

Gayner Glass Works

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John Gayner and his family had a long history in the glass business. Starting in England, he soon moved to Waterford, New Jersey, then to Salem, where he incorporated the Gayner Glass Works in 1898. The business remained in the family until 1957 – although the plant continued to be called the Gayner Glass Works until it closed in 1977. By 1898, the plant specialized in battery jars but concentrated on fruit jars from 1904 to ca. 1918. From then until the end of Gayner management, the firm specialized in battery jars and large ware. The Star City Glass Co. purchased the firm 1957 and shifted production to liquor bottles and flasks.

Histories

Early Gayner Works

Toulouse (1971:217) quoted the Gayner family in describing John Gayner's early glass dealings. His first glass factory was in Bristol, England in 1865, although he moved to Portland, Maine the following year. He worked at the Crystal Glass Works in Boston until July 1867, then worked in various glass plants and joint ventures that were short lived until 1874.

John Gayner Glass Manufactory, Waterford, New Jersey (1874-1879)

With S.J. Pardessus as a partner, Gayner initiated the John Gayner Glass Manufactory at Waterford, New Jersey, in 1874 – the year claimed for founding of the Gaynor Glass Works in a 1922 Chemical Engineering Catalog and the *Story of New Jersey*, by William Starr Meyers. In 1879, the partners moved to Salem, New Jersey, leasing the Holz, Clark & Taylor plant there and renaming the operation the Broadway Glass Works (Murschell 2010; Toulouse 1971:217; von Mechow).

John Gayner Glass Manufactory, Salem, New Jersey (1879-1898)

Gayner and Pardessus gained title to the Holz, Clark & Taylor property in 1879 (for more about Holz, Clark & Taylor, see the Other H section). On April 13, 1884, fire destroyed the glass plant to the tune of a \$40,000 loss. When Pardessus withdrew from the partnership in 1885 (possibly in the aftermath of the fire?), Gayner built a new factory on Front Street – apparently the same location – with two furnaces. On November 9, 1891, John Gayner applied for a patent for a “Mold for Glass Battery Jars” and received Patent No. 478,792 on July 12 of the following year (Figure 1). Gayner operated one furnace with four pots and a single continuous tank with nine rings in 1897. The firm became the Gayner Glass Works in 1898 (Murschell 2101; Pepper 1971:207; Roller 1998; Toulouse 1971:218-219; von Mechow 2015).

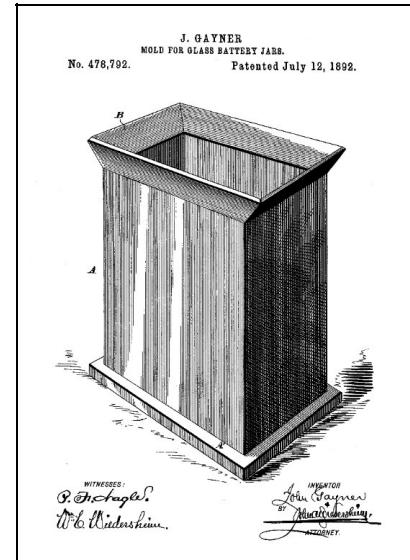


Figure 1 – Gayner 1891 patent

Gayner Glass Works, Salem, New Jersey (1898-1956)

John Gayner (with family members) incorporated as the Gayner Glass Works on November 17, 1898 (Murschell 2010; Pepper 1971:207; Toulouse 1971:218-219; von Mechow 2015). The *National Glass Budget* (1897:7; 1898:7; 1900:11; 1901:11; 1902:11) reported in 1898 that the plant used 13 pots to make “green” bottles and holloware but had increased that number to 34 by the following year. By 1900, however, he was down to eight pots and that remained steady until 1902. Despite the use of the term “pots,” these were actually rings for the continuous tank. During the 1897-1902 period, the journal continued to use the older term, even though it was reporting pots in some factories and tanks in others.

In 1904, the plant made “green and amber fruit jars” at two continuous tanks with 16 rings. John Gayner was the president of the operation with J.W. Gayner and E.J. Gayner as directors (*American Glass Review* 1934:157). By February of 1904, J. William Gaynor, John Gaynor, and Edward N Gaynor had incorporated the National Fruit Jar Co., with its principal office at the Gayner Glass Works and a capital of \$100,000 – almost certainly a subsidiary of the

Gayner firm. On September 6 of that year Gayner received Trademark No. 43,288 for “Leotric” to be used on glass fruit jars and bottles (Roller 1998).

The firm advertised on January 3, 1905, that it would produce “the new J&B jars” within two weeks (Roller 1998 – also see the section of Fruit Jars below). Toulouse (1971:215) noted that the plant made battery jars that weighed between three and twenty-five pounds. By 1913, Gayner used a combination of mouth-blown and semiautomatic machine techniques to make “battery jars, carboys, [and] water” bottles as well as a “general line of large ware” in two continuous tanks along with 22 pots (*Journal of Industrial and Engineering Chemistry* 1913:952).

By 1916, the officers of the corporation were John Gayner (president), J. William Gayner (vice president), E.J. Gayner (treasurer), and John M. Gayner (secretary). Gayner Glass Works was listed from 1905 to 1918 as making “green” bottles, battery jars, and fruit jars. By this time, the plant had two continuous tanks with 16 rings. In 1920, the plant still made green glass bottles and battery jars, but the fruit jar listing had been deleted (Roller 1998; Thomas Publishing Co. 1905:104; 1918:810, 4428, 4429; 1920:827, 4614). Why Gayner ceased production of fruit jars is unclear. There may have been a drop in the market, or he may have just wanted to concentrate of battery jars and large ware – an area with much less competition.

In December 1920, Gayner announced that the factory was installing “the most modern automatic machinery” to make battery jars at a new plant in Bridgeton, New Jersey, with one continuous tank and nine rings. The plant made a variety of products, but battery jars and large containers had become very important by 1920. However, it still produced such items as grape juice bottles and whiskey flasks. The firm increased its capital to \$150,000 the following year (Murschell 2010; Roller 1998).

Gayner began making insulators in the early 1920s, but, when J. William Gayner left the firm to make insulators at the Lynchburg Glass Co., in 1923, the Gayner Glass Works ceased insulator production. Stoudt & Whitmore (2006) stated that William left Gayner Glass because of “production problems.” Gayner not only conveyed knowledge to the Virginia firm, he brought “equipment and molds that were originally used at Gayner Glass Works” including “four hand operated insulator presses, an assortment of Gayner embossed insulator molds, and a

Gayner built automatic insulator machine.” This all suggests that William Gayner left the firm with his father’s blessings.

By 1922, the plant made “Automatic Machine Made Bottles, Insulators, Battery Jars, Acid Bottles, Carboys, Demijohns, Seltzer or Packing Bottles, Water Bottles, Large Storage Containers, and other Large Glass Specialties.”

Oddly, the Bridgeton listings disappeared after 1923. The Salem plant had converted to full machine operation by 1924, except for large bottles and specialty ware, using two continuous tanks and 16 machines. Products included “green” jars and bottles in the early days of the firm and colorless containers later (Murschell 2010; Pepper 1971:207; Roller 1998; Toulouse 1971:218-219' von Mechow).

John Gayner died in 1925 at the age of 94, and Edward J. Gayner succeeded him as president of the firm. By 1927, Gayner made “all kinds of battery jars, carboys, water bottles and a general line of large wares in light green glass only,” all by machine at two continuous tanks with 16 rings (*American Glass Review* 1927:133; Roller 1998; von Mechow 2015). Although the plant manufactured a variety of containers, it specialized in large ware and battery jars (Figure 2). At some point, the factory added compressed air to augment human blowing of these larger containers (see the description of this process below). According to Roberts (1927:15), the 1927 output was:

150,000 carboys, each capable of holding 12 gallons of acid; 300,000 bottles, each of 5-gallon capacity; and substantially 500,000 battery jars. While the plant does make some Jericho ware – that is, bottles ranging in capacity from half a pint to one gallon, still most of the smaller containers turned out average half a gallon in capacity.

