mold maker, and there appear to be no temporal connections to any of these attributes.

Whereas beer bottles with the AB-ligature mark were ubiquitous, soft drink bottles bearing the logo appear to be comparatively uncommon. Soda bottles marked with the AB-ligature followed a different pattern. Miller (1999:21, 36), for example, showed two examples, both of which included circular plates on the front embossed with the names of local Arizona bottlers. These included a crown-finished bottle embossed AB (ligature) 170 on the reverse heel, and a Hutchinson bottle marked AB (ligature) 32, also on the reverse heel. Miller dated the bottles 1905-1906 and 1906-1907, respectively. The numerals following the marks are very likely catalog or model numbers.

Hutchbook (Fowler 2013), the database of all known Hutchinson soda bottles, listed a total of 582 Hutchinson bottles with codes or logos identifying the American Bottle Co. Of these, 147 (25.3%) were embossed – almost all on the reverse heel (one on the base) – with the AB-ligature (Figure 22). The vast majority of these (129 – 87.8%) did *not* include the typical *x*-B date/plant code. Only 18 (12.2%) actually used the code.



Figure 22 – AB-ligature on Hutchinson bottle heel (Bill Porter collection)

We should note here that Hutchbook was compiled by collecting information from Hutchinson bottle collectors and researchers throughout the United States (including three of the authors of this study). Since many of these contributors may not have been fully aware of the American Bottle Co. codes, and because many logos on bottle heels may have been partly obliterated by wear or cleaning or may have been somewhat illegible due to manufacturing processes, there may have been a significant amount of misreading of the embossed codes.

The AB-ligature heelmarks also occasionally appear on machine-made beer bottles. Although we have observed literally hundreds (possibly even thousands) of bottles with the AB-ligature mark, we have only seen four with machine characteristics (and AB-ligature basemarks). We found no other American Bottle Co. marks on machine-made bottles, and we have no explanation for this unusual phenomenon.

A very unlikely setting for one of these marks was a toothpick holder (Figures 23 & 24). The material was a swirled yellow, orange, and red glass that was pressed into the shape. Of greatest interest, the AB-ligature was embossed on the *inside* base of the holder. The holder may have been made by a tableware factory for the Belleville plant, although the firm may have purchased a single press to make these as promotional items. An identical piece was offered on eBay in yellow fading to colorless. Unfortunately, we have lost the provenience for the toothpick holder.

AB-ligature-plus-Co (1906)

This mark is rare, and we have only seen two examples, both on bases of export beer bottles, accompanied by a “6-B” date code on the heels (Figure 25). There is also a letter/number combination below the mark and a number below the letter/number combination. Because the mark seems to be limited to this single year, and because of the factory code, we hypothesize that the mark was used by the St. Louis plant that Busch withdrew from American Bottle in 1906. Thus, the “B” in the code might indicate “Busch” rather than “Belleville.” Unless we find new evidence, we consider a date of 1906 the best choice for this mark.



Figure 23 – Toothpick holder with AB-ligature logo inside



Figure 24 – AB-ligature logo in toothpick holder



Figure 25 – AB-ligature plus Co.

ABCo in an arch (ca. 1907)

We have only seen a single example of this configuration on the base of an export beer bottle in the Tucson Urban Renewal collection (Figure 26). Because the accompanying heelcode was “7-B,” the producing factory was probably Belleville, and the date was 1907. This is also the only example we have found of a Belleville code with an ABCo logo.



Figure 26 – ABCo in an arch (Tucson Urban Renewal collection)

ABCo horizontal across the base (1905-1914)

The ABCo mark was embossed on beer and some soda bottles across the center of the base or slightly above center. Although we originally divided the logos into two variations, large and small, this appears to be more of a continuum and is probably more related to the whims of individual mold makers than to a connection with factories or date ranges (Figure 27). The mark was often accompanied by date codes but was also frequently by itself. It was used with the “S” series (“6-S” through “11-S” and “S-11” through S-14” – including 0-S for 1910) and “B” series codes (“6-B” through “9-B”).