In 1933, the listing added fruit jars, and the green glass only stipulation was gone. The next year, the plant added packers’ ware and druggists’ ware. John M. Gayner became president, treasurer, and general manager of the company upon the death of his father, Edward,

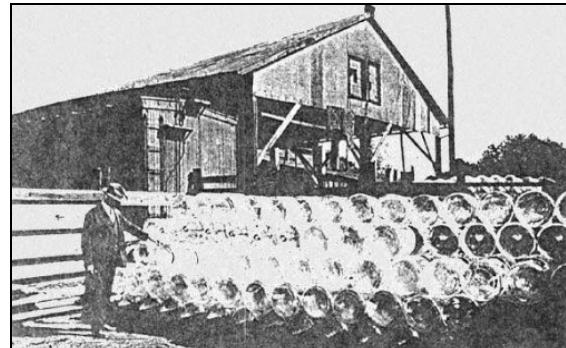


Figure 2 – Carboys at Gayner (Roberts 1927)

in March of 1937, and the fruit jar listing disappeared again that year. In 1938, the plant added chemical containers and specialties and installed a third continuous tank about this time (*American Glass Review* 1933:64; 1934:92; 1938:76 Toulouse 1971:219).

By 1942, the plant's capacity had increased to three continuous tanks with 22 rings (*American Glass Review* 1942:100). The plant was one of the numerous factories that made beer bottles in the early days after the repeal of Prohibition (*Ceramic Age* 1933a:25). A *Glass Industry* article in 1944 claimed that Gayner was almost fully automated, but the plant still made some items – notably “carboys, battery jars and other specialties” by hand (Roller 1998).

The company remained under Gayner family control – with Lewis F. Gayner assuming the presidency in 1952 – until the Star City Glass Co. purchased the firm in 1957. Bernard Sachs was the president under the Star City reorganization, although the plant was still called the Gayner Glass Works. At this point, production shifted to liquor bottles and flasks. Star apparently merged with the National Bottle Corp. (Universal Glass Products) the following year and became Gayner Glass Works, a Division of National Bottle Corp (see the Universal Glass Products section for a discussion of National Bottle). National ceased operations in 1975 – although the plant was still listed in the directories as late as 1977 (Murschell 2010; Roller 1998; Toulouse 1971:218; von Mechow 2015).

John G. Foster acquired the plant in 1977, renaming the operation Fosterglass, Inc., and resumed production with a single 140-ton continuous tank that fed two 8-section Individual Section (I.S.) D/G machines and one 6-section I.S. D/G machine. Foster was forced into bankruptcy in 1979, and the factory closed permanently in April 19 of the following year (Murschell 2010; Roller 1998; Toulouse 1971:218; von Mechow 2015).

A Cameo View of Making Large Bottles in 1927

Roberts (1927:16-17) visited the Gayner plant in 1927 and described the very complex production of the large carboys at that time:

First, the operator gathers on his blow pipe or iron – from a tank filled with molten glass – a quantity of glass, and rolls this on an iron plate. Then he goes

back to the tank to add more glass until he has accumulated on his pipe enough of the incandescent plastic material to make a carboy. With this achieved, he blows into his iron and produces an initial bubble in the yielding glass. Next, he slips a hose over the mouth of his pipe and turns on compressed air to increase the cavity and, incidentally, to enlarge the bubble of yellow-hot glass. By now the glass has cooled somewhat and stiffened slightly, so that the bubble must be reheated. This is done by putting the glass in a small furnace, called a "glory hole," that is heated by fuel oil sprayed or atomized with compressed air.

When sufficiently reheated, the bubble is worked on an iron table in a pit – the blower's pipe being held vertically and rotated the while. This operation forms approximately the bottom of the bottle. While revolving the glass on the table, the worker blows with his mouth into the bubble. Everything is now ready to shape the body of the bottle. This is effected [*sic*] by putting the yielding glass into a split iron mold that is kept at the right temperature by heating it with a flame produced by oil sprayed with compressed air. When the glass is enclosed within the mold, compressed air is blown down through the attached pipe, forcing the plastic mass against the walls of the mold.

After being removed from the mold, the body of the bottle is cooled to rigidness by a stream of compressed air, and then the ware is again reheated in a "glory hole." When it has been heated to a suitable degree, the bottle is withdrawn and the neck length is formed by revolving the attached iron and by gripping the neck mass with hand-held finishing tools. The tools used by the glass blower are lubricated with powdered carbon and rosin; and the forming block on which the bottom of the bottle is shaped is lubricated with sawdust. With most of the neck thus fashioned, the bottle is skillfully detached by the blower from the rest of the glass still adhering to the blow pipe – the finishing lip of the neck being formed by the next or concluding operation.

When a bottle has thus been produced, it is promptly put into an annealing furnace or lehr, where a moving platform slowly carries it from one end to the other – the temperature increasing or decreasing gradually during the journey. In

this way, any internal stresses in the glass – set up during different stages of forming – are released or neutralized, and the bottle is therefore stronger and less likely to break when exposed to a considerable range of temperature in service. The lehr is heated by fuel oil sprayed with compressed air, and the melting tanks are heated with a mixture of air and producer gas. This gas is made in the plant by producers using gas coal.

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Before a container leaves the Gayner Glass Works it is tested to make sure that it is sound. Any structural weakness is quickly detected by tapping the bottle or carboy. The experienced ear can tell by the resulting ring whether or not the ware is all right.

Containers and Marks

G (poss. 1900-ca. 1956 or later)

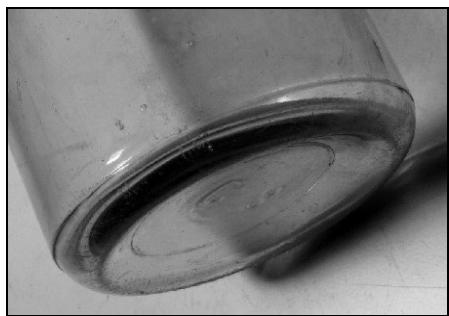


Figure 3 – G 9 logo (eBay)

According to

Toulouse (1971:216), the Gayner Glass Works used a simple “G” as a mark ca. 1900. A chart of glass marks made by Owens-Illinois showed that Gayner used both the

Circle-G mark and a simple, capital G mark in 1964 (Berge 1980:83). The mark was no longer listed by 1971 (Hanlon 1971:6-17) or 1982 (Emhart 1982:74). We can find no information as to whether the National Bottle Corp. continued to use the mark, and we have only seen one possible example from eBay – a “G 9” on a gallon bottle (Figures 3 & 4).



Figure 4 – large bottle (eBay)

Ring (1980:94) listed a Botanic Stomach Bitters bottle marked with only a “G” on its base. She gave no explanation for the maker of either the bottle or the bitters. Wilson and Wilson (1969:16) showed two bottles for the brand along with a capsule history of the company. The initial bottle (also listed by Ring) was marked BOTANIC / STOMACH / BITTERS / BACH MEESE & CO. / SAN FRANCISCO. The Wilsons stated: “John Bach and Hermann Meese were liquor wholesalers from 1879 to 1889. Both retired in the late eighties and Bach’s son, Frank took Frank H. Eckenroth as a partner until the company was dissolved in 1902.” He also noted that the earlier bottle (marked BACH MEESE & CO) was manufactured ca. 1885 to 1889, and the bottle only marked with the name of the bitters was made from 1890 to 1896 “and paper labeled thereafter.” Fike (1987:31) presented almost exactly the same information as the Wilsons. If the bottle was, indeed, made by Gayner, he used the “G” mark earlier than Toulouse thought.

Two other glass houses used a simple “G” during this same period. The Owens Bottle Machine Co. embossed a small G in the center of the bases of grape juice, catsup, and a few other kinds of bottles during the ca. 1910-1917 period. These, however, are recognizable because they were always accompanied by the distinctive Owens machine scar (see the section on the Owens Bottle Co. for more information). While the Gayner “G” is also in the center, it is larger and lacks the Owens scar. Our only example of a Gayner mark had a single-digit number to the right of the “G”; the Owens “G” was also accompanied by a single-digit number, but it was below the letter. The Graham Glass Co. also used a simple “G” on bottles from 1916 to 1930. These, however, were always on the heels of soda bottles and were always accompanied by a two-digit date code or a more complex code sequence of letters and numbers (see the section of Graham Glass for more details).

Circle G

According to Toulouse (1971:217), the Circle G mark was used ca. 1920, although he gave no explanation for the date. Angela East reported a single example, the only one we have discovered (Figures 5 & 6). As noted above, the 1964 Owens-Illinois logo chart



Figure 5 – Unusual bottle
(Angela East)

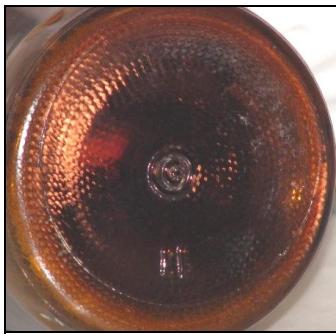


Figure 6 – Circle-G (Angela East)

showed both the “G” and Circle-G logos as being used by Gayner, although neither mark appeared in 1971 or later lists (Berge 1980:83; Hanlon 1971:6-17). Our only example could not be mistaken for a G in a valve or ejection scar.

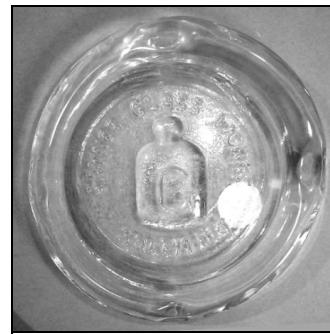


Figure 7 – Bottle-G Ashtray (Richard Case)

G in a bottle

Toulouse (1971:217) illustrated a G in a wide bottle as being used by Gayner ca. 1920. He gave no explanation for the date or why he assigned the mark to Gayner, and the only examples we have seen were on ashtrays advertising Gayner (Figure 7).

GGW Monogram



Figure 8 – GGW monogram (eBay)

Von Mechow (2015) noted a GGW monogram that he ascribed to the Gayner Glass Works. All three of von Mechow's examples were mouth-blown, champagne beer bottles used for mineral water. The same monogram has been in several eBay auctions on mouth-blown, five-gallon demijohns, all with a “50” (1950) date code (Figures 8 & 9). Whitten (2015) added: “Monogram, accompanying this glass manufacturer’s name and city, seen on an advertising paperweight,

reported to me by Bob Berkley.”



Figure 9 – Carboy (eBay)

GAYNER (ca. 1920-1923)

Toulouse (1971:217) illustrated the word GAYNER with letters decreasing in size to the center, then increasing until the end “R” was the same size as the beginning “G.” He dated this mark ca. 1920 with no explanation for the date; however, this almost certainly referred to the Gayner Glass Top fruit jar discussed in the fruit jar section below. Gayner began making insulators in the early 1920s but stopped in 1923 (see history section above). Murschell (2010) added that “GAYNER” was embossed on all of the Gayner insulators – with all letter of equal size (Figure 10).



Figure 10 – Gayner insulator (eBay)

Fruit Jars

Gayner made “bottles and fruit jars, including Clark’s Peerless, J&B Fruit Jar, Trademark Leotric, The Gayner Mason, Gayner Glass Top, Trademerk Electric, and the Trademark Banner fruit jars” during its lifetime (Murschell 2010; Toulouse 1971:219). These were introduced at two different periods during the life of the firm.

BANNER (ca. 1910-1918 – by Gayner)

Toulouse (1969:42) listed and illustrated four variations of Banner jars, all machine made, with “Lightning dimple neck design” finishes:

1. TRADE MARK / BANNER / WARRANTED
2. Same as 1) in a wide-mouth design plus WM below BANNER
3. Same as 2) but REG US PATENT OFFICE below WARRANTED
4. “A hanging banner, supported by a bar device with three lines : ‘TRADE MARK,’ in a drooping arc, ‘BANNER,’ in letters slanting backwards, and ‘REGISTERED,’ arched”

Toulouse suggested the Ball Bros. as the maker and dated the jars ca. 1920-1940. Roller (1983:354-355) listed the same four variations (as well as a fifth) but disagreed in some details.

In the Toulouse #2, had added the word “WARRANTED” and noted both regular wide-mouth variations. For Toulouse #3, he also had both regular and wide-mouth versions. His addition was a jar embossed “TRADE MARK (arch) / BANNER (horizontal) / WIDE MOUTH (inverted arch).” All of these had the embossing in circular plates, although there were variations of the #1 jar and “WIDE MOUTH” with no plate. Roller agreed that Ball Bros. made the jars for Fisher, Bruce & Co. and noted that most variations were “Ball blue” in color – a distinctive Ball characteristic. However, the fancy variation (#4 in Toulouse) was made from colorless glass, and one of the “TRADE MARK BANNER WARRANTED” jars was aqua in color. The aqua one was illustrated on a trade card that Roller said “was printed in the same fashion as Whitney Glass Works trade cards of the same period” and suggested Whitney as a possible manufacturer (Figure 11). Roller dated this jar ca. 1910s-1920s.

Creswick (1987a:14) included two different Banner jars. One was embossed ‘PAT^D FEB^Y 9TH 1864 (arch) / BANNER (horizontal) / RISP JAN 22^D 1867 (inverted arch)” on the front. These were Lyman patent dates, and the jars were made for William W. Lyman (see the Other L section for more on Lyman). The other was the same as the #2 Toulouse jar, embossed “TRADE MARK (arch) / BANNER / WM (both horizontal) / WARRANTED (inverted arch)” in an oval plate on the front (Figure 12). Bases were marked “REG. T.M. No 43,228” or with a mold number. She claimed Gayner as the original manufacturer but noted that “later variations” of the jars were made by both Whitney and Ball Bros. In her second volume, Creswick (1987b:28) listed 14 variations of the jar and illustrated 10 of them. She dated all of them 1920-1940 and identified the Ball Bros. as the manufacturer.



Figure 11 – Banner trade card (Roller 1983:355)



Figure 12 – Banner WM jar (Creswick 1987a:14)

The Roller update (2011:510-512) provided the information to sum up the Banner jars. The editors listed eight variations with a total of 11 additional subvariations. All but four of those were made in Ball blue color and were certainly produced by Ball Bros. for Fisher, Bruce & Co. of Philadelphia. Roller dated all of these ca. 1910s-1920s. One or more of the others may be more relevant to this section.

1. Fancy BANNER in a banner on front. Although this jar was colorless, the Roller editors ascribed it to Fisher, Bruce & Co., but they did *not* note Ball Bros. – or anyone else as the maker. They did not date the jar (Figure 13).
2. TRADE MARK / BANNER / WARRANTED (round plate). This was the only Banner jar that was mouth blown as well as machine made. The color was aqua. As noted above, this was the jar illustrated in a trade card that was made in the style of cards issued by the Whitney Glass Works – although the Roller editors cited the maker as “uncertain.” A variation lacked the plate.
3. TRADE MARK / BANNER / WM / WARRANTED. This jar was blue-aqua in color and had a variation with a circular plate and with “H/o with short lines above and below within circle” on the base. They ascribed this one to Fisher, Bruce & Co. but did not know the maker or speculate on the dates.
4. TRADE MARK / BANNER / WM / WARRANTED in light aqua with “REG. T.M. NO 43228” on the base (Figure 14). They noted that the jar was also made for Fisher, Price & Co. but did not speculate on the manufacturer – despite the trade mark being registered to the Gayner Glass Works for Leotric. Leybourne (2014:77) also included a variation with a ghosted “LEOTRIC” on the reverse. Leybourne also noted that “WM” indicated wide mouth.

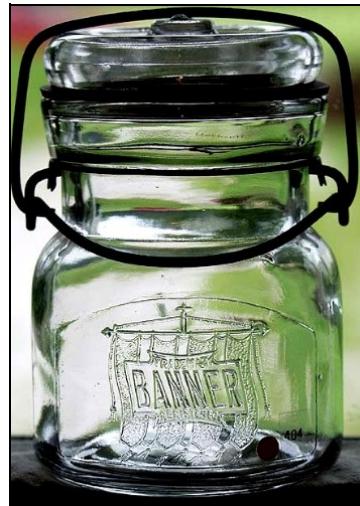


Figure 13 – Fancy Banner jar
(North American Glass)



Figure 14 – Banner WM jar
(eBay)

Banner Summary

The majority of the Banner jars were clearly made for Fisher, Bruce & Co. by the Ball Bros. – as demonstrated by their Ball-blue color. The remainder were almost certainly also made for Fisher, Bruce & Co., but the manufacturer(s) were less certain. Fisher, Bruce & Co. was in business by at least 1896 as shown on a billhead dated March 6 of that year in the Corning Museum of Glass. The firm remained in business until at least 1921 (*Pottery and Glass Salesman* 1921:12). The aqua-colored jar may well have been made by the Whitney Glass Co., and it may have been the first one for Fisher, Bruce. Whitney began using machines before 1904, so this approximate date may be appropriate for this variation (see the section on Whitney Glass for more on that firm).