Figure 27 – Horizontal ABCo basemark (eBay and Fort Stanton collection)

Double Stamps

Variations include ABCO, ABCo, and A.B.Co. on bases. All may appear with or without numbers or letter/number combinations, and numbers may be in two rows. Sometimes, these marks appeared to be double stamped (see Figures 19, 26 & 28). We have yet to discover a historical reference for this phenomenon; however, Rosewarne (1971:27-28) explained:

The heated blowing iron is dipped into the pot of molten glass and rotated to gather the viscose glass on the end of the iron. The gather of glass on the iron is shaped into a blank or parison. The parison is then lowered into the open mold. The parison extends till it touches the base plate of the mold. The mold bottle is blown. When the glass touches the base plate during its extension it flows into

the engraved number creating one impression. The closing of the mold moves the parison and a second impression is made. . . . Glass has the property of “remembering” all marks placed on it.

Table 3 – Date Ranges for Double Stamp Companies or Marks

<u>Mark</u>	<u>1880</u>	<u>1885</u>	<u>1890</u>	<u>1895</u>	<u>1900</u>	<u>1905</u>	<u>1910</u>	<u>1915</u>	<u>1920</u>	<u>1925</u>
ABCo								-----		
ABGCo (1)	-----									
ABGMCo			-----							
AGW (Richmond)							-----			
Boley Mfg. Co. (1)							-----			
C&Co (1)		-----								
DOC (3)	-----									
MB&GCo (1)					-----					
PCGW [1909-1924]							-----			
FER&Co (1)					-----					
R&Co (arch) (1)		-----								
SF&PGW (1)	-----									
SB&GCo (few)				-----						
WOOSTER (1)						-----				

This process may have developed when the foot operated molds became more common. In most cases, a mold boy opened and closed the molds. If the blower performed that operation with his foot, he may have needed to feel the contact with the base to properly position the parison. At least 17 different glass houses made bottles with double-stamping on some bases (Table 3). Even within those firms, however, the double-stamp was never the norm. Dating of the phenomenon is based on empirical data. A major exception was the Adolphus Busch Glass Mfg. Co. The Busch plants apparently adopted the technique ca. 1890 and used it on a fairly regular basis. The method seems to have spread from there. Typically, however, the technique was used between 1895 and the end of major mouth production of beer bottles ca. 1917.

As noted with the AB-ligature mark above, the ABCo mark was also often used with no date code, possibly at the Massillon factories. The logo was probably used from 1906 to 1914, possibly a year later. Giarde (1980:7) noted the mark as being used between 1905 and 1916. His specialty area was milk bottles, but he did not claim that any milk bottles were made by the American Bottle Co.

A.B.CO. horizontal on heel (1905-1914)

The A.B.CO. heelmarks we have seen all used an upper-case “O,” usually included punctuation, and frequently were followed by three- or four-digit numbers that were probably model or catalog codes (Figure 28). Sometimes a single numeral or letter was placed under the other numbers. Often accompanying date codes were mistaken for an “SABCO” mark (see next entry). The logo was probably used during the entire tenure of the company’s hand production (1906-1914).



Figure 28 – Horizontal ABCo heelmark (Fort Stanton collection)

An interesting adaptation of this mark, and possibly its earliest use, was on cobalt blue Bromo-Seltzer bottles (Figures 29 & 30). Three of these bottles were excavated at Skagway, Alaska. They were embossed on the side with BROMO-SELTZER / EMERSON DRUG CO. / BALTIMORE, MD., on the heel with ABCO, and on the base with 1261 / 17; 1261 / 35; or 1262 / 12

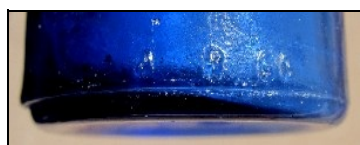


Figure 30 – Bromo heelmark (eBay)

(Cooper 2001:141, A 2-3). Because the *National Glass Budget* (see above) noted that the Ohio Bottle Co. received an immense order for Bromo-Seltzer bottles from the Emerson Drug Co. in 1905, these are certainly more of the same order but made by the American Bottle



Figure 29 – Bromo bottle (eBay)

Co. The mark on *Bromo-Seltzer bottles* can thus be dated 1905-1906, although actual production may not have commenced until 1906. These bottles appear to be scarce or even rare, and we have not been able to examine an actual example.