The colorless, fancy variation does not fit with any of the other jars. It may have been an experiment on the part of Fisher, Bruce that did not work out. We have no information that suggests any specific glass house for this one. The final two variations, however, are worth some discussion. Both were embossed “WM” below “BANNER” – and the light aqua one had the Leotric trademark number (along with one that was ghosted “LEOTRIC” on the reverse). The combination of Banner being included in a list of Gayner products and the Gayner trademark number on the base makes the identification of the Gayner Glass Works as the producer almost certain. By association, the blue-aqua variation of the “WM” jar may have been made by Gayner, although that identification is less certain.

CLARK'S PEERLESS (ca. 1906-ca. 1912)

Toulouse (1969:66-67) listed four examples of CLARK'S PEERLESS, all with the same basic design: aqua in color with “Lightning closure, old neck style”:

1. CLARK'S (arch) / PEERLESS (horizontal) on side with SALEM on base – mouth-blown; made by Holz, Clark & Taylor (1862-1879) and John Gayner (1879-1898)
2. Same as 1) but machine-made; some of these had LEOTRIC over a partly peened-out CLARK'S PEERLESS
3. Same as 2) plus REG TM No. 43288 on base
4. Same as 2) but CLARK'S PEERLESS in a circular plate

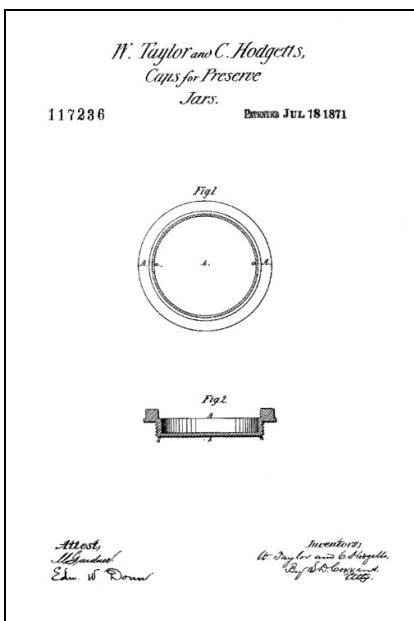


Figure 15 – Taylor & Hodgetts 1871 Patent

Toulouse did not date the last three variations. In his later book, Toulouse (1971:133) intimated that the “Clark” in Clark’s Peerless was the same Clark as in “Holz, Clark & Taylor” and that the jar was related to the William Taylor’s 1871 patent. Taylor and Charles Hodgetts, both of Brooklyn, New York, received Patent No. 117,236 for an “Improvement in Caps for Preserve Jars.” on July 18, 1871 (Figure 15). The patent drawing, however, did *not* show a Lightning-style cap.

Roller (1983:87) only noted the jar as being made by the Gayner Glass Works from ca. 1900 to ca. 1910. He stated that Lewis Gayner, former president of the

glass house, told him that the Cumberland Glass Works, Bridgeton, New Jersey, sold the jars for Gayner – and the jars appeared in the machine-made jar section of the Cumberland 1911 catalog (Figure 16). Although this is not intuitively obvious, occasionally one glass manufacturer would sell a few products for another one (e.g., see the section on the Binghamton Glass Works). He also noted variations with and without a plate and a jar with “LEOTRIC ghosted through CLARK’S PEERLESS.” Creswick (1987a:30) illustrated the non-ghosted version and dated it 1892–1898, made by Gayner (Figure 17). However, Creswick (1987b:35) dated a plate-mold

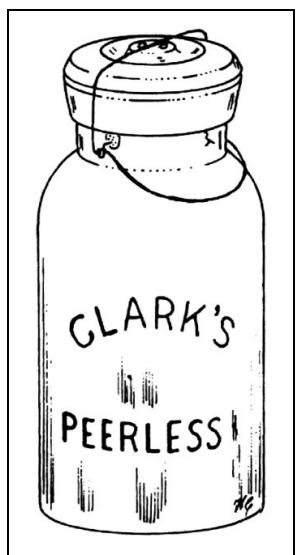


Figure 17 – Clark’s Peerless (Creswick 1987a:30)

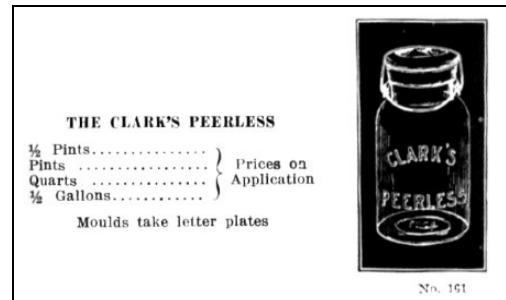


Figure 16 – Clark’s Peerless (Cumberland 1911 Catalog:53)



Figure 18 – Clark’s Peerless (North American Glass)



Figure 19 – Mold number base (North American Glass)

variation ca. 1900 to 1910 in her Volume II. The Roller update (2011:134) noted the four variations, dating them all ca. 1900-1910 and placing the colors as aqua, cornflower blue, emerald green, and colorless. See our dating discussion below for a more realistic chronology.



Figure 20 – Ground rim (North American Glass)

Leybourne (2012:105-106) included several variations with ghosted “LEOTRIC” or the Leotric trademark number on the base. He also noted three variations that were machine made – with or without mold numbers on the bases (Figures 18 & 19). One variation had “5/16 in band of ghosted letters across front half of jar above circle [i.e., circular plate].” This, too, could have originally been “LEOTRIC” or “ELECTRIC” that was too peened out to decipher. Mouth-blown jars had ground lips (Figure 20).

ELECTRIC (ca. 1906-ca. 1918)

Toulouse (1969:107-108) noted three variations of this jar, all with “Lightning closure, old neck style”:

1. TRADE MARK (arch) / ELECTRIC (horizontal); mouth-blown, aqua (Gayner ca. 1900-1910)
2. Electric (slight upward slant; cursive) / TRADE MARK (horizontal); machine-made; green (Gayner ca. 1910)
3. ELECTRIC (arch) / {globe with latitudinal and longitudinal lines} / FRUIT JAR (inverted arch); mouth-blown, aqua (Gayner ca. 1890-1900)

In his later book, Toulouse (1971:178) noted that some of the Electric jars had the “REG. T.M. 43,288” basemark that was found on the LEOTRIC jars. Roller (1983a:356) listed a Lightning-style jar embossed “TRADE MARK ELECTRIC” with “SALEM, N.J.” on the base. He noted variations with an unmarked base and “H.W. PETTIT” ghosted on the base. He dated the jars ca. 1900s-1910s, made by the Gayner Glass Works.

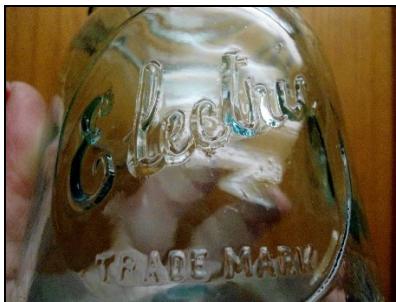


Figure 21 – Electric in plate (eBay)

Roller (1983a:115) also listed the cursive variation in a circular plate and attributed the jar to Gayner ca. 1900s-1910s (Figure 21). Photos from eBay auctions showed letters on the bases of machine-made jars (Figures 22 & 23). He included variations without the plate and



Figure 22 – Mold letter base (eBay)

without “TRADE MARK.” He also included the “globe” variation but did not know that patentee or maker.



Figure 23 – Machine (smooth) rim (eBay)

Creswick (1987a:53) illustrated and discussed all three variations (Figure 24). She listed all three basal variations on the “TRADE MARK” jar, dating them all ca. 1900-1910 and attributing them to Gayner. She also ascribed the cursive jar to Gayner, with the same date range. On the globe jar, however, she differed radically from her predecessors. She illustrated two different lid styles. The first had a “glass lid, wire bail and

lever action clamp” – the same closure found on the Clarke Fruit Jar Co. jar – Patent No. 314,109, issued to William H. Clarke on March 17, 1885 (see the Other C section for more on the jar, patent, and company). The base was embossed “PAT APPL FOR,” and the clamp was stamped “M’CH 17 1885.” The second jar was

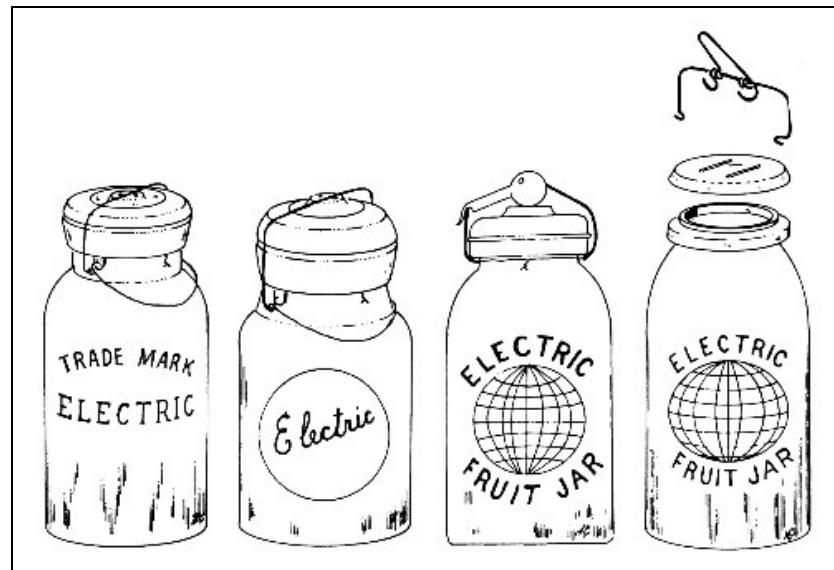


Figure 24 – Electric jars (Creswick 1987a:53)



Figure 25 – Electric Globe jar (North American Glass)

identical but the closure was a “glass lid with 2 slots & wire clamp” – made to Clarke’s second patent (No. 376,369) issued on January 10, 1888. The base of this jar was also embossed “PAT APPL FOR” but the lid was unembossed (Figures 25-27). Although she did not know the manufacturer, both of these jars were probably made for the Clarke Fruit Jar Co. All three of these jars were mouth blown.

In the second volume, Creswick (1987b:50) discussed and illustrated two machine-made variations embossed “Electric (upwardly slanted cursive) / TRADE MARK (horizontal” – one in a circular plate, the other with none (Figure 28). She attributed these to the Gayner Glass Works and the Cumberland Glass Mfg. Co. ca. 1910.

Roller (2011:180; 514) added little to the “TRADE MARK ELECTRIC” or cursive Electric jars, still noting Gayner as the maker and dating them ca. 1900-1910s. For the globe

variation, however, the editors cited an “undated advertising piece” listing Rogers & Co., 155 Friend and 62 Canal Streets, Boston, as the manufacturer. The firm, however, was a jobber in pottery and crockery supplies. Rogers & Co. opened by at least January 4, 1873, as shown on a



Figure 27 – Electric lid (North American Glass)



Figure 26 – Pat Apd For (North American Glass)



Figure 28 – Electric (Creswick 1987b:50)

billhead for the company (W&M Libraries catalog). It was last listed under the heading of Glass Ware Dealers in the Boston directories in 1885 at both addresses and in 1886 at the Canal St. location only. The listing was gone in 1888 and later.

The H.W. Pettit Connection



Figure 29 – Pettit Westville base (eBay)

The ELECTRIC jar baseplates embossed "SALEM, N.J." and ghosted "H.W. PETTIT" open a different direction of research. Pettit had other jars made for him. One that was otherwise unembossed had an "H.W. PETTIT" (arch) / WESTVILLE, N.J. (inverted arch)" basemark (Figures 29 & 30). Another jar was embossed "SANITARY" on the front and "H.W. PETTIT" (arch) / 1 / SALEM, N.J. (inverted arch)" on the base (Figure 31). A final variation was embossed "COCOMERI=MISCHIATI / PASSANO / & / COMPANY" on the front with the Westville baseplate. Creswick (175; 189) illustrated the first two types (Figure 32).



Figure 31 – Pettit Salem base (eBay)



Figure 30 – H.W. Pettit (North American Glass)

This brings up unanswerable questions. Did Gayner make jars for Pettit? Unlike the other Pettit jars, the one embossed "SANITARY" on the side had the same Lightning-style finish as the Electric, Leotric, and Clark's Peerless jars. Perhaps, Gayner made that jar, too, and the baseplates for the Sanitary jars were

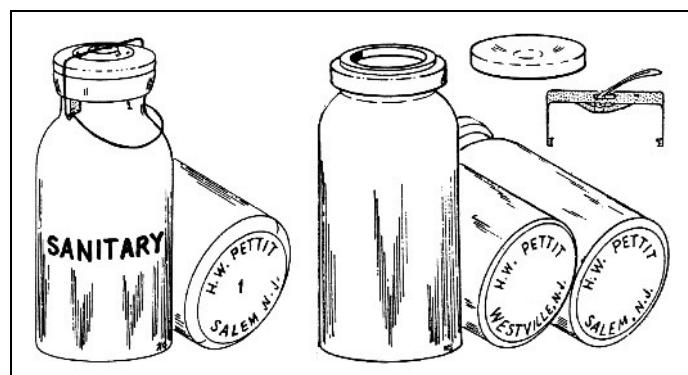


Figure 32 – Pettit jars (Creswick 1987a:175; 189)

interchangeable with Gayner's other lines. In this scenario, both the ghosted "H.W. PETTIT" and "SALEM, N.J." baseplates could have been partially completed and originally intended for the Pettit containers. Unfortunately, none of the jar sources described the shape of the two basemarks; however, the "SALEM, N.J." on a Leotric baseplate (see Figure 54) was made in the same inverted arch as the one on the Pettit jar.

Although Creswick (1987a:189) ascribed the Pettit SANITARY jar to the Salem Glass Works (almost certainly because of the "SALEM" basemark), Roller (2011:464) was less certain. Absent any documentary evidence linking the jar with the Salem Glass Works, we suggest that Gayner may have easily been the maker. Salem on the base was likely the location of Pettit (suggesting a move to or from Westville) not the manufacturer. In another section, Roller (2011:422) discussed the Westville and another Salem jar with

Pettit's name. One Westville jar was embossed "COCOMERI=MISCHIATI / PASSANO / & / COMPANY" – and Roller implied that Pettit was connected with the firm. It is possible that Pettit acted as a jobber, supplying jars to Passano at some point. Passano & Co. was listed in the Baltimore city directories from 1905-1921. Creswick (1987a:175), however, suggested that Pettit was a hardware dealer. Even in 2015, hardware stores sell fruit jars. The mystery, however, remains.



Figure 33 – Favorite trade card (Roller 1983:123)



Figure 34 – Favorite jar (North American Glass)

Favorite (ca. 1910-1918)

Roller (1998) cited a pamphlet for the "Favorite Fruit Jar, With the Hump on the Lid, Mfd. by Gayner Glass Works." Roller (1983:123) reproduced an illustration from the pamphlet (Figure 33). The jar was embossed "Favorite (upwardly slanted cursive) / TRADE MARK (front heel)" – although he noted a variation without "TRADE MARK" (Figure 34) Roller explained:

“The lid for these jars had a very obvious hump in the center, which was described in a Gayner sales brochure as “causing a perfect vacuum suction on the inside.” Just how this worked was not explained. Although these jars have ground lips, they were made by machines, probably in the early 1900s.



Figure 35 – Patented Favorite (North American Glass)

Roller did not explain the cryptic remark about how or why a machine-made jar would have a ground rim! (see Roller update below).