Bromo-Seltzer bottles made by the American Bottle Co. were different from those made by other manufacturers in several ways. The ABCO on the reverse heel was tiny but distinct

(although the “B” was crude in our only photo). The most notable trait, however, was the base. The bases were embossed “1261 / xx” – the upper number as the model code, the lower the mold number. Cooper (2001:141, A 2-3) also noted a 1262 basecode. We have not examined one of the latter bottles, but they may have been made to correct the defects of the 1261 model.

Our example was somewhat crude, with finials protruding from the seams on both shoulders. The bottle was mouth-blown into a mold, with a tooled finish. The neck (1" [2.5cm.] v. 1 1/8" [2.9 cm.]), finish (1 1/8" [2.9 cm.] v. 1 1/4" [3.2 cm.]), and throat (9/16" [1.5 cm.] v. 3/4" [2.0 cm]) were all smaller than on machine-made Bromo-Seltzer bottles of the same capacity, and the lettering on the front was much smaller font size (3/16" [0.5 cm.] v. 1/4" [0.7 cm.]). The shoulders of the bottle were more rounded than later Bromo bottles. The bottle had four vent marks on each shoulder and one at the heel on the front side. In addition, each of the letters on the front embossed label had a poorly concealed vent mark. If this bottle is an indication of overall quality, it is not surprising that the American Bottle Co. failed to continue with the Bromo-Seltzer contract.

“SABCo”

Although this mark was listed by Mobley (2004 – two examples), Miller (1999:17 – one example), Fowler (1998:21, 26, 41, 69 – four examples), and Clint (1976:194 – one example), this was actually the same ABCo heelmark described above with a typical American bottle date code instead preceding the logo and lacking any spacing. For example, 7-SABCo means the bottle was made by the Streator plant of the American Bottle Co. in 1907 (7-S ABCo). Date codes range from 6-S to 12-S (including “0” for 1910) in our sample. In the secondary sources, “ABCo” is listed for these bottles with both a capital and lower-case “o,” but our few personal examinations only had the lower-case letter.

The Missing Logos and Codes

As often happens in bottle research, the more answers we find, the more questions appear. If the AB-ligature was used by Belleville, and the ABCo mark was used by Streator, where are the logos for the plants at Massillon and – especially – Newark. Did the former Reed & Co. factories continue to use their older “R&Co.” logo? Did the former Massillon Bottle &

Glass Co. maintain its “MB&GCo” mark? Were *these* the plants that used the ABCo logo with no date/plant codes? This makes a good hypothesis, but how can we test it? How do we explain the AB-ligature marks with no date/plant codes?

We can speculate with a little more accuracy about the lack of a logo and date/plant codes for the Newark factory. Chessman & Abbott (1991:32, 36) is the *only* source we have that suggests mouth-blown production continuing at Newark and the only source that marks 1914 as the year that the hand technique ceased. While empirical evidence supports the 1914 cutoff date (with just a few bottles continuing with 1915 and 1916 dates), it seems much more likely that the huge 1907 renovation of the Newark plant completely eliminated mouth-blown production at that location. However, the Newark plant may have made some bottles with the ABCo logo during those years.

Containers and Marks – American Bottle Co. (1916-1929)

When the Owens Bottle Co. bought the controlling stock in the American Bottle Co., there were only two factories still in operation – Streator and Newark. Both of these were equipped with Owens machines and had eliminated hand production.