Figure 36 – Favorite lid (North American Glass)

Roller (1983122) also discussed an earlier mouth-blown “FAVORITE” jar with a “cast-iron lid and attached cast-iron yoke clamp, wire clips fasten clamp to tie wires around jar neck.” The iron lid was embossed “APR 7 1874” (Figures 35 & 36). Although Roller briefly noted the patent, he did not know the manufacturer.

Creswick (1987a:58) only discussed and illustrated the earlier jar in her first volume (Figure 37). She

stated that Charles W. Osgood and Aaron H. Saltmarsh received Patent No. 149,331 on April 7, 1874. The patent was actually issued to Osgood, who then assigned it to himself and Saltmarsh (Figure 38). She suggested that Gayner’s old Waterford Glass Works made the jars between 1874 and 1879. In her second volume, Creswick (1987b:53) identified and illustrated the screw-top jar with the hump on the lid, although she added little about the jar (Figure 39).



Figure 37 – Favorite jar (Creswick 1987a:58)

The Roller update (2011:190) noted a variation of the older “FAVORITE” with “PURPLE” embossed on the base. The editors added a notation to the cursive “Favorite” jar:

Dick Roller had this jar listed as having ground lips, although made by machines, probably in the early 1900s. All jars reviewed have a smooth lip, so it is not clear why Dick believed these jars came with a ground lip. There were grinding machines sold to home canners to smooth the lips on their jars, so perhaps there are examples of this jar with lips that had been ground after market.

Summary of Favorite Jars

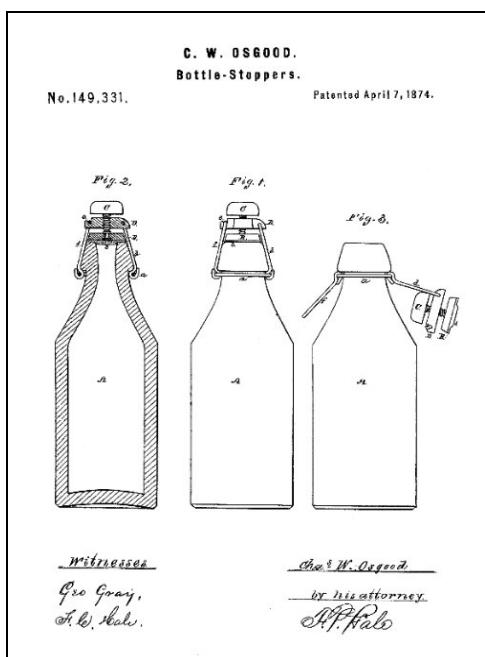


Figure 38 – Osgood 1874 patent

It is probable that the “FAVORITE” jar, patented April 7, 1876, was not made by Gayner – although the manufacturer was unknown to Roller and remains so with us. However, the ties with Gayner are possible. Both the inventor and assignee of the patent lived in Haverhill, Massachusetts, ca. 300 miles north of Salem, New Jersey. The “Favorite” in cursive, accompanied by “TRADE MARK” (or with “TRADE MARK” missing) was almost certainly made by Gayner. Not only do the sources agree, but the use of “TRADE MARK” and upwardly slanted cursive were associated with Gayner, and the glass house was known to have made a jar by that name.



Figure 39 – Favorite (Creswick 1987b:53)

GAYNER GLASS TOP (ca. 1931-1938)



Figure 40 – Gayner Glass Top (North American Glass)

Toulouse (1969:122) described a colorless, machine-made jar with a “Lightning closure, dimple neck design” embossed “THE / GAYNER (with letter size descending to “Y” and ascending to “R”) / GLASS-TOP” (Figure 40). He dated the jar ca. 1915 and identified the Gayner Glass Works as the maker. Pepper (1971:210) described a variation: THE GAYNER GLASS-TOP, with “MFD BY GAYNER GLASS WORKS / SALEM N.J.” embossed on the reverse. Roller (1983:133; 2011:206) noted the variation with “MFD BY” and dated it ca. 1930s. Creswick (1987b:55) illustrated the same jar, assigning it to Gayner and dating it ca.

1920s-1930s (Figure 41).

GAYNER MASON (ca. 1931-1938)



Figure 42 – Gayner Mason (eBay)

Roller (1983:133; 2011:206) described a colorless jar embossed “THE GAYNER MASON” on the front and “MFD BY GAYNER GLASS WORKS / SALEM N.J.” on the reverse (Figures 42 & 43). He dated the jar ca. 1930s. As with the Gayner Glass Top, Creswick (1987b:55) illustrated the Gayner Mason and dated it ca. 1920s-1930s (Figure 44).

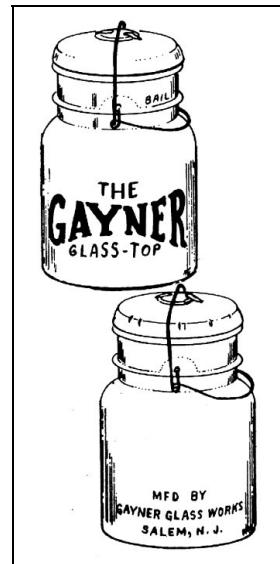


Figure 41 – Gayner Glass Top (Creswick 1987b:55)



Figure 43 – Gayner reverse (ebay)

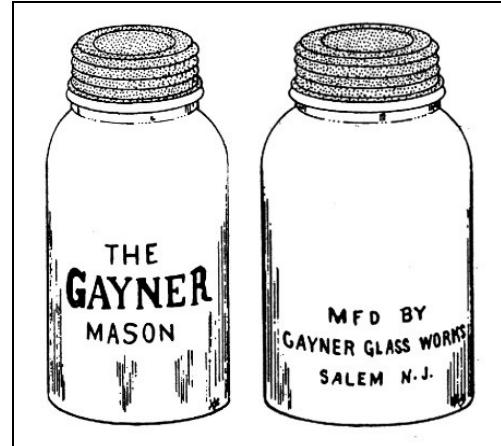


Figure 44 – Gayner Mason (Creswick 1987b:55)

J&B (1905-ca. 1914)

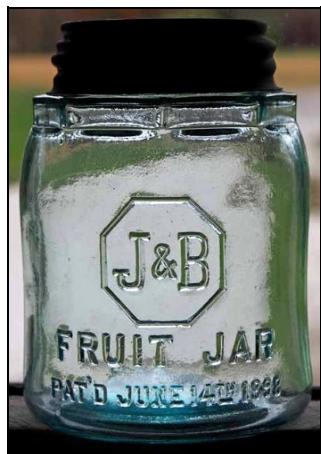


Figure 45 – J&B Fruit Jar
(North American Glass)



Figure 46 – Octagonal shoulder (North American Glass)

Toulouse (1969:161) described this jar and illustrated the front embossing: “J&B (in an octagon) / FRUIT JAR / PAT'D JUNE 14TH 1898 (Figure 45)” The jar was an aqua, mouth-blown Mason shoulder seal with octagonal shoulders (Figure 46). He did not know the manufacturer but dated the jar ca. 1898,

undoubtedly because of the patent date. He noted that Patent No. 605,482 was issued to S.P. Jaggard of Blackwood, New Jersey. Samuel P. Jaggard applied for a patent for a “Jar, Top and Wrench for Preserving Fruits and the Like” on September 4, 1897, and received Patent No. 605,482 on June 14 of the following year (Figure 47).

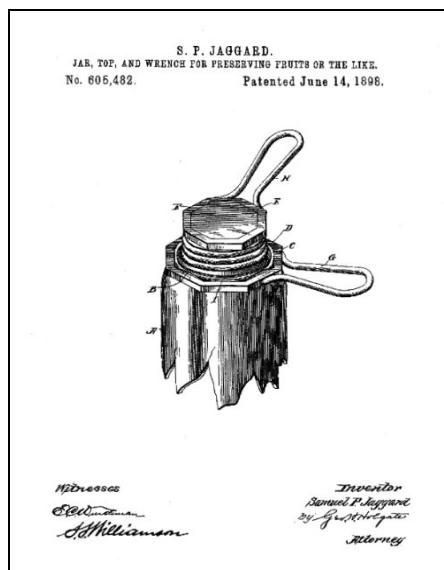


Figure 47 – Jaggard 1898 patent

Roller (1983:169) added that the Gayner Glass Works made the jars ca. 1904-1905 for the Octagon J&B Fruit Jar Co. of Salem, New Jersey. He further noted that

The Octagon J&B Fruit Jar Co. was incorporated in November 1904 to sell the J&B Fruit Jar. “J&B” was derived from the names Jaggard and Bell, who were early company officers. The octagonal jar shoulder and screw cap extension were meant to fit a pair of flat metal wrenches. Although most jars seem to have flat ledges directly below the octagonal panels, some have been reported with arched sections below the octagonal panels [Figures 48 & 49].

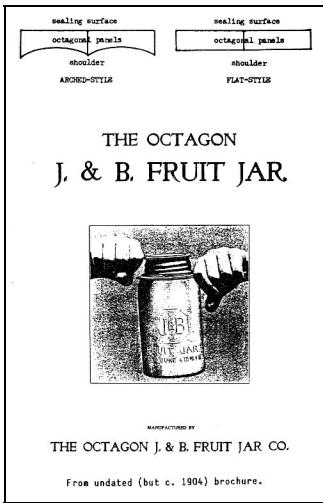


Figure 48 – J&B brochure
(Roller 1983:169)

On January 3, 1905, Gayner advertised that the firm would produce "the new J&B jars" within two weeks (Roller 1998). Creswick (1987a:91) added that Bell was J. Harry Bell and the date of incorporation was November 22, 1904. She dated the jars – made by Gayner – ca. 1905 to 1909. The jars were sold by Octagon J&B at Broadway and Walnut Streets in Salem and

by the National Fruit Jar Co., a Gayner enterprise (see history section). She illustrated the jar (Figure 50). Roller (2011:259) added that Jerry McCann reported "that a large number of these neck wrenches were dug on the property of the Gayner Glass Co. . . . no lid wrenches were uncovered." Of course, this may only indicate that the firm made (or ordered) too many neck wrenches. The J&B Octagon Glass Co. remained listed as a New Jersey corporation until at least 1914 (Secretary of State 1914:339).



Figure 51 – Reg TM base (eBay)

LEOTRIC (1903-ca. 1918)

Toulouse (1969:183)

described this mouth-blown jar as sealed by a "Lightning closure, old style neck design." The jars were made in colorless, green, blue, and aqua hues. The front was embossed "LEOTRIC" in an oval plate, with "REG. T.M. No. 43,288" on the base (Figure 51). As noted above, Gayner received the trademark for "Leotric" on September 6, 1904 (Roller 1998). Toulouse dated the jars ca. 1890-1910. He noted a variation that was machine made and lacked the plate and dated it after 1915.



Figure 49 – Arched sections & lid (North American Glass)



Figure 50 – J&B jar
(Creswick 1987a:91)

The “LEOTRIC” was also found with ghosted Clark’s marks. The “LEOTRIC” was made by the Gayner Glass Works from ca. 1890 to ca. 1910 in both plate mold and regular embossing (Toulouse 1969:183). Roller (1983:192) noted several variations of the LEOTRIC, side embossing including:

1. LEOTRIC (Figure 52)
2. Same in round plate (Figure 53)
3. Ghosted E before LEOTRIC
4. Ghosted TRADE MARK above LEOTRIC
5. Ghosted CLARK’S PEERLESS on reverse
6. Circular plate on reverse



Figure 52 – Leotric jar
(eBay)



Figure 53 – Leotric plate
(eBay)

In addition, Roller (1983:192) included four variations in basemarks: 1) REG. T.M. No. 43,228; 2) SALEM, N.J. (Figure 54); 3) ghosted H.W. PETTIT SALEM, N.J.; and 4) unembossed. He dated the jars ca. 1900s to 1910s and added that they were “found in many combinations of side and base embossings, lip finishes and presence or absence of mold plating Fisher, Bruce & Co.,

Philadelphia jar jobbers, advertised Leotric jars in 1905 and the catalog of

Cumberland Glass Co., Bridgeton, N.J., advertised them.” The Cumberland 1911 catalog illustrated the jars under the machine-made section (Figure 55). As mentioned above, William Gayner registered the “Leotric” trade mark, No. 43,288, on September 6, 1904.



Figure 54 – Salem base
(eBay)

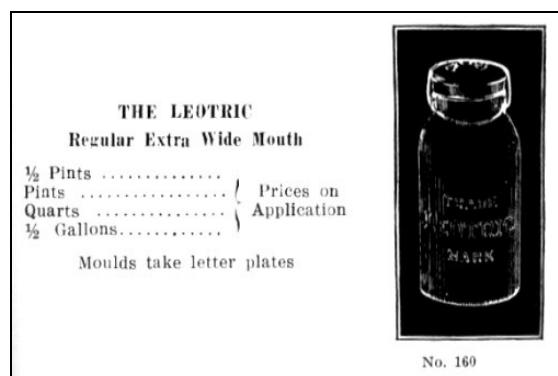


Figure 55 – Leotric drawing (Cumberland 1911 Catalog:53)

Creswick (1987a:100) added that Gayner claimed first use of the Leotric trademark on September 1, 1903. She listed nine variations of the “LOETRIC” jar and illustrated three of them (Figure 56). These included one embossed “LOEB HERMANOS (arch) / LEOTRIC (horizontal) / FRUIT JAR (inverted arch)” and another with an initial “E” ghosted and the “C” from “ELECTRIC” turned into an “O” to create “LEOTRIC.” She dated all the jar variations ca. 1890-1910, although she ascribed a date of ca. 1915 to the Loeb jar – as usual, not explaining her reasoning.

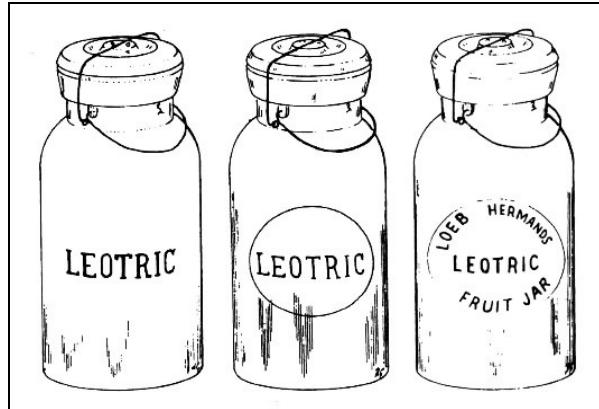


Figure 56 – Leotric jars (Creswick 1987a:100)



Figure 57 – Leotric mold codes (eBay)

Gayner as the maker and dated all the Leotric jars ca. 1900-1910s. Leybourne (2014:235) added three variations with ghosted “TRADEMARK” in an arch above “LEOTRIC” as well as one jar with “LEOTRIC” ghosted and one with “CLARK’S PEERLESS” ghosted on the reverse. Some bases of machine-made jars had a letter or number in the valve scar (Figure 57).

Fruit Jar Summary

We have several hints that are helpful in identifying and dating Gayner fruit jars:

1. Historical references (e.g., first use of Leotric on September 1, 1903)
2. Glass color (aqua, colorless, Ball blue)
3. Manufacturing technique (mouth-blown, machine-made)

4. Best guesses by jar sources
5. Photos from eBay and North American Glass

The earliest jars were mouth blown, and fruit jar production began ca. late 1903 – with the “first use” of the Leotric trade mark (issued September 6, 1904). Gaynor incorporated the National Fruit Jar Co. in 1905 to sell fruit jars that the firm manufactured. The plant certainly began making Leotric jars by 1904 and J&B jars by 1905. The J&B jars were all mouth blown of aqua glass. Both mouth blown and machine made Leotric jars, however, were made from aqua and colorless glass. We have found no references to colorless glass production prior to 1933. Since the colorless Leotric jars were mouth blown (ground lip), they must have been produced during the same period as the mouth-blown aqua jars. All of Gayner’s mouth-blown jars were probably made during the ca. 1905-ca. 1912 period, although the plant may have continued mouth-blown J&B jars until the J&B Octagon Jar Co. ceased operations ca. 1914.