16 S Series (1916-1929)

Beginning in 1916, the former American Bottle Co. plant at Streator, Illinois, began marking its bottles with two-digit date codes, followed by the letter “S” – then a one-or two-digit “mold” code (Figure 31). The marks were always embossed in a line on the heel of



Figure 31 – 16 S 2 heelmark on beer bottle

the bottle, and we have only seen them on soda or beer bottles, usually the former. The preponderance of soda bottles is hardly surprising, since most of the life of the mark was during Prohibition – eliminating most beer bottle manufacture. All bottles bearing the mark were machine made. The mark was most prevalent during the earliest seven or eight years of its use (see S 25 series below and the 1920s Slump and Its Consequences above). Toulouse (1971:455) noted that “it is rare to find a year designation by a number higher than 21, 22, or 23.” We have recorded date codes as high as 29 (e.g., “29 S 2”), although the most common codes are 16-18.

While we concur with the Toulouse observation about the date codes becoming less common after 1923, he failed to explain the phenomenon. The explanation requires another observation: Most bottles with the 16 S series marks are also embossed on the body with information identifying the bottler or brewery. The American Bottle Co. devised a completely separate marking system for generic or “slick-sided” bottles (i.e., those without side or body embossing) with the onset of Prohibition (see 25 S series below).

The gradual disappearance of the 16 S series of marks corresponds with a national trend in the soft drink industry toward bottles with paper labels. From the earliest development of embossed body labels in the early 1800s, the style had become progressively popular with beverage bottlers in the U.S. Beginning about 1916, however, an increasing tendency toward the use of paper labels on soft drink bottles swept the industry (see Lockhart 2003:24-25). Paper labels had been the industry standard for beer bottles in the West since Anheuser-Busch first used Pasteurization to enable the sale of bottled beer at long distances in 1872 (although there were exceptions). Eastern and Midwestern bottles were made in both embossed and paper-label patterns, but near-beer bottles during Prohibition were primarily paper labeled. As the trend toward paper labels increased, the use of the 16 S series of marks (associated with embossed bottles) decreased.

Toulouse (1971:454) reversed the order of the mark and was confused about the configuration, listing it as S₁₇. Although we have examined literally hundreds of bottles with the 16 S series of marks, we have yet to find a single bottle with the S₁₇ configuration.

S

Peters (1996:9) claimed that an “S” mark was used by the American Bottle Co. for bottles made by the Streator plant. Unfortunately, he did not justify his assertion, and he may have been referring to the 16 S series (below) or the heelcodes noted above. Circumstantial evidence from Arizona Coke bottles suggests that the “S” may have been used on Coca-Cola bottles (Figure 32) only by Southern Glass Co. (personal communication, Mike Miller 9/19/2006; Bill Porter 5/7/2010). See the section on the Southern Glass Co. for more details.



Figure 32 – S on Coke bottle base

16 N Series (1916-1929)

Similar to the 16 S series, the 16 N series identifies the product as being made at the Newark, Ohio, plant. These bottles are much less common in our sample than those embossed with the 16 S series of marks. Again, Toulouse (1971:373) presented the configuration as N₁₇, but we have never seen the mark in this form.

In other aspects, the 16 N series mirrored the 16 S series, except for being less common. The marks appeared on machine-made, embossed beverage bottles. The 16 N series seems to have disappeared with the final 1923 date code, but this may be related to the small sample observed. The Newark plant either continued to make unmarked bottles or shifted to the manufacture of other bottle types. The plant may have only made beverage bottles when demand exceeded the production capabilities of the Streator factory.

Giarde (1980:7) included the logo along with the “N” series with his dairy bottle marks “in the event this company is confirmed as to milk bottles.” There is no evidence that American Bottle ever produced milk containers of any kind. The firm certainly had no Owens license to do so. The 16N series was likely used from 1916 to 1929. Occasional reports of earlier date codes were probably in error or may have referred to basemarks on grape juice or catsup bottles (both often made with crown finishes – therefore mistaken for soda bottles) manufactured by the Owens Bottle Co. Owens used codes (e.g., 4 / N or 6 / N), possibly as early as 1911 extending to 1917 or later.

AB on Clicquot Club Bottles and ABC

Markings on Clicquot Club bottles add an intriguing dimension to the discussion. Clicquot Club sodas began in 1881 and added the Eskimo logo in 1913. See Hopson (2000) for more information on the company. On at least one style of Clicquot Club bottle, the Eskimo logo on the base is flanked by the letters “A” and “B” (Figure 33), and at least one of the AB/Eskimo bottles has a small “26” embossed below the “A.” This is likely a date code for 1926.