Clark’s Peerless jars were also both mouth blown and machine made. Although the typical jar sources only list the mouth-blown jars, one jar photographed by North American Glass was clearly machine made. Production of the mouth-blown jars probably began by at least 1906 or 1907 and continued until the machine period. The “TRADE MARK / ELECTRIC” jars were also mouth blown of aqua glass, and they were likely all made during the ca. 1906-1912 period. About this time, Gayner concentrated on battery jars and large containers – although the plant still made other bottle types. Various ghostings make it clear that the same molds were often interchanged between Leotric, Trade Mark Electric, and Clark’s Peerless jars, probably during the same time period.

Gayner was using semiautomatic machines by 1913 and probably adopted them ca. 1910. Thus, the machine-made Leotric jars were probably made between ca. 1910 and ca. 1918 (the last listing for Gayner fruit jars). The machine-made Clark’s Peerless jar was likely made very soon after machines were adopted, ca. 1910. Electric jars with cursive “Electric” were all machine made – probably during the ca. 1910-1918 period as was the Favorite jar – machine made from aqua glass.

The “BANNER / MW” jars were machine made from aqua glass. Assuming that these were made by Gayner, they were produced for Fisher, Bruce & Co. about the ca. 1910-ca. 1918

period – although the firm likely soon lost the contract to the Ball Bros. It is certain that Ball Bros. made the vast majority of Banner jars.

The Gayner Glass Top and Gayner Mason were later jars, manufactured only during the early to mid-1930s. The glass factory directory listed Gayner as “green glass only” until 1933, the same year that fruit jars were once again listed. Fruit jars were no longer included after 1936. The directories are not fully reliable sources, so these jars may have been made during the ca. 1931-1938 period – but probably not before or after that time.

Discussion and Conclusions

It appears highly unlikely that the earlier Gayner firms used any identifiable marks on their products. With the exception of fruit jars, the firm probably did not include embossed logos until the machine era, ca. 1910 or later. The only examples of bottles in our very small sample were machine made. Both examples of large ware with the GGW monogram had “50” (1950) date codes.

Fruit jars are a different story. Thanks to the painstaking work of jar enthusiasts, we have a great deal of information about types and styles. Several jars in this study need to be eliminated as contenders for Gayner manufacture, especially the Banner jars. It is clear that the ones made in Ball blue color were produced by the Ball Bros. The manufacturer of the colorless jar with the fancy banner remains unknown – but Gayner cannot be entirely eliminated. Similarly, the jar that Roller tentatively attributed to Whitney Glass *could* have been made by Gayner. To repeat, however, the vast majority of the Banner jars were certainly made by Ball Bros.

Although Creswick ascribed the early, 1874-patented Favorite jar to the early Gayner firm, the only evidence for that is the use of “Favorite” on jars – and it is highly likely that the later cursive Favorite jar was made by Gayner. The later jar fits perfectly into the ca. 1910-ca. 1918 period of machine jar production at the Gayner factory. Although the earlier jar *could* have been made by Gayner, it is probable that we have not yet discovered the maker.

The final non-Gayner jar was the Electric “globe” jar. These had a globe with latitudinal and longitudinal lines embossed on the front. These were made to either the 1885 or 1888 Clarke patent (not related to the Clark’s Peerless) for the Clarke Fruit Jar Co. Although we do not know who made the jars, it was probably not Gayner.

Gayner made a number of mouth-blown jars, probably during the 1904-ca. 1912 period (see the text above for individual dates). These included the Leotric, Clark’s Peerless, Trade Mark Electric, and J&B jars. Leotric, Electric (cursive), and (briefly) Clark’s Peerless continued to be machine made from ca. 1910 to ca. 1918, along with Banner jars that had “MW” below “BANNER” as well as trade mark dates for the Leotric logo and the Favorite jar. The later jar period ca. 1931-ca. 1938 resulted in the Gayner Glass Top and Gayner Mason jars.

Although the Circle-G mark was listed in a 1964 logo table, we have not found any other indication that the firms after the Gayner family actually used a mark.

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Sources

American Glass Review

1927 “Glass Factory Yearbook and Directory.” *American Glass Review*, Pittsburgh, Pennsylvania.

1933 “Glass Factory Yearbook and Directory.” *American Glass Review*, Pittsburgh, Pennsylvania.

1934 “Glass Factory Yearbook and Directory.” *American Glass Review*, Pittsburgh, Pennsylvania. Includes reprint of the *Glass Trade Directory for 1904*. Commoner Publishing Co., Pittsburgh, Pennsylvania.

1938 "Glass Factory Yearbook and Directory." *American Glass Review*, Pittsburgh, Pennsylvania.

1942 "Glass Factory Yearbook and Directory." *American Glass Review*, Pittsburgh, Pennsylvania.

Berge, Dale L.

1980 *Simpson Springs Station: Historical Archaeology in Western Utah*. Cultural Resource Series No. 6. Bureau of Land Management, Utah.

Ceramic Age

1933a "Glass Plants Increase Activity in South Jersey." *Ceramic Age* 22:25.

Creswick, Alice

1987a *The Fruit Jar Works, Vol. I, Listing Jars Made Circa 1820 to 1920's*. Douglas M. Leybourne, N. Muskegon, Michigan.

1987b *The Fruit Jar Works, Volume II, Listing Jars Made Circa 1900 to Modern*. Privately printed, Grand Rapids, Michigan.

Emhart Glass

1982 *Emhart Punt Marks*. Emhart, Zurich, Switzerland.

Fike, Richard E.

1965 *Handbook for the Bottle-ologist*. Privately printed, Ogden, Utah.

Hanlon, Joseph F.

1971 *Handbook of Package Engineering*. McGraw-Hill, New York.

Journal of Industrial and Engineering Chemistry

1913 "The Present Status of the Glass Bottle and Hollow Ware Industries in the United States." *Journal of Industrial and Engineering Chemistry* 5(11):951954.

Murschell, Dale

2010 "Welcome to Salem County Glass: Gayner Glass."

<http://www.salemcountryglass.org/gaynerglass.htm>

National Glass Budget

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

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

1900 "Complete List of Glass Factories in the United States and Canada." *National Glass Budget* 15(48):11.

1901 "Complete List of Glass Factories in the United States and Canada." *National Glass Budget* 17(1):11.

1902 "Complete List of Glass Factories in the United States and Canada." *National Glass Budget* 17(52):11.

Pepper, Adeline

1971 *Glass Gaffers of New Jersey*. Scribner's Sons, New York.

Pottery, Glass & Brass Salesman

1921 Advertisement: "Fisher, Bruce & Co.." *Pottery, Glass & Brass Salesman* 24(14):12. [November 3]

Ring, Carlyn

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

Roller, Dick

1983 *Standard Fruit Jar Reference*. Privately published.

1998 "Salem, NJ History Notes." Dick Roller files.

2011 Standard Fruit Jar Reference: 2011 Update. Edited by Jerome McCann and Barry Bernas. Fruit Jar Annual/Phoenix Press, Chicago.

Secretary of State

1914 Corporations of New Jersey, List of Certificates to December 31, 1911. McCellish & Quigley, Trenton, New Jersey.

Stoudt, Justin & John Whitmore

2006 "Lynchburg Glass Corporation: A Look Into the Past."

<http://www.lynchburginsulators.com/history.asp>

Thomas Publishing Co.

1905-1906 Thomas Register of American Manufacturers and First Hands in All Lines: A Classified Reference Book for Buyer and Sellers. Thomas Publishing, New York.

1916 Thomas' Register of American Manufacturers and First Hands in All Lines: A Classified Reference Book for Buyer and Sellers. Thomas Publishing, New York.

1917 Thomas Register of American Manufacturers and First Hands in All Lines: A Classified Reference Book for Buyer and Sellers. Thomas Publishing, New York.

1918 Thomas Register of American Manufacturers and First Hands in All Lines: A Classified Reference Book for Buyer and Sellers. Thomas Publishing, New York.

Toulouse, Julian Harrison

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

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

Von Mechow, Tod

2015 "Soda & Beer Bottles of North America: Bottle Attributes - Beer & Soda Bottle Manufacturers." <http://www.sodasandbeers.com/SABBottleManufBeerSoda.htm>

Whitten, David

2015 "Glass Factory Marks on Bottles." <http://www.glassbottlemarks.com/bottlemarks/>

Wilson, Bill and Betty Wilson

1969 *Western Bitters*. Old Time Bottle Publishing Co., Salem, Oregon.

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