Figure 33 – AB – Clicquot Club bottle

It is entirely possible that Clicquot Club restricted its bottle makers as to how they could mark products destined for Clicquot. This was not unusual. Both Coca-Cola and Pepsi-Cola (Lockhart 2003; 2004c) required specific markings from bottle manufacturers. Thus, the “AB” split around the Eskimo logo may have indicated the American Bottle Co. However, it is also possible that the bottles were made by Adolphus Busch.

Another odd anomaly is an amber base with a fleur-de-lis in the center flanked by an “A” and “B” mark. Since the mark is similar to those on the Clicquot Club bottles, it may have been used by the same glass house.

17 • B • 174

We have observed the 17 • B • 174 mark on the heels of dozens of squat, amber bottles of the type used for Bevo, the near-beer or cereal beverage made by Anheuser-Busch from 1916 to 1929 (Plavchan 1969:159, 616) and used for other types of malt beverages (e.g., Malt-Nutrine). Although this mark is similar to those used by the American Bottle factories during the 1916-1929 period, the font size is slightly larger, and the dots have never been noted in American Bottle marks (Figure 34). The “B” is also problematical, if the “17” is a date code (which seems likely from the type of bottle). The Belleville plant had closed in 1909.



Figure 34 – 17 • B • 174
heelcode on Bevo-style bottle

The “B” was sans serif, similar to those used by the Buck Glass Co. (see a more thorough discussion in the Buck section). Buck was certainly open during the period, and the plant made beer bottles. We know little about the Buck codes, however, so this may indeed be the mark of Buck during 1917. Although the Brockway Glass Co. and the Charles Boldt Glass Mfg. Co. both used simple “B” marks, each used marks with serifs (although Brockway used a sans serif “B” mark much later).

25 S Series (with or without underline)

Although this mark has been occasionally enumerated in archaeological reports, it was not addressed in print until Lockhart et al. (2007a) discussed the logos. These logos actually

comprise a group of date/plant codes embossed on the bases of Select style soda bottles between 1920 and 1930 (see Lindsey 2013 for a discussion of the bottle style). The marks are found mostly (possibly only) on emerald green (or forest green) and amber bottles, and all are machine made with probable Owens scars.¹¹ Although there are exceptions, the majority of these marks were underlined.



Figure 35 – 25S basemark (University of Wyoming collection)

As with the 16 S series, the “S” marks in this group are the most common. Bases of these bottles were



Figure 36 – 29 S basemark

consistently marked with a two-digit number followed by a single letter, although the marks in the S series fall into four configurations: 1) number - letter, underlined; 2) number letter (no hyphen, still underlined); 3) number - letter (no underline); and 4) number letter (no underline). Our recorded S series marks extend from 25 (1925) to 30 (1930), and, as noted above, these are far more likely to be underlined than not (Figures 35 & 36). The S series marks are horizontally embossed across the center of the base. The “S” almost certainly represents the Streator plant.

The N series marks also appear in all four configurations (Figure 37). These range from 1920 to 1930 (N20 and 20N as the earliest), although 1925-1930 are much more common. Like the S series, N series marks are generally embossed across the center of the base. The “N” indicates the Newark plant. As with the previous series, these are much less common in our sample than the “S” marks. It is possible that the Newark plant served the eastern U.S., while Streator supplied the west.



Figure 37 – 20N & 25N basemarks (Kelly Bottle House; Eden Atenacio)

¹¹ As the Owens system became better developed, the distinctive scars lost their distinctiveness. The “feathering” gradually disappeared, leaving no way to tell the Owens scar from that of other automatic machine marks on narrow-mouth bottles.

Although not fully pertinent to this study, the Owens-Illinois Glass Co., successors to the Owens Bottle Co., absorbed the American Glass Co. identity with the 1929 merger. However, the “30” date codes – on Select-style bottles only – indicated a manufacture *after* the merger (Figure 38). Apparently, Owens-Illinois temporarily adopted the American Bottle Co. codes. However, we have only seen those codes for 1929 through 1932, probably fulfilling existing orders.



Figure 38 – 30 - S basemark

We have also seen unusual letter codes (e.g., E, R or W) that may have indicated other plants. One example was embossed 31E in an arch at the top of the base; another was R30; and a final one was 30W (Figure 39). The “E” very likely indicated the Evansville, Indiana, plant. The “R” designation is more cryptic and may indicate a plant that is a duplication of the first letter. For example, it could be the second San Francisco plant or one of the locations that begins with the letter “C” – or the similarity could be coincidence, the mark of a different glass house.



Figure 39 – R30 30W

A.B.Co. / X / 30N

We have seen at least two examples of a green base embossed with A.B.Co. / X / 30N. Although it would be nice to find a complete bottle, this one may be a case where an old baseplate was reused with a new code set added to it. A similar base was used by the Root Glass Co., with a 1931 date code (Figure 40). Bowers & Gannon (1998) reported a similar mark: “A / B X C / 28 N.” Whether these “X” marks are connected in some way is currently unknown.



Figure 40 – A.B.Co. / X / 30N and RoXoT 31 basemarks (University of Wyoming collection and BRG)

Kate Sewell contributed a light green “slick-sided” soda bottle embossed on the base with “A” at the top, “B” to the west (as in a compass), and “C” to the east, all around a large “X”

in the center. Below the “X” was “28 N” in much smaller letters (Figure 41). The bottle was made at the Newark plant in 1928 (see below), but the “C” instead of “Co” was unique.



Figure 41 – ABC with 28N
(Kate Sewell)

A Possible Mexican Bottle

A nagging mystery has yet to be explained. A major avowed purpose of the Ohio Bottle Co. (and presumably for its successor, the American Bottle Co.) was to manufacture beer and soda bottles with the Owens machine. Despite that purpose, virtually all bottles embossed with either of the logos used by American Bottle were made by hand methods. It was not until the restructuring of 1916 that dated marks from the Streator and Newark plants (the only ones still in operation by that time) began to be embossed on machine-made bottles from the company.

The Owens machine, by all reports, turned out a prodigious supply of bottles, and the American Bottle Co. had numerous Owens machines. Where are all those bottles? They should be ubiquitous in depositions between 1906 and 1916 – but there are none in reports that we have found. Admittedly, these bottles are apparently virtually “invisible” due to the lack of manufacturer’s marks. Archaeologists report “diagnostic” bottles and fragments. That means, of course, those characteristics that the lab director of the project deemed “diagnostic” – usually not including bottles with Owens scars and no embossing. Similarly, collectors are generally uninterested in “slick-sided” bottles (i.e., those with no identifying side embossing).

But we have been *looking* – and cannot find these bottles. The Anheuser-Busch Brewing Co. was an important customer of American Bottle, and the Busch family was intimately connected with American Bottle. We would expect machine-made bottles to be common wherever Budweiser was sold. This is not the case. Almost all examples of paper-labeled Budweiser bottles we have found were embossed on the bases with either A.B.G.M.Co or one of the two American bottle logos – and they were mouth blown.

The *National Glass Budget* (1904i:1) offered the core of an explanation. By September 1904, The Ohio Bottle Co. had contracted to vend the entire supply of bottles (presumably beer) made by the Owens Bottle Machine Co. Ohio Bottle had apparently contracted to sell the bottles

in Mexico. The article speculated that the firm was selling its high-quality, machine-made bottles in Mexico to avoid causing a price drop in the U.S. Mass production by the Owens machine, with its attendant savings on labor, would eliminate much of the immediate cost of production and allow lower pricing.

The article went on to say that the Ohio Bottle Co. did not want that price drop, since many of its *own* plants made bottles by hand methods. The article indicated that bottle makers in Mexico would be angered by this policy as well as the major breweries in the U.S. Although we have found no follow-up articles, Vidriera Monterrey, one of the Mexican glass houses, received an Owens license in 1909, allowing that plant, at least, to compete against the U.S. imports. Shortly after that, the Mexican Revolution closed the factory, and much of the supply, especially in northern Mexico dried up. The American Bottle Co. stepped in to fill that gap.

It is therefore probable that all or most of the American Bottle Co. output during the 1905-1916 period went to Mexico and/or other foreign venues. By 1916, however, two possible industry changes likely altered the former plan. First, this may have been the period when Vidriera Monterrey – shut down shortly after it opened in 1911 by the Mexican Revolution – reopened and began competing with American-made soda and beer bottles. In addition, 1916 was the year that gob feeders began turning semi-automatic machines into fully automatic ones. Many soda bottle manufacturers had invented their own semiautomatics, and none of the American bottle plants still manufactured mouth-blown bottles. The time was ripe for Owens automatic production to enter the U.S. soft-drink market.

So, we now know that the American Bottle Co. shipped the entire output of beer bottles made on Owens machines to Mexico during the first decade of its existence. We have assumed that these bottles were generic with no frame of reference except the early feathered Owens scars. Randall Oman contacted us about a bottle that may change how we view these bottles.

The Oman bottle was a typical “split” amber beer bottle (i.e., half-pint) with a crown finish. The bottle had a feathered Owens basal scar and a ghost seam. It was etched with the name of the Fountain Mineral Soda Works, in



Figure 42 – Owens base (Randall Oman)

business in Honolulu, Hawaii, from 1902 to 1911 (Figures 42 & 43). What makes this bottle unique is a heelmark of “07” – a possible date code for 1907 (Figure 44).

An obvious question is: Why do we think that a Hawaiian bottle was made in Mexico? Ignoring the name of the Hawaiian firm for a moment, the base of the bottle was crudely made with a feathered Owens scar and a ghost seam on the side, both characteristic of a bottle made in 1907 – and only the American Bottle Co. was licensed to make beer or soda bottles with the Owens machine in the U.S. Even though Vidriera Monterrey received an Owens license for Mexico, it did capture that until 1909.



Figure 44 – 07 date code (Randall Oman)

In addition, American Bottle and Owens Bottle were the earliest glass firms to regularly mark its bottles with date codes, beginning in 1905. A few glass houses used dates on beer or soda bottles during the late 19th century, but those

were almost always full year designations (e.g., 1899) at the request of the brewery or soda bottler. Regular use of date codes was *very* unusual until the teens, so a 1907 date code would also suggest American Bottle.

During Prohibition, however, some soda bottlers took advantage of cheap, readily available beer bottles, converting those easily into paper-labeled soda bottles. Several Pepsi-Cola franchises, for example, bought used beer bottles, washed them and applied their own paper labels (e.g., see Lockhart 2005). In the case of the Omon bottle, the acid etching was almost certainly applied by someone other than the glass house. Assuming that the “07” was a date code (not a certainty), only the American Bottle Co. could have made the bottle during that year, and we have found no indication that American Bottle offered etching as one of its services. The logical conclusion is that the bottle was made by American Bottle for a Mexican firm, bought along with a load of other Mexican bottles by the Fountain Mineral Soda Works, and had the name etched on by a currently unknown operation.



Figure 43 – Etched label (Randall Oman)

Discussion and Conclusions

The Ohio Bottle Co., a merger of four glass firms, was a true pioneer in the bottle field. The company captured one of the first licenses for the Owens Automatic Bottle Machine, although each plant continued to use hand production initially. The firm had the exclusive license to manufacture soda and beer bottles with the Owens machine. In addition, at least one of the plants made bottles for the Liquozone Co. as well as making Bromo-Seltzer bottles for the Emerson Drug Co. Because of the next merger, the firm was short-lived – only in business during 1904 and 1905.

The Ohio Bottle successor, the American Bottle Co., added two more glass producers to the combine. It was a major manufacturer of beer bottles and a lesser maker of soda bottles during the 1905-1916 period as well as continuing Bromo-Seltzer and apparently capturing the exclusive contract with the Centaur Co. to make first Pitcher's and later Fletcher's Castoria bottles. When the Owens Bottle Co. became the majority stockholder of the American Bottle Co. in 1916, changes in style of production occurred. Probably due to impending National Prohibition, beer bottle production declined (dramatically after 1920, when such bottles were primarily used for near-beers), and soda bottle production increased.

Only two plants used the Owens Automatic Bottle Machines – the former Everett factory in Newark, Ohio and, the former Streator Bottle & Glass Co. operation at Streator, Illinois, although all plants maintained hand production (with the possible exception of Newark). All but the Newark and Streator plants had closed (or, in the case of St. Louis, been withdrawn from the combine) by 1913. Hand production may have ceased at Newark as early as 1906, and it decreased at Streator until it ended in 1914. The plants used two major manufacturer's marks, AB-ligature and ABCo. Empirical evidence suggests that the AB-ligature mark was used exclusively by the former Adolphus Busch plants at Belleville and, possibly, St. Louis. Upon the withdrawal of the St. Louis plant ca. 1907, only Belleville used the mark.

Although it is clear that the ABCo mark was used by both the Streator and Belleville plants, the reason for the logo's use by Belleville is counterintuitive. It is possible that the firm shipped older Belleville molds to Streator after the Belleville plant closed. Streator may then have added new baseplates but neglected to peen out the heelcodes. We consider this the most

likely explanation, although we have found no documentation for the phenomenon. For a summary of logos used by different plants, see Table 4 at the end of this section.

Table 4 – American Bottle Co. Plants, Marks, and Dates of Operation (1905-1916)

Plant Location	Dates	Mark	Date Code Style
Newark, Ohio (former Edward H. Everett Co.)	1905-1916	A.B. (probable)	None
Streator, Illinois (former Streator Bottle & Glass Co.)	1905-1914	ABCo basemark	6-S to 11-S; S-11 to S-14
Streator, Illinois (former Streator Bottle & Glass Co.)	1905-1911	ABCo heelmark*	6-S to 11-S
Belleville, Illinois (former Adolphus Busch Glass Mfg. Co.)	1905-1909	AB-ligature	6-B to 9-B
St. Louis, Missouri (former Adolphus Busch Glass Mfg. Co.)	1906-1907	AB-ligature Co. (probable)	6-B
Massillon, Ohio (former Reed & Co.)	1905-1913	ABCo**	None
Massillon, Ohio (former Massillon Bottle & Glass Co.)	1905-1913	ABCo**	None
Wooster, Ohio (former Wooster Glass Co.)	Closed in 1905	None	None

* These marks have been frequently recorded as SABCo.

** It is also possible that these Massillon factories either continued to use the old marks (MB&GCo and R&Co) or used no marks at all.

It is *very* unclear whether the plants at Massillon also used the ABCo logo, continued to use their former R&Co or MG&GCo marks, or used no logo at all. There are many bottles with ABCo and AB-ligature marks but no date/plant codes. Some or all of these may have been made by the Massillon factories. This may be another case where the firm shipped the AB-ligature

bottles to the Massillon plants after Belleville closed. We have no clue as to why these other plants used no date/plant codes.

The American Bottle Co. retained its identity after the Owens Bottle Co. became the majority stockholder in 1916. Although the other plants were closed, Streator, and Newark used a new heel code to identify individual factories, combined with date codes (e.g., 16 S 3 for Streator). The plants used the new system, primarily on side-embossed bottles, until 1929, although use of the mark dramatically decreased after ca. 1918 due to the adoption of paper labels by the soda industry and the reduction (and eventual end) of beer bottle production during Prohibition.

A final basemark style (e.g., 26 S – with or without an underline) was used on generic, crown-finished bottles from ca. 1925 to 1930. Letters in these marks identified surviving American Bottle Co. plants (Streator and Newark), and the two-digit codes indicated the date of manufacture. These marks are found almost exclusively on Select-style soda bottles in emerald green and amber colors. Use of the mark extended into the first year of production (1930) of the new Owens-Illinois Glass Co.

